

# NUEVO CATÁLOGO GENERAL (NGC: General Catalogue of Nebulae and Clusters of Stars)

El **Nuevo Catálogo General "NGC"** (cuyo nombre completo es *Nuevo Catálogo General de Nebulosas y Cúmulos de Estrellas*, en inglés *New General Catalogue of Nebulae and Clusters of Stars*), en contraposición al antiguo Catálogo General, es el catálogo estelar de objetos de cielo profundo más conocido en la astronomía amateur. Contiene 7.840 objetos difusos tales como nubes estelares, nebulosas planetarias y galaxias, la totalidad de objetos del cielo profundo conocidos a finales del siglo XIX.

El catálogo fue compilado en la década de 1880 por Johan Ludvig Emil Dreyer utilizando observaciones realizadas principalmente por William Herschel y su hijo, y expandidas con los dos catálogos conocidos como Catálogos Índice I y II (*Index Catalogues*, IC I & IC II), añadiendo cerca de 5.000 nuevos objetos.

Los objetos difusos del hemisferio sur han sido menos estudiados que los objetos del hemisferio norte, muchos de los cuales fueron observados por John Herschel. El catálogo NGC contenía numerosos errores que han sido corregidos en su edición revisada: RNGC (*Revised NGC*, en español *Nuevo Catálogo General Revisado*).

Wikipedia.



## Deep Sky Object List (1/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object     | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|---|--------------|
|         |          |          | x     |              |             |      |         | 3C 273     | QUASR | VIR  | 12 29.1       | +02 06        | 12   |             |             |             |        | 17.5"-pF,stellar,looks like D*                | 73           |
|         |          |          |       |              |             |      |         | AN 3       | GALXY | VIR  | 12 49.4       | -10 07        | 11.6 | 2.5 m       | 2.0 m       |             | Sc?    | F,S,IE,spiral pattern ill-defined             | 73           |
|         |          |          |       |              |             |      |         | Antalova 2 | OPNCL | SCO  | 17 29.7       | -32 30        | 8.8  |             |             |             |        |   | 92           |
|         |          |          | *     |              |             |      |         | B 33       | DRKNB | ORI  | 05 40.9       | -02 28        | 79.9 | 6 m         | 4 m         |             | 4 lr   |   | 80           |
|         |          |          | x     |              |             |      |         | B 72       | DRKNB | OPH  | 17 23.5       | -23 38        | 79.9 | 30 m        |             |             | 6 S G  | 13"-pL,pDark,thin winding Dneb at 100X        | 92           |
|         |          |          | x     |              |             |      |         | B 78       | DRKNB | OPH  | 17 33.0       | -26 00        | 79.9 | 200 m       |             |             | 6 lr   |   | 92           |
|         |          |          | x     |              |             |      | x       | B 86       | DRKNB | SGR  | 18 02.7       | -27 50        | 79.9 | 4 m         |             |             | 5 lr G | very distinct Dneb                            | 91           |
|         |          |          | x     |              |             |      |         | B 87       | DRKNB | SGR  | 18 04.3       | -32 30        | 79.9 | 12 m        |             |             | 4 C G  |   | 91           |
|         |          |          | x     |              |             |      | x       | B 92       | DRKNB | SGR  | 18 15.5       | -18 11        | 79.9 | 12 m        | 6 m         |             | 6 E G  | 13"-L,very prominent Dark neb at 60X          | 91           |
|         |          |          | x     |              |             |      |         | B133       | DRKNB | AQL  | 19 06.1       | -06 50        | 79.9 | 10 m        | 3 m         |             | 6 Co G | Seen in 11X80 finder, No * in 13", DARK SPOT! | 66           |
|         |          |          | x     |              |             |      |         | B142-3     | DRKNB | AQL  | 19 40.7       | +10 57        | 79.9 | 80 m        | 50 m        |             | 6 lr   | ! L,Irr,2 extensions W                        | 66           |
|         |          |          | x     |              |             |      |         | Barn. Loop | BRTNB | ORI  | 05 55.0       | -01 30        | 6.0p | 840 m       | 60 m        |             |        |   | 80           |

## Deep Sky Object List (2/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|--|--------------|
|         |          |          |       |              |             |      |         | Basel 1   | OPNCL | SCT  | 18 48.2       | -05 51        | 8.9  | 9.0 m       |             |             | I 2 m   | 13"-pF,pS,nC 12* and hazy background at 100X | 67           |
|         |          |          |       |              |             |      |         | Basel 4   | OPNCL | AUR  | 05 48.5       | +30 13        | 9.1  | 8.0 m       |             |             | II 1 p  |  | 56           |
|         |          |          |       |              |             |      |         | Basel 6   | OPNCL | CYG  | 20 06.8       | +38 21        | 7.7  | 14.0 m      |             |             |         | 13"-pB,pL,arrowhead shape, 22* at 100X       | 17           |
|         |          |          |       |              |             |      |         | Basel 7   | OPNCL | MON  | 06 36.6       | +08 21        | 8.5  |             |             |             |         |  | 79           |
|         |          |          |       |              |             |      |         | Basel 10  | OPNCL | PER  | 02 18.8       | +58 19        | 9.9  |             |             |             |         |  | 35           |
|         |          |          |       |              |             |      |         | Basel 11A | OPNCL | CMA  | 07 17.1       | -13 58        | 8.2  | 9.0 m       |             |             |         |  | 102          |
|         |          |          |       |              |             |      |         | Basel 11B | OPNCL | ORI  | 05 58.2       | +21 58        | 8.9  | 10.0 m      |             |             | II 2 m  |  | 56           |
|         |          |          |       |              |             |      |         | Basel 18  | OPNCL | CEN  | 13 28.3       | -62 22        | 8.2  | 4.0 m       |             |             |         |  | 139          |
|         |          |          |       |              |             |      |         | Berk 58   | OPNCL | CAS  | 00 00.2       | +60 58        | 9.7  | 8.0 m       |             |             | IV 2 p  |  | 37           |
|         |          |          |       |              |             |      |         | Berk 62   | OPNCL | CAS  | 01 01.0       | +63 57        | 9.3  | 10.0 m      |             |             | III 2 p |  | 13           |
|         |          |          |       |              |             |      |         | Berk 68   | OPNCL | PER  | 04 44.5       | +42 04        | 9.8  | 12.0 m      |             |             | IV 2 p  |  | 33           |
|         |          |          |       |              |             |      |         | Berk 86   | OPNCL | CYG  | 20 20.4       | +38 42        | 7.9  | 8.0 m       |             |             | I 3 p n | 13"-pF,pS,nRi,nC 19* mags 10..13 at 135X     | 17           |

## Deep Sky Object List (3/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|---|--------------|
|         |          |          |       |              |             |      |         | Berk 94   | OPNCL | CEP  | 22 22.7       | +55 51        | 8.7  | 4.0 m       |             |             | I 1 p n |   | 15           |
|         |          |          |       |              |             |      |         | Biur 2    | OPNCL | CYG  | 20 09.2       | +35 29        | 6.3  | 13.0 m      |             |             | III 2 p | 13"-pF,pL,sC,nvRi, 22*<br>mags 11..13 at 100X       | 41           |
|         |          |          |       |              |             |      |         | Blanco 1  | OPNCL | SCL  | 00 04.3       | -29 56        | 4.5  | 90 m        |             |             | III 2 m |   | 109          |
|         |          |          |       |              |             |      |         | Bochum 1  | OPNCL | GEM  | 06 25.5       | +19 46        | 7.9  |             |             |             |         |   | 55           |
|         |          |          |       |              |             |      |         | Bochum 2  | OPNCL | MON  | 06 48.9       | +00 23        | 9.7  |             |             |             |         |   | 79           |
|         |          |          |       |              |             |      |         | Bochum 3  | OPNCL | MON  | 07 03.4       | -05 04        | 9.9  |             |             |             |         |   | 78           |
|         |          |          |       |              |             |      |         | Bochum 4  | OPNCL | PUP  | 07 31.0       | -16 57        | 7.3  | 23 m        |             |             |         | 13"-pB,pL,sC; 22* at<br>135X                        | 102          |
|         |          |          |       |              |             |      |         | Bochum 5  | OPNCL | PUP  | 07 30.9       | -17 04        | 7    | 11 m        |             |             |         | 13"-pF,pS,nRi,nC; 7*<br>135X; aster in<br>horseshoe | 102          |
|         |          |          |       |              |             |      |         | Bochum 6  | OPNCL | PUP  | 07 32.0       | -19 26        | 9.9  |             |             |             |         | 13"-pF,pS; 15* mags<br>11... at 135X                | 102          |
|         |          |          |       |              |             |      |         | Bochum 7  | OPNCL | VEL  | 08 44.8       | -45 59        | 6.8  |             |             |             |         |   | 125          |
|         |          |          |       |              |             |      |         | Bochum 9  | OPNCL | CAR  | 10 35.8       | -60 08        | 6.3  |             |             |             |         |   | 123          |
|         |          |          |       |              |             |      |         | Bochum 10 | OPNCL | CAR  | 10 42.2       | -59 09        | 6.2  |             |             |             |         |   | 123          |

Deep Sky Object List (4/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|----------|----------------------------|--------------|
|         |          |          |       |              |             |      |         | Bochum 11 | OPNCL | CAR  | 10 47.3       | -60 06         | 7.9  |             |             |             |          |                            | 123          |
|         |          |          |       |              |             |      |         | Bochum 12 | OPNCL | CAR  | 10 57.4       | -61 44         | 9.7  |             |             |             |          |                            | 123          |
|         |          |          |       |              |             |      |         | Bochum 13 | OPNCL | SCO  | 17 17.3       | -35 33         | 7.2  |             |             |             |          |                            | 92           |
|         |          |          |       |              |             |      |         | Bochum 14 | OPNCL | SGR  | 18 02.0       | -23 42         | 9.3  |             |             |             |          |                            | 91           |
|         |          |          |       |              |             |      |         | Bochum 15 | OPNCL | PUP  | 07 40.1       | -33 33         | 6.3  |             |             |             |          | 13"-F,pS,nRi,C; 6* at 165X | 102          |
|         | C 99     |          | x     |              |             |      |         | Coalsack  | DRKNB | CRU  | 12 53.0       | -63 00         | 79.9 | 400 m       |             |             | 3? Ir    |                            | 139          |
|         |          |          |       |              |             |      | x       | Col 399   | OPNCL | VUL  | 19 25.4       | +20 11         | 3.6  | 60 m        |             |             |          |                            | 42           |
|         |          |          |       |              |             |      |         | Cr 21     | OPNCL | TRI  | 01 50.1       | +27 15         | 8.2  | 6.0 m       |             |             | IV 2 p   |                            | 60           |
|         |          |          |       |              |             |      |         | Cr 33     | OPNCL | CAS  | 02 59.3       | +60 24         | 5.9  | 40.0 m      |             |             |          |                            | 35           |
|         |          |          |       |              |             |      |         | Cr 34     | OPNCL | CAS  | 03 00.9       | +60 25         | 6.8  | 25.0 m      |             |             | I 3 p    |                            | 34           |
|         |          |          |       |              |             |      |         | Cr 62     | OPNCL | AUR  | 05 22.5       | +41 00         | 4.2  | 28.0 m      |             |             | IV 3 p   |                            | 32           |
|         |          |          |       |              |             |      |         | Cr 65     | OPNCL | ORI  | 05 26.0       | +16 00         | 3    | 220 m       |             |             | II 3 p   |                            | 56           |
|         |          |          |       |              |             |      |         | Cr 69     | OPNCL | ORI  | 05 35.1       | +09 56         | 2.8  | 65 m        |             |             | II 3 p n |                            | 80           |

## Deep Sky Object List (5/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------|--------------|
|         |          |          |       |              |             |      |         | Cr 70  | OPNCL | ORI  | 05 36.0       | -01 00        | 0.4  | 150 m       |             |             | II 3 m n |                 | 80           |
|         |          |          |       |              |             |      |         | Cr 89  | OPNCL | GEM  | 06 18.0       | +23 38        | 5.7  | 35.0 m      |             |             | IV 2 p n |                 | 55           |
|         |          |          |       |              |             |      |         | Cr 91  | OPNCL | MON  | 06 21.7       | +02 22        | 6.4  | 17.0 m      |             |             | IV 2 p   |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 92  | OPNCL | MON  | 06 22.9       | +05 07        | 8.5  | 11.0 m      |             |             |          |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 96  | OPNCL | MON  | 06 30.3       | +02 52        | 7.3  | 8.0 m       |             |             | IV 2 p   |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 97  | OPNCL | MON  | 06 31.3       | +05 55        | 5.4  | 21.0 m      |             |             | IV 3 p   |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 104 | OPNCL | MON  | 06 36.5       | +04 49        | 9.6  | 22.0 m      |             |             | IV 1 p n |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 106 | OPNCL | MON  | 06 37.1       | +05 57        | 4.6  | 45.0 m      |             |             | III 3 p  |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 107 | OPNCL | MON  | 06 37.7       | +04 44        | 5.1  | 35.0 m      |             |             | IV 3 p   |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 111 | OPNCL | MON  | 06 38.7       | +06 54        | 7    | 3.2 m       |             |             |          |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 115 | OPNCL | MON  | 06 46.5       | +01 46        | 9.1  | 7.0 m       |             |             | III 2 p  |                 | 79           |
|         |          |          |       |              |             |      |         | Cr 121 | OPNCL | CMA  | 06 54.2       | -24 38        | 2.6  | 50.0 m      |             |             | III 3 p  |                 | 103          |
|         |          |          |       |              |             |      |         | Cr 132 | OPNCL | CMA  | 07 14.4       | -31 10        | 3.6  | 95 m        |             |             | III 3 p  |                 | 102          |

Deep Sky Object List (6/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---|--------------|
|         |          |          |       |              |             |      |         | Cr 135 | OPNCL | PUP  | 07 17.0       | -36 50        | 2.1  | 50.0 m      |             |             | IV 2 p   | 13"-<br>vB,vvL,nC,scattered<br>38* at 60X | 102          |
|         |          |          |       |              |             |      |         | Cr 140 | OPNCL | CMA  | 07 23.9       | -32 12        | 3.5  | 42.0 m      |             |             | III 3 p  | 10X50-vB,vL,irR, 18*                      | 102          |
|         |          |          |       |              |             |      |         | Cr 173 | OPNCL | PUP  | 08 04.0       | -46 00        | 0.6  | 370 m       |             |             | IV 2 p   |   | 125          |
|         |          |          |       |              |             |      |         | Cr 185 | OPNCL | PUP  | 08 22.5       | -36 10        | 7.8  | 9.0 m       |             |             | III 2 p  | 13"-pF,pS,nC,nRi 18*<br>at 135X           | 101          |
|         |          |          |       |              |             |      |         | Cr 187 | OPNCL | PUP  | 08 24.2       | -29 09        | 9.6  | 7.0 m       |             |             | III 1 p  |   | 101          |
|         |          |          |       |              |             |      |         | Cr 197 | OPNCL | VEL  | 08 44.7       | -41 22        | 6.7  | 17.0 m      |             |             | IV 2 p n |   | 125          |
|         |          |          |       |              |             |      |         | Cr 213 | OPNCL | VEL  | 09 54.7       | -50 43        | 9.2  | 17.0 m      |             |             | IV 2 p   |   | 124          |
|         |          |          |       |              |             |      |         | Cr 223 | OPNCL | CAR  | 10 30.5       | -59 49        | 9.4  | 9.0 m       |             |             | II 2 p   |   | 123          |
|         |          |          |       |              |             |      |         | Cr 228 | OPNCL | CAR  | 10 43.0       | -60 01        | 4.4  | 15.0 m      |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Cr 232 | OPNCL | CAR  | 10 44.8       | -59 34        | 6.8  | 4.0 m       |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Cr 234 | OPNCL | CAR  | 10 45.3       | -59 45        | 7.5  | 4.0 m       |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Cr 236 | OPNCL | CAR  | 10 57.0       | -61 02        | 7.7  | 8.0 m       |             |             | III 2 p  |   | 123          |



## Deep Sky Object List (7/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-----------------|--------------|
|         |          |          |       |              |             |      |         | Cr 240 | OPNCL | CAR  | 11 11.2       | -60 17        | 3.9  | 25.0 m      |             |             | III 1 p n |                 | 122          |
|         |          |          |       |              |             |      |         | Cr 269 | OPNCL | MUS  | 13 22.6       | -66 07        | 9.2  | 15.0 m      |             |             | IV 2 p    |                 | 139          |
|         |          |          |       |              |             |      |         | Cr 271 | OPNCL | CEN  | 13 29.7       | -64 11        | 8.7  | 7.0 m       |             |             | III 2 p   |                 | 139          |
|         |          |          |       |              |             |      |         | Cr 272 | OPNCL | CEN  | 13 30.6       | -61 16        | 7.7  | 9.0 m       |             |             | III 1 m   |                 | 120          |
|         |          |          |       |              |             |      |         | Cr 277 | OPNCL | MUS  | 13 48.7       | -66 05        | 9.2  | 16.0 m      |             |             | III 1 p   |                 | 139          |
|         |          |          |       |              |             |      |         | Cr 285 | OPNCL | UMA  | 12 03.0       | +58 00        | 0.4  | 1400 m      |             |             |           |                 | 25           |
|         |          |          |       |              |             |      |         | Cr 292 | OPNCL | NOR  | 15 50.7       | -57 40        | 7.9  | 16.0 m      |             |             | III 2 m   |                 | 118          |
|         |          |          |       |              |             |      |         | Cr 299 | OPNCL | NOR  | 16 18.4       | -55 07        | 6.9  | 20.0 m      |             |             | II 2 p    |                 | 117          |
|         |          |          |       |              |             |      |         | Cr 302 | OPNCL | SCO  | 16 26.0       | -26 00        | 1    | 500 m       |             |             | III 3 p   |                 | 93           |
|         |          |          |       |              |             |      |         | Cr 307 | OPNCL | ARA  | 16 35.2       | -50 58        | 9.2  | 6.0 m       |             |             | III 2 p   |                 | 117          |
|         |          |          |       |              |             |      |         | Cr 316 | OPNCL | SCO  | 16 55.5       | -40 50        | 3.4  | 105 m       |             |             | I 2 m     |                 | 117          |
|         |          |          |       |              |             |      |         | Cr 332 | OPNCL | SCO  | 17 30.8       | -37 05        | 8.9  | 10.0 m      |             |             | IV 1 p    |                 | 116          |
|         |          |          |       |              |             |      |         | Cr 333 | OPNCL | SCO  | 17 31.3       | -34 05        | 9.8  | 5.0 m       |             |             | III 2 p   |                 | 92           |

## Deep Sky Object List (8/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|--|--------------|
|         |          |          |       |              |             |      |         | Cr 338    | OPNCL | SCO  | 17 38.2       | -37 34        | 8    | 25.0 m      |             |             | III 2 p   |  | 116          |
|         |          |          |       |              |             |      |         | Cr 347    | OPNCL | SGR  | 17 46.4       | -29 18        | 8.8  | 4.0 m       |             |             | III 2 p n |  | 92           |
|         |          |          |       |              |             |      |         | Cr 350    | OPNCL | OPH  | 17 48.1       | +01 18        | 6.1  | 45.0 m      |             |             | IV 2 p    | 13"-B,L,scattered 32*<br>at 60X              | 68           |
|         |          |          |       |              |             |      |         | Cr 351    | OPNCL | SGR  | 17 49.4       | -28 44        | 9.3  | 9.0 m       |             |             | IV 2 p    |  | 92           |
|         |          |          |       |              |             |      |         | Cr 367    | OPNCL | SGR  | 18 09.6       | -23 59        | 6.4  | 37.0 m      |             |             | IV 3 p n  |  | 91           |
|         |          |          |       |              |             |      |         | Cr 394    | OPNCL | SGR  | 18 53.5       | -20 23        | 6.3  | 22.0 m      |             |             | IV 2 m    |  | 91           |
|         |          |          |       |              |             |      |         | Cr 401    | OPNCL | AQL  | 19 38.4       | +00 20        | 7    | 1.0 m       |             |             | IV 2 m    |  | 66           |
|         |          |          |       |              |             |      |         | Cr 419    | OPNCL | CYG  | 20 18.1       | +40 43        | 5.4  | 4.5 m       |             |             | IV 2 p    | 13"-pB,pL,nRi,sC, 16*<br>mags 11..13 at 100X | 17           |
|         |          |          |       |              |             |      |         | Cr 428    | OPNCL | CYG  | 21 03.2       | +44 35        | 8.7  | 14.0 m      |             |             | III 2 p n |  | 16           |
|         |          |          |       |              |             |      |         | Cr 463    | OPNCL | CAS  | 01 48.4       | +71 57        | 5.7  | 36.0 m      |             |             | III 2 p   | 13"-B,vL,nC, 44* at 60X                      | 13           |
|         |          |          |       |              |             |      |         | Cr 464    | OPNCL | CAM  | 05 22.0       | +73 00        | 4.2  | 120 m       |             |             | IV 3 p    |  | 11           |
|         |          |          |       |              |             |      |         | Cr 469    | OPNCL | SGR  | 18 16.4       | -18 13        | 9.1  | 5.0 m       |             |             | II 2 p    |  | 91           |
|         |          |          |       |              |             |      |         | Czernik 3 | OPNCL | CAS  | 01 04.1       | +62 48        | 9.9  | 3.0 m       |             |             | III 2p :b |  | 13           |

Deep Sky Object List (9/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object       | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------------|-------|------|---------------|----------------|------|-------------|-------------|-------------|----------|------------------------------------|--------------|
|         |          |          |       |              |             |      |         | Czernik 8    | OPNCL | PER  | 02 33.0       | +58 44         | 9.7  | 7.0 m       |             |             | II 3 m   |                                    | 35           |
|         |          |          |       |              |             |      |         | Do 25        | OPNCL | MON  | 06 45.1       | +00 18         | 7.6  | 24.0 m      |             |             | IV 2 p n |                                    | 79           |
|         |          |          |       |              |             |      |         | ESO 097-G013 | GALXY | CIR  | 14 13.2       | -65 20         | 10.6 | 3.2 m       | 1.2 m       | 40          | Sb       |                                    | 138          |
|         |          |          |       |              |             |      |         | ESO 311-G012 | GALXY | PUP  | 07 47.6       | -41 27         | 11.8 | 3.5 m       | 0.4 m       | 14          | SO       |                                    | 126          |
|         |          |          |       |              |             |      |         | ESO 373-G008 | GALXY | ANT  | 09 33.3       | -33 02         | 12   | 5.8 m       | 0.9 m       | 89          | Sc       |                                    | 100          |
|         |          |          |       |              |             |      |         | ESO 383-G087 | GALXY | CEN  | 13 49.3       | -36 04         | 10.5 | 4.5 m       | 3.6 m       |             | SB       |                                    | 96           |
|         |          |          |       |              |             |      |         | Fein 1       | OPNCL | CAR  | 11 06.0       | -59 49         | 4.7  |             |             |             | IV 2 p   |                                    | 122          |
|         |          |          | x     |              |             |      |         | Fornax Dwarf | GALXY | FOR  | 02 39.9       | -34 32         | 8.1  | 17 m        | 12 m        |             | E4       | vF,vvL,R,Low Surface<br>Brightness | 107          |
|         |          |          |       |              |             |      |         | Frolov 1     | OPNCL | CAS  | 23 57.4       | +61 38         | 9.2  |             |             |             |          |                                    | 14           |
|         |          |          |       |              |             |      |         | HA 85        | GALXY | TEL  | 18 56.9       | -54 32         | 12.4 | 0.7 m       | 0.5 m       |             | SO       | S,IE,bM                            | 115          |
|         |          |          |       |              |             |      |         | Haffner 6    | OPNCL | CMA  | 07 20.1       | -13 08         | 9.2  | 4.0 m       |             |             | IV 3 p n |                                    | 102          |
|         |          |          |       |              |             |      |         | Haffner 8    | OPNCL | CMA  | 07 23.4       | -12 20         | 9.1  | 4.2 m       |             |             | IV 3 m   |                                    | 102          |
|         |          |          |       |              |             |      |         | Haffner 15   | OPNCL | PUP  | 07 45.3       | -32 47         | 9.4  | 3.5 m       |             |             | II 3 p   | 13"-pB,pS,vC,nRi at<br>165X        | 102          |

Deep Sky Object List (10/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object     | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|--|--------------|
|         |          |          |       |              |             |      |         | Haffner 16 | OPNCL | PUP  | 07 50.3       | -25 27         | 10   | 1.1 m       |             |             | I 1 p   | 13"-pB,S,pRi,vC; 19*<br>mags 11... at 165X | 102          |
|         |          |          |       |              |             |      |         | Haffner 18 | OPNCL | PUP  | 07 53.3       | -25 54         | 9.3  | 1.0 m       |             |             | I 2pn:b |  | 102          |
|         |          |          |       |              |             |      |         | Haffner 19 | OPNCL | PUP  | 07 52.7       | -26 15         | 9.4  | 1.8 m       |             |             | I 3 p n |  | 102          |
|         |          |          |       |              |             |      |         | Harvard 5  | OPNCL | CRU  | 12 29.0       | -60 46         | 7.1  | 6.0 m       |             |             | II 3 p  | pL,30*                                     | 121          |
|         |          |          |       |              |             |      |         | Harvard 8  | OPNCL | MUS  | 13 18.8       | -67 12         | 9.5  | 4.0 m       |             |             | I 2 p   |  | 139          |
|         |          |          |       |              |             |      |         | Harvard 20 | OPNCL | SGE  | 19 53.1       | +18 20         | 7.7  | 7.0 m       |             |             | III 2 p | pL,IC,* 11...                              | 42           |
|         |          |          |       |              |             |      |         | Harvard 21 | OPNCL | CAS  | 23 54.1       | +61 46         | 9    | 4.0 m       |             |             | IV 2 p  | pRi,C                                      | 14           |
|         |          |          | x     |              |             |      |         | Harvard 3  | OPNCL | VEL  | 08 46.1       | -52 47         | 6    | 7 m         |             |             |         |  | 125          |
|         |          |          |       |              |             |      |         | Hogg 10    | OPNCL | CAR  | 11 10.7       | -60 22         | 6.9  | 3.0 m       |             |             | I 3 p   |  | 122          |
|         |          |          |       |              |             |      |         | Hogg 11    | OPNCL | CAR  | 11 11.5       | -60 22         | 8.1  | 1.5 m       |             |             |         |  | 122          |
|         |          |          |       |              |             |      |         | Hogg 12    | OPNCL | CAR  | 11 12.3       | -60 45         | 8.8  | 3.0 m       |             |             | I 3 p   |  | 122          |
|         |          |          |       |              |             |      |         | Hogg 14    | OPNCL | CRU  | 12 28.6       | -59 49         | 9.5  | 3.0 m       |             |             | II 3 p  |  | 121          |
|         |          |          |       |              |             |      |         | Hogg 16    | OPNCL | CEN  | 13 29.3       | -61 12         | 8.4  | 4.0 m       |             |             | II 3 p  |  | 120          |

Deep Sky Object List (11/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|--------|---|--------------|
|         |          |          |       |              |             |      |         | Hogg 17 | OPNCL | CEN  | 14 33.7       | -61 23        | 8.3   | 7.0 m       |             |             | II 3 p |   | 119          |
|         |          |          |       |              |             |      |         | Hogg 18 | OPNCL | LUP  | 14 50.7       | -52 15        | 8     | 3.0 m       |             |             | I 3 p  |   | 119          |
|         |          |          |       |              |             |      |         | Hogg 22 | OPNCL | ARA  | 16 46.7       | -47 06        | 6.7   | 1.5 m       |             |             |        |   | 117          |
|         |          |          |       |              |             |      |         | IC 239  | GALXY | AND  | 02 36.5       | +38 58        | 11.1  | 4.6 m       | 4.2 m       |             | SBa    | vF spiral,F stellar<br>nucleus          | 35           |
|         |          |          |       |              |             |      |         | IC 284  | GALXY | PER  | 03 06.2       | +42 22        | 11.5  | 4.1 m       | 2.1 m       | 13          | Sd     | eeF,pL,IE,D *<br>np,between 2 *         | 34           |
|         |          |          |       |              |             | 10   |         | IC 289  | PLNNB | CAS  | 03 10.3       | +61 19        | 12    | 45 s        | 30 s        |             | 4(2)   | pB,pL,R,bet 2 vF stars                  | 34           |
|         |          |          |       |              |             |      |         | IC 334  | GALXY | CAM  | 03 45.3       | +76 38        | 12.3  | 3.7 m       | 3.3 m       | 80          | Pec    | pB,S,*13 mag invl sf                    | 12           |
|         | C 5      |          | x     |              |             |      |         | IC 342  | GALXY | CAM  | 03 46.8       | +68 06        | 12    | 20.9 m      | 20.4 m      |             | SBc    | F,vL,R,vsBN                             | 12           |
|         |          |          |       |              |             |      |         | IC 349  | BRTNB | TAU  | 03 46.3       | +23 56        | 99.9  | 30 m        |             |             | R      | eF,vS,E 165 deg,dist<br>36" from Merope | 58           |
|         |          |          |       |              |             |      |         | IC 351  | PLNNB | PER  | 03 47.6       | +35 03        | 12.4  | 8 s         | 6 s         |             | 2a     | plan neb=* 10 mag, 9<br>mag * p         | 58           |
|         |          |          |       |              |             |      |         | IC 356  | GALXY | CAM  | 04 07.8       | +69 49        | 10.5  | 4.5 m       | 3.5 m       | 90          | Sbp    | pF,pL,BM,* 8.5 4' north                 | 11           |
|         | C 31     |          | x     |              |             |      |         | IC 405  | BRTNB | AUR  | 05 16.5       | +34 21        | 10.0p | 50 m        | 30 m        |             | E      | * 6.7 w pB,vL neb                       | 56           |
|         |          |          | x     |              |             |      |         | IC 410  | BRTNB | AUR  | 05 22.7       | +33 25        | 7.5   | 11 m        |             |             | E      | Dif,many st inv                         | 56           |

Deep Sky Object List (12/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|----------------|-------|-------------|-------------|-------------|----------|--|--------------|
|         |          |          |       |              |             |      |         | IC 418  | PLNNB | LEP  | 05 27.5       | -12 42         | 10.7  | 14 s        | 11 s        |             | 4        | vS,B                                   | 104          |
|         |          |          | *     |              |             |      |         | IC 434  | BRTNB | ORI  | 05 41.0       | -02 27         | 11.0p | 90 m        | 30 m        |             | E        | eF,vvL,vmE;1 deg long<br>incl Zeta Ori | 80           |
|         |          |          | x     |              |             |      |         | IC 443  | SNREM | GEM  | 06 17.8       | +22 49         | 12.0p | 50 m        | 40 m        | 170         |          | F,narrow curved                        | 55           |
|         |          |          |       |              |             |      |         | IC 456  | GALXY | CMA  | 07 00.3       | -30 10         | 11.9  | 2.1 m       | 1.3 m       | 110         | SBO      | vF,pS,R,B st nf and np                 | 102          |
|         |          |          |       |              |             |      |         | IC 512  | GALXY | CAM  | 09 03.8       | +85 30         | 12.2  | 2.9 m       | 2.3 m       | 175         | Sc       | F,S,R,gbM                              | 1            |
|         |          |          |       |              |             |      |         | IC 529  | GALXY | CAM  | 09 18.5       | +73 46         | 11.9  | 3.7 m       | 1.7 m       | 145         | Sc       | pF,pL,E                                | 9            |
|         |          |          |       |              |             |      |         | IC 749  | GALXY | UMA  | 11 58.6       | +42 44         | 12.4  | 2.3 m       | 2 m         | 150         | SBc Ring | pB,L,E,lbM                             | 26           |
|         |          |          |       |              |             |      |         | IC 750  | GALXY | UMA  | 11 58.9       | +42 43         | 11.9  | 2.6 m       | 1.2 m       | 43          | Sab      | pB,L,IE,bM                             | 26           |
|         |          |          |       |              |             |      |         | IC 764  | GALXY | HYA  | 12 10.2       | -29 44         | 12.2  | 4.8 m       | 1.4 m       | 177         | SBc      | eF,pL,Ens,lbN                          | 97           |
|         |          |          |       |              |             |      |         | IC 1014 | GALXY | BOO  | 14 28.3       | +13 47         | 12.5  | 2.7 m       | 2 m         | 90          | SBd      | F,pL,R,gbM                             | 47           |
|         |          |          |       |              |             |      |         | IC 1266 | PLNNB | ARA  | 17 45.6       | -46 05         | 12.3  | 13 s        |             |             | 4        | stellar,gaseous<br>spectrum-Pickering  | 116          |
|         |          |          |       |              |             |      |         | IC 1276 | GLOCL | SER  | 18 10.8       | -07 13         | 10.3  | 7.1 m       |             |             | XII      | eeF,vL,v difficult,D*<br>close p       | 67           |
|         |          |          |       |              |             |      |         | IC 1297 | PLNNB | CRA  | 19 17.4       | -39 37         | 11.5  | 8 s         | 6 s         |             |          | Stellar,gaseous<br>spectrum            | 114          |

Deep Sky Object List (13/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | IC 1369 | OPNCL | CYG  | 21 12.1       | +47 44        | 8.8  | 4.0 m       |             |             | I 1 m     | S,F,stars 13 mag                | 16           |
|         |          |          |       |              |             |      |         | IC 1396 | CL+NB | CEP  | 21 39.1       | +57 30        | 3.5  | 89 m        |             |             | II 3 m n  | F,eL neby,incl Struve 2816      | 16           |
|         |          |          |       |              |             |      |         | IC 1434 | OPNCL | LAC  | 22 10.5       | +52 50        | 9    | 8.0 m       |             |             | II 1 p?   | fine cl,6 branches,st 12-15 mag | 15           |
|         |          |          |       |              |             |      |         | IC 1442 | OPNCL | LAC  | 22 16.5       | +54 03        | 9.1  | 5 m         |             |             | II 2 m    | Cl of neb stars                 | 15           |
|         |          |          |       |              |             |      |         | IC 1459 | GALXY | GRU  | 22 57.2       | -36 28        | 10   | 5.1 m       | 3.7 m       | 40          | E3        | F,pS,com,N=12 m                 | 87           |
|         |          |          |       |              |             |      |         | IC 1470 | BRTNB | CEP  | 23 05.2       | +60 15        | 99.9 | 15 m        | 1 m         |             | E         | vF,vS,*N on n edge              | 14           |
|         |          |          |       |              |             |      |         | IC 1558 | GALXY | SCL  | 00 35.8       | -25 23        | 12.2 | 3.3 m       | 2.4 m       | 150         | SB        | E 160, * n, perhaps spiral      | 109          |
|         | C 51     |          | x     |              |             |      |         | IC 1613 | GALXY | CET  | 01 04.9       | +02 08        | 9.2  | 16.6 m      | 14.9 m      | 50          | Ir        | F,eL                            | 84           |
|         |          |          |       |              |             |      |         | IC 1625 | GALXY | PHE  | 01 07.7       | -46 55        | 11.9 | 1.6 m       | 1.2 m       | 7           | Sa pec    | eF,vS,R,susp                    | 132          |
|         |          |          |       |              |             |      |         | IC 1727 | GALXY | TRI  | 01 47.5       | +27 20        | 11.5 | 7.1 m       | 2.8 m       | 150         | SBm       | F,L,st inv,NGC 672 nf           | 60           |
|         |          |          |       |              |             |      |         | IC 1747 | PLNNB | CAS  | 01 57.6       | +63 19        | 12   | 13 s        |             |             | 3b        | Stellar                         | 13           |
|         |          |          |       |              |             |      |         | IC 1795 | BRTNB | CAS  | 02 25.8       | +61 59        | 99.9 | 12 m        | 12 m        |             | E         | vL,F                            | 35           |
|         |          |          | x     |              |             |      |         | IC 1805 | CL+NB | CAS  | 02 32.7       | +61 27        | 6.5  | 60 m        | 60 m        |             | III 3 p n | Cl,C,eL neby extends following  | 35           |

Deep Sky Object List (14/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------------|--------------|
|         |          |          |       |              |             |      |         | IC 1848 | CL+NB | CAS  | 02 51.4       | +60 25        | 6.5  | 40 m        | 10 m        |             | IV 3 p n   | Cl,star following,in F neby      | 35           |
|         |          |          |       |              |             |      |         | IC 1933 | GALXY | HOR  | 03 25.7       | -52 47        | 12.5 | 2.2 m       | 1.1 m       | 55          | SBc        | F,S,IE                           | 130          |
|         |          |          |       |              |             |      |         | IC 1953 | GALXY | ERI  | 03 33.7       | -21 29        | 11.7 | 2.9 m       | 2.1 m       | 121         | SBc        | vF,cL, spiral or annular         | 106          |
|         |          |          |       |              |             |      |         | IC 1954 | GALXY | HOR  | 03 31.5       | -51 54        | 11.6 | 3 m         | 1.5 m       | 66          | SBb        | F,pL,R,spiral                    | 130          |
|         |          |          |       |              |             |      |         | IC 2000 | GALXY | HOR  | 03 49.1       | -48 52        | 11.9 | 4.1 m       | 0.8 m       | 83          | SBc        | cB,L,eE 80 deg,vmbM              | 130          |
|         |          |          |       |              |             |      |         | IC 2006 | GALXY | ERI  | 03 54.5       | -35 58        | 11.3 | 1.9 m       | 1.6 m       |             | Ellip Ring | pB,S,R,* nr nf,D* sp             | 106          |
|         |          |          |       |              |             |      |         | IC 2035 | GALXY | HOR  | 04 09.0       | -45 31        | 11.8 | 1.2 m       | 0.9 m       | 86          | SBO        | F,vS,R                           | 129          |
|         |          |          |       |              |             |      |         | IC 2051 | GALXY | MEN  | 03 52.0       | -83 50        | 11.6 | 2.6 m       | 1.6 m       | 67          | SBbc Ring  | !vF,vS,stell Nuc,elliptical ring | 146          |
|         |          |          |       |              |             |      |         | IC 2056 | GALXY | RET  | 04 16.4       | -60 12        | 11.9 | 1.9 m       | 1.6 m       | 8           | SBbc Ring  | F,pL,R,bM                        | 129          |
|         |          |          |       |              |             |      |         | IC 2149 | PLNNB | AUR  | 05 56.4       | +46 06        | 10   | 12 s        | 6 s         |             | 3b(2)      | S,vB                             | 32           |
|         |          |          |       |              |             |      |         | IC 2157 | OPNCL | GEM  | 06 04.8       | +24 04        | 8.4  | 7.0 m       |             |             | III 2 p    | Cl,S,about 20 F stars            | 55           |
|         |          |          |       |              |             |      |         | IC 2158 | GALXY | COL  | 06 05.3       | -27 51        | 12   | 1.7 m       | 1.3 m       | 90          | SBab       | vF,pS,IE,brush, * att nf         | 103          |
|         |          |          | x     |              |             |      |         | IC 2165 | PLNNB | CMA  | 06 21.7       | -12 59        | 12.5 | 9 s         | 7 s         |             | 3b         | vS                               | 103          |



## Deep Sky Object List (15/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|--------------------------------|--------------|
|         |          |          |       |              |             |      |         | IC 2166 | GALXY | LYN  | 06 26.9       | +59 05        | 12.4 | 3 m         | 2.1 m       | 115         | SBbc   | Neb;F*p1',D*f3'                | 31           |
|         |          |          |       |              |             |      |         | IC 2177 | BRTNB | MON  | 07 05.1       | -10 42        | 99.9 | 20 m        | 20 m        |             | E      | pB,eL,iR,v dif                 | 78           |
|         |          |          |       |              |             |      |         | IC 2179 | GALXY | CAM  | 07 15.5       | +64 56        | 12.4 | 1.7 m       | 1.7 m       |             | E1     | *13 IN vF,vS Neb               | 10           |
|         |          |          |       |              |             |      |         | IC 2311 | GALXY | PUP  | 08 18.8       | -25 22        | 11.5 | 2.1 m       | 1.9 m       |             | E0     | pB,vS,R,lbM,6'n of<br>NGC 2566 | 101          |
|         | C 85     |          |       |              |             |      |         | IC 2391 | OPNCL | VEL  | 08 39.6       | -52 55        | 2.5  | 60 m        |             |             | II 3 p | vL,B                           | 125          |
|         |          |          |       |              |             |      |         | IC 2395 | OPNCL | VEL  | 08 42.5       | -48 08        | 4.6  | 17 m        |             |             | II 3 p | about 16 stars mags 9...       | 125          |
|         |          |          |       |              |             |      |         | IC 2448 | PLNNB | CAR  | 09 07.1       | -69 57        | 11.5 | 8 s         |             |             | 2b     | vS,R,nearly stellar            | 141          |
|         |          |          | x     |              |             |      |         | IC 2488 | OPNCL | VEL  | 09 27.4       | -56 57        | 7.4  | 15.0 m      |             |             | II 2 m | about 50 stars mags<br>11....  | 124          |
|         |          |          |       |              |             |      |         | IC 2501 | PLNNB | CAR  | 09 38.8       | -60 06        | 11.3 | 2 s         |             |             | 1      | planetary,stellar              | 124          |
|         |          |          |       |              |             |      |         | IC 2511 | GALXY | ANT  | 09 49.4       | -32 50        | 12.1 | 2.9 m       | 0.6 m       | 38          | SBab   | pB,pS,eE,*7 np, np of 2        | 100          |
|         |          |          |       |              |             |      |         | IC 2522 | GALXY | ANT  | 09 55.1       | -33 08        | 11.9 | 2.8 m       | 1.9 m       | 0           | SBc    | vF,cL,R                        | 100          |
|         |          |          |       |              |             |      |         | IC 2537 | GALXY | ANT  | 10 03.9       | -27 34        | 12.1 | 2.5 m       | 1.7 m       | 26          | SBc    | eF,L,cE                        | 99           |
|         |          |          | x     |              |             |      |         | IC 2574 | GALXY | UMA  | 10 28.7       | +68 28        | 13   | 9.0 m       | 4.0 m       |             | Ir     |                                | 8            |

Deep Sky Object List (16/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | IC 2581 | OPNCL | CAR  | 10 27.4       | -57 38         | 4.3  | 8.0 m       |             |             | I 3 m n    | Cl, around * 5.4 mag            | 123          |
|         | C102     |          |       |              |             |      |         | IC 2602 | OPNCL | CAR  | 10 42.9       | -64 24         | 1.9  | 100 m       |             |             | II 3 m     | Cl,incl Theta Car               | 140          |
|         |          |          |       |              |             |      |         | IC 2621 | PLNNB | CAR  | 11 00.3       | -65 15         | 10.5 | 5 s         |             |             | 1          | planetary, stellar, 10.5 mag    | 140          |
|         |          |          |       |              |             |      |         | IC 2627 | GALXY | CRT  | 11 09.9       | -23 44         | 12   | 2.6 m       | 2.1 m       |             | SBbc       | eF,L,R,stell N                  | 98           |
|         |          |          |       |              |             |      |         | IC 2714 | OPNCL | CAR  | 11 17.3       | -62 43         | 8.2  | 12.0 m      |             |             | II 3 m     | Cl,pC                           | 140          |
|         | C100     |          |       |              |             |      |         | IC 2944 | CL+NB | CEN  | 11 37.9       | -63 21         | 4.5  | 60 m        | 35 m        |             | II 1 p n   | * 3.4 mag in vL neby            | 140          |
|         |          |          |       |              |             |      |         | IC 2995 | GALXY | HYA  | 12 05.8       | -27 57         | 12.2 | 3 m         | 0.8 m       | 117         | SBc        | vF,L,cE                         | 97           |
|         |          |          |       |              |             |      |         | IC 3253 | GALXY | CEN  | 12 23.8       | -34 37         | 11.9 | 2.7 m       | 1.1 m       | 23          | Sc         | eF,vL,mE 20 degrees, lbM        | 97           |
|         |          |          | x     |              |             |      | x       | IC 3568 | PLNNB | CAM  | 12 33.1       | +82 34         | 11.6 | 18 s        |             |             | 2(2a)      | planetary or neb *9.5,*13 p 15" | 7            |
|         |          |          |       |              |             |      |         | IC 4182 | GALXY | CVN  | 13 05.8       | +37 36         | 12.5 | 6 m         | 5.5 m       |             | Sm         | cF,vS,R,bM                      | 24           |
|         |          |          |       |              |             |      |         | IC 4191 | PLNNB | MUS  | 13 08.8       | -67 39         | 12   | 18 s        | 11 s        |             | 2          | Stellar                         | 139          |
|         |          |          |       |              |             |      |         | IC 4296 | GALXY | CEN  | 13 36.6       | -33 58         | 10.6 | 3.4 m       | 3.3 m       |             | Elliptical | pF,pS,R                         | 96           |
|         |          |          |       |              |             |      |         | IC 4329 | GALXY | CEN  | 13 49.1       | -30 18         | 11.3 | 3.2 m       | 1.9 m       | 63          | E7         | pF,cS,bM,E                      | 96           |

Deep Sky Object List (17/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|----------------|------|-------------|-------------|-------------|--------|----------------------------------|--------------|
|         |          |          |       |              |             |      |         | IC 4351 | GALXY | HYA  | 13 57.9       | -29 19         | 11.7 | 5.9 m       | 0.9 m       | 17          | Sb     | L,F,SN,vmE,edge on spiral        | 96           |
|         |          |          |       |              |             |      |         | IC 4406 | PLNNB | LUP  | 14 22.4       | -44 09         | 11   | 100 s       | 37 s        |             | 4(3)   | E 80 deg                         | 119          |
|         |          |          |       |              |             |      |         | IC 4444 | GALXY | LUP  | 14 31.6       | -43 25         | 11.4 | 1.7 m       | 1.4 m       |             | SBbc   | vF,vS,* in M,spiral or annular   | 119          |
|         |          |          |       |              |             |      |         | IC 4499 | GLOCL | APS  | 15 00.3       | -82 13         | 10.6 | 7.6 m       |             |             | XI     | Cl,vF,4' diam,3 F stars in neby? | 138          |
|         |          |          |       |              |             |      |         | IC 4593 | PLNNB | HER  | 16 11.7       | +12 04         | 11   | 12.5 s      | 10 s        |             | 2(2)   | S,F,Stellar                      | 45           |
|         |          |          |       |              |             |      |         | IC 4599 | PLNNB | SCO  | 16 19.4       | -42 16         | 12.3 | 16 s        | 13 s        |             |        | annular                          | 117          |
|         |          |          |       |              |             |      |         | IC 4603 | BRTNB | OPH  | 16 25.4       | -24 28         | 99.9 | 20 m        | 5 m         |             | E+*    | eF,vL,dif,st inv                 | 93           |
|         |          |          |       |              |             |      |         | IC 4604 | BRTNB | OPH  | 16 25.6       | -23 27         | 99.9 | 60 m        | 25 m        |             | E+*    | Rho Ophiuchi in eL,vF,Irr neby   | 93           |
|         |          |          |       |              |             |      |         | IC 4628 | BRTNB | SCO  | 16 57.0       | -40 27         | 99.9 | 90 m        | 60 m        |             | E      | F,eL,E pf,dif                    | 117          |
|         |          |          |       |              |             |      |         | IC 4634 | PLNNB | OPH  | 17 01.6       | -21 50         | 12   | 20 s        | 10 s        |             | 2a(3)  | eS,B                             | 92           |
|         |          |          |       |              |             |      |         | IC 4642 | PLNNB | ARA  | 17 11.8       | -55 24         | 12.4 | 15 s        |             |             | 4      | stellar                          | 116          |
|         |          |          |       |              |             |      |         | IC 4651 | OPNCL | ARA  | 17 24.8       | -49 56         | 6.9  | 10 m        |             |             | II 3 m | Cl,pC                            | 116          |
|         |          |          |       |              |             |      |         | IC 4662 | GALXY | PAV  | 17 47.1       | -64 39         | 11.3 | 2.9 m       | 1.6 m       | 105         | SBp    | F,pS,IE                          | 137          |

Deep Sky Object List (18/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|---|--------------|
|         |          |          |       |              |             |      |         | IC 4665 | OPNCL | OPH  | 17 46.3       | +05 43        | 4.2  | 41.0 m      |             |             | III 2 p | vvL sparse group,about<br>20 * mags 7.... | 68           |
|         |          |          |       |              |             |      |         | IC 4699 | PLNNB | TEL  | 18 18.5       | -45 59        | 12   | 5 s         |             |             | 2       | S,F,Stellar                               | 115          |
|         |          |          |       |              |             |      |         | IC 4710 | GALXY | PAV  | 18 28.6       | -66 59        | 11.9 | 3.3 m       | 2.8 m       | 5           | SBc     | vF,vS,R,bM                                | 136          |
| M 24    |          |          | !     |              |             |      |         | IC 4715 | OPNCL | SGR  | 18 26.6       | -18 23        | 3.1  | 95 m        | 35 m        |             |         | eeL cloud of st and neb                   | 91           |
|         |          |          |       |              |             |      |         | IC 4721 | GALXY | PAV  | 18 34.4       | -58 30        | 11.6 | 5.6 m       | 1.4 m       | 146         | SBc     | F,cL,E 150 degrees                        | 115          |
| M 25    |          |          | x     |              |             |      |         | IC 4725 | OPNCL | SGR  | 18 31.8       | -19 07        | 4.6  | 29 m        |             |             | I 2 p   | Cl,pC                                     | 91           |
|         |          |          | x     |              |             |      | x       | IC 4756 | OPNCL | SER  | 18 39.0       | +05 27        | 4.6  | 39 m        |             |             | III 2 m | vvL,scattered group of<br>80 * mags 7.... | 67           |
|         |          |          |       |              |             |      |         | IC 4776 | PLNNB | SGR  | 18 45.8       | -33 21        | 12.5 | 8 s         | 6 s         |             | 2a      | vS,F                                      | 91           |
|         |          |          |       |              |             |      |         | IC 4797 | GALXY | TEL  | 18 56.5       | -54 18        | 11.3 | 2.9 m       | 1.3 m       | 146         | E5      | bM  | 115          |
|         |          |          |       |              |             |      |         | IC 4837 | GALXY | TEL  | 19 15.2       | -54 40        | 12.5 | 2.4 m       | 1.2 m       | 8           | SBc/P   | F,cS,R,bM                                 | 114          |
|         |          |          |       |              |             |      |         | IC 4846 | PLNNB | AQL  | 19 16.5       | -09 03        | 12   | 2 s         |             |             | 2       | stellar                                   | 66           |
|         |          |          |       |              |             |      |         | IC 4889 | GALXY | TEL  | 19 45.3       | -54 21        | 11.1 | 2.7 m       | 1.8 m       | 0           | E5      | BM, mag 10                                | 114          |
|         |          |          |       |              |             |      |         | IC 4946 | GALXY | SGR  | 20 24.0       | -44 00        | 11.8 | 2.4 m       | 1 m         | 68          | SBO-a   | eF,S,R                                    | 113          |

## Deep Sky Object List (19/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--|--------------|
|         |          |          |       |              |             |      |         | IC 4996 | OPNCL | CYG  | 20 16.5       | +37 38        | 7.3  | 6.0 m       |             |             | I 3 p n    | Cl,st 8...13                               | 17           |
|         |          |          |       |              |             |      |         | IC 4997 | PLNNB | SGE  | 20 20.1       | +16 44        | 11.3 | 2.0 s       | 1.4 s       |             | 1          | Stellar                                    | 41           |
|         |          |          |       |              |             |      |         | IC 5052 | GALXY | PAV  | 20 52.1       | -69 12        | 11.2 | 5.9 m       | 0.9 m       | 143         | SBcd       | F,L,eE 140 deg                             | 135          |
|         |          |          |       |              |             |      |         | IC 5063 | GALXY | IND  | 20 52.0       | -57 04        | 11.9 | 2.4 m       | 1.5 m       | 116         | SAO        | bM   | 113          |
|         |          |          |       |              |             |      |         | IC 5070 | BRTNB | CYG  | 20 50.8       | +44 21        | 8    | 60 m        | 50 m        |             | E          | F,dif                                      | 17           |
|         |          |          |       |              |             |      |         | IC 5105 | GALXY | MIC  | 21 24.4       | -40 32        | 11.6 | 2.6 m       | 1.5 m       | 40          | Elliptical | vF,vS,R,st n & s                           | 112          |
|         |          |          |       |              |             |      |         | IC 5131 | GALXY | PSA  | 21 47.4       | -34 53        | 12.3 | 1.5 m       | 1.4 m       |             | E-SO Bar   | vF,vS,R                                    | 88           |
|         | C 19     |          |       |              |             |      | x       | IC 5146 | CL+NB | CYG  | 21 53.4       | +47 16        | 10   | 20 m        | 10 m        |             | IV 2 p n   | F,L,iR,*9.5 m invl,br +<br>drk masses invl | 16           |
|         |          |          |       |              |             |      |         | IC 5148 | PLNNB | GRU  | 21 59.6       | -39 23        | 11   | 120 s       |             |             | 4          | pB,L,IE,* att,annular                      | 112          |
|         |          |          |       |              |             |      |         | IC 5152 | GALXY | IND  | 22 02.7       | -51 18        | 10.6 | 5.5 m       | 4 m         | 100         | Ir         | F,cL,cE 150 degrees,<br>cbM                | 111          |
|         |          |          |       |              |             |      |         | IC 5181 | GALXY | GRU  | 22 13.4       | -46 01        | 11.5 | 2.5 m       | 0.9 m       | 74          | SA0        |  | 111          |
|         |          |          |       |              |             |      |         | IC 5186 | GALXY | GRU  | 22 18.8       | -36 48        | 11.9 | 1.8 m       | 1.2 m       | 112         | SBb        | eeF,S,R,F * nr<br>preceeding               | 87           |
|         |          |          |       |              |             |      |         | IC 5201 | GALXY | GRU  | 22 21.0       | -46 02        | 10.6 | 7.8 m       | 4 m         | 33          | SBc        |  | 111          |

## Deep Sky Object List (20/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object           | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|--|--------------|
|         |          |          |       |              |             |      |         | IC 5240          | GALXY | GRU  | 22 41.9       | -44 46         | 11.9 | 2.8 m       | 1.8 m       | 100         | SBa     | pF,pL,R, F * sf                                  | 111          |
|         |          |          |       |              |             |      |         | IC 5267          | GALXY | GRU  | 22 57.2       | -43 24         | 10.5 | 5.4 m       | 3.5 m       | 140         | Sa(s)   | pB,S,R,mbM                                       | 111          |
|         |          |          |       |              |             |      |         | IC 5269          | GALXY | PSA  | 22 57.7       | -36 02         | 12.2 | 1.7 m       | 0.8 m       | 51          | SBO     | vF,pS,mE,spindle<br>shaped                       | 87           |
|         |          |          |       |              |             |      |         | IC 5271          | GALXY | PSA  | 22 58.0       | -33 45         | 11.6 | 2.6 m       | 0.9 m       | 138         | Sb      | pF,pS,mE 145 deg,cbM                             | 87           |
|         |          |          |       |              |             |      |         | IC 5273          | GALXY | GRU  | 22 59.4       | -37 42         | 11.4 | 2.6 m       | 1.7 m       | 56          | SBc     | vF,cL,IE,4 stars<br>preceeding                   | 111          |
|         |          |          |       |              |             |      |         | IC 5325          | GALXY | PHE  | 23 28.7       | -41 20         | 11.3 | 2.8 m       | 2.5 m       |             | SBbc    | F,S,R,gbM, * sp 1'                               | 110          |
|         |          |          |       |              |             |      |         | IC 5328          | GALXY | PHE  | 23 33.3       | -45 01         | 11.4 | 2.4 m       | 1.5 m       | 40          | E5      | vF,S,R, bet 2 stars                              | 110          |
|         |          |          |       |              |             |      |         | IC 5332          | GALXY | SCL  | 23 34.5       | -36 06         | 10.5 | 8.4 m       | 7.6 m       |             | SBcd    | eF,vL,bM,bet 2 *,D* p<br>45 deg                  | 86           |
|         |          |          |       |              |             |      |         | Kemble's Cascade | ASTER | CAM  | 03 56.0       | +63 00         |      |             |             |             |         |  | 12           |
|         |          |          |       |              |             |      |         | King 12          | OPNCL | CAS  | 23 53.0       | +61 58         | 10   | 2.0 m       |             |             | I 2 p   | 13"-pB,S,sE; 15* at<br>135X; D* invol            | 14           |
|         |          |          |       |              |             |      |         | King 14          | OPNCL | CAS  | 00 31.9       | +63 10         | 8.5  | 7.0 m       |             |             | III 2 p | 13"-pB,pL,E; 20* nice<br>dark lanes invl at 100X | 13           |
|         |          |          |       |              |             |      |         | King 19          | OPNCL | CEP  | 23 08.3       | +60 31         | 9.2  | 7.0 m       |             |             | II 2 m  | 13"-pF,pS,nC; 12* at<br>165X                     | 14           |
|         |          |          |       |              |             |      |         | King 21          | OPNCL | CAS  | 23 49.9       | +62 43         | 9.8  | 2.5 m       |             |             | III 3 m | 13"-pF,pS; 17* at 135X                           | 2            |

Deep Sky Object List (21/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object           | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|-------------------------------------|--------------|
|         |          |          | !!!!  |              |             |      |         | Lg Magellanic Cl | GALXY | DOR  | 05 23.6       | -69 45        | 0.4  | 550 m       | 170 m       | 170         | SBm    | eB,eeL,mBM,mE,rrr                   | 143          |
|         |          |          |       |              |             |      |         | Loden 807        | OPNCL | CEN  | 13 24.9       | -62 26        | 7.9  |             |             |             |        |                                     | 139          |
|         |          |          |       |              |             |      |         | Lynga 2          | OPNCL | CEN  | 14 24.0       | -61 24        | 6.4  | 12.0 m      |             |             | IV 2 p |                                     | 119          |
|         |          |          |       |              |             |      |         | Lynga 6          | OPNCL | NOR  | 16 04.8       | -51 55        | 9.5  | 5.0 m       |             |             |        |                                     | 117          |
|         |          |          |       |              |             |      |         | Lynga 14         | OPNCL | SCO  | 16 55.2       | -45 19        | 9.7  | 2.0 m       |             |             |        |                                     | 117          |
|         |          |          |       |              |             |      |         | Maffei 1         | GALXY | CAS  | 02 36.3       | +59 39        | 11.4 | 5 m         | 3 m         |             |        | vF,pS                               | 35           |
|         |          |          |       |              |             |      |         | MCG +01-13-013   | GALXY | ORI  | 04 59.2       | +05 36        | 12   | 0.4 m       | 0.4 m       |             |        | Inner Regions Very Black--MCG       | 81           |
|         |          |          |       |              |             |      |         | MCG +01-14-037   | GALXY | ORI  | 05 25.6       | +06 35        | 12   | 0.8 m       | 0.8 m       |             |        | Inner Regions Very Black--MCG       | 80           |
|         |          |          |       |              |             |      |         | MCG +01-27-026   | GALXY | LEO  | 10 41.2       | +06 22        | 12.5 | 0.2 m       | 0.2 m       |             |        | Inner Regions Completely Black--MCG | 75           |
|         |          |          |       |              |             |      |         | MCG +01-48-001   | GALXY | SER  | 18 49.0       | +05 26        | 11   | 0.7 m       | 0.5 m       |             |        | Inner Regions Completely Black--MCG | 67           |
|         |          |          |       |              |             |      |         | MCG +02-14-001   | GALXY | ORI  | 05 18.1       | +13 25        | 12   | 1 m         | 1 m         |             |        | Inner Regions Completely Black--MCG | 56           |
|         |          |          |       |              |             |      |         | MCG +02-32-110   | GALXY | VIR  | 12 30.9       | +12 16        | 11.2 |             |             |             |        | Inner Regions Completely Black--MCG | 49           |
|         |          |          |       |              |             |      |         | MCG +08-01-016   | GALXY | AND  | 23 59.2       | +46 53        | 12   | 1.0 m       | 0.8 m       |             |        | Inner Regions Completely Black--MCG | 14           |

Deep Sky Object List (22/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object         | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|-------------------------------------|--------------|
|         |          |          |       |              |             |      |         | MCG +08-01-018 | GALXY | AND  | 23 59.9       | +47 16        | 12   | 0.4 m       | 0.3 m       |             |       | Inner Regions Very Black--MCG       | 14           |
|         |          |          |       |              |             |      |         | MCG +09-20-046 | GALXY | UMA  | 11 57.8       | +55 28        | 11.8 | 1.5 m       | 1.2 m       |             |       | Inner Regions Completely Black--MCG | 26           |
|         |          |          |       |              |             |      |         | MCG +09-20-052 | GALXY | UMA  | 11 59.5       | +50 55        | 11.7 | 2.5 m       | 0.7 m       |             |       | Inner Regions Completely Black--MCG | 26           |
|         |          |          |       |              |             |      |         | MCG +10-13-057 | GALXY | UMA  | 09 07.6       | +60 28        | 12.1 | 1.3 m       | 0.9 m       |             |       | Inner Regions Very Black--MCG       | 28           |
|         |          |          |       |              |             |      |         | MCG +10-19-040 | GALXY | UMA  | 13 08.7       | +62 17        | 12   | 0.5 m       | 0.4 m       |             |       | Inner Regions Very Black--MCG       | 7            |
|         |          |          |       |              |             |      |         | MCG +11-04-002 | GALXY | CAS  | 02 51.3       | +67 48        | 12   | 1.5 m       | 0.8 m       |             |       | Inner Regions Completely Black--MCG | 12           |
|         |          |          |       |              |             |      |         | MCG +11-10-017 | GALXY | CAM  | 07 41.7       | +64 42        | 12   |             |             |             |       |                                     | 10           |
|         |          |          |       |              |             |      |         | MCG +13-07-007 | GALXY | CAM  | 08 53.2       | +76 30        | 12   | 0.9 m       | 0.4 m       |             |       | Inner Regions Very Black--MCG       | 9            |
|         |          |          |       |              |             |      |         | MCG -01-04-044 | GALXY | CET  | 01 26.3       | -06 04        | 12.5 | 1.5 m       | 0.4 m       |             |       | Inner Regions Very Black--MCG       | 84           |
|         |          |          |       |              |             |      |         | MCG -01-15-003 | GALXY | ORI  | 05 42.0       | -06 16        | 12   | 1.0 m       | 1.0 m       |             |       | Inner Regions Completely Black--MCG | 80           |
|         |          |          |       |              |             |      |         | MCG -01-24-001 | GALXY | HYA  | 09 10.8       | -08 54        | 11.3 | 4.3 m       | 1.0 m       |             |       | Inner Regions Very Black--MCG       | 76           |
|         |          |          |       |              |             |      |         | MCG -01-25-011 | GALXY | HYA  | 09 38.9       | -04 49        | 11   | 2 m         | 1.5 m       |             |       | Inner Regions Completely Black--MCG | 76           |
|         |          |          |       |              |             |      |         | MCG -03-01-015 | GALXY | CET  | 00 02.0       | -15 27        | 10.6 | 11 m        | 4 m         | 4           |       |                                     | 109          |



Deep Sky Object List (23/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object         | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|--|--------------|
|         |          |          |       |              |             |      |         | MCG -03-03-011 | GALXY | CET  | 00 58.8       | -18 47        | 12.5 | 3.0 m       | 1.4 m       | 22          |           | Inner Regions Very Black--MCG                | 109          |
|         |          |          |       |              |             |      |         | MCG -03-28-004 | GALXY | HYA  | 10 48.1       | -20 53        | 12   | 0.3 m       | 0.3 m       |             |           | Inner Regions Very Black--MCG                | 99           |
|         |          |          |       |              |             |      |         | MCG -03-34-014 | GALXY | VIR  | 13 12.5       | -17 31        | 12   | 2.5 m       | 0.8 m       |             | Sc pec    | Inner Regions Completely Black--MCG          | 96           |
|         |          |          |       |              |             |      |         | Mel 15         | OPNCL | CAS  | 02 32.6       | +61 27        | 6.6  | 21.0 m      |             |             | III 3 p n | 13"-B,pL,pRi,pC; 20* at 135X; some neby to S | 35           |
|         |          |          | !!!!* |              |             |      |         | Mel 20         | OPNCL | PER  | 03 22.0       | +49 00        | 1.2  | 185 m       |             |             | III 3 m   | 10X50-vB,vvL,scattered; 39*                  | 34           |
| M 45    |          |          | !!!!* |              |             |      |         | Mel 22         | CL+NB | TAU  | 03 47.0       | +24 07        | 1.2  | 100 m       |             |             | I 3 r n   | vvB,vL,brilliant naked eye cluster,neb inv   | 58           |
|         | C 41     |          |       |              |             |      | x       | Mel 25         | OPNCL | TAU  | 04 27.0       | +16 00        | 0.5  | 330 m       |             |             | II 3 m    | vvB,vvL,irr                                  | 57           |
|         |          |          |       |              |             |      |         | Mel 66         | OPNCL | PUP  | 07 26.3       | -47 44        | 7.8  | 10.0 m      |             |             | II 2 m    | 13"-pB,L,pRi,irR; 27* mags 10... at 100X     | 126          |
|         |          |          |       |              |             |      |         | Mel 71         | OPNCL | PUP  | 07 37.5       | -12 04        | 7.1  | 9.0 m       |             |             | II 1 m    | 13"-B,pL,mC,mBM; 48* mags 10..14 at 100X     | 102          |
|         |          |          |       |              |             |      |         | Mel 101        | OPNCL | CAR  | 10 42.1       | -65 06        | 8    | 14.0 m      |             |             | II 3 m    |  | 140          |
|         |          |          |       |              |             |      |         | Mel 105        | OPNCL | CAR  | 11 19.5       | -63 30        | 8.5  | 4.0 m       |             |             | I 2 p     |  | 140          |
|         |          |          |       |              |             |      | x       | Mel 111        | OPNCL | COM  | 12 25.0       | +26 00        | 1.8  | 275 m       |             |             | II 3 p    | 10X50-eB,eL,nRi,nC; 32* in arrowhead shape   | 49           |
|         |          |          |       |              |             |      |         | Mel 186        | OPNCL | OPH  | 18 01.0       | +03 00        | 3    | 240 m       |             |             | IV 3 m    |  | 67           |

Deep Sky Object List (24/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|---|--------------|
|         |          |          |       |              |             |      |         | Mel 227 | OPNCL | OCT  | 20 12.1       | -79 19        | 5.3  | 50.0 m      |             |             | II 2 p  |   | 135          |
|         |          |          |       |              |             |      |         | Mrk 6   | OPNCL | CAS  | 02 29.6       | +60 39        | 7.1  | 4.5 m       |             |             | IV 2 p  | 13"-9 pB* and 6 pF* in<br>Small grp at 100X | 35           |
|         |          |          |       |              |             |      |         | Mrk 18  | OPNCL | VEL  | 09 00.6       | -48 59        | 7.8  | 2.0 m       |             |             |         |   | 124          |
|         |          |          |       |              |             |      |         | Mrk 50  | OPNCL | CEP  | 23 15.3       | +60 28        | 8.5  | 5.0 m       |             |             | I 2 p n |   | 14           |
|         |          |          |       |              |             |      |         | New 1   | GALXY | CET  | 01 05.1       | -06 13        | 11.8 | 3.5 m       | 3.5 m       |             | S       | F,R, outer arms dim                         | 84           |
|         |          |          |       |              |             |      |         | New 5   | GALXY | SGR  | 20 24.0       | -44 00        | 12.4 | 1.4 m       | 0.5 m       |             | SO      | F,S,mE                                      | 113          |
|         |          |          |       |              |             |      |         | NGC 10  | GALXY | SCL  | 00 08.6       | -33 52        | 12.5 | 2.4 m       | 1.2 m       | 25          | SBbc    | F,cL,vIE,glbM                               | 109          |
|         |          |          |       |              |             |      |         | NGC 14  | GALXY | PEG  | 00 08.8       | +15 49        | 12.1 | 2.8 m       | 2.1 m       | 25          | Irp+    | vF,pS,R,glbM                                | 61           |
|         |          |          |       |              |             |      |         | NGC 16  | GALXY | PEG  | 00 09.1       | +27 44        | 12   | 1.8 m       | 1 m         | 16          | E3      | pB,S,R,bM                                   | 61           |
|         |          |          |       |              | x           |      |         | NGC 23  | GALXY | PEG  | 00 09.9       | +25 55        | 12   | 2.5 m       | 1.6 m       | 8           | SBa     | 3 S st + neb                                | 61           |
|         |          |          |       |              | x           |      |         | NGC 24  | GALXY | SCL  | 00 09.9       | -24 58        | 11.6 | 6.1 m       | 1.4 m       | 46          | Sc      | vF,cL,mE,gbm                                | 109          |
|         | C 2      | x        | x     | x            |             | 110  | x       | NGC 40  | PLNNB | CEP  | 00 13.0       | +72 31        | 10.7 | 60 s        | 40 s        |             | 3b(3)   | F,vS,R,vsmbM,L*cont f                       | 13           |
|         |          |          | x     |              |             |      |         | NGC 45  | GALXY | CET  | 00 14.1       | -23 11        | 10.6 | 7.6 m       | 5.4 m       | 142         | SBd     | eF,L,vgyIbM,L*cont f                        | 109          |

Deep Sky Object List (25/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         | C 72     |          | x     |              |             |      | x       | NGC 55  | GALXY | SCL  | 00 14.9       | -39 11        | 7.9  | 31.2 m      | 5.9 m       | 108         | SBp        | vB,vL,vmE,triN        | 133          |
|         |          |          |       |              |             |      |         | NGC 57  | GALXY | PSC  | 00 15.5       | +17 20        | 11.6 | 2.2 m       | 1.9 m       | 40          | Elliptical | F,S,R,sbM             | 61           |
|         |          |          |       |              |             |      |         | NGC 59  | GALXY | CET  | 00 15.4       | -21 27        | 12.4 | 2.6 m       | 1.3 m       | 127         | E-SO       | vF,pS,iR,gbM          | 109          |
|         |          |          |       |              |             |      |         | NGC 63  | GALXY | PSC  | 00 17.8       | +11 27        | 11.6 | 1.7 m       | 1.2 m       | 108         | S pec      | pF,S,R,sbM            | 85           |
|         |          |          |       |              |             |      |         | NGC 80  | GALXY | AND  | 00 21.2       | +22 21        | 12.1 | 2.2 m       | 2 m         |             | E-SO       | F,S,R,psbM            | 61           |
|         |          |          |       |              |             |      |         | NGC 83  | GALXY | AND  | 00 21.4       | +22 26        | 12.5 | 1.3 m       | 1.2 m       |             | E0         | E,biN,3 B st nr       | 61           |
|         |          |          |       |              |             |      |         | NGC 95  | GALXY | PSC  | 00 22.2       | +10 29        | 12.5 | 2.1 m       | 0.9 m       | 90          | SBc Ring   | F,pL,R,gbM            | 85           |
|         |          |          |       |              |             |      |         | NGC 97  | GALXY | AND  | 00 22.5       | +29 45        | 12.3 | 1.5 m       | 1.3 m       |             | Elliptical | F,vS,R,gbM            | 61           |
|         |          |          |       |              |             |      |         | NGC 103 | OPNCL | CAS  | 00 25.3       | +61 19        | 9.8  | 5.0 m       |             |             | II 2 p     | Cl,pS,pC,st 11...18   | 37           |
|         | C106     |          | !!!   |              |             |      |         | NGC 104 | GLOCL | TUC  | 00 24.1       | -72 05        | 4    | 30 m        |             |             | III        | !! vB,vL,eRi,vmCM     | 145          |
|         |          |          |       |              |             |      |         | NGC 108 | GALXY | AND  | 00 26.0       | +29 13        | 12.1 | 2 m         | 1.6 m       | 75          | SBO-a      | pF,pL,R,pslbM         | 61           |
|         |          |          |       |              | x           |      |         | NGC 125 | GALXY | PSC  | 00 28.8       | +02 50        | 12.1 | 1.8 m       | 1.6 m       | 85          | Sa Ring    | vF,S,bM,D * sp        | 85           |
|         |          |          | x     |              |             |      |         | NGC 128 | GALXY | PSC  | 00 29.2       | +02 52        | 11.8 | 2.8 m       | 0.9 m       | 1           | SO Pec     | pB,pS,IE 2 degrees,bM | 85           |

Deep Sky Object List (26/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|--------|--|--------------|
|         |          |          |       | x            |             |      | x       | NGC 129 | OPNCL | CAS  | 00 30.0       | +60 13        | 6.5   | 21.0 m      |             |             | IV 2 p | Cl,vL,pRi,IC,st 9...13                           | 37           |
|         |          |          |       |              |             |      |         | NGC 133 | OPNCL | CAS  | 00 31.3       | +63 21        | 9.4   | 7.0 m       |             |             | IV 1 p | Cl,pL,st 10...,D * inv                           | 13           |
|         |          |          | x     |              |             |      | x       | NGC 134 | GALXY | SCL  | 00 30.4       | -33 15        | 10.4  | 8.4 m       | 1.8 m       | 50          | SBbc   | vB,L,vmE 47<br>degrees,psbM,f of 2,*10<br>np 45" | 109          |
|         |          |          |       | x            |             |      |         | NGC 136 | OPNCL | CAS  | 00 31.5       | +61 31        | 11.5p | 1.2 m       |             |             | II 2 p | vF,S,eC  | 37           |
|         |          |          |       |              |             |      |         | NGC 146 | OPNCL | CAS  | 00 32.9       | +63 19        | 9.1   | 7.0 m       |             |             | IV 3 p | Cl,pL,IC,st 11-12,D*                             | 13           |
|         | C 17     |          | x     |              |             |      |         | NGC 147 | GALXY | CAS  | 00 33.2       | +48 30        | 9.5   | 13.5 m      | 8.2 m       | 25          | dE4    | vF,vL,iR,gsmbM,*1.1                              | 37           |
|         |          |          |       |              |             |      |         | NGC 148 | GALXY | SCL  | 00 34.3       | -31 47        | 12.2  | 2 m         | 0.8 m       | 90          | Sa     | vB,S,IE 90<br>degrees,smbM*11                    | 109          |
|         |          |          | x     |              |             |      |         | NGC 150 | GALXY | SCL  | 00 34.3       | -27 48        | 11.4  | 3.9 m       | 1.9 m       | 118         | SBb    | pF,pS,R  | 109          |
|         |          |          |       |              | x           |      |         | NGC 151 | GALXY | CET  | 00 34.0       | -09 42        | 11.6  | 3.8 m       | 1.6 m       | 75          | SBbc   | pF,pL,IE 90<br>degrees,vglbM                     | 85           |
|         |          |          | x     | x            |             |      |         | NGC 157 | GALXY | CET  | 00 34.8       | -08 24        | 10.4  | 4.1 m       | 2.7 m       | 40          | SBbc   | pB,L,E,bet 2 cB st                               | 85           |
|         |          |          | x     |              | x           |      |         | NGC 175 | GALXY | CET  | 00 37.4       | -19 56        | 12.2  | 2.1 m       | 1.9 m       |             | SBab   | pB,pL,E,gbM,r                                    | 109          |
|         |          |          |       |              |             |      |         | NGC 182 | GALXY | PSC  | 00 38.2       | +02 44        | 12.4  | 1.9 m       | 1.6 m       | 75          | SBa    | vF,S,iR,vgbM                                     | 85           |

Deep Sky Object List (27/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|---------|--------------------------------|--------------|
|         | C 18     | x        | x     | x            |             | 6    | x       | NGC 185 | GALXY | CAS  | 00 39.0       | +48 20        | 9.2   | 12.5 m      | 10.4 m      | 35          | dE0     | pB,vL,iR,vgmbM,r               | 37           |
|         | C 1      |          | x     |              |             |      | x       | NGC 188 | OPNCL | CEP  | 00 47.5       | +85 14        | 8.1   | 14.0 m      |             |             | II 2 r  | Cl,vL,R,150-200 st<br>10...18  | 1            |
|         |          |          |       |              |             |      |         | NGC 189 | OPNCL | CAS  | 00 39.6       | +61 05        | 8.8   | 3.7 m       |             |             | III 2 p | Cl,pL,R,st 11...15             | 37           |
|         |          |          |       |              |             |      |         | NGC 193 | GALXY | PSC  | 00 39.3       | +03 20        | 12.2  | 1.4 m       | 1.2 m       | 55          | S(B)0   | F,L,p of 2,* 15 close sp       | 85           |
|         |          |          |       |              |             |      |         | NGC 194 | GALXY | PSC  | 00 39.3       | +03 02        | 12.2  | 1.6 m       | 1.4 m       | 30          | E1      | pB,S,R,vgbM                    | 85           |
|         |          |          |       |              | x           |      |         | NGC 198 | GALXY | PSC  | 00 39.4       | +02 48        | 13.1  | 1.1 m       | 1.1 m       |             | Sc      | F,S,vgbM                       | 85           |
| M110    |          |          | *     | x            |             |      |         | NGC 205 | GALXY | AND  | 00 40.4       | +41 41        | 8.1   | 19.5 m      | 11.5 m      | 170         | E6      | vB,vL,mE 165<br>degrees,vgvmbM | 37           |
|         |          |          |       |              | x           |      |         | NGC 206 | G+C+N | AND  | 00 40.5       | +40 44        | 99.9  |             |             |             | Pec     | vF,vL,mE 0 degrees             | 37           |
|         |          |          |       |              |             |      |         | NGC 210 | GALXY | CET  | 00 40.6       | -13 52        | 10.9  | 4.6 m       | 3.2 m       | 160         | SBb     | B,pS,R,psbM,r,* 11 p 2'        | 109          |
|         |          |          |       |              | x           |      |         | NGC 214 | GALXY | AND  | 00 41.5       | +25 30        | 12.3  | 1.9 m       | 1.5 m       | 35          | SBc     | pF,pS,gvlbM,R                  | 61           |
|         |          |          |       |              | x           |      |         | NGC 217 | GALXY | CET  | 00 41.6       | -10 01        | 13.5p | 2.7 m       | 0.6 m       | 110         | Sa      | F,S,IE 90 degrees,glbM         | 85           |
| M 32    |          |          | *     |              |             |      |         | NGC 221 | GALXY | AND  | 00 42.7       | +40 52        | 8.1   | 8.5 m       | 6.5 m       | 170         | E2      | vvB,L,R,psmbMN                 | 37           |
| M 31    |          |          | !!!!* |              |             |      |         | NGC 224 | GALXY | AND  | 00 42.7       | +41 16        | 3.4   | 189.1 m     | 61.7 m      | 35          | Sb      | !!!eeB,eL,vmE                  | 37           |

Deep Sky Object List (28/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          | S     | x            |             |      | x       | NGC 225 | OPNCL | CAS  | 00 43.6       | +61 46        | 7    | 12.0 m      |             |             | III 1 p n  | Cl,L,IC,st 9...10            | 37           |
|         |          |          |       |              |             |      |         | NGC 227 | GALXY | CET  | 00 42.6       | -01 32        | 12.1 | 1.5 m       | 1.2 m       | 155         | E2         | F,pL,lbM                     | 85           |
|         |          |          |       |              |             |      |         | NGC 233 | GALXY | AND  | 00 43.6       | +30 35        | 12.4 | 1.7 m       | 1.6 m       |             | Elliptical | F,vS,R,lbM                   | 61           |
|         |          |          |       |              |             |      |         | NGC 234 | GALXY | PSC  | 00 43.5       | +14 21        | 12.5 | 1.6 m       | 1.6 m       |             | SBc        | F,pS,iE,bM                   | 61           |
|         |          |          |       |              |             |      |         | NGC 245 | GALXY | CET  | 00 46.1       | -01 43        | 12.2 | 1.3 m       | 1.1 m       | 145         | Sb         | F,pS,iF,er                   | 85           |
|         | C 56     | x        | *     | x            |             | 15   | x       | NGC 246 | PLNNB | CET  | 00 47.1       | -11 52        | 8.5  | 240 s       | 210 s       |             | 3b         |                              | 85           |
|         | C 62     |          | x     | x            |             |      | x       | NGC 247 | GALXY | CET  | 00 47.1       | -20 46        | 9.1  | 21 m        | 5.6 m       | 174         | SBcd       | F,eL,vmE 172 degrees         | 109          |
|         |          |          |       |              |             |      |         | NGC 252 | GALXY | AND  | 00 48.0       | +27 37        | 12.4 | 1.4 m       | 1 m         | 80          | Sa Ring    | pB,S,R,pmbM,r,** p           | 61           |
|         | C 65     | x        | !!*   | x            |             | 13   | x       | NGC 253 | GALXY | SCL  | 00 47.6       | -25 18        | 7.2  | 26.4 m      | 6 m         | 52          | SBc        | !!vvB,vvL,vmE 54 degrees,gbM | 109          |
|         |          |          |       |              |             |      |         | NGC 254 | GALXY | SCL  | 00 47.5       | -31 25        | 11.7 | 2.6 m       | 1.7 m       | 137         | SBO-a Ring | vB,pS,IE,smbM,* 8 nf 5'      | 109          |
|         |          |          | x     |              |             |      |         | NGC 255 | GALXY | CET  | 00 47.8       | -11 28        | 11.9 | 3.1 m       | 2.7 m       | 15          | SBbc       | F,pS,R,gbM                   | 85           |
|         |          |          |       |              |             |      |         | NGC 266 | GALXY | PSC  | 00 49.8       | +32 17        | 11.6 | 2.9 m       | 2.9 m       |             | SBab       | pB,pS,IE,psbM,r,* 8 sf 4'    | 61           |
|         |          |          |       |              |             |      |         | NGC 271 | GALXY | CET  | 00 50.7       | -01 55        | 12   | 2.2 m       | 1.7 m       | 130         | SBab       | pF,S,IE,psbM,* 8 f 5 sec.    | 85           |

## Deep Sky Object List (29/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|--------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 274  | GALXY | CET  | 00 51.0       | -07 03        | 11.8 | 1.9 m       | 1.4 m       | 25          | E1       | pB,pS,smbM,np of 2             | 85           |
|         |          |          |       |              |             |      |         | NGC 275  | GALXY | CET  | 00 51.1       | -07 04        | 12.5 | 1.5 m       | 1.2 m       | 140         | Sbp      | vF,S,R,sf of 2                 | 85           |
|         |          |          | x     | x            |             |      |         | NGC 278  | GALXY | CAS  | 00 52.1       | +47 33        | 10.8 | 2.4 m       | 2.4 m       |             | SBb      | cB,pL,R,2 st 10 nr             | 37           |
|         |          | x        | x     |              |             | 7    | x       | NGC 281  | CL+NB | CAS  | 00 53.0       | +56 37        | 7.4  | 4.0 m       |             |             | E+*      | F,vL,dif,S triple * on np edge | 37           |
|         |          |          | x     | x            |             |      | x       | NGC 288  | GLOCL | SCL  | 00 52.8       | -26 35        | 8.1  | 13.8 m      |             |             | X        | B,L,IE,st 12...16              | 109          |
|         |          |          |       |              |             |      |         | NGC 289  | GALXY | SCL  | 00 52.7       | -31 12        | 11   | 5.4 m       | 3.8 m       | 130         | SBbc     | vB,L,pmE,gbM,* 11 np           | 109          |
|         |          |          | !!!   |              |             |      |         | NGC 292  | GALXY | TUC  | 00 52.6       | -72 48        | 2.3  | 319.1 m     | 205.1 m     | 45          | lr       | !!!vvB,eeL,iR,st 12...18       | 145          |
|         | C 70     |          | x     |              |             |      | x       | NGC 300  | GALXY | SCL  | 00 54.9       | -37 41        | 8.1  | 19.3 m      | 13.3 m      | 111         | Scd      | pB,vL,vmiE,vgpmbM              | 133          |
|         |          |          | x     |              |             |      |         | NGC 309  | GALXY | CET  | 00 56.7       | -09 55        | 11.9 | 3 m         | 2.4 m       | 175         | SBc Ring | pB,pL,* 12.13 n                | 85           |
|         |          |          |       |              | x           |      |         | NGC 315  | GALXY | PSC  | 00 57.8       | +30 21        | 11.2 | 3 m         | 2.5 m       | 40          | E-SO     | pB,pL,R,gbM,* 9 nf 3'          | 61           |
|         |          |          |       |              |             |      |         | NGC 336  | GALXY | CET  | 00 58.0       | -18 23        | 12   | 0.7 m       | 0.2 m       | 22          | S pec    | vF,vS,R,sbM                    | 109          |
|         |          |          | x     |              | x           |      |         | NGC 337  | GALXY | CET  | 00 59.8       | -07 35        | 11.6 | 3 m         | 1.8 m       | 140         | SBcd     | pF,L,E,glbM,* 10 f 21 sec      | 85           |
|         |          |          |       |              |             |      |         | NGC 337A | GALXY | CET  | 01 01.6       | -07 35        | 12.2 | 6.1 m       | 4.6 m       | 10          | SBd      |                                | 84           |

## Deep Sky Object List (30/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 357 | GALXY | CET  | 01 03.4       | -06 20        | 12   | 2.5 m       | 1.7 m       | 20          | SBO-a      | F,S,iR,sbM,* 14 nf 20" | 84           |
|         | C104     |          | !     |              |             |      |         | NGC 362 | GLOCL | TUC  | 01 03.2       | -70 51        | 6.6  | 12.9 m      |             |             | III        | vB,vL,vC,vmbM          | 145          |
|         |          |          |       |              |             |      |         | NGC 380 | GALXY | PSC  | 01 07.3       | +32 29        | 12.5 | 1.3 m       | 1.1 m       |             | E2         | pF,S,R,sbM             | 60           |
|         |          |          |       | x            |             |      |         | NGC 381 | OPNCL | CAS  | 01 08.4       | +61 35        | 9.3  | 6.0 m       |             |             | III 2 p    | Cl,pC                  | 36           |
|         |          |          |       |              |             |      |         | NGC 383 | GALXY | PSC  | 01 07.4       | +32 25        | 12.4 | 2 m         | 1.7 m       | 30          | SO         | pF,pL,R,gbM,nf Dneb    | 60           |
|         |          |          |       |              |             |      |         | NGC 393 | GALXY | AND  | 01 08.6       | +39 39        | 12.5 | 1.7 m       | 1.4 m       | 20          | E-SO       | F,vS,vIE,gbM,4 S st nr | 36           |
|         |          |          |       |              |             |      |         | NGC 403 | GALXY | PSC  | 01 09.2       | +32 45        | 12.5 | 1.8 m       | 0.6 m       | 86          | Sa         | vF,pS,cE,* 11 s 85"    | 60           |
|         |          |          | x     | x            |             |      | x       | NGC 404 | GALXY | AND  | 01 09.4       | +35 43        | 10.3 | 4.3 m       | 3.9 m       |             | E0         | pB,cL,R,gbM            | 60           |
|         |          |          |       |              |             |      |         | NGC 406 | GALXY | TUC  | 01 07.4       | -69 53        | 12.5 | 3 m         | 1.3 m       | 160         | Sc         | F,vL,R,vglbM           | 145          |
|         |          |          |       |              | x           |      |         | NGC 410 | GALXY | PSC  | 01 11.0       | +33 09        | 11.5 | 2.3 m       | 1.8 m       | 30          | SB0        | pB,pL,nf of 2          | 60           |
|         |          |          |       |              |             |      |         | NGC 420 | GALXY | PSC  | 01 12.2       | +32 07        | 12.1 | 2 m         | 2 m         |             | SO         | F,pS,R,bM              | 60           |
|         |          |          | x     |              | x           |      |         | NGC 428 | GALXY | CET  | 01 12.9       | +00 59        | 11.5 | 4 m         | 2.9 m       | 120         | Scp        | F,L,R,bM,er            | 84           |
|         |          |          |       |              |             |      |         | NGC 430 | GALXY | CET  | 01 13.0       | -00 15        | 12.5 | 1.3 m       | 1.1 m       | 155         | Elliptical | F,vS,R,vsbM*           | 84           |



Deep Sky Object List (31/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|---------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 433 | OPNCL | CAS  | 01 15.2       | +60 08        | 9    | 2.5 m       |             |             | III 2 p | Cl,S,IC             | 36           |
|         |          |          |       |              |             |      |         | NGC 434 | GALXY | TUC  | 01 12.2       | -58 15        | 12   | 2.2 m       | 1.2 m       | 6           | SBab    | B,S,R,psbM          | 132          |
|         |          |          |       | x            |             |      |         | NGC 436 | OPNCL | CAS  | 01 16.0       | +58 49        | 8.8  | 6.0 m       |             |             | I 3 m   | Cl,S,iF,pC          | 36           |
|         |          |          |       |              |             |      |         | NGC 439 | GALXY | SCL  | 01 13.8       | -31 45        | 11.5 | 2.5 m       | 1.5 m       | 156         | E3      | pB,S,R,gbM          | 108          |
|         |          |          |       |              |             |      |         | NGC 448 | GALXY | CET  | 01 15.3       | -01 38        | 12.1 | 1.6 m       | 0.8 m       | 116         | E-SO    | pB,vS,IE            | 84           |
|         |          |          |       |              |             |      |         | NGC 450 | GALXY | CET  | 01 15.5       | -00 52        | 11.5 | 3 m         | 2.4 m       | 72          | SBc     | vF,L                | 84           |
|         | C 13     | x        | x     | x            |             | 8    | x       | NGC 457 | OPNCL | CAS  | 01 19.5       | +58 17        | 6.4  | 13.0 m      |             |             | I 3 r   | Cl,B,L,pRi,*7,8,10  | 36           |
|         |          |          |       |              |             |      |         | NGC 467 | GALXY | PSC  | 01 19.2       | +03 18        | 11.9 | 2 m         | 2 m         |             | SO      | pB,pL,R,gbM         | 84           |
|         |          |          |       |              |             |      |         | NGC 470 | GALXY | PSC  | 01 19.7       | +03 25        | 11.8 | 2.9 m       | 1.7 m       | 155         | Sb Ring | pB,L,iR             | 84           |
|         |          |          |       |              |             |      |         | NGC 473 | GALXY | PSC  | 01 19.9       | +16 33        | 12.5 | 1.9 m       | 1.2 m       | 153         | SBO-a   | eF,S                | 60           |
|         |          |          |       |              |             |      |         | NGC 474 | GALXY | PSC  | 01 20.1       | +03 25        | 11.5 | 6.1 m       | 5 m         | 75          | SO Ring | pB,S,smbM, f of 2   | 84           |
|         |          |          |       |              |             |      |         | NGC 484 | GALXY | TUC  | 01 19.6       | -58 32        | 12.2 | 1.9 m       | 1.4 m       | 94          | E-SO    | vB,S,IE,psmbM       | 132          |
|         |          |          | x     | x            |             |      |         | NGC 488 | GALXY | PSC  | 01 21.8       | +05 15        | 10.3 | 5.4 m       | 3.9 m       | 15          | Sb Ring | pB,L,R,svmbM,*8F10' | 84           |

## Deep Sky Object List (32/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 491 | GALXY | SCL  | 01 21.3       | -34 04        | 12.5 | 1.4 m       | 1 m         | 93          | SBb   | B,S,vIE,bM,vS * nr   | 108          |
|         |          |          |       |              |             |      |         | NGC 493 | GALXY | CET  | 01 22.2       | +00 57        | 12.5 | 3.4 m       | 1.1 m       | 58          | SBc   | vF,L,mE60,lbM        | 84           |
|         |          |          |       |              | x           |      |         | NGC 499 | GALXY | PSC  | 01 23.2       | +33 28        | 12.1 | 1.7 m       | 1.3 m       | 82          | E-SO  | pB,pL,R,3rd of 3     | 60           |
|         |          |          |       |              |             |      |         | NGC 507 | GALXY | PSC  | 01 23.7       | +33 15        | 11.2 | 4 m         | 4 m         |             | E-SO  | vF,pL,R,bM,s of 2    | 60           |
|         |          |          |       |              | x           |      |         | NGC 513 | GALXY | AND  | 01 24.4       | +33 48        | 12.9 | 0.7 m       | 0.3 m       | 75          | Sc    | F,S,stellar          | 60           |
|         |          |          |       |              | x           |      |         | NGC 514 | GALXY | PSC  | 01 24.1       | +12 55        | 11.6 | 3.7 m       | 3 m         | 110         | SBc   | F,L,IE,vglbM,**F     | 60           |
|         |          |          |       |              |             |      |         | NGC 517 | GALXY | PSC  | 01 24.7       | +33 26        | 12.4 | 2 m         | 1 m         | 20          | SO    | pF,R,stellar,sf of 2 | 60           |
|         |          |          | x     |              |             |      |         | NGC 520 | GALXY | PSC  | 01 24.6       | +03 48        | 11.4 | 3.7 m       | 1.5 m       | 130         | Sa    | F,cL,E 137 deg       | 84           |
|         |          |          |       |              |             |      |         | NGC 521 | GALXY | CET  | 01 24.6       | +01 44        | 11.7 | 3.3 m       | 3 m         | 20          | SBbc  | F,pL,R,gbM           | 84           |
|         |          |          |       | x            |             |      |         | NGC 524 | GALXY | PSC  | 01 24.8       | +09 32        | 10.3 | 3.2 m       | 3.2 m       |             | Sa    | vB,pL,mbM,4S* nr     | 84           |
|         |          |          |       |              |             |      |         | NGC 528 | GALXY | AND  | 01 25.6       | +33 40        | 12.5 | 1.7 m       | 1.1 m       | 55          | SO    | F,pL,R,lbM           | 60           |
|         |          |          |       |              |             |      |         | NGC 529 | GALXY | AND  | 01 25.7       | +34 43        | 12.1 | 2.4 m       | 2.1 m       | 160         | E-SO  | pB,vS,sbM,p of 2     | 60           |
|         |          |          |       |              |             |      |         | NGC 533 | GALXY | CET  | 01 25.5       | +01 46        | 11.4 | 3.9 m       | 2.7 m       | 50          | E2    | pB,pL,R,gbM          | 84           |

Deep Sky Object List (33/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 536 | GALXY | AND  | 01 26.4       | +34 42        | 12.4 | 3 m         | 1.1 m       | 62          | SBb        | pB,pL,gbM,f of 2     | 60           |
|         |          |          |       |              |             |      |         | NGC 541 | GALXY | CET  | 01 25.7       | -01 23        | 12.1 | 1.8 m       | 1.7 m       | 135         | SO         | F,S,R,bM             | 84           |
|         |          |          |       |              |             |      |         | NGC 545 | GALXY | CET  | 01 26.0       | -01 20        | 12.2 | 2.6 m       | 1.6 m       | 55          | SO         | stellar,p of Dneb    | 84           |
|         |          |          |       |              |             |      |         | NGC 547 | GALXY | CET  | 01 26.0       | -01 21        | 12.2 | 1.9 m       | 1.8 m       | 85          | Elliptical | stellar,f of Dneb    | 84           |
|         | C 8      |          |       | x            |             |      |         | NGC 559 | OPNCL | CAS  | 01 29.5       | +63 19        | 9.5  | 4.4 m       |             |             | II 2 m     | Cl,B,pL,pRi          | 13           |
|         |          |          |       |              |             |      |         | NGC 564 | GALXY | CET  | 01 27.8       | -01 53        | 12.5 | 1.3 m       | 1.1 m       | 145         | E2         | vF,vS,iF,f of 2      | 84           |
|         |          |          |       |              |             |      |         | NGC 578 | GALXY | CET  | 01 30.5       | -22 40        | 10.9 | 4.8 m       | 3 m         | 110         | SBc        | B,L,pmE,gpmbM        | 108          |
| M103    |          |          | x     |              |             |      |         | NGC 581 | OPNCL | CAS  | 01 33.4       | +60 39        | 7.4  | 6.0 m       |             |             | III 2 p    | Cl,pL,B,R,Ri,*10..11 | 36           |
|         |          |          |       | x            |             |      |         | NGC 584 | GALXY | CET  | 01 31.3       | -06 52        | 10.5 | 3.3 m       | 1.9 m       | 120         | E4         | vB,pL,R,mbM,p of 2   | 84           |
|         |          |          |       | x            |             |      |         | NGC 596 | GALXY | CET  | 01 32.9       | -07 02        | 10.9 | 2.8 m       | 2.1 m       | 40          | E2         | pB,R,bM,r,*6f12'     | 84           |
| M 33    |          |          | !!*   | x            |             |      |         | NGC 598 | GALXY | TRI  | 01 33.9       | +30 39        | 5.7  | 68.7 m      | 41.6 m      | 23          | Sc         | eB,eL,R,vgbMN        | 60           |
|         |          |          |       |              |             |      |         | NGC 600 | GALXY | CET  | 01 33.1       | -07 19        | 12.4 | 3.7 m       | 3.6 m       | 85          | SBcd Ring  | eeF                  | 84           |
|         |          |          | *     |              | x           |      |         | NGC 604 | GX+DN | TRI  | 01 34.6       | +30 47        | 99.9 | 2 m         |             |             | Pec        | B,vS,R,vvIBM         | 60           |

## Deep Sky Object List (34/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          | x     | x            |             |      | x       | NGC 613 | GALXY | SCL  | 01 34.3       | -29 25        | 10.1 | 5.2 m       | 4.3 m       | 120         | SBbc       | vB,vL,vmE118,sbM,* nf  | 108          |
|         |          |          | x     | x            |             |      |         | NGC 615 | GALXY | CET  | 01 35.1       | -07 20        | 11.6 | 3.4 m       | 1.4 m       | 155         | Sb         | pB,pL,iIE,gbM,*8 np 10 | 84           |
|         |          |          |       |              |             |      |         | NGC 623 | GALXY | SCL  | 01 35.1       | -36 29        | 12.5 | 2 m         | 1.5 m       | 94          | Elliptical | F,S,R,f of 2           | 108          |
|         |          |          |       |              |             |      |         | NGC 625 | GALXY | PHE  | 01 35.1       | -41 26        | 11.1 | 6.4 m       | 1.8 m       | 92          | Sa/S       | B,L,mE,gpmbM           | 132          |
| M 74    |          |          | *     |              |             |      |         | NGC 628 | GALXY | PSC  | 01 36.7       | +15 47        | 9.4  | 10 m        | 9.4 m       | 25          | Sc         | F,vL,R,vg,psmbM,rr     | 60           |
|         |          |          |       |              |             |      |         | NGC 630 | GALXY | SCL  | 01 35.6       | -39 22        | 12.5 | 1.6 m       | 1.4 m       |             | E-SO       | pF,S,R,bM              | 132          |
|         |          |          |       |              |             |      |         | NGC 632 | GALXY | PSC  | 01 37.3       | +05 53        | 12.3 | 1.5 m       | 1.2 m       | 170         | SO         | pB,S,R,psbM            | 84           |
|         |          |          |       |              | x           |      |         | NGC 636 | GALXY | CET  | 01 39.1       | -07 31        | 11.5 | 2.8 m       | 2 m         | 40          | E1         | pB,vS,R,mbM,r          | 84           |
|         |          |          |       | x            |             |      |         | NGC 637 | OPNCL | CAS  | 01 43.1       | +64 02        | 8.2  | 3.5 m       |             |             | I 3 p      | Cl,pS,B & vF stars     | 13           |
|         |          |          |       |              |             |      |         | NGC 641 | GALXY | PHE  | 01 38.7       | -42 32        | 12.1 | 1.4 m       | 1.3 m       |             | E-SO       | F,S,R,gpmbM,p of 2     | 132          |
| M 76    |          |          | !*    |              |             |      |         | NGC 650 | PLNNB | PER  | 01 42.3       | +51 35        | 11   | 163 s       | 107 s       |             | 3(6)       | vB,p of Dneb           | 36           |
| M 76    |          |          | !*    | x            |             |      |         | NGC 651 | PLNNB | PER  | 01 42.3       | +51 35        | 11   | 163 s       | 107 s       |             | 3(6)       | vB,f of Dneb           | 36           |
|         |          |          |       | x            |             |      |         | NGC 654 | OPNCL | CAS  | 01 44.0       | +61 53        | 6.5  | 5.0 m       |             |             | II 3 m     | Cl,iF,Ri,1*6.7m        | 36           |

## Deep Sky Object List (35/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 658 | GALXY | PSC  | 01 42.2       | +12 36        | 12.5 | 3 m         | 1.6 m       | 20          | Sb         | pF,pS,mE,mbM       | 60           |
|         |          |          |       | x            |             |      |         | NGC 659 | OPNCL | CAS  | 01 44.4       | +60 40        | 7.9  | 5.0 m       |             |             | III 1 p    | Cl,Iri,st B        | 36           |
|         |          |          |       |              | x           |      |         | NGC 660 | GALXY | PSC  | 01 43.0       | +13 39        | 11.2 | 8 m         | 2.9 m       | 170         | SBap       | pB,pL,E,bM,r       | 60           |
|         |          |          |       |              |             |      |         | NGC 661 | GALXY | TRI  | 01 44.2       | +28 42        | 12.2 | 1.6 m       | 1.3 m       | 60          | SO         | F,S,R,bM,r         | 60           |
|         | C 10     | x        | x     | x            |             | 9    | x       | NGC 663 | OPNCL | CAS  | 01 46.0       | +61 15        | 7.1  | 16 m        |             |             | III 2 m    | Cl,B,L,eRi,st pL   | 36           |
|         |          |          |       |              | x           |      |         | NGC 665 | GALXY | PSC  | 01 44.9       | +10 25        | 12.1 | 2.4 m       | 1.6 m       | 125         | SO         | F,S,IE,bM,r        | 84           |
|         |          |          |       |              |             |      |         | NGC 669 | GALXY | TRI  | 01 47.3       | +35 34        | 12.3 | 3.1 m       | 0.6 m       | 36          | Sab        | pF,pL,mE,gbM       | 60           |
|         |          |          | x     |              | x           |      | x       | NGC 672 | GALXY | TRI  | 01 47.9       | +27 26        | 10.9 | 7.5 m       | 2.6 m       | 65          | SBc        | F,pL,mE80          | 60           |
|         |          |          |       |              |             |      |         | NGC 676 | GALXY | PSC  | 01 49.0       | +05 54        | 10.5 | 4.2 m       | 1.6 m       | 172         | Sa         | vF,E161,sbM*9      | 84           |
|         |          |          |       |              |             |      |         | NGC 677 | GALXY | ARI  | 01 49.2       | +13 03        | 12.2 | 2 m         | 2 m         |             | Elliptical | eeF,S,R,nf of 2    | 60           |
|         |          |          |       |              |             |      |         | NGC 678 | GALXY | ARI  | 01 49.4       | +22 00        | 12.2 | 4.1 m       | 0.8 m       | 78          | SBb        | pB,S,iR,mbM,p of 2 | 60           |
|         |          |          |       |              |             |      |         | NGC 679 | GALXY | AND  | 01 49.7       | +35 47        | 12.3 | 2.1 m       | 2.1 m       |             | SO         | F,stellar          | 60           |
|         |          |          |       |              |             |      |         | NGC 680 | GALXY | ARI  | 01 49.8       | +21 58        | 11.9 | 1.8 m       | 1.6 m       |             | SOp        | pB,S,iR,mbM,f of 2 | 60           |

## Deep Sky Object List (36/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|-----------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 681 | GALXY | CET  | 01 49.2       | -10 26        | 12   | 2.7 m       | 1.8 m       | 68          | SBab  | pF,cL,R,glbM,S*p90"   | 84           |
|         |          |          |       |              |             |      |         | NGC 684 | GALXY | TRI  | 01 50.2       | +27 39        | 12.4 | 3.4 m       | 0.7 m       | 90          | Sb    | F,E,*13f100"          | 60           |
|         |          |          |       |              |             |      |         | NGC 685 | GALXY | ERI  | 01 47.7       | -52 46        | 11   | 3.6 m       | 3.1 m       |             | SBc   | F,vL,R,vglbM          | 132          |
|         |          |          |       |              |             |      |         | NGC 686 | GALXY | FOR  | 01 48.9       | -23 48        | 12.4 | 1.7 m       | 1.4 m       |             | E-SO  | vF,vS,R,gbM,er,2* nr  | 108          |
|         |          |          |       |              |             |      |         | NGC 687 | GALXY | AND  | 01 50.6       | +36 22        | 12.3 | 1.4 m       | 1.4 m       |             | SO    | vF,stellar            | 60           |
|         |          |          |       |              |             |      |         | NGC 691 | GALXY | ARI  | 01 50.7       | +21 46        | 11.4 | 3.4 m       | 2.5 m       | 95          | Sbc   | F,cL,vglbM            | 60           |
|         |          |          |       |              |             |      |         | NGC 693 | GALXY | PSC  | 01 50.5       | +06 09        | 12.4 | 2.2 m       | 1.1 m       | 106         | Sa    | pF,S,E90,vglbM,*10 nf | 84           |
|         |          |          |       |              |             |      |         | NGC 697 | GALXY | ARI  | 01 51.3       | +22 21        | 12   | 4.4 m       | 1.4 m       | 105         | SBbc  | F,cL,E,mbM            | 60           |
|         |          |          |       |              |             |      |         | NGC 701 | GALXY | CET  | 01 51.1       | -09 42        | 12.2 | 2.6 m       | 1.4 m       | 40          | SBc   | F,pL,E,vglbM,r        | 84           |
|         |          |          |       |              | x           |      |         | NGC 706 | GALXY | PSC  | 01 51.8       | +06 18        | 12.5 | 1.9 m       | 1.5 m       |             | Sc    | F,S,bM,*13n1'         | 84           |
|         |          |          |       |              | x           |      |         | NGC 718 | GALXY | PSC  | 01 53.2       | +04 12        | 11.7 | 2.3 m       | 2.2 m       | 45          | SBa   | pB,S,iR,psmbM         | 84           |
|         |          |          |       | x            |             |      |         | NGC 720 | GALXY | CET  | 01 53.0       | -13 44        | 10.2 | 4.4 m       | 2.2 m       | 135         | E4    | cB,pL,IE,psmbM        | 108          |
|         |          |          |       |              |             |      |         | NGC 723 | GALXY | CET  | 01 53.8       | -23 45        | 12.4 | 1.5 m       | 1.3 m       |             | Sbc   | pF,vS,R,vgbM          | 108          |

## Deep Sky Object List (37/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|-------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 731 | GALXY | CET  | 01 54.9       | -09 01        | 12.1 | 1.7 m       | 1.7 m       |             | EO      | eF,stellar                          | 84           |
|         |          |          |       |              |             |      |         | NGC 736 | GALXY | TRI  | 01 56.7       | +33 03        | 12.1 | 1.7 m       | 1.6 m       |             | SO      | pB,R,bM                             | 60           |
|         |          |          |       |              | x           |      |         | NGC 741 | GALXY | PSC  | 01 56.3       | +05 38        | 11.1 | 3 m         | 3 m         |             | E1      | pF,S,R,p of 2                       | 84           |
|         |          |          |       |              |             |      |         | NGC 743 | OPNCL | CAS  | 01 58.5       | +60 10        | 9.5  | 5.0 m       |             |             | II 1 p  | Cl,not Ri,D*                        | 36           |
|         |          |          |       |              |             |      |         | NGC 744 | OPNCL | PER  | 01 58.5       | +55 28        | 7.9  | 11.0 m      |             |             | IV 2 p  | Cl,pL,pRi,iF,*11..13                | 36           |
|         |          |          |       |              |             |      |         | NGC 749 | GALXY | FOR  | 01 55.7       | -29 55        | 12.5 | 1.9 m       | 1.4 m       | 111         | SBO-a   | pB,S,E,bM                           | 108          |
|         |          |          |       |              |             |      |         | NGC 750 | GALXY | TRI  | 01 57.5       | +33 13        | 11.9 | 1.6 m       | 1.3 m       | 175         | E1      | cB,pL,R,P w 751,25",<br>pos 173 deg | 60           |
|         | C 28     |          | x     | x            |             |      | x       | NGC 752 | OPNCL | AND  | 01 57.7       | +37 40        | 5.7  | 50 m        |             |             | III 1 m | Cl,vvL,Ri,*L & S,C                  | 36           |
|         |          |          |       |              |             |      |         | NGC 753 | GALXY | AND  | 01 57.7       | +35 55        | 12.3 | 2.5 m       | 2 m         | 125         | SBbc    | pB,pL,R,gmbM                        | 60           |
|         |          | x        |       | x            |             | 14   | x       | NGC 772 | GALXY | ARI  | 01 59.3       | +19 00        | 10.3 | 7.5 m       | 4.3 m       | 130         | Sb      | B,cL,R,gbM,r                        | 60           |
|         |          |          |       |              |             |      |         | NGC 776 | GALXY | ARI  | 01 59.9       | +23 39        | 12.4 | 1.7 m       | 1.7 m       |             | SBb     | F,pL                                | 60           |
|         |          |          |       |              |             |      |         | NGC 777 | GALXY | TRI  | 02 00.2       | +31 26        | 11.4 | 2.8 m       | 2.2 m       | 155         | E1/E2   | pB,pL,R,glbM                        | 59           |
|         |          |          | x     | x            |             |      |         | NGC 779 | GALXY | CET  | 01 59.7       | -05 58        | 11.2 | 4.1 m       | 1.2 m       | 20          | SBb     | cB,L,mE162,mbM                      | 84           |

## Deep Sky Object List (38/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 782 | GALXY | ERI  | 01 57.7       | -57 47        | 11.9 | 2.4 m       | 2.1 m       | 15          | SBb        | pB,pL,IE,*12 att     | 132          |
|         |          |          |       |              |             |      |         | NGC 783 | GALXY | TRI  | 02 01.1       | +31 53        | 12.1 | 1.6 m       | 1.4 m       | 35          | Sc         | eF,S,iR,vF st att    | 59           |
|         |          |          |       |              |             |      |         | NGC 784 | GALXY | TRI  | 02 01.3       | +28 50        | 11.7 | 6.6 m       | 1.6 m       | 0           | SBd        | vF,L,E,Double        | 59           |
|         |          |          |       |              |             |      |         | NGC 788 | GALXY | CET  | 02 01.1       | -06 49        | 12.1 | 2.2 m       | 1.5 m       | 100         | Sa         | pF,pS,R,bM           | 83           |
|         |          |          |       |              |             |      |         | NGC 807 | GALXY | TRI  | 02 04.9       | +28 59        | 12.5 | 1.8 m       | 1.3 m       | 145         | Elliptical | vF,vS,iR,bet 2* n&sp | 59           |
|         |          |          |       |              |             |      |         | NGC 812 | GALXY | AND  | 02 06.9       | +44 34        | 11.2 | 3 m         | 1.3 m       | 160         | Sbc        | eF,pL,E45,bM         | 35           |
|         |          |          |       |              |             |      |         | NGC 818 | GALXY | AND  | 02 08.7       | +38 47        | 12.5 | 2.9 m       | 1.2 m       | 113         | SBbc       | pB,cL,IE,mbM         | 35           |
|         |          |          |       |              | x           |      |         | NGC 821 | GALXY | ARI  | 02 08.4       | +11 00        | 10.7 | 2.4 m       | 1.7 m       | 25          | E2         | pB,vS,vIE,svmbM,* np | 83           |
|         |          |          |       |              |             |      |         | NGC 828 | GALXY | AND  | 02 10.2       | +39 11        | 12.3 | 2.9 m       | 2.2 m       | 145         | Sap        | pB,S,iR,D* f 15"     | 35           |
|         |          |          |       |              |             |      |         | NGC 835 | GALXY | CET  | 02 09.4       | -10 08        | 12.1 | 1.3 m       | 1.1 m       | 80          | SBab/P     | F,S,R,2nd of 4       | 83           |
|         |          |          |       |              |             |      |         | NGC 846 | GALXY | AND  | 02 12.2       | +44 34        | 12.1 | 1.9 m       | 1.7 m       | 140         | SBab       | eF,vS,R,gbM          | 35           |
|         |          |          |       |              |             |      |         | NGC 857 | GALXY | FOR  | 02 12.6       | -31 57        | 12.4 | 1.5 m       | 1.3 m       |             | SO         | cB,S,E,psmbM         | 107          |
|         |          |          |       |              |             |      |         | NGC 864 | GALXY | CET  | 02 15.5       | +06 00        | 10.9 | 4.7 m       | 3.2 m       | 20          | SBc        | eF,cL,R,gbM          | 83           |



Deep Sky Object List (39/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---------------------------|--------------|
|         | C 14     | x        | !!!!  | x            |             | 17   | x       | NGC 869 | OPNCL | PER  | 02 19.1       | +57 08        | 5.3  | 30 m        |             |             | I 3 r    | Cl,vvL,vRi,*7...14        | 35           |
|         |          |          |       |              |             |      |         | NGC 877 | GALXY | ARI  | 02 18.0       | +14 33        | 11.9 | 2.4 m       | 1.9 m       | 140         | SBbc     | pF,pL,IE,pgbM,*9 4' sf    | 59           |
|         |          |          |       |              |             |      |         | NGC 881 | GALXY | CET  | 02 18.8       | -06 38        | 12.4 | 2.3 m       | 1.5 m       | 135         | Sc Ring  | F,pS,E,bM,2or3* nr        | 83           |
|         | C 14     | x        | !!!!  | x            |             | 17   | x       | NGC 884 | OPNCL | PER  | 02 22.5       | +57 09        | 6.1  | 30 m        |             |             | I 3 r    | Cl,vL,vRi,ruby*M          | 35           |
|         |          |          |       |              | x           |      |         | NGC 890 | GALXY | TRI  | 02 22.0       | +33 16        | 11.2 | 2.9 m       | 2.3 m       | 0           | E4       | B,S,R,bM,3F* sp           | 59           |
|         | C 23     | x        | *     | x            |             | 12   | x       | NGC 891 | GALXY | AND  | 02 22.6       | +42 21        | 9.9  | 13.1 m      | 2.8 m       | 22          | Sb       | B,vL,vmE22                | 35           |
|         |          |          |       |              |             |      |         | NGC 895 | GALXY | CET  | 02 21.6       | -05 31        | 11.7 | 3.6 m       | 2.6 m       | 65          | Sc       | F,vL,iR,gbM,Dneb w<br>894 | 83           |
|         |          |          |       |              | x           |      |         | NGC 896 | BRTNB | CAS  | 02 25.5       | +62 01        | 99.9 | 27 m        | 13 m        |             | E        | eF,pL,iF                  | 12           |
|         |          |          |       |              |             |      |         | NGC 897 | GALXY | FOR  | 02 21.1       | -33 43        | 11.8 | 2.1 m       | 1.3 m       | 17          | Sa       | pB,S,R,psbM,*10 f 35"     | 107          |
|         |          |          | x     | x            |             |      | x       | NGC 908 | GALXY | CET  | 02 23.1       | -21 14        | 10.2 | 6.1 m       | 2.7 m       | 75          | SBc      | cB,vL,E                   | 107          |
|         |          |          |       |              |             |      |         | NGC 910 | GALXY | AND  | 02 25.4       | +41 49        | 12.2 | 2 m         | 2 m         |             | SO       | vF,pS,stellar             | 35           |
|         |          |          |       |              |             |      |         | NGC 918 | GALXY | ARI  | 02 25.8       | +18 30        | 12.2 | 3.5 m       | 2 m         | 158         | SBc      | pF,L,R,*10 sf 3'          | 59           |
|         |          |          |       |              |             |      |         | NGC 922 | GALXY | FOR  | 02 25.1       | -24 47        | 12.1 | 2 m         | 1.6 m       |             | SBc Ring | cF,pL,R,gpmbM             | 107          |

## Deep Sky Object List (40/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object  | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|---------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 924 | GALXY | ARI  | 02 26.8       | +20 30        | 12.4 | 2.3 m       | 1.3 m       | 53          | SO         | eF,vS,iR             | 59           |
|         |          |          | x     |              | x           |      | x       | NGC 925 | GALXY | TRI  | 02 27.3       | +33 35        | 10.1 | 10.9 m      | 6.2 m       | 102         | SBcd       | cF,cL,E,vgbM,2*13 np | 59           |
|         |          | x        | x     | x            |             | 16   |         | NGC 936 | GALXY | CET  | 02 27.6       | -01 09        | 10.1 | 4.3 m       | 3.8 m       | 135         | SBO-a      | vB,vL,R,mbMN,p of 2  | 83           |
|         |          |          |       |              |             |      |         | NGC 938 | GALXY | ARI  | 02 28.6       | +20 17        | 12.4 | 1.6 m       | 1.2 m       | 100         | Elliptical | pB,S,R,lbM,*11 sf    | 59           |
|         |          |          |       |              |             |      |         | NGC 940 | GALXY | TRI  | 02 29.5       | +31 38        | 12.4 | 1.2 m       | 0.9 m       | 10          | SO         | F,S,R,bM             | 59           |
|         |          |          | x     |              |             |      |         | NGC 941 | GALXY | CET  | 02 28.5       | -01 09        | 12.4 | 2.7 m       | 1.8 m       | 170         | SBc        | vF,cL,R,f of 2       | 83           |
|         |          |          |       |              |             |      |         | NGC 945 | GALXY | CET  | 02 28.6       | -10 32        | 12.1 | 2.3 m       | 2.2 m       |             | SBc        | vF,L,iR,glbM         | 83           |
|         |          |          |       |              |             |      |         | NGC 949 | GALXY | TRI  | 02 30.8       | +37 08        | 11.8 | 2.7 m       | 1.7 m       | 145         | Sb         | cB,L,E,vgbM          | 35           |
|         |          |          |       |              |             |      |         | NGC 955 | GALXY | CET  | 02 30.6       | -01 07        | 12   | 2.9 m       | 0.9 m       | 19          | Sab        | pB,S,E,psbM          | 83           |
|         |          |          |       |              |             |      |         | NGC 956 | OPNCL | AND  | 02 32.5       | +44 36        | 8.9  | 8.0 m       |             |             | IV 1 p     | Cl,pRi,*9...15       | 35           |
|         |          |          |       |              |             |      |         | NGC 957 | OPNCL | PER  | 02 33.3       | +57 34        | 7.6  | 11.0 m      |             |             | III 2 p    | Cl,pL,pRi,*13...15   | 35           |
|         |          |          |       |              |             |      |         | NGC 958 | GALXY | CET  | 02 30.7       | -02 56        | 12.1 | 2.9 m       | 0.9 m       | 7           | SBbc       | pF,iIE,bM            | 83           |
|         |          |          |       |              |             |      |         | NGC 959 | GALXY | TRI  | 02 32.4       | +35 30        | 12.4 | 2.3 m       | 1.4 m       | 65          | Sd         | eF,pL,IE,lbM         | 59           |

Deep Sky Object List (41/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 967  | GALXY | CET  | 02 32.2       | -17 13        | 12.5 | 1.6 m       | 1 m         | 33          | E-SO       | F,S,iR,gbM           | 107          |
|         |          |          |       |              |             |      |         | NGC 968  | GALXY | TRI  | 02 34.1       | +34 29        | 12.2 | 3.6 m       | 1.9 m       | 60          | Elliptical | pF,pS,R,bM           | 59           |
|         |          |          |       |              |             |      |         | NGC 969  | GALXY | TRI  | 02 34.1       | +32 57        | 12.3 | 1.7 m       | 1 m         | 10          | SO         | S,R,psbM,1st of 5    | 59           |
|         |          |          | x     |              |             |      |         | NGC 972  | GALXY | ARI  | 02 34.2       | +29 19        | 11.4 | 3.3 m       | 1.6 m       | 152         | Sab        | pB,cL,IE,gmbM,3*s    | 59           |
|         |          |          |       |              |             |      |         | NGC 976  | GALXY | ARI  | 02 34.0       | +20 59        | 12.4 | 1.6 m       | 1.3 m       |             | Sbc        | vF,vS,4F* nr         | 59           |
|         |          |          |       |              |             |      |         | NGC 982  | GALXY | AND  | 02 35.4       | +40 52        | 12.5 | 1.5 m       | 0.6 m       | 132         | Sa         | F,S,nf of 2          | 35           |
|         |          |          |       |              |             |      |         | NGC 986  | GALXY | FOR  | 02 33.6       | -39 03        | 10.9 | 4 m         | 3.2 m       | 150         | SBab       | pB,L,pmE,sbM,BI-N    | 131          |
|         |          |          |       |              |             |      |         | NGC 987  | GALXY | TRI  | 02 36.8       | +33 20        | 12.4 | 1.3 m       | 1.1 m       | 30          | SBO-a      | F,S,vIE,bM,r,2*14 np | 59           |
|         |          |          |       |              |             |      |         | NGC 988  | GALXY | CET  | 02 35.5       | -09 21        | 11   | 4.6 m       | 2.5 m       | 112         | SBc        | neb *7.5m            | 83           |
|         |          |          |       |              |             |      |         | NGC 990  | GALXY | ARI  | 02 36.3       | +11 39        | 12.4 | 1.8 m       | 1.5 m       |             | Elliptical | F,S,R,psbM           | 83           |
|         |          |          |       |              | x           |      |         | NGC 991  | GALXY | CET  | 02 35.5       | -07 09        | 11.7 | 3 m         | 2.7 m       | 60          | SB Ring    | vF,cL,iF,vIbM        | 83           |
|         |          |          |       |              | x           |      |         | NGC 1003 | GALXY | PER  | 02 39.3       | +40 52        | 11.4 | 5.7 m       | 2.2 m       | 97          | Sc         | pF,L,E90,mbM,r       | 35           |
|         |          |          |       |              | x           |      |         | NGC 1012 | GALXY | ARI  | 02 39.2       | +30 09        | 12   | 2.5 m       | 1.1 m       | 24          | Sa         | F,pS,iR,bM,st inv    | 59           |

## Deep Sky Object List (42/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                   | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|------------|-----------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1015 | GALXY | CET  | 02 38.2       | -01 19        | 12.1  | 2.6 m       | 2.6 m       |             | SBa        | vF,S                              | 83           |
|         |          |          |       |              |             |      |         | NGC 1016 | GALXY | CET  | 02 38.3       | +02 07        | 11.6  | 2.3 m       | 2.3 m       |             | EO         | F,S,R,psbM                        | 83           |
|         |          |          |       | x            |             |      |         | NGC 1022 | GALXY | CET  | 02 38.5       | -06 41        | 11.3  | 2.6 m       | 2.5 m       |             | SBa        | cB,pL,R,mbM,*11 nf 2'             | 83           |
|         |          | x        | x     | x            |             | 18   | x       | NGC 1023 | GALXY | PER  | 02 40.4       | +39 04        | 9.4   | 8.1 m       | 3.4 m       | 87          | E7p        | vB,vL,vmE,vvmbM                   | 35           |
|         |          |          |       |              |             |      |         | NGC 1024 | GALXY | ARI  | 02 39.2       | +10 51        | 12.1  | 3.9 m       | 1.5 m       | 155         | Sab        | pF,S,IE,bM,*11 nf 1'              | 83           |
|         |          |          |       | x            |             |      |         | NGC 1027 | OPNCL | CAS  | 02 42.6       | +61 36        | 6.7   | 20.0 m      |             |             | III 2 p n  | Cl,L,scatt stars, one<br>10th mag | 35           |
|         |          |          |       |              | x           |      |         | NGC 1032 | GALXY | CET  | 02 39.4       | +01 06        | 11.6  | 3.4 m       | 1.1 m       | 68          | Sa         | pB,S,vIE,bM,3*trapezoid           | 83           |
|         |          |          |       |              | x           |      |         | NGC 1035 | GALXY | CET  | 02 39.5       | -08 08        | 12.2  | 2.2 m       | 0.6 m       | 143         | Sc         | pF,L,mE,r,*17 att sf              | 83           |
| M 34    |          |          | !     |              |             |      |         | NGC 1039 | OPNCL | PER  | 02 42.1       | +42 47        | 5.2   | 35.0 m      |             |             | II 3 m     | Cl,B,vL,IC,sC st9...              | 35           |
|         |          |          |       |              |             |      |         | NGC 1042 | GALXY | CET  | 02 40.4       | -08 26        | 11    | 4.9 m       | 4 m         | 15          | SBc        | F,L,R,np of 2                     | 83           |
|         |          |          |       |              | x           |      |         | NGC 1045 | GALXY | CET  | 02 40.5       | -11 17        | 13    | 2.3 m       | 1.2 m       | 55          | E-SO       | F,S,R,bM                          | 83           |
|         |          |          | x     |              |             |      |         | NGC 1049 | GX+GC | FOR  | 02 39.8       | -34 16        | 12.6p | 1.2 m       | 1.2 m       |             |            | vS,F                              | 107          |
|         |          |          |       | x            |             |      |         | NGC 1052 | GALXY | CET  | 02 41.1       | -08 15        | 10.5  | 2.8 m       | 2 m         | 120         | Elliptical | B,pL,R,mbM*12                     | 83           |

## Deep Sky Object List (43/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          | x     | x            |             |      | x       | NGC 1055 | GALXY | CET  | 02 41.8       | +00 27        | 10.6 | 7.6 m       | 3 m         | 105         | SBb        | pF,cL,IE80,bM,*11n1' | 83           |
|         |          |          |       |              |             |      |         | NGC 1056 | GALXY | ARI  | 02 42.8       | +28 34        | 12.4 | 2.4 m       | 1.1 m       | 160         | Sa         | F,S,R,psbM           | 59           |
|         |          |          |       |              | x           |      |         | NGC 1058 | GALXY | PER  | 02 43.5       | +37 20        | 11.2 | 3.2 m       | 3.1 m       |             | Sc         | pF,cL,R,glbM         | 35           |
|         |          |          |       |              | x           |      |         | NGC 1060 | GALXY | TRI  | 02 43.3       | +32 25        | 11.8 | 2.3 m       | 1.7 m       | 75          | E-SO       | F,pL,R,lbM,*F46s,3's | 59           |
| M 77    |          |          | *     |              |             |      |         | NGC 1068 | GALXY | CET  | 02 42.7       | -00 01        | 8.9  | 7.3 m       | 6.3 m       | 70          | Sbp        | vB,pL,iR,sbMrrN      | 83           |
|         |          |          |       |              | x           |      |         | NGC 1070 | GALXY | CET  | 02 43.4       | +04 58        | 11.9 | 2.3 m       | 1.9 m       | 175         | Sb         | pF,S,iR,gbM          | 83           |
|         |          |          | x     |              | x           |      |         | NGC 1073 | GALXY | CET  | 02 43.7       | +01 23        | 11   | 4.9 m       | 4.3 m       | 15          | SBc        | vF,L,lbM,er          | 83           |
|         |          |          |       |              |             |      |         | NGC 1079 | GALXY | FOR  | 02 43.7       | -29 00        | 11.5 | 3.4 m       | 2.2 m       | 87          | SBO-a Ring | B,pL,pmE,sbM         | 107          |
|         |          |          | x     | x            |             |      |         | NGC 1084 | GALXY | ERI  | 02 46.0       | -07 35        | 10.7 | 3.5 m       | 2.1 m       | 115         | Sc         | vB,pL,E,gpmbM        | 83           |
|         |          |          |       |              |             |      |         | NGC 1085 | GALXY | CET  | 02 46.4       | +03 36        | 12.3 | 2.4 m       | 1.7 m       | 15          | Sbc        | F,S,R,lbM,bet 2*     | 83           |
|         |          |          | x     |              | x           |      |         | NGC 1087 | GALXY | CET  | 02 46.4       | -00 30        | 10.9 | 3.9 m       | 2.3 m       | 5           | SBc Ring   | pB,cL,IE,mbM         | 83           |
|         |          |          | x     |              | x           |      |         | NGC 1090 | GALXY | CET  | 02 46.6       | -00 15        | 11.8 | 3.9 m       | 1.8 m       | 102         | SBbc       | vF,pL,iR,bM          | 83           |
|         |          |          |       |              |             |      |         | NGC 1094 | GALXY | CET  | 02 47.5       | -00 17        | 12.5 | 1.3 m       | 1 m         | 85          | SBab       | vF,S,R,2S * p        | 83           |

## Deep Sky Object List (44/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
|         | C 67     |          | x     |              |             |      | x       | NGC 1097 | GALXY | FOR  | 02 46.3       | -30 17        | 9.5  | 9.4 m       | 6.6 m       | 130         | SBb        | vB,L,vmE151,vbMN          | 107          |
|         |          |          |       |              |             |      |         | NGC 1106 | GALXY | PER  | 02 50.7       | +41 40        | 12.3 | 1.8 m       | 1.8 m       |             | SO         | vF,vS,vF * att s          | 35           |
|         |          |          |       |              |             |      |         | NGC 1107 | GALXY | CET  | 02 49.3       | +08 06        | 12.2 | 1.8 m       | 1.5 m       | 140         | SO         | F,vS,R                    | 83           |
|         |          |          |       |              | x           |      |         | NGC 1114 | GALXY | ERI  | 02 49.1       | -17 00        | 13   | 1.8 m       | 0.8 m       | 8           | Sc         | pF,pL,pmE,glbM            | 107          |
|         |          |          |       |              |             |      |         | NGC 1122 | GALXY | PER  | 02 52.9       | +42 12        | 12.1 | 1.8 m       | 1.3 m       | 40          | SBb        | vF,pS,R,* nr n            | 35           |
|         |          |          |       |              |             |      |         | NGC 1129 | GALXY | PER  | 02 54.5       | +41 35        | 12.5 | 4 m         | 3.1 m       | 90          | Elliptical | cF,pS,iR,vglbM,D or F*,sp | 35           |
|         |          |          |       |              |             |      |         | NGC 1132 | GALXY | ERI  | 02 52.9       | -01 17        | 12.3 | 2.5 m       | 1.3 m       | 140         | Elliptical | eF,pL,gbM,*8f             | 83           |
|         |          |          |       |              |             |      |         | NGC 1134 | GALXY | ARI  | 02 53.7       | +13 01        | 12.1 | 2.5 m       | 0.9 m       | 148         | Sb         | F,S,iR,r                  | 59           |
|         |          |          |       |              |             |      |         | NGC 1137 | GALXY | CET  | 02 54.0       | +02 58        | 12.4 | 2.2 m       | 1.3 m       | 20          | Sb         | vF,pS,R,lbM               | 83           |
|         |          |          |       |              |             |      |         | NGC 1140 | GALXY | ERI  | 02 54.6       | -10 02        | 12.5 | 1.8 m       | 1 m         | 6           | Sm         | pB,S,R,stellar            | 83           |
|         |          |          |       |              |             |      |         | NGC 1145 | GALXY | ERI  | 02 54.6       | -18 38        | 12.5 | 3.2 m       | 0.5 m       | 60          | Sc         | F,pL,pmE,2 * st f         | 107          |
|         |          |          |       |              |             |      |         | NGC 1153 | GALXY | CET  | 02 58.2       | +03 22        | 12.4 | 1.3 m       | 1.3 m       |             | Sa         | F,vS,ilE,sbM,er           | 83           |
|         |          |          | x     |              | x           |      |         | NGC 1156 | GALXY | ARI  | 02 59.7       | +25 14        | 11.7 | 3.3 m       | 2.8 m       | 25          | Ir+        | pB,cL,pmE0,bet 2*         | 59           |

Deep Sky Object List (45/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 1161 | GALXY | PER  | 03 01.2       | +44 54        | 11   | 2.8 m       | 2 m         | 23          | SO         | F,pS,IE,sbM        | 34           |
|         |          |          |       |              | x           |      |         | NGC 1162 | GALXY | ERI  | 02 58.9       | -12 24        | 13   | 1.4 m       | 1.4 m       |             | Elliptical | F,R,glbM,stellar   | 107          |
|         |          |          |       |              |             |      |         | NGC 1167 | GALXY | PER  | 03 01.7       | +35 12        | 12.4 | 2.8 m       | 2.4 m       | 70          | SO         | vF,pL,R,spmbM      | 58           |
|         |          |          |       |              | x           |      |         | NGC 1169 | GALXY | PER  | 03 03.6       | +46 23        | 11.3 | 4.6 m       | 2.7 m       | 28          | SBab       | pF,pS,iF,sbM       | 34           |
|         |          |          |       |              |             |      |         | NGC 1171 | GALXY | PER  | 03 04.0       | +43 24        | 12.3 | 2.7 m       | 1.1 m       | 147         | Sc         | vF,pL,iF           | 34           |
|         |          |          |       |              | x           |      |         | NGC 1172 | GALXY | ERI  | 03 01.6       | -14 50        | 11.9 | 2.3 m       | 1.7 m       | 25          | E1         | pF,pL,R,psbM       | 106          |
|         |          |          |       |              | x           |      |         | NGC 1175 | GALXY | PER  | 03 04.5       | +42 20        | 12.9 | 1.9 m       | 0.7 m       | 153         | Sa         | F,cL,E             | 34           |
|         |          |          |       |              |             |      |         | NGC 1179 | GALXY | ERI  | 03 02.6       | -18 54        | 12   | 4.7 m       | 3.8 m       | 35          | Sp         | eF,pS,gbM,*12f1'   | 106          |
|         |          |          |       |              | x           |      |         | NGC 1184 | GALXY | CEP  | 03 16.8       | +80 48        | 12.4 | 2.8 m       | 0.6 m       | 165         | Sa         | F,pL,mE            | 12           |
|         |          |          |       |              |             |      |         | NGC 1186 | GALXY | PER  | 03 05.5       | +42 50        | 11.4 | 3.2 m       | 1.2 m       | 122         | SBbc       | F*W,neb appendages | 34           |
|         |          |          | x     |              | x           |      |         | NGC 1187 | GALXY | ERI  | 03 02.6       | -22 52        | 10.8 | 5.6 m       | 3.8 m       | 130         | SBc        | pF,cL,pmE,gbM*16,r | 106          |
|         |          |          |       |              | x           |      |         | NGC 1193 | OPNCL | PER  | 03 05.9       | +44 23        | 12.6 | 1.5 m       |             |             | II 3 m     | F,cL,er            | 34           |
|         |          |          |       |              |             |      |         | NGC 1198 | GALXY | PER  | 03 06.2       | +41 51        | 12.5 | 1.9 m       | 1.1 m       | 120         | E-SO       | neb *11            | 34           |

## Deep Sky Object List (46/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 1199 | GALXY | ERI  | 03 03.6       | -15 37         | 11.4 | 2.3 m       | 1.7 m       | 48          | E2      | cB,pS,iR,smbM          | 106          |
|         |          |          |       |              |             |      |         | NGC 1201 | GALXY | FOR  | 03 04.1       | -26 04         | 10.7 | 3.3 m       | 1.9 m       | 7           | Sa      | cB,pS,vIE,r,S* nr      | 106          |
|         |          |          |       |              | x           |      |         | NGC 1207 | GALXY | PER  | 03 08.3       | +38 23         | 12.6 | 2.3 m       | 1.6 m       | 123         | Sb Ring | cF,vS,R,psb in npp end | 34           |
|         |          |          |       |              | x           |      |         | NGC 1209 | GALXY | ERI  | 03 06.0       | -15 37         | 11.4 | 2.2 m       | 1.1 m       | 80          | E5      | B,S,cE,psbM            | 106          |
|         |          |          |       |              |             |      |         | NGC 1211 | GALXY | CET  | 03 06.9       | -00 48         | 12.3 | 2.1 m       | 1.9 m       | 30          | SBO-a   | pB,vS,R,mbMN=*9,10     | 82           |
|         |          |          |       |              |             |      |         | NGC 1217 | GALXY | FOR  | 03 06.1       | -39 02         | 12.4 | 1.8 m       | 1.3 m       | 50          | Sa      | pF,S,R,psbM            | 130          |
|         |          |          |       |              |             |      |         | NGC 1222 | GALXY | ERI  | 03 08.9       | -02 57         | 12.5 | 0.8 m       | 0.6 m       | 170         | E-SO    | vF*in pF,S,R neb       | 82           |
|         |          | x        | x     |              |             | 21   | x       | NGC 1232 | GALXY | ERI  | 03 09.8       | -20 35         | 9.9  | 7.1 m       | 6.3 m       | 108         | Sc      | pB,cL,R,gbM,r          | 106          |
|         |          |          |       |              |             |      |         | NGC 1241 | GALXY | ERI  | 03 11.2       | -08 55         | 12   | 3.2 m       | 2.1 m       | 145         | SBb     | F,pL,R,vglbM,*9n       | 82           |
|         |          |          | x     | x            |             |      | x       | NGC 1245 | OPNCL | PER  | 03 14.7       | +47 14         | 8.4  | 10 m        |             |             | III 1 r | Cl,pL,Ri,C,iR,*12..15  | 34           |
|         |          |          |       |              |             |      |         | NGC 1247 | GALXY | ERI  | 03 12.2       | -10 29         | 12.5 | 3.4 m       | 0.5 m       | 69          | Sbc     | F,pL,E80               | 82           |
|         |          |          |       |              |             |      |         | NGC 1248 | GALXY | ERI  | 03 12.8       | -05 14         | 12.5 | 1.2 m       | 1 m         | 100         | SO      | cF,S,IE,bM,*9 n 5'     | 82           |
|         |          |          |       |              |             |      |         | NGC 1249 | GALXY | HOR  | 03 10.0       | -53 20         | 11.8 | 4.7 m       | 2.5 m       | 86          | SBc     | B,L,vmE80,vgbM         | 130          |



Deep Sky Object List (47/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1253 | GALXY | ERI  | 03 14.2       | -02 49        | 11.7 | 5.3 m       | 2.3 m       | 82          | SBc        | *12 w neb f,90"long | 82           |
|         |          |          |       |              |             |      |         | NGC 1255 | GALXY | FOR  | 03 13.5       | -25 44        | 10.9 | 4.2 m       | 2.7 m       | 117         | SBbc       | F,pL,F* close p     | 106          |
|         | C 87     |          | x     |              |             |      |         | NGC 1261 | GLOCL | HOR  | 03 12.3       | -55 13        | 8.4  | 6.9 m       |             |             | II         | B,L,R,rr            | 130          |
|         |          |          |       |              |             |      |         | NGC 1265 | GALXY | PER  | 03 18.3       | +41 51        | 12.1 | 1.8 m       | 1.6 m       | 165         | SO         | vF,vS,mbM           | 34           |
|         |          |          |       |              |             |      |         | NGC 1272 | GALXY | PER  | 03 19.4       | +41 29        | 11.8 | 2.2 m       | 2 m         |             | SO         | F,S,R               | 34           |
|         | C 24     |          |       |              |             |      |         | NGC 1275 | GALXY | PER  | 03 19.8       | +41 31        | 11.9 | 2.3 m       | 1.6 m       | 110         | SO         | F,S                 | 34           |
|         |          |          |       |              |             |      |         | NGC 1278 | GALXY | PER  | 03 19.9       | +41 34        | 12.4 | 1.4 m       | 1.1 m       | 90          | E2p        | pB,pS,R,bM          | 34           |
|         |          |          |       |              |             |      |         | NGC 1288 | GALXY | FOR  | 03 17.2       | -32 35        | 12.1 | 2.3 m       | 1.9 m       |             | SBc        | vF,L,r,vglbM,cE ns  | 106          |
|         |          |          | x     |              |             |      | x       | NGC 1291 | GALXY | ERI  | 03 17.3       | -41 06        | 8.5  | 9.7 m       | 8.4 m       |             | SBO-a Ring | vB,pL,R,mbM,er      | 130          |
|         |          |          |       |              |             |      |         | NGC 1292 | GALXY | FOR  | 03 18.2       | -27 37        | 12.1 | 3 m         | 1.4 m       | 7           | Sc         | F,pS,IE,vgbM,SD* nr | 106          |
|         |          |          |       |              |             |      |         | NGC 1297 | GALXY | ERI  | 03 19.2       | -19 06        | 11.8 | 2.3 m       | 1.9 m       | 3           | E2         | F,pS                | 106          |
|         |          |          | x     |              |             |      | x       | NGC 1300 | GALXY | ERI  | 03 19.7       | -19 25        | 10.4 | 5.9 m       | 4.1 m       | 106         | SBbc       | cB,vL,vmE,psvmbM    | 106          |
|         |          |          |       |              |             |      |         | NGC 1302 | GALXY | FOR  | 03 19.9       | -26 04        | 10.7 | 4.1 m       | 3.7 m       |             | SBO-a Ring | S,R,psvmbM,*9 np 1' | 106          |

## Deep Sky Object List (48/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1309 | GALXY | ERI  | 03 22.1       | -15 24        | 11.5 | 2.3 m       | 2.2 m       | 45          | Sbc        | cB,cL,iR,gbM,*8 sp 4' | 106          |
|         |          |          |       |              |             |      |         | NGC 1310 | GALXY | FOR  | 03 21.1       | -37 06        | 12.1 | 1.9 m       | 1.5 m       | 95          | SBc        | vF,pL,R,vgvIbM        | 130          |
|         |          |          | x     |              |             |      |         | NGC 1313 | GALXY | RET  | 03 18.3       | -66 30        | 8.7  | 9.2 m       | 7.2 m       |             | SBcd       | pB,L,E,vgbM,r         | 144          |
|         |          |          |       |              |             |      |         | NGC 1315 | GALXY | ERI  | 03 23.1       | -21 23        | 12.4 | 1.6 m       | 1.4 m       |             | SBO-a      | pB,S,R,gbM            | 106          |
|         |          |          | x     |              |             |      | x       | NGC 1316 | GALXY | FOR  | 03 22.7       | -37 13        | 8.5  | 11.2 m      | 7.7 m       | 50          | SBO        | vB,cL,vIE,vsvmbMN     | 130          |
|         |          |          | x     |              |             |      |         | NGC 1317 | GALXY | FOR  | 03 22.7       | -37 06        | 11   | 2.8 m       | 2.4 m       | 78          | SBa        | pB,pS,psbM            | 130          |
|         |          |          |       |              |             |      |         | NGC 1320 | GALXY | ERI  | 03 24.8       | -03 03        | 12.4 | 1.9 m       | 0.7 m       | 135         | Sa         | F,S,R,bM              | 82           |
|         |          |          |       |              | x           |      |         | NGC 1325 | GALXY | ERI  | 03 24.4       | -21 33        | 11.5 | 4.8 m       | 1.6 m       | 56          | SBbc       | F,mE239,com,*9.5 att  | 106          |
|         |          |          | x     |              |             |      |         | NGC 1326 | GALXY | FOR  | 03 23.9       | -36 28        | 10.5 | 4.3 m       | 2.9 m       | 77          | SBO-a Ring | pS,vsvmbMN            | 106          |
|         |          |          |       |              | x           |      |         | NGC 1332 | GALXY | ERI  | 03 26.3       | -21 20        | 10.3 | 4 m         | 1.5 m       | 148         | E7         | vB,S,E114,smbMN       | 106          |
|         |          |          |       |              |             |      |         | NGC 1333 | BRTNB | PER  | 03 29.2       | +31 22        | 99.9 | 9 m         | 7 m         |             | R          | F,L,*10 nf            | 58           |
|         |          |          |       |              |             |      |         | NGC 1336 | GALXY | FOR  | 03 26.5       | -35 43        | 12.3 | 2.1 m       | 1.5 m       | 22          | E-SO       | vF,S,vIE,gbM          | 106          |
|         |          |          |       |              |             |      |         | NGC 1337 | GALXY | ERI  | 03 28.1       | -08 23        | 11.9 | 5.7 m       | 1.5 m       | 145         | SBc        | eF,vL,mE ns           | 82           |

## Deep Sky Object List (49/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description   | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1339 | GALXY | FOR  | 03 28.1       | -32 17        | 11.6 | 1.8 m       | 1.3 m       | 172         | E2       | cB,pS,R,psbM,D* p | 106          |
|         |          |          | x     |              |             |      |         | NGC 1341 | GALXY | FOR  | 03 28.0       | -37 09        | 12.3 | 1.6 m       | 1.3 m       |             | SBab     | F,S,mE 140,*12ef  | 130          |
|         |          |          |       | x            |             |      |         | NGC 1342 | OPNCL | PER  | 03 31.7       | +37 22        | 6.7  | 14.0 m      |             |             | III 3 p  | Cl,vL,ab60*       | 34           |
|         |          |          |       |              |             |      |         | NGC 1344 | GALXY | FOR  | 03 28.3       | -31 04        | 10.4 | 6.1 m       | 3.8 m       | 165         | E3       | cB,pL,iR,vgbM     | 106          |
|         |          |          |       |              | x           |      |         | NGC 1348 | OPNCL | PER  | 03 34.1       | +51 25        | 99.9 | 5 m         |             |             | II 2 p   | Cl,IRi,st L       | 34           |
|         |          |          | x     |              |             |      |         | NGC 1350 | GALXY | FOR  | 03 31.1       | -33 38        | 10.3 | 5.4 m       | 2.9 m       | 170         | SBab     | B,L,mE,vmbMRN     | 106          |
|         |          |          | x     |              |             |      |         | NGC 1351 | GALXY | FOR  | 03 30.6       | -34 51        | 11.6 | 3.4 m       | 2 m         | 140         | SO       | pB,pS,R,psbM      | 106          |
|         |          |          |       |              | x           |      |         | NGC 1353 | GALXY | ERI  | 03 32.1       | -20 49        | 11.4 | 3.4 m       | 1.4 m       | 138         | SBb      | pB,cL,IE,mbM      | 106          |
|         |          |          |       |              |             |      |         | NGC 1357 | GALXY | ERI  | 03 33.3       | -13 40        | 11.5 | 3.1 m       | 2 m         | 85          | Sab Ring | pF,pL,R,lbM,*9 nf | 106          |
|         |          |          |       |              |             |      |         | NGC 1358 | GALXY | ERI  | 03 33.7       | -05 05        | 12.1 | 2.5 m       | 2.1 m       | 15          | SBO-a    | vF,S,bet 2*       | 82           |
|         |          |          |       |              |             |      |         | NGC 1359 | GALXY | ERI  | 03 33.8       | -19 29        | 12.2 | 2.5 m       | 1.5 m       | 139         | SB/P     | F,L,R,vglbM       | 106          |
|         |          |          | x     |              |             |      | x       | NGC 1360 | PLNNB | FOR  | 03 33.2       | -25 52        | 9.4  | 360 s       | 270 s       |             | 3        | *8in B,L neb,E ns | 106          |
|         |          |          |       |              |             |      |         | NGC 1362 | GALXY | ERI  | 03 33.9       | -20 17        | 12.5 | 1.2 m       | 1.1 m       |             | SO       | vF,S,R            | 106          |

Deep Sky Object List (50/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          | *     |              |             |      | x       | NGC 1365  | GALXY | FOR  | 03 33.6       | -36 08        | 9.6  | 11 m        | 6.2 m       | 32          | SBb        | !!vB,vL,mE,BN          | 106          |
|         |          |          |       |              |             |      |         | NGC 1366  | GALXY | FOR  | 03 33.9       | -31 12        | 12   | 2.1 m       | 0.9 m       | 2           | SO         | vF,S,iF,lbM            | 106          |
|         |          |          |       |              |             |      |         | NGC 1370  | GALXY | ERI  | 03 35.2       | -20 22        | 12.4 | 1.5 m       | 1 m         | 50          | Elliptical | vF,S,R,bet 2*14        | 106          |
|         |          |          |       |              |             |      |         | NGC 1371  | GALXY | FOR  | 03 35.0       | -24 56        | 10.7 | 5.9 m       | 3.8 m       | 135         | SBa        | pB,pL,vIE,psbM         | 106          |
|         |          |          | x     |              |             |      |         | NGC 1374  | GALXY | FOR  | 03 35.3       | -35 14        | 11.1 | 2.7 m       | 2.4 m       |             | E0         | vB,pL,IE,gmbM,2nd of 3 | 106          |
|         |          |          |       |              |             |      |         | NGC 1375  | GALXY | FOR  | 03 35.3       | -35 16        | 12.4 | 2.3 m       | 0.9 m       | 91          | SBO        | B,S,IE,pmbM,3rd of 3   | 106          |
|         |          |          |       |              |             |      |         | NGC 1376  | GALXY | ERI  | 03 37.1       | -05 03        | 12.1 | 2.1 m       | 1.9 m       | 95          | Sc         | eF,pL,iR,bM,r          | 82           |
|         |          |          |       |              |             |      |         | NGC 1377  | GALXY | ERI  | 03 36.7       | -20 54        | 12.4 | 1.8 m       | 0.9 m       | 92          | SO         | F,S,R,gbM              | 106          |
|         |          |          | x     |              |             |      |         | NGC 1379  | GALXY | FOR  | 03 36.1       | -35 26        | 10.9 | 2.4 m       | 2.3 m       |             | E0         | B,pL,R,gpmbM           | 106          |
|         |          |          | x     |              |             |      |         | NGC 1380  | GALXY | FOR  | 03 36.5       | -34 59        | 9.9  | 4.8 m       | 2.9 m       | 7           | SBO        | vB,L,R,psbM            | 106          |
|         |          |          |       |              |             |      |         | NGC 1380A | GALXY | FOR  | 03 36.8       | -34 44        | 12.4 | 2.4 m       | 0.7 m       | 179         | SO         |                        | 106          |
|         |          |          | x     |              |             |      |         | NGC 1381  | GALXY | FOR  | 03 36.5       | -35 18        | 11.5 | 2.6 m       | 0.8 m       | 139         | SO         | F                      | 106          |
|         |          |          |       |              |             |      |         | NGC 1383  | GALXY | ERI  | 03 37.7       | -18 20        | 12.5 | 1.9 m       | 0.8 m       | 91          | SBO        | pF,S,R,psmbM           | 106          |

Deep Sky Object List (51/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|-------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1385 | GALXY | FOR  | 03 37.5       | -24 30         | 10.9 | 3.6 m       | 2.2 m       | 165         | SBc   | pB,pS,R,gpmbM        | 106          |
|         |          |          | x     |              |             |      |         | NGC 1386 | GALXY | ERI  | 03 36.8       | -36 00         | 11.2 | 3.4 m       | 1.3 m       | 25          | Sa    | F                    | 106          |
|         |          |          | x     |              |             |      |         | NGC 1387 | GALXY | FOR  | 03 37.0       | -35 30         | 10.7 | 3.2 m       | 3.1 m       |             | SO    | vB,pL,R,gmbM         | 106          |
|         |          |          | x     |              |             |      |         | NGC 1389 | GALXY | ERI  | 03 37.2       | -35 45         | 11.5 | 2.5 m       | 1.5 m       | 30          | E4    | F                    | 106          |
|         |          |          |       |              |             |      |         | NGC 1393 | GALXY | ERI  | 03 38.6       | -18 26         | 12   | 2 m         | 1.2 m       | 170         | SBO   | F,S,R,glbM           | 106          |
|         |          |          | x     |              |             |      |         | NGC 1395 | GALXY | ERI  | 03 38.5       | -23 02         | 9.6  | 5.6 m       | 4.6 m       |             | E3    | B,pS,E,psmbM         | 106          |
|         |          |          | x     |              |             |      |         | NGC 1398 | GALXY | FOR  | 03 38.9       | -26 20         | 9.7  | 7.2 m       | 5.2 m       | 100         | SBab  | cB,cL,R,vmbM         | 106          |
|         |          |          | x     |              |             |      |         | NGC 1399 | GALXY | FOR  | 03 38.5       | -35 27         | 9.6  | 6.6 m       | 6.1 m       |             | E1p   | vB,pL,psbM,rr        | 106          |
|         |          |          | x     |              | x           |      |         | NGC 1400 | GALXY | ERI  | 03 39.5       | -18 41         | 11   | 2.5 m       | 2.1 m       | 40          | E1    | cB,pS,R,psmbM        | 106          |
|         |          |          |       |              |             |      |         | NGC 1401 | GALXY | ERI  | 03 39.4       | -22 44         | 12.3 | 2.4 m       | 0.6 m       | 130         | SBO   | vF,vS,R              | 106          |
|         |          |          | x     |              |             |      |         | NGC 1404 | GALXY | FOR  | 03 38.9       | -35 36         | 10   | 3.9 m       | 3.3 m       |             | E1    | vB,pL,R,psmbM        | 106          |
|         |          |          |       |              |             |      |         | NGC 1406 | GALXY | FOR  | 03 39.4       | -31 19         | 11.8 | 3.9 m       | 0.7 m       | 15          | SBbc  | F,cL,vmE,vglbM,*7 np | 106          |
|         |          |          | x     | x            |             |      |         | NGC 1407 | GALXY | ERI  | 03 40.2       | -18 35         | 9.7  | 4.9 m       | 4.5 m       | 35          | EO    | vB,L,R,svmbMN        | 106          |

Deep Sky Object List (52/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1411 | GALXY | HOR  | 03 38.7       | -44 06        | 11.3 | 2.2 m       | 1.6 m       | 6           | SO    | B,pS,R,smbM                     | 130          |
|         |          |          |       |              |             |      |         | NGC 1412 | GALXY | FOR  | 03 40.5       | -26 52        | 12.5 | 1.8 m       | 0.7 m       | 131         | SBO   | F,S,E,gbM,* sf 2'               | 106          |
|         |          |          |       |              |             |      |         | NGC 1415 | GALXY | ERI  | 03 40.9       | -22 34        | 11.9 | 3.6 m       | 1.7 m       | 148         | Sa    | pB,S,IE,pglbM,* sf              | 106          |
|         |          |          |       |              |             |      |         | NGC 1417 | GALXY | ERI  | 03 42.0       | -04 42        | 12.1 | 2.7 m       | 1.6 m       | 0           | SBb   | pF,pL,IE,lbM,* sf               | 82           |
|         |          |          |       |              | x           |      |         | NGC 1421 | GALXY | ERI  | 03 42.5       | -13 29        | 11.4 | 3.4 m       | 0.8 m       | 179         | SBbc  | F,cL,mE 0,r                     | 106          |
|         |          |          |       |              |             |      |         | NGC 1425 | GALXY | FOR  | 03 42.2       | -29 54        | 10.6 | 5.8 m       | 2.5 m       | 129         | Sb    | F,pL,iR,gbM                     | 106          |
|         |          |          |       |              |             |      |         | NGC 1426 | GALXY | ERI  | 03 42.8       | -22 07        | 11.4 | 2.6 m       | 1.6 m       | 111         | E2    | pF,S,IE,bM                      | 106          |
|         |          |          | x     |              |             |      |         | NGC 1427 | GALXY | FOR  | 03 42.3       | -35 24        | 10.9 | 3.8 m       | 2.6 m       | 76          | E3    | pF,S,R,psmbM                    | 106          |
|         |          |          | x     |              |             |      |         | NGC 1433 | GALXY | HOR  | 03 42.0       | -47 13        | 9.9  | 6.1 m       | 5.7 m       |             | SBa   | vB,L,pmE,vsmbM*10               | 130          |
|         |          |          | *     |              |             |      |         | NGC 1435 | BRTNB | TAU  | 03 46.2       | +23 46        | 99.9 | 30 m        | 30 m        |             | R     | vF,vL,diff,(Merope in Pleiades) | 58           |
|         |          |          | x     |              |             |      |         | NGC 1437 | GALXY | ERI  | 03 43.6       | -35 51        | 11.7 | 3.1 m       | 2 m         | 150         | SBab  | F,vL,R,glbM                     | 106          |
|         |          |          |       |              |             |      |         | NGC 1438 | GALXY | ERI  | 03 45.3       | -23 00        | 12.4 | 2 m         | 0.9 m       | 69          | SBO-a | eF,mE,N,*10 f1'                 | 106          |
|         |          |          |       |              |             |      |         | NGC 1439 | GALXY | ERI  | 03 44.8       | -21 55        | 11.4 | 2.4 m       | 2.2 m       |             | E1    | F,pS,gpmbM                      | 106          |

Deep Sky Object List (53/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1440 | GALXY | ERI  | 03 45.0       | -18 16        | 11.5 | 2.2 m       | 1.6 m       | 28          | SBO        | pB,pS,R,smbM*13         | 106          |
|         |          |          |       | x            |             |      |         | NGC 1444 | OPNCL | PER  | 03 49.4       | +52 40        | 6.6  | 4.0 m       |             |             | IV 1 p     | Cl of ab 30*12...14     | 34           |
|         |          |          |       |              |             |      |         | NGC 1448 | GALXY | HOR  | 03 44.5       | -44 39        | 10.7 | 7.5 m       | 2 m         | 41          | Sc         | pB,L,vmE222             | 130          |
|         |          |          |       |              |             |      |         | NGC 1452 | GALXY | ERI  | 03 45.4       | -18 38        | 11.8 | 2.3 m       | 1.5 m       | 113         | SBO-a Ring | F,R,lbM,hazy *          | 106          |
|         |          |          |       |              |             |      |         | NGC 1453 | GALXY | ERI  | 03 46.5       | -03 58        | 11.5 | 2.3 m       | 2.3 m       |             | E2         | pB,S,R,*17 m            | 82           |
|         |          |          |       |              |             |      |         | NGC 1460 | GALXY | ERI  | 03 46.2       | -36 42        | 12.5 | 1.7 m       | 1.4 m       |             | SBO        | F,S,R,* att             | 106          |
|         |          |          |       |              |             |      |         | NGC 1461 | GALXY | ERI  | 03 48.5       | -16 24        | 11.8 | 3 m         | 0.9 m       | 155         | SO         | pB,S,IE,mbMN            | 106          |
|         |          |          |       |              |             |      |         | NGC 1482 | GALXY | ERI  | 03 54.6       | -20 30        | 12.1 | 2.4 m       | 1.4 m       | 103         | Sa         | F,S,vIE,2*10 nr,f of 2  | 106          |
|         |          |          |       |              |             |      |         | NGC 1487 | GALXY | ERI  | 03 55.8       | -42 22        | 11.9 | 3.3 m       | 2 m         | 55          | Sm         | pB,pL,R,gbM,2* triangle | 130          |
|         |          |          |       |              |             |      |         | NGC 1490 | GALXY | RET  | 03 53.6       | -66 01        | 12.4 | 1.3 m       | 1.1 m       | 142         | Elliptical | pB,S,vIE,pmbM           | 144          |
|         |          | x        | x     |              | x           | 19   |         | NGC 1491 | BRTNB | PER  | 04 03.2       | +51 19        | 99.9 | 6 m         | 9 m         |             | E          | vB,S,iF,bM,r,* inv      | 33           |
|         |          |          |       |              |             |      |         | NGC 1493 | GALXY | HOR  | 03 57.5       | -46 13        | 11.3 | 3.6 m       | 3.5 m       |             | SBc        | F,cL,R,vglbM            | 130          |
|         |          |          |       |              |             |      |         | NGC 1494 | GALXY | HOR  | 03 57.7       | -48 55        | 11.7 | 3.3 m       | 2 m         | 179         | SBcd       | F,L,R,vglvbm,3*n        | 130          |

Deep Sky Object List (54/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1496 | OPNCL | PER  | 04 04.5       | +52 40        | 9.6  | 6.0 m       |             |             | II 1 p | Cl,segment of a ring | 33           |
|         |          |          | x     |              |             |      |         | NGC 1499 | BRTNB | PER  | 04 03.2       | +36 22        | 5    | 160 m       | 40 m        |             | E      | vF,vL,mE ns,dif      | 57           |
|         |          | x        | x     | x            |             | 20   | x       | NGC 1501 | PLNNB | CAM  | 04 07.0       | +60 55        | 12   | 56 s        | 48 s        |             | 3      | pB,pS,vIE,1'Diam     | 33           |
|         |          |          | x     | x            |             |      | x       | NGC 1502 | OPNCL | CAM  | 04 07.8       | +62 20        | 6.9  | 8 m         |             |             | II 3 p | Cl,pRi,cC,iF         | 11           |
|         |          |          |       |              | x           |      |         | NGC 1507 | GALXY | ERI  | 04 04.5       | -02 11        | 12.3 | 3.6 m       | 1 m         | 11          | SBp    | vF,pL,mE,vlbM,er     | 81           |
|         |          |          |       |              |             |      |         | NGC 1511 | GALXY | HYI  | 03 59.6       | -67 38        | 11.3 | 3.5 m       | 1.3 m       | 125         | Sa     | pB,pS,mE121,gbM      | 144          |
|         |          |          |       |              |             |      |         | NGC 1512 | GALXY | HOR  | 04 03.9       | -43 21        | 10.3 | 9.7 m       | 5.3 m       | 90          | SBa    | B,cL,R,bM            | 129          |
|         |          |          | x     | x            |             |      |         | NGC 1513 | OPNCL | PER  | 04 09.9       | +49 31        | 8.4  | 9.0 m       |             |             | II 1 m | Cl,L,vRi,pC,st vL    | 33           |
|         |          |          | x     |              | x           | 23   |         | NGC 1514 | PLNNB | TAU  | 04 09.3       | +30 47        | 10.8 | 120 s       | 90 s        |             | 3(2)   | *9 in neb 3'Diam     | 57           |
|         |          |          |       |              |             |      |         | NGC 1515 | GALXY | DOR  | 04 04.0       | -54 06        | 11.2 | 5.1 m       | 1.1 m       | 18          | SBbc   | B,L,vmE10,bM         | 129          |
|         |          |          |       |              |             |      |         | NGC 1518 | GALXY | ERI  | 04 06.8       | -21 11        | 11.8 | 2.9 m       | 1.4 m       | 35          | SBd    | B,L,pmE,gbM,*8 sp    | 105          |
|         |          |          |       |              |             |      |         | NGC 1521 | GALXY | ERI  | 04 08.3       | -21 03        | 11.4 | 2.7 m       | 1.6 m       | 10          | E3     | pB,R,bM              | 105          |
|         |          |          |       |              |             |      |         | NGC 1527 | GALXY | HOR  | 04 08.4       | -47 54        | 10.8 | 3.9 m       | 1.5 m       | 78          | SO     | pB,pS,E77,vsmbMRN    | 129          |



Deep Sky Object List (55/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          | x     | x            |             |      | x       | NGC 1528 | OPNCL | PER  | 04 15.3       | +51 13        | 6.4  | 24.0 m      |             |             | II 2 m     | Cl,B,vRi,cC          | 33           |
|         |          |          |       |              |             |      |         | NGC 1530 | GALXY | CAM  | 04 23.4       | +75 18        | 11.4 | 4.4 m       | 2.5 m       | 0           | SBb        | pB,L                 | 11           |
|         |          |          | x     |              |             |      |         | NGC 1531 | GALXY | ERI  | 04 12.0       | -32 51        | 12.2 | 1.2 m       | 0.9 m       | 122         | E6         | pB,pL,R,bM,np of 2   | 105          |
|         |          |          | x     |              |             |      |         | NGC 1532 | GALXY | ERI  | 04 12.1       | -32 52        | 9.9  | 11.6 m      | 3.4 m       | 33          | SBb        | B,vL,vmE32,psmbM     | 105          |
|         |          |          |       |              |             |      |         | NGC 1533 | GALXY | DOR  | 04 09.9       | -56 07        | 10.7 | 2.5 m       | 2.1 m       | 151         | SBO        | vB,vL,R,smbM,2*10 nf | 129          |
|         |          | x        | x     | x            |             | 22   | x       | NGC 1535 | PLNNB | ERI  | 04 14.3       | -12 44        | 10.4 | 20 s        | 17 s        |             | 4(2c)      | vB,S,R,pS,vsbM,r     | 105          |
|         |          |          |       |              |             |      |         | NGC 1536 | GALXY | RET  | 04 11.0       | -56 29        | 12.5 | 2.1 m       | 1.5 m       | 155         | SBc        | vF,R,pL,vlbM         | 129          |
|         |          |          |       |              |             |      |         | NGC 1537 | GALXY | ERI  | 04 13.7       | -31 39        | 10.6 | 3.9 m       | 2.6 m       | 98          | E4         | vB,pS,IE,psvmbM      | 105          |
|         |          |          |       |              |             |      |         | NGC 1543 | GALXY | RET  | 04 12.7       | -57 44        | 10.5 | 4.7 m       | 3 m         | 93          | SBO Ring   | B,pL,E,smbMN=*11     | 129          |
|         |          |          |       | x            |             |      |         | NGC 1545 | OPNCL | PER  | 04 20.9       | +50 15        | 6.2  | 18.0 m      |             |             | II 2 p     | Cl,pRi,IC,st L       | 33           |
|         |          |          |       |              |             |      |         | NGC 1546 | GALXY | DOR  | 04 14.6       | -56 04        | 10.9 | 3.2 m       | 1.9 m       | 147         | Sa         | pB,IE,gbMEN,**p      | 129          |
|         |          |          | x     |              |             |      |         | NGC 1549 | GALXY | DOR  | 04 15.8       | -55 36        | 9.8  | 4.4 m       | 3.6 m       | 135         | EO         | B,pS,R               | 129          |
|         |          |          |       |              |             |      |         | NGC 1550 | GALXY | TAU  | 04 19.6       | +02 25        | 12   | 2.2 m       | 1.9 m       | 30          | Elliptical | vF,S,R,*13 nr        | 81           |

Deep Sky Object List (56/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 1553 | GALXY | DOR  | 04 16.2       | -55 47        | 9.4  | 5 m         | 3 m         | 150         | SO         | vB,pS,R,gmbM,am 3*;a<br>Dneb | 129          |
|         |          |          | x     |              |             |      |         | NGC 1555 | BRTNB | TAU  | 04 21.9       | +19 32        | 99.9 | 0.5 m       |             |             | R          | vF,S,variable,!!!            | 57           |
|         |          |          |       |              |             |      |         | NGC 1558 | GALXY | HOR  | 04 20.3       | -45 02        | 12.5 | 2.5 m       | 1 m         | 72          | SBbc       | pF,S,E,gbM                   | 129          |
|         |          |          | x     |              |             |      |         | NGC 1559 | GALXY | RET  | 04 17.6       | -62 47        | 10.6 | 3.5 m       | 2 m         | 64          | SBc        | vB,vL,mE,vgpmbM,*14<br>att n | 143          |
|         |          |          |       |              |             |      |         | NGC 1560 | GALXY | CAM  | 04 32.8       | +71 53        | 11.4 | 9.8 m       | 1.5 m       | 23          | Scd        | vF,L,E,*9.3 sp               | 11           |
|         |          |          | x     |              |             |      |         | NGC 1566 | GALXY | DOR  | 04 20.0       | -54 56        | 9.7  | 8.2 m       | 6.5 m       | 60          | SBbc       | B,vL,vg,svmbM,15d in<br>RA   | 129          |
|         |          |          |       |              |             |      |         | NGC 1567 | GALXY | CAE  | 04 21.1       | -48 15        | 12.5 | 1.4 m       | 1.3 m       |             | E          | F,S,R,bM                     | 129          |
|         |          |          |       |              |             |      |         | NGC 1569 | GALXY | CAM  | 04 30.8       | +64 51        | 11   | 3.7 m       | 1.8 m       | 120         | lrp        | pB,S,IE,BNM,*9.5n1'          | 11           |
|         |          |          |       |              |             |      |         | NGC 1571 | GALXY | CAE  | 04 22.1       | -43 38        | 12.3 | 2 m         | 1.5 m       | 172         | Elliptical | vF,S,R,gbM,** nf             | 129          |
|         |          |          |       |              |             |      |         | NGC 1572 | GALXY | CAE  | 04 22.7       | -40 36        | 12.4 | 2.4 m       | 1.2 m       | 5           | SBa        | pF,S,R,*13 nf 1'             | 129          |
|         |          |          |       |              |             |      |         | NGC 1573 | GALXY | CAM  | 04 35.1       | +73 16        | 11.7 | 1.9 m       | 1.3 m       | 35          | E3         | vF,S,*9.5f                   | 11           |
|         |          |          |       |              |             |      |         | NGC 1574 | GALXY | RET  | 04 22.0       | -56 59        | 10.4 | 4 m         | 3.6 m       | 35          | SO         | pB,S,R,pgbM,2S* sf           | 129          |
|         |          |          | x     |              | x           |      |         | NGC 1579 | BRTNB | PER  | 04 30.2       | +35 17        | 99.9 | 3 m         | 3 m         |             | R          | pB,vL,iR,mbM,*8 2' nf        | 57           |

Deep Sky Object List (57/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 1582 | OPNCL | PER  | 04 31.8       | +43 47        | 7    | 37.0 m      |             |             | IV 2 p     | Cl,vL,pRi,IC,st L          | 33           |
|         |          |          |       |              | x           |      |         | NGC 1587 | GALXY | TAU  | 04 30.7       | +00 40        | 11.7 | 1.7 m       | 1.4 m       | 144         | E1p        | F,pS,R,r,p of Dneb         | 81           |
|         |          |          |       |              |             |      |         | NGC 1589 | GALXY | TAU  | 04 30.8       | +00 52        | 11.8 | 3.2 m       | 1 m         | 160         | Sab        | F,pL,IE132,*42,80"         | 81           |
|         |          |          |       |              |             |      |         | NGC 1596 | GALXY | DOR  | 04 27.6       | -55 02        | 11.2 | 3.7 m       | 0.9 m       | 20          | SO         | B,pL,mE15,smbM,p of 2      | 129          |
|         |          |          |       |              | x           |      |         | NGC 1600 | GALXY | ERI  | 04 31.7       | -05 05        | 10.9 | 3.1 m       | 2.2 m       | 10          | E2         | pB,pL,R,gmbM               | 81           |
|         |          |          |       |              | x           |      |         | NGC 1605 | OPNCL | PER  | 04 34.9       | +45 16        | 10.7 | 5.0 m       |             |             | III 1 m    | Cl,vF,pS,C,st eS           | 33           |
|         |          |          |       |              |             |      |         | NGC 1617 | GALXY | DOR  | 04 31.7       | -54 36        | 10.4 | 4.8 m       | 2.4 m       | 107         | SBa        | B,L,mE106,vg,vsmB MN<br>5" | 129          |
|         |          |          |       |              | x           |      |         | NGC 1618 | GALXY | ERI  | 04 36.1       | -03 09        | 12.7 | 2.4 m       | 0.8 m       | 30          | SBb        | F,S,iF,lbM,2* sf           | 81           |
|         |          |          |       |              |             |      |         | NGC 1620 | GALXY | ERI  | 04 36.6       | -00 09        | 12.3 | 2.9 m       | 1 m         | 25          | Sc         | vF,pL,mE140,B** nf         | 81           |
|         |          |          |       |              |             |      |         | NGC 1622 | GALXY | ERI  | 04 36.6       | -03 11        | 12.5 | 3.7 m       | 0.7 m       | 35          | SBab       | vF,S,*20p5*,1618p          | 81           |
|         |          |          | x     |              | x           |      |         | NGC 1624 | CL+NB | PER  | 04 40.6       | +50 28        | 11.8 | 1.9 m       |             |             | II 1 p n:b | F,cL,iF,6or7*+ neb         | 33           |
|         |          |          |       |              |             |      |         | NGC 1625 | GALXY | ERI  | 04 37.1       | -03 18        | 12.3 | 2.1 m       | 0.5 m       | 130         | SBb        | vF,E141,sbM,F* att np      | 81           |
|         |          |          |       |              |             |      |         | NGC 1635 | GALXY | ERI  | 04 40.1       | -00 33        | 12.4 | 1.4 m       | 1.3 m       | 5           | SBO-a Ring | F,S,R,bM,*11 nf 12S        | 81           |

Deep Sky Object List (58/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|-----------------|--------------|
|         |          |          | x     |              | x           |      |         | NGC 1637 | GALXY | ERI  | 04 41.5       | -02 52        | 10.8 | 3.9 m       | 3.3 m       | 15          | SBc     | cB,L,R,vgbM     | 81           |
|         |          |          |       |              |             |      |         | NGC 1638 | GALXY | ERI  | 04 41.6       | -01 49        | 12   | 2.3 m       | 1.6 m       | 70          | SBO     | F,pL,IE         | 81           |
|         |          |          |       |              |             |      |         | NGC 1640 | GALXY | ERI  | 04 42.2       | -20 26        | 11.7 | 2.7 m       | 2.3 m       | 45          | SBab    | vF,pS,E40,gbM   | 105          |
|         |          |          | S     | x            |             |      | x       | NGC 1647 | OPNCL | TAU  | 04 45.9       | +19 06        | 6.4  | 45 m        |             |             | II 2 m  | Cl,vL,st L,sC   | 57           |
|         |          |          |       |              |             |      |         | NGC 1653 | GALXY | ERI  | 04 45.8       | -02 24        | 12   | 1.5 m       | 1.5 m       |             | E0      | F,cS,R,lbM      | 81           |
|         |          |          |       |              |             |      |         | NGC 1659 | GALXY | ERI  | 04 46.5       | -04 47        | 12.5 | 1.5 m       | 1.1 m       | 40          | Sbc     | pF,pS,iE90,bM   | 81           |
|         |          |          |       |              | x           |      |         | NGC 1662 | OPNCL | ORI  | 04 48.4       | +10 57        | 6.4  | 20.0 m      |             |             | I 2 p   | Cl OF L&S sc st | 81           |
|         |          |          |       |              | x           |      |         | NGC 1663 | OPNCL | ORI  | 04 48.6       | +13 09        | 99.9 |             |             |             | IV 2 p  | Cl,IRi,st L&S   | 57           |
|         |          |          |       | x            |             |      | x       | NGC 1664 | OPNCL | AUR  | 04 51.1       | +43 41        | 7.6  | 18 m        |             |             | III 1 p | Cl,IRi,IC,pL    | 33           |
|         |          |          |       |              |             |      |         | NGC 1667 | GALXY | ERI  | 04 48.6       | -06 19        | 12.1 | 1.8 m       | 1.4 m       | 20          | SBc     | pF,pS,R,(r)     | 81           |
|         |          |          |       |              |             |      |         | NGC 1672 | GALXY | DOR  | 04 45.7       | -59 15        | 9.7  | 6.7 m       | 5.6 m       | 170         | SBb     | B,L,smbMN       | 129          |
|         |          |          |       |              |             |      |         | NGC 1679 | GALXY | CAE  | 04 49.9       | -31 58        | 11.5 | 2.7 m       | 2 m         | 150         | SBp     | vB,L,iR,4*1nv   | 105          |
|         |          |          |       |              |             |      |         | NGC 1688 | GALXY | DOR  | 04 48.4       | -59 48        | 12   | 2.4 m       | 1.9 m       | 177         | SBc     | pB,pL,iR,pgmbM  | 129          |

## Deep Sky Object List (59/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1691 | GALXY | ORI  | 04 54.6       | +03 16        | 12    | 1.7 m       | 1.6 m       | 85          | SBO-a Ring | F,S,*11 inv             | 81           |
|         |          |          |       |              | x           |      |         | NGC 1700 | GALXY | ERI  | 04 56.9       | -04 52        | 11.2  | 3 m         | 1.8 m       | 85          | E1         | cB,S,mbM*               | 81           |
|         |          |          |       |              |             |      |         | NGC 1703 | GALXY | DOR  | 04 52.9       | -59 45        | 11.3  | 2.9 m       | 2.6 m       |             | SBb        | F,L,R,vglbM,** att      | 129          |
|         |          |          |       |              |             |      |         | NGC 1705 | GALXY | PIC  | 04 54.2       | -53 22        | 12.4  | 1.9 m       | 1.4 m       | 50          | SOp        | pF,S,R,pmbM             | 129          |
|         |          |          |       |              |             |      |         | NGC 1714 | LMCDN | DOR  | 04 52.1       | -66 56        | 99.9  |             |             |             | E+*        | vB,S,E or biN,bM,sp 2   | 143          |
|         |          |          |       |              |             |      |         | NGC 1723 | GALXY | ERI  | 04 59.4       | -10 59        | 12    | 3.3 m       | 2 m         | 40          | SB Ring    | F,bet 2*9,10n&s,3rd*f   | 81           |
|         |          |          |       |              |             |      |         | NGC 1724 | OPNCL | AUR  | 05 03.5       | +49 30        | 10.0p |             |             |             |            | Cl,vS,(st+ neb)         | 32           |
|         |          |          |       |              |             |      |         | NGC 1726 | GALXY | ERI  | 04 59.7       | -07 45        | 11.7  | 2.1 m       | 1.5 m       | 0           | SO         | F,R,*13,s               | 81           |
|         |          |          |       |              |             |      |         | NGC 1744 | GALXY | LEP  | 05 00.0       | -26 01        | 11.1  | 9.3 m       | 4.3 m       | 168         | SBcd       | F,vL,vmE,vglbM          | 104          |
|         |          |          | x     |              |             |      |         | NGC 1746 | OPNCL | TAU  | 05 03.8       | +23 46        | 6.1   | 42 m        |             |             | III 1 p    | Cl,P                    | 56           |
|         |          |          |       |              | x           |      |         | NGC 1750 | OPNCL | TAU  | 05 03.9       | +23 41        | 99.9  |             |             |             |            | Cl,st L,vc sc           | 56           |
|         |          |          |       |              |             |      |         | NGC 1752 | GALXY | ERI  | 05 02.2       | -08 14        | 12.4  | 2.6 m       | 0.8 m       | 70          | SBc        | F,pL,pmE,2 or 3 * 11 nf | 80           |
|         |          |          |       |              | x           |      |         | NGC 1762 | GALXY | ORI  | 05 03.6       | +01 34        | 12.6  | 1.7 m       | 1.1 m       | 175         | Sc         | vF,vS                   | 80           |

## Deep Sky Object List (60/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|------------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 1778 | OPNCL | AUR  | 05 08.1       | +37 01        | 7.7  | 7 m         |             |             | III 2 p   | Cl,pC,IRi,iF,st L                  | 32           |
|         |          |          |       |              | x           |      |         | NGC 1779 | GALXY | ERI  | 05 05.3       | -09 09        | 12.1 | 2.5 m       | 1.4 m       | 105         | SBO-a     | pB,S,R,gpmbM                       | 80           |
|         |          |          |       |              |             |      |         | NGC 1784 | GALXY | LEP  | 05 05.5       | -11 52        | 11.7 | 4.1 m       | 2.6 m       | 105         | SBc       | pB,pL,vIE,vgbM,am st               | 80           |
|         |          | x        |       | x            |             | 25   |         | NGC 1788 | BRTNB | ORI  | 05 06.9       | -03 20        | 99.9 | 2 m         | 2 m         |             | R         | B,cL,R,bM,***,* 10 inv in the neby | 80           |
|         |          |          | x     |              |             |      |         | NGC 1792 | GALXY | COL  | 05 05.2       | -37 59        | 10.2 | 5.6 m       | 2.9 m       | 137         | SBbc      | vB,vL,mE314,glbM,rr                | 128          |
|         |          |          |       |              |             |      |         | NGC 1796 | GALXY | DOR  | 05 02.7       | -61 08        | 12.3 | 1.8 m       | 1 m         | 102         | SBb       | pF,pS,pmE,vglbM                    | 128          |
|         |          |          | x     |              |             |      |         | NGC 1807 | OPNCL | TAU  | 05 10.7       | +16 32        | 7    | 17 m        |             |             | II 2 p    | Cl,pRi,st L & S                    | 56           |
|         |          |          |       |              |             |      |         | NGC 1808 | GALXY | COL  | 05 07.7       | -37 31        | 9.9  | 6.3 m       | 4.3 m       | 133         | SBa       | B,L,E,psbM                         | 128          |
|         |          |          |       |              |             |      |         | NGC 1809 | GALXY | DOR  | 05 02.1       | -69 34        | 12.1 | 3.2 m       | 0.8 m       | 143         | Sc        | pF,S,R,gbM,2nd of 2                | 143          |
|         |          |          | x     | x            |             |      |         | NGC 1817 | OPNCL | TAU  | 05 12.4       | +16 41        | 7.7  | 16 m        |             |             | III 1 m   | Cl,L,Ri,IC,st11...14               | 56           |
|         |          |          |       |              |             |      |         | NGC 1819 | GALXY | ORI  | 05 11.8       | +05 12        | 12.4 | 1.7 m       | 1.2 m       | 120         | SBO       | vF,S,R                             | 80           |
|         |          |          |       |              |             |      |         | NGC 1827 | GALXY | COL  | 05 10.1       | -36 58        | 12.5 | 3 m         | 0.7 m       | 120         | SBc       | vF,vmE,long ray,*11 inv            | 104          |
|         |          |          | x     |              | x           |      |         | NGC 1832 | GALXY | LEP  | 05 12.1       | -15 41        | 11.3 | 2.3 m       | 1.5 m       | 10          | SBbc Ring | pB,iR,mbM,C* nf 1'                 | 104          |

## Deep Sky Object List (61/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1841 | GLOCL | MEN  | 04 53.0       | -84 05        | 12   |             |             |             |           | pF,L,iR,vsbM,r          | 146          |
|         | C 73     |          | x     |              |             |      | x       | NGC 1851 | GLOCL | COL  | 05 14.1       | -40 03        | 7.3  | 11 m        |             |             | II        | !vB,vL,R,vsvbm,rrr      | 128          |
|         |          |          |       |              |             |      |         | NGC 1855 | GLOCL | DOR  | 05 09.3       | -68 51        | 10   |             |             |             |           | Cl,vB,L,R,st 12         | 143          |
|         |          |          | x     | x            |             |      |         | NGC 1857 | OPNCL | AUR  | 05 20.1       | +39 21        | 7    | 6 m         |             |             | II 2 m    | Cl,pRi,pC,st7...        | 32           |
|         |          |          |       |              | x           |      |         | NGC 1883 | OPNCL | AUR  | 05 25.9       | +46 29        | 12   | 2.5 m       |             |             | II 1 p    | Cl,vF,pRi,pC,iF         | 32           |
|         |          |          |       |              |             |      |         | NGC 1888 | GALXY | LEP  | 05 22.6       | -11 30        | 11.9 | 3.2 m       | 1.2 m       | 145         | SB/P      | pB,pL,R,r               | 80           |
|         |          |          |       |              |             |      |         | NGC 1892 | GALXY | DOR  | 05 17.2       | -64 58        | 12.2 | 2.9 m       | 0.8 m       | 74          | Sc        | cF,pL,E90,vglbM         | 143          |
|         |          |          | x     |              |             |      | x       | NGC 1893 | OPNCL | AUR  | 05 22.7       | +33 25        | 7.5  | 11 m        |             |             | II 2 m n  | Cl,L,Ri,IC              | 56           |
| M 79    |          |          | x     |              |             |      |         | NGC 1904 | GLOCL | LEP  | 05 24.2       | -24 31        | 8.4  | 7.8 m       |             |             | V         | pL,eRi,eC,rrr           | 104          |
|         |          | x        |       | x            |             |      | x       | NGC 1907 | OPNCL | AUR  | 05 28.1       | +35 20        | 8.2  | 7.0 m       |             |             | II 1 m n  | Cl,pRi,pC,R,st9...12    | 56           |
| M 38    |          |          | x     |              |             |      |         | NGC 1912 | OPNCL | AUR  | 05 28.7       | +35 51        | 6.4  | 21 m        |             |             | III 2 m   | Cl,B,vL,vRi,iF,st L & S | 56           |
|         |          |          |       |              |             |      |         | NGC 1924 | GALXY | ORI  | 05 28.0       | -05 19        | 12.5 | 1.6 m       | 1.2 m       | 130         | SBbc Ring | vF,pL,iR,st nr          | 80           |
|         |          |          |       |              |             |      |         | NGC 1930 | GALXY | PIC  | 05 25.9       | -46 44        | 12.4 | 1.9 m       | 1.2 m       | 32          | SBO       | pF,S,R,bM,4B*p          | 128          |

## Deep Sky Object List (62/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---|--------------|
|         |          | x        |       | x            |             | 24   |         | NGC 1931 | CL+NB | AUR  | 05 31.4       | +34 15        | 10.1 | 3 m         | 3 m         |             | I 3 p n:b  | vB,L,R,B***in M                               | 56           |
|         |          |          |       |              |             |      |         | NGC 1947 | GALXY | DOR  | 05 26.8       | -63 46        | 10.6 | 2.4 m       | 2 m         | 119         | SO p       | pB,L,R,glbM,*9 np                             | 143          |
| M 1     |          |          | !*    |              |             |      |         | NGC 1952 | SNREM | TAU  | 05 34.5       | +22 01        | 8.4  | 8 m         | 4 m         |             |            | vB,vL,E135,vglbM,r                            | 56           |
|         |          |          |       |              |             |      |         | NGC 1954 | GALXY | LEP  | 05 32.8       | -14 04        | 11.8 | 4.2 m       | 2 m         | 155         | Sbc        | vF,S,R,smbM                                   | 104          |
| M 36    |          |          | x     |              |             |      |         | NGC 1960 | OPNCL | AUR  | 05 36.3       | +34 08        | 6    | 12 m        |             |             | II 3 m     | Cl,B,vL,vRi,IC,*9..11                         | 56           |
|         |          |          |       | x            |             |      |         | NGC 1961 | GALXY | CAM  | 05 42.1       | +69 23        | 11   | 4.5 m       | 3.1 m       | 85          | SBbc       | cF,pL,iF,mbM,er,* inv                         | 11           |
|         |          |          | x     | x            |             |      |         | NGC 1964 | GALXY | LEP  | 05 33.4       | -21 57        | 10.8 | 5.5 m       | 2.1 m       | 32          | SBb        | F,L,R,vsymbM,*12,3 st<br>inv                  | 104          |
|         |          | x        |       |              |             | 26   | x       | NGC 1973 | BRTNB | ORI  | 05 35.1       | -04 44        | 7    | 5 m         | 5 m         |             | E          | *8,9 inv in neb                               | 80           |
|         |          |          |       |              |             |      | x       | NGC 1975 | BRTNB | ORI  | 05 35.3       | -04 41        | 7    | 10 m        | 5 m         |             | E          | B** inv in neb                                | 80           |
| M 42    |          |          | !!!!* |              |             |      |         | NGC 1976 | CL+NB | ORI  | 05 35.3       | -05 23        | 4    | 90 m        | 60 m        |             | E+R        | !!!,Theta Orionis and<br>the great nebula M42 | 80           |
|         |          |          | x     |              | x           |      | x       | NGC 1977 | CL+NB | ORI  | 05 35.3       | -04 51        | 7    | 20 m        | 10 m        |             | E+R        | 42 Orionis neb                                | 80           |
|         |          |          |       |              |             |      |         | NGC 1979 | GALXY | LEP  | 05 34.0       | -23 19        | 11.8 | 2.2 m       | 1.8 m       |             | E-SO       | vF,vS,stellar                                 | 104          |
|         |          |          |       | x            |             |      |         | NGC 1980 | CL+NB | ORI  | 05 35.4       | -05 55        | 2.5  | 14 m        | 14 m        |             | III 3 m n: | vF,vvL,44 Ori invl                            | 80           |



## Deep Sky Object List (63/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 1981 | OPNCL | ORI  | 05 35.2       | -04 26        | 4.2  | 25.0 m      |             |             | III 2 p n | Cl,vB,lRi,st L,sc               | 80           |
| M 43    |          |          | !!*   |              |             |      |         | NGC 1982 | BRTNB | ORI  | 05 35.5       | -05 16        | 9    | 20 m        | 15 m        |             | E         | !,vB,vL,R w tail,mbM*8          | 80           |
|         |          |          |       |              | x           |      |         | NGC 1990 | BRTNB | ORI  | 05 36.2       | -01 12        | 99.9 | 50 m        | 10 m        |             | E+R       | eL,E,Epsilon orionis inv<br>p,! | 80           |
|         |          |          |       |              |             |      |         | NGC 1993 | GALXY | LEP  | 05 35.4       | -17 49        | 12.4 | 1.5 m       | 1.4 m       |             | E-SO      | eF,vS,stellar                   | 104          |
|         |          |          | x     | x            |             |      |         | NGC 1999 | BRTNB | ORI  | 05 36.4       | -06 43        | 99.9 | 2 m         | 2 m         |             | E+R       | *10,11 inv in neb               | 80           |
|         |          | x        |       | x            |             | 27   |         | NGC 2022 | PLNNB | ORI  | 05 42.1       | +09 05        | 12.8 | 28 s        | 27 s        |             | 4(2)      | pB,vS,vIE                       | 80           |
|         |          |          | *     |              | x           |      |         | NGC 2023 | BRTNB | ORI  | 05 41.6       | -02 16        | 99.9 | 10 m        | 8 m         |             | E+R       | B* in M of L,IE neb             | 80           |
|         |          | x        | !*    | x            |             | 28   | x       | NGC 2024 | BRTNB | ORI  | 05 41.7       | -01 51        | 99.9 | 30 m        | 30 m        |             | E         | ! irr,B,vvL,black sp incl       | 80           |
| M 78    |          |          | !*    |              |             |      |         | NGC 2068 | BRTNB | ORI  | 05 46.8       | +00 05        | 8    | 8 m         | 6 m         |             | E         | B,L,wisp,gmbN,3* inv,r          | 80           |
|         | C103     |          | !!!   |              |             |      |         | NGC 2070 | LMCCN | DOR  | 05 38.6       | -69 06        | 8.3  | 20 m        |             |             | E         | !!! vB,vL,looped                | 143          |
|         |          |          | *     |              | x           |      |         | NGC 2071 | BRTNB | ORI  | 05 47.1       | +00 18        | 8    | 7 m         | 5 m         |             | R         | D*(10 & 14m) w vF,L<br>chev     | 80           |
|         |          |          |       |              |             |      |         | NGC 2073 | GALXY | LEP  | 05 45.9       | -22 00        | 12.4 | 1.5 m       | 1.4 m       |             | E-SO      | eF,vS,R,gbM                     | 104          |
|         |          |          |       |              |             |      |         | NGC 2082 | GALXY | DOR  | 05 41.8       | -64 18        | 12.1 | 1.9 m       | 1.8 m       |             | SBb       | pF,L,R,glbM                     | 143          |

## Deep Sky Object List (64/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2089 | GALXY | LEP  | 05 47.9       | -17 36        | 11.9 | 1.9 m       | 1.2 m       | 39          | E-SO Bar | vF,eS,stellar                      | 104          |
|         |          |          |       |              |             |      |         | NGC 2090 | GALXY | COL  | 05 47.0       | -34 15        | 11.2 | 5 m         | 2.5 m       | 13          | Sc       | B,pL,iR,bgM,stellar<br>N,cE 10 deg | 104          |
| M 37    |          |          | !     |              |             |      |         | NGC 2099 | OPNCL | AUR  | 05 52.3       | +32 33        | 5.6  | 24.0 m      |             |             | II 1 r   | !!Cl,Ri,pCM,st L & S               | 56           |
|         |          |          |       |              |             |      |         | NGC 2106 | GALXY | LEP  | 05 50.8       | -21 34        | 12.1 | 2.7 m       | 1.4 m       | 100         | SBO      | vF,S,vIE,gbM                       | 104          |
|         |          |          |       |              | x           |      |         | NGC 2112 | OPNCL | ORI  | 05 53.8       | +00 25        | 9.1  | 11.0 m      |             |             | II 3 m n | Cl,pL,iRi,pC,st S                  | 80           |
|         |          |          |       | x            |             |      |         | NGC 2126 | OPNCL | AUR  | 06 02.5       | +49 52        | 10.2 | 6.0 m       |             |             | II 1 p   | Cl,not Ri,*7 north                 | 31           |
|         |          |          | S     | x            |             |      | x       | NGC 2129 | OPNCL | GEM  | 06 00.7       | +23 19        | 6.7  | 7.0 m       |             |             | III 3 p  | Cl,pL,40 or 50* 8...15             | 55           |
|         |          |          |       |              | x           |      |         | NGC 2139 | GALXY | LEP  | 06 01.1       | -23 40        | 11.6 | 2.9 m       | 2 m         | 140         | SBc      | F,S; = IC 2154                     | 103          |
|         |          |          |       |              |             |      |         | NGC 2141 | OPNCL | ORI  | 06 02.9       | +10 27        | 9.4  | 10.0 m      |             |             | II 3 r   | F,pS,dif                           | 79           |
|         |          |          |       |              |             |      |         | NGC 2146 | GALXY | CAM  | 06 18.6       | +78 21        | 10.6 | 5.7 m       | 3.3 m       | 56          | SBab/P   | pB,2'I,IE                          | 10           |
|         |          | x        | x     | x            |             |      | x       | NGC 2158 | OPNCL | GEM  | 06 07.4       | +24 06        | 8.6  | 5.0 m       |             |             | II 3 r   | Cl,pS,mC,vRi,irr triangle<br>* eS  | 55           |
| M 35    |          |          | !     |              |             |      |         | NGC 2168 | OPNCL | GEM  | 06 08.2       | +24 22        | 5.1  | 28.0 m      |             |             | III 2 m  | Cl,vL,eRi,pC,st9...16              | 55           |
|         |          |          |       | x            |             |      | x       | NGC 2169 | OPNCL | ORI  | 06 08.4       | +13 58        | 5.9  | 7.0 m       |             |             | I 3 p n  | Cl,S,iRi,pmC,** (ADS<br>4728)      | 55           |

Deep Sky Object List (65/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 2170 | BRTNB | MON  | 06 07.5       | -06 24        | 99.9 | 2 m         | 2 m         |             | R        | *9 in vF,pL,neb,E 170 deg | 79           |
|         |          |          | x     |              |             |      |         | NGC 2174 | BRTNB | ORI  | 06 09.4       | +20 40        | 99.9 | 40 m        | 30 m        |             | E        | eF,bet 3 vF *             | 55           |
|         |          |          |       |              |             |      | x       | NGC 2175 | CL+NB | ORI  | 06 09.6       | +20 29        | 6.8  | 18.0 m      |             |             | IV 3 p n | *8 in neb                 | 55           |
|         |          |          |       |              |             |      |         | NGC 2179 | GALXY | LEP  | 06 08.0       | -21 45        | 12.3 | 2 m         | 1.4 m       | 170         | SBO-a    | F,pS,bet 2 *,glbM         | 103          |
|         |          |          |       |              | x           |      |         | NGC 2182 | BRTNB | MON  | 06 09.5       | -06 20        | 99.9 | 3 m         | 2 m         |             | R        | pB**,L* neb,E 90 deg      | 79           |
|         |          |          |       | x            |             |      |         | NGC 2185 | BRTNB | MON  | 06 11.0       | -06 14        | 99.9 | 2 m         | 2 m         |             | R        | *11 and 4 S* in vF,L neb  | 79           |
|         |          |          |       | x            |             |      |         | NGC 2186 | OPNCL | ORI  | 06 12.1       | +05 28        | 8.7  | 4.0 m       |             |             | II 2 p   | Cl,pL,pRi,pC,st L and S   | 79           |
|         |          |          |       |              |             |      |         | NGC 2188 | GALXY | COL  | 06 10.2       | -34 06        | 11.7 | 4.7 m       | 1.2 m       | 175         | SBp      | pF,pL,vmE,gvlbM           | 103          |
|         |          |          |       |              |             |      |         | NGC 2191 | GALXY | CAR  | 06 08.4       | -52 31        | 12.4 | 1.7 m       | 0.9 m       | 118         | SBO      | pB,vS,E,vsbM,*9 p 5s      | 127          |
|         |          |          |       |              | x           |      |         | NGC 2192 | OPNCL | AUR  | 06 15.3       | +39 51        | 10.9 | 6.0 m       |             |             | III 1 p  | Cl,cL,C,iF,st vS          | 31           |
|         |          | x        |       | x            |             | 29   | x       | NGC 2194 | OPNCL | ORI  | 06 13.8       | +12 48        | 8.5  | 10.0 m      |             |             | III 1 r  | Cl,L,Ri,gvmCM             | 55           |
|         |          |          |       |              | x           |      |         | NGC 2196 | GALXY | LEP  | 06 12.2       | -21 48        | 11   | 2.8 m       | 2.2 m       | 35          | Sa       | pF,pS,vIE,pmbM,st nr      | 103          |
|         |          |          |       | x            |             |      |         | NGC 2204 | OPNCL | CMA  | 06 15.5       | -18 40        | 8.6  | 13.0 m      |             |             | III 3 m  | Cl,L,pRi,IC               | 103          |

Deep Sky Object List (66/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---|--------------|
|         |          |          |       |              |             |      |         | NGC 2206 | GALXY | CMA  | 06 16.0       | -26 46        | 12.2 | 2.4 m       | 1.3 m       | 138         | SBbc       | F,pS,vIE,pslbM                              | 103          |
|         |          |          | x     |              |             |      |         | NGC 2207 | GALXY | CMA  | 06 16.4       | -21 22        | 10.8 | 4.2 m       | 2.6 m       | 141         | SBbc Ring  | pB,pL,mE87,pslbMRN,b<br>iN,ring surrounding | 103          |
|         |          |          |       | x            |             |      |         | NGC 2215 | OPNCL | MON  | 06 20.8       | -07 17        | 8.4  | 11.0 m      |             |             | II 2 p     | Cl,cL,pRi,pC,st11.15                        | 79           |
|         |          |          |       |              |             |      |         | NGC 2217 | GALXY | CMA  | 06 21.7       | -27 14        | 10.7 | 4.7 m       | 4.3 m       | 10          | SBO-a Ring | vB,S,R,psmbM,r                              | 103          |
|         |          |          |       |              |             |      |         | NGC 2223 | GALXY | CMA  | 06 24.6       | -22 50        | 11.6 | 3 m         | 2.6 m       | 175         | SBab       | F,pL,R,vglbM,2st inv                        | 103          |
|         |          |          |       |              |             |      |         | NGC 2227 | GALXY | CMA  | 06 26.0       | -22 00        | 12.5 | 2.1 m       | 1.2 m       | 19          | SBc        | eF,R,** p 270 deg,90"                       | 103          |
|         |          |          |       | x            |             |      |         | NGC 2232 | OPNCL | MON  | 06 28.0       | -04 51        | 3.9  | 30 m        |             |             | IV 3 p     | B* (10 MON) + Cl                            | 79           |
|         |          |          |       |              | x           |      |         | NGC 2236 | OPNCL | MON  | 06 29.7       | +06 50        | 8.5  | 7.0 m       |             |             | III 2 p    | Cl,pRi,pC,*10,12...15                       | 79           |
|         | C 49     |          | x     |              |             | 32   | x       | NGC 2237 | CL+NB | MON  | 06 30.9       | +05 03        | 5.5  | 80 m        | 60 m        |             | E          | pB,vvL,dif,part of eL<br>nebs ring ar 2239  | 79           |
|         |          |          |       |              |             |      |         | NGC 2239 | OPNCL | MON  | 06 31.9       | +04 57        | 4.8  | 24 m        |             |             | II 3 p n   | *8 in L,P,B Cl                              | 79           |
|         |          |          |       |              |             |      |         | NGC 2243 | OPNCL | CMA  | 06 29.6       | -31 17        | 9.4  | 5.0 m       |             |             | I 2 r      | pB,cL,R,vglbM                               | 103          |
|         | C 50     | x        | !     | x            |             |      | x       | NGC 2244 | CL+NB | MON  | 06 31.9       | +04 57        | 4.8  | 24.0 m      |             |             | II 3 r n:b | Cl,beautiful,st sc (12<br>MON)              | 79           |
|         |          |          |       |              | x           |      |         | NGC 2245 | BRTNB | MON  | 06 32.7       | +10 09        | 99.9 | 2 m         | 2 m         |             | R          | pL,com,mbN sf alm<br>*,*7-8 nf              | 79           |

Deep Sky Object List (67/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|------------|---|--------------|
|         |          |          |       |              |             |      |         | NGC 2250 | OPNCL | MON  | 06 33.8       | -05 05        | 8.9   | 8.0 m       |             |             | IV 2 p     | Cl,pRi,IC,iF,*8,12...14                       | 79           |
|         |          |          |       | x            |             |      | x       | NGC 2251 | OPNCL | MON  | 06 34.6       | +08 22        | 7.3   | 10.0 m      |             |             | IV 2 p     | Cl,vL,E,Ri,IC                                 | 79           |
|         |          |          |       |              | x           |      |         | NGC 2252 | OPNCL | MON  | 06 34.7       | +05 22        | 7.7   | 20.0 m      |             |             | IV 2 p n   | Cl,vL,pRi,IC,st S                             | 79           |
|         |          |          |       |              | x           |      |         | NGC 2253 | OPNCL | CAM  | 06 43.7       | +65 12        | 13.1p | 1.4 m       | 1.1 m       | 135         | 1          | vF,* eS                                       | 10           |
|         |          |          |       |              | x           |      |         | NGC 2254 | OPNCL | MON  | 06 35.8       | +07 40        | 9.1   | 4.0 m       |             |             | I 2 p      | Cl,S,pC,iF,*11...13                           | 79           |
|         |          |          |       |              |             |      |         | NGC 2256 | GALXY | CAM  | 06 47.2       | +74 14        | 12.5  | 2.3 m       | 2 m         |             | SBO        | F,R,*9.5 3' sf                                | 10           |
|         |          |          |       |              |             |      |         | NGC 2258 | GALXY | CAM  | 06 47.8       | +74 29        | 11.9  | 2.3 m       | 1.5 m       | 150         | SO         | F,2* 10-11 f                                  | 10           |
|         |          |          |       |              | x           |      |         | NGC 2259 | OPNCL | MON  | 06 38.4       | +10 53        | 10.8  | 4.5 m       |             |             | II 2 p n   | Cl,cRi,eC,iF,st eS                            | 79           |
|         | C 46     | x        | !*    |              | x           | 33   | x       | NGC 2261 | BRTNB | MON  | 06 39.2       | +08 45        | 99.9  | 2 m         | 1 m         |             | E+R        | B,vmE 330 deg,N<br>com=*11                    | 79           |
|         |          |          |       |              |             |      |         | NGC 2263 | GALXY | CMA  | 06 38.5       | -24 51        | 12.1  | 2.7 m       | 1.6 m       | 143         | SBab Ring  | pF,IE,bet 2 vS*,pslbM                         | 103          |
|         |          |          | x     | x            |             |      | x       | NGC 2264 | CL+NB | MON  | 06 41.0       | +09 54        | 3.9   | 20.0 m      |             |             | III 3 m n: | eL neb,3 deg<br>diam,densest 12' sp 15<br>MON | 79           |
|         |          |          |       | x            |             |      | x       | NGC 2266 | OPNCL | GEM  | 06 43.3       | +26 58        | 9.5   | 7.0 m       |             |             | II 2 m     | Cl,pS,eC,Ri,st 11..15                         | 55           |

Deep Sky Object List (68/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2267  | GALXY | CMA  | 06 40.9       | -32 29        | 12.2 | 1.7 m       | 1.3 m       | 36          | SBO        | two neb close together | 103          |
|         |          |          |       |              |             |      |         | NGC 2268  | GALXY | CAM  | 07 14.3       | +84 23        | 11.5 | 3.3 m       | 2 m         | 63          | SBbc       | pF,pL,IE               | 1            |
|         |          |          |       |              | x           |      |         | NGC 2269  | OPNCL | MON  | 06 43.3       | +04 37        | 10   | 4.0 m       |             |             | II 2 p     | Cl,vmC,not Ri,st vS    | 79           |
|         |          |          |       |              |             |      |         | NGC 2271  | GALXY | CMA  | 06 42.9       | -23 29        | 12.2 | 2.1 m       | 1.4 m       | 71          | E-SO Bar   | pF,S,R,gbM,am st       | 103          |
|         |          |          |       |              |             |      |         | NGC 2272  | GALXY | CMA  | 06 42.7       | -27 28        | 11.7 | 2.4 m       | 1.6 m       | 123         | SO         | pF,pS,vIE,bM,r         | 103          |
|         |          |          |       |              |             |      |         | NGC 2273  | GALXY | LYN  | 06 50.1       | +60 51        | 11.7 | 3.2 m       | 2.4 m       | 50          | SBa        | F,S,iR,r?              | 31           |
|         |          |          |       |              |             |      |         | NGC 2273B | GALXY | LYN  | 06 46.5       | +60 20        | 12.5 | 2.7 m       | 1.5 m       | 55          | SBd        |                        | 31           |
|         |          |          |       |              | x           |      |         | NGC 2274  | GALXY | GEM  | 06 47.3       | +33 34        | 12.1 | 2.4 m       | 2.4 m       |             | Elliptical | F,S,bM                 | 55           |
|         |          |          | x     |              |             |      |         | NGC 2276  | GALXY | CEP  | 07 27.2       | +85 45        | 11.4 | 2.8 m       | 2.7 m       | 20          | SBc Ring   | pL,F,lbM               | 1            |
|         |          |          |       |              |             |      |         | NGC 2280  | GALXY | CMA  | 06 44.8       | -27 38        | 10.3 | 6.6 m       | 3.2 m       | 163         | Sc         | pF,pL,IE,gbM           | 103          |
|         |          |          | x     | x            |             |      | x       | NGC 2281  | OPNCL | AUR  | 06 48.3       | +41 05        | 5.4  | 15.0 m      |             |             | I 3 p      | Cl,pRi,vIC,st pL       | 31           |
|         |          |          |       |              | x           |      |         | NGC 2283  | GALXY | CMA  | 06 45.9       | -18 13        | 12.2 | 3.6 m       | 2.7 m       | 2           | SBc        | 3 or 4S* + neb         | 103          |
|         |          |          |       | x            |             |      |         | NGC 2286  | OPNCL | MON  | 06 47.7       | -03 09        | 7.5  | 15.0 m      |             |             | IV 3 m     | Cl,L,C,ab 100* 9...15  | 79           |

## Deep Sky Object List (69/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|----------------------------|--------------|
| M 41    |          |          | !     |              |             |      |         | NGC 2287 | OPNCL | CMA  | 06 46.0       | -20 45        | 4.5  | 38.0 m      |             |             | II 3 m  | Cl,vL,B,IC,st 8...         | 103          |
|         |          |          |       |              |             |      |         | NGC 2292 | GALXY | CMA  | 06 47.7       | -26 45        | 10.8 | 4 m         | 3.5 m       | 1           | SBO     | eF,R,gbM,P w 2293,am<br>st | 103          |
|         |          |          |       |              |             |      |         | NGC 2293 | GALXY | CMA  | 06 47.7       | -26 45        | 11.2 | 4 m         | 3.2 m       | 125         | SBO-a   | pB,R,gbM,P w 2292,am<br>st | 103          |
|         |          |          |       |              |             |      |         | NGC 2298 | GLOCL | PUP  | 06 49.0       | -36 00        | 9.4  | 6.8 m       |             |             | VI      | B,pL,iR,gbM,rr             | 103          |
|         |          |          | x     |              |             |      |         | NGC 2300 | GALXY | CEP  | 07 32.3       | +85 43        | 11   | 3.5 m       | 2.4 m       | 80          | E1      | pB,pL,IE,bM                | 1            |
|         |          |          |       | x            |             |      | x       | NGC 2301 | OPNCL | MON  | 06 51.8       | +00 28        | 6    | 12.0 m      |             |             | I 3 m   | Cl,Ri,L,iF,st L & S        | 79           |
|         |          |          |       |              | x           |      |         | NGC 2302 | OPNCL | MON  | 06 51.9       | -07 05        | 8.9  | 2.5 m       |             |             | II 2 p  | Cl,L,P,IC                  | 79           |
|         |          |          |       | x            |             |      |         | NGC 2304 | OPNCL | GEM  | 06 55.2       | +17 59        | 10   | 5.0 m       |             |             | II 1 p  | Cl,pL,Ri,mC,st vS          | 55           |
|         |          |          |       |              | x           |      |         | NGC 2309 | OPNCL | MON  | 06 56.1       | -07 10        | 10.5 | 3.0 m       |             |             | II 2 m  | Cl,pL,pRi,mC,st13          | 79           |
|         |          |          |       |              |             |      |         | NGC 2310 | GALXY | PUP  | 06 53.9       | -40 52        | 11.8 | 4.3 m       | 0.8 m       | 47          | SO      | pB,pL,vmE 45<br>deg,pslbM  | 127          |
|         |          |          |       | x            |             |      |         | NGC 2311 | OPNCL | MON  | 06 57.8       | -04 37        | 9.6  | 7.0 m       |             |             | III 2 p | Cl,IC,not Ri               | 79           |
|         |          |          |       |              |             |      |         | NGC 2314 | GALXY | CAM  | 07 10.5       | +75 20        | 12.2 | 1.7 m       | 1.4 m       | 25          | E1p     | vF,S,R                     | 10           |
|         |          |          |       |              | x           |      |         | NGC 2316 | BRTNB | MON  | 06 59.7       | -07 47        | 99.9 | 4.0 m       |             |             | R       | pF,S,R,r,S st inv          | 79           |

## Deep Sky Object List (70/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2320 | GALXY | LYN  | 07 05.7       | +50 35        | 11.9 | 1.4 m       | 0.8 m       | 140         | Elliptical | pB,S,iR,gbM,*8 sp     | 30           |
| M 50    |          |          | x     |              |             |      |         | NGC 2323 | OPNCL | MON  | 07 02.5       | -08 23        | 5.9  | 16 m        |             |             | II 3 m     | Cl,vL,Ri,pC           | 78           |
|         |          |          |       | x            |             |      |         | NGC 2324 | OPNCL | MON  | 07 04.1       | +01 03        | 8.4  | 8.0 m       |             |             | II 2 r     | Cl,L,Ri,cC,st 12...16 | 78           |
|         |          |          |       |              |             |      |         | NGC 2325 | GALXY | CMA  | 07 02.7       | -28 42        | 11.4 | 3.5 m       | 2.1 m       | 6           | E4         | pB,pL,IE,gbM          | 102          |
|         |          |          |       |              |             |      |         | NGC 2329 | GALXY | LYN  | 07 09.1       | +48 37        | 12.4 | 1.3 m       | 1.1 m       | 175         | SO         | vF,vS,stellar         | 30           |
|         |          |          |       |              | x           |      |         | NGC 2331 | OPNCL | GEM  | 07 07.0       | +27 16        | 8.5  | 18.0 m      |             |             | IV 1 p     | Cl,L,vIC,S Cl inv     | 54           |
|         |          |          |       | x            |             |      | x       | NGC 2335 | OPNCL | MON  | 07 06.8       | -10 02        | 7.2  | 12.0 m      |             |             | III 3 m n  | Cl,L,IC               | 78           |
|         |          |          |       |              |             |      |         | NGC 2336 | GALXY | CAM  | 07 27.1       | +80 11        | 10.4 | 6.8 m       | 3.7 m       | 178         | SBbc Ring  | pB,pL,R,2*11 nr       | 10           |
|         |          |          |       |              |             |      |         | NGC 2337 | GALXY | LYN  | 07 10.2       | +44 27        | 12.4 | 2.3 m       | 1.7 m       | 120         | lr         | eF,S,E                | 30           |
|         |          |          |       |              | x           |      |         | NGC 2339 | GALXY | GEM  | 07 08.3       | +18 47        | 11.8 | 2.7 m       | 2 m         | 175         | SBbc Ring  | pB,pL,R,glbM          | 54           |
|         |          |          |       |              |             |      |         | NGC 2340 | GALXY | LYN  | 07 11.2       | +50 10        | 11.7 | 1.8 m       | 1.2 m       | 80          | Elliptical | pF,S,R,glbM,r         | 30           |
|         |          |          |       | x            |             |      |         | NGC 2343 | OPNCL | MON  | 07 08.1       | -10 37        | 6.7  | 7.0 m       |             |             | III 3 p n  | Cl,cL,P,IC            | 78           |
|         |          |          |       |              |             |      |         | NGC 2344 | GALXY | LYN  | 07 12.5       | +47 10        | 12   | 1.7 m       | 1.7 m       |             | SBbc       | pB,pS,R,lbM           | 30           |



Deep Sky Object List (71/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2345 | OPNCL | CMA  | 07 08.3       | -13 12        | 7.7  | 12.0 m      |             |             | I 3 m   | Cl,pL,pRi,gbM,*10.14          | 102          |
|         |          |          | x     |              | x           |      |         | NGC 2346 | PLNNB | MON  | 07 09.4       | -00 48        | 12.5 | 60 s        | 50 s        |             | 3b(6)   | *10 att w S,vF,neb            | 78           |
|         |          |          |       |              | x           |      |         | NGC 2347 | GALXY | CAM  | 07 16.1       | +64 43        | 12.4 | 1.8 m       | 1.3 m       | 175         | Sb      | vF,S,R,lbM                    | 10           |
|         |          |          |       |              |             |      |         | NGC 2350 | GALXY | CMI  | 07 13.2       | +12 16        | 12.3 | 1.4 m       | 0.7 m       | 110         | Sa      | eF,eS,iR                      | 54           |
|         |          |          |       | x            |             |      |         | NGC 2353 | OPNCL | MON  | 07 14.5       | -10 16        | 7.1  | 20.0 m      |             |             | II 2 p  | Cl,L,IC,one vB*               | 78           |
|         |          |          |       | x            |             |      |         | NGC 2354 | OPNCL | CMA  | 07 14.3       | -25 42        | 6.5  | 20.0 m      |             |             | III 2 m | Cl,cRi,IC                     | 102          |
|         |          |          |       |              |             |      |         | NGC 2355 | OPNCL | GEM  | 07 17.0       | +13 45        | 9.7  | 9 m         |             |             | II 2 p  | Cl,pS,pRi,mC,*15..16          | 54           |
|         |          |          |       | x            |             |      | x       | NGC 2355 | OPNCL | GEM  | 07 17.0       | +13 45        | 9.7  | 9.0 m       |             |             | II 2 p  | Cl,pS,pRi,mC,*15..16          | 54           |
|         |          | x        | x     |              | x           | 34   | x       | NGC 2359 | BRTNB | CMA  | 07 18.5       | -13 14        | 99.9 | 10 m        | 5 m         |             | E       | !!,vF,vvL,viF                 | 102          |
|         | C 58     |          | x     | x            |             |      | x       | NGC 2360 | OPNCL | CMA  | 07 17.7       | -15 38        | 7.2  | 13.0 m      |             |             | II 2 m  | Cl,vL,Ri,pC,st9...12          | 102          |
|         | C 64     |          | x     | x            |             |      | x       | NGC 2362 | OPNCL | CMA  | 07 18.7       | -24 57        | 4.1  | 8.0 m       |             |             | I 3 p n | Cl,pL,Ri,(30 CMA)             | 102          |
|         |          |          |       |              |             |      |         | NGC 2365 | GALXY | GEM  | 07 22.4       | +22 05        | 12.4 | 2.4 m       | 1.3 m       | 170         | SBa     | vF,pS,R,psbM                  | 54           |
|         |          |          | x     |              | x           |      |         | NGC 2366 | GALXY | CAM  | 07 28.9       | +69 13        | 11.1 | 7.8 m       | 2.6 m       | 25          | Ir      | vF,pL,mbM,vS*inv,curved tails | 10           |

Deep Sky Object List (72/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|----------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 2367 | OPNCL | CMA  | 07 20.1       | -21 53         | 7.9  | 3.5 m       |             |             | IV 3 p  | Cl,S,P,IC            | 102          |
|         |          |          |       |              |             |      |         | NGC 2369 | GALXY | CAR  | 07 16.6       | -62 21         | 12.3 | 3.2 m       | 0.9 m       | 177         | SBa     | pB,pL,iE,glbM        | 142          |
|         |          |          |       | x            |             | 30   |         | NGC 2371 | PLNNB | GEM  | 07 25.6       | +29 29         | 13   | 74 s        | 54 s        |             | 3a+6    | B,S,R,bMN,p of Dneb  | 54           |
|         |          |          |       | x            |             | 30   |         | NGC 2372 | PLNNB | GEM  | 07 25.6       | +29 30         | 13   | 74 s        | 54 s        |             | 3a(4)   | pB,S,R,bMN,f of Dneb | 54           |
|         |          |          |       |              | x           |      |         | NGC 2374 | OPNCL | CMA  | 07 23.9       | -13 16         | 8    | 19.0 m      |             |             | II 3 p  | Cl,vL,pRi,IC,st L    | 102          |
|         |          |          |       |              |             |      |         | NGC 2380 | GALXY | CMA  | 07 23.9       | -27 32         | 11.2 | 2.1 m       | 2 m         |             | SBO     | pF,pS,R,vsmbM,am st  | 102          |
|         |          |          | x     |              |             |      |         | NGC 2383 | OPNCL | CMA  | 07 24.7       | -20 57         | 8.4  | 6.0 m       |             |             | I 3 m   | Cl,pS,pmC,st12       | 102          |
|         |          |          |       |              |             |      |         | NGC 2384 | OPNCL | CMA  | 07 25.2       | -21 01         | 7.4  | 2.5 m       |             |             | IV 3 p  | Cl,IC,bifid,**       | 102          |
|         | C 39     | x        | !     | x            |             | 31   | x       | NGC 2392 | PLNNB | GEM  | 07 29.2       | +20 55         | 8.6  | 47 s        | 43 s        |             | 3b(3b)  | B,S,R,*9M,*8 nf 100" | 54           |
|         |          |          |       | x            |             |      |         | NGC 2395 | OPNCL | GEM  | 07 27.2       | +13 37         | 8    | 12.0 m      |             |             | III 1 p | Cl,pRi,C             | 54           |
|         |          |          |       |              | x           |      |         | NGC 2396 | OPNCL | PUP  | 07 27.5       | -11 43         | 7.4  | 10.0 m      |             |             | III 3 p | Cl,vL,vIC            | 78           |
|         |          |          |       |              |             |      |         | NGC 2397 | GALXY | VOL  | 07 21.3       | -69 00         | 11.8 | 2.5 m       | 1.2 m       | 123         | Sb      | pB,cL,cE 117 deg,lbM | 142          |
|         | C 7      | x        | x     | x            |             | 37   | x       | NGC 2403 | GALXY | CAM  | 07 36.8       | +65 36         | 8.5  | 23.4 m      | 11.8 m      | 127         | SBc     | !! cB,eL,vmE,vgmbMN  | 10           |

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| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---|--------------|
|         |          |          |       |              | x           |      |         | NGC 2414 | OPNCL | PUP  | 07 33.2       | -15 27        | 7.9  | 4.0 m       |             |             | I 3 m      | Cl,P,IC,st9...                                | 102          |
|         |          |          |       |              | x           |      |         | NGC 2415 | GALXY | LYN  | 07 36.9       | +35 14        | 12.4 | 0.9 m       | 0.9 m       |             | Ir         | pB,cS,R,vgvIbM,r,almost circular              | 54           |
|         |          |          |       |              |             |      |         | NGC 2417 | GALXY | CAR  | 07 30.2       | -62 15        | 12   | 2.8 m       | 1.9 m       | 81          | Sbc        | vF,L,R,gbM,r                                  | 142          |
|         |          |          |       |              |             |      |         | NGC 2418 | GALXY | GEM  | 07 36.6       | +17 53        | 12.2 | 1.8 m       | 1.8 m       |             | Elliptical | vF,eS,bM                                      | 54           |
|         | C 25     |          | x     | x            |             |      | x       | NGC 2419 | GLOCL | LYN  | 07 38.1       | +38 53        | 10.4 | 6.2 m       |             |             | II         | pB,pL,IE<br>90deg,vgbM,*7-8<br>267deg,4' dist | 30           |
|         |          |          |       | x            |             |      | x       | NGC 2420 | OPNCL | GEM  | 07 38.4       | +21 34        | 8.3  | 10.0 m      |             |             | I 2 r      | Cl,cL,Ri,C,st 11...18                         | 54           |
|         |          |          | x     | x            |             |      | x       | NGC 2421 | OPNCL | PUP  | 07 36.2       | -20 37        | 8.3  | 10.0 m      |             |             | I 2 m      | Cl,L,cRi,*11...13                             | 102          |
| M 47    |          |          | S     | x            |             |      |         | NGC 2422 | OPNCL | PUP  | 07 36.6       | -14 29        | 4.4  | 30 m        |             |             | III 2 m    | Cl,B,vL,pRi,st L & S                          | 102          |
|         |          |          |       | x            |             |      | x       | NGC 2423 | OPNCL | PUP  | 07 37.1       | -13 52        | 6.7  | 19.0 m      |             |             | IV 2 m     | Cl,vL,Ri,pC,st vS                             | 102          |
|         |          |          |       |              |             |      |         | NGC 2427 | GALXY | PUP  | 07 36.5       | -47 38        | 11.5 | 4.9 m       | 2 m         | 122         | SBd        | eF,L,pmE,gmbM,2* inv                          | 126          |
|         |          |          |       |              | x           |      |         | NGC 2432 | OPNCL | PUP  | 07 40.9       | -19 05        | 10.2 | 8.0 m       |             |             | II 1 p     | Cl,pL,pC,E 0 deg,st L & S                     | 102          |
|         |          |          |       |              |             |      |         | NGC 2434 | GALXY | VOL  | 07 34.9       | -69 17        | 11.3 | 2.4 m       | 2.2 m       |             | E0         | pB,S,R,pmbM,3* 11 n                           | 142          |

## Deep Sky Object List (74/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------------|--------------|
| M 46    |          |          | !*    |              |             |      |         | NGC 2437 | OPNCL | PUP  | 07 41.8       | -14 49        | 6.1  | 27.0 m      |             |             | III 2 m   | !,Cl,vB,vRi,vL                | 102          |
|         |          | x        | *     | x            |             |      | x       | NGC 2438 | PLNNB | PUP  | 07 41.8       | -14 44        | 11   | 65 s        |             |             | 4(2)      | pB,pS,vIE,r,3s.75 d           | 102          |
|         |          |          |       |              |             |      |         | NGC 2439 | OPNCL | PUP  | 07 40.8       | -31 42        | 6.9  | 10.0 m      |             |             | II 3 m    | Cl,B,pRi,pL,IC,*<br>9,12...14 | 102          |
|         |          | x        |       | x            |             | 35   | x       | NGC 2440 | PLNNB | PUP  | 07 41.9       | -18 13        | 11.5 | 54 s        | 20 s        |             | 5(3)      | cB,not v well def             | 102          |
|         |          |          |       |              |             |      |         | NGC 2441 | GALXY | CAM  | 07 51.9       | +73 01        | 12.2 | 2 m         | 1.8 m       |             | SBb Ring  | vF,pS                         | 10           |
|         |          |          |       |              |             |      |         | NGC 2442 | GALXY | VOL  | 07 36.3       | -69 32        | 10.4 | 5.4 m       | 4.9 m       |             | SBbc      | Cl,vF,R,P w 43,D* inv M       | 142          |
|         |          |          |       |              |             |      |         | NGC 2443 | GALXY | VOL  | 07 36.5       | -69 31        | 11.2 | 5.4 m       | 4.9 m       |             | SBbc      | pL,vF,R,P w 42,D* inv<br>M    | 142          |
| M 93    |          |          | x     |              |             |      |         | NGC 2447 | OPNCL | PUP  | 07 44.5       | -23 51        | 6.2  | 22.0 m      |             |             | IV 1 p    | Cl,L,pRi,IC,st8...13          | 102          |
|         |          |          |       |              |             |      |         | NGC 2451 | OPNCL | PUP  | 07 45.3       | -37 58        | 2.8  | 50 m        |             |             | II 2 p    | Cl,vvL,vIC,one *4.5           | 126          |
|         |          |          |       |              |             |      |         | NGC 2453 | OPNCL | PUP  | 07 47.6       | -27 12        | 8.3  | 5.0 m       |             |             | I 2 p     | Cl,S,pRi,pC                   | 102          |
|         |          |          |       |              |             |      |         | NGC 2460 | GALXY | CAM  | 07 56.9       | +60 21        | 11.8 | 2.2 m       | 1.7 m       | 40          | Sab       | F,S,R,S* in centre            | 30           |
|         |          |          |       |              | x           |      | x       | NGC 2467 | CL+NB | PUP  | 07 52.5       | -26 26        | 7.1  | 15.0 m      |             |             | I 3 m n:b | pB,vL,R,er,*8m                | 102          |
|         | C 71     |          | x     |              |             |      | x       | NGC 2477 | OPNCL | PUP  | 07 52.2       | -38 32        | 5.8  | 27.0 m      |             |             | I 2 r :b  | !,Cl,B,Ri,L,IC,*12            | 126          |

## Deep Sky Object List (75/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|----------------------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 2479 | OPNCL | PUP  | 07 55.1       | -17 42         | 9.6  | 7.0 m       |             |             | III 1 m    | Cl,pL,pRi,pC,st S                | 102          |
|         |          |          |       | x            |             |      |         | NGC 2482 | OPNCL | PUP  | 07 55.2       | -24 15         | 7.3  | 12.0 m      |             |             | III 1 m    | Cl,L,cRi,vIC                     | 102          |
|         |          |          |       |              |             |      |         | NGC 2483 | OPNCL | PUP  | 07 55.6       | -27 53         | 7.6  | 10.0 m      |             |             |            | Cl,L,IC                          | 102          |
|         |          |          |       |              |             |      |         | NGC 2485 | GALXY | CMI  | 07 56.8       | +07 29         | 12.2 | 1.6 m       | 1.6 m       |             | Sa         | neb *12                          | 78           |
|         |          |          |       |              |             |      |         | NGC 2487 | GALXY | GEM  | 07 58.3       | +25 09         | 12.5 | 2.7 m       | 2.1 m       | 115         | SBb        | vF,S,gbM                         | 54           |
|         |          |          |       |              |             |      |         | NGC 2488 | GALXY | LYN  | 08 01.8       | +56 33         | 12.4 | 1.4 m       | 0.8 m       | 100         | E-SO       | vF,vS,R,glbM                     | 29           |
|         |          |          |       | x            |             |      |         | NGC 2489 | OPNCL | PUP  | 07 56.3       | -30 04         | 7.9  | 8.0 m       |             |             | II 2 m     | Cl,pL,cRi,pC,* 11..13            | 102          |
|         |          |          |       |              | x           |      |         | NGC 2493 | GALXY | LYN  | 08 00.4       | +39 50         | 12   | 1.9 m       | 1.9 m       |             | SBO        | cB,S,R,sbM                       | 29           |
|         |          |          |       |              | x           |      |         | NGC 2500 | GALXY | LYN  | 08 01.9       | +50 44         | 11.6 | 2.9 m       | 2.7 m       |             | SBcd       | F,L,R,vgbM,r,am st               | 29           |
|         | C 54     |          |       | x            |             |      | x       | NGC 2506 | OPNCL | MON  | 08 00.0       | -10 46         | 7.6  | 7.0 m       |             |             | I 2 r      | Cl,pL,vRi,C,*11...20             | 77           |
|         |          |          |       |              |             |      |         | NGC 2507 | GALXY | CNC  | 08 01.6       | +15 43         | 12.2 | 2.5 m       | 2.5 m       |             | Sa         | pB,pL,iR,vgbM,er,*<br>232deg,80" | 53           |
|         |          |          |       | x            |             |      |         | NGC 2509 | OPNCL | PUP  | 08 00.8       | -19 03         | 9.3  | 8.0 m       |             |             | II 1 p     | Cl,B,pRi,IC,st S                 | 101          |
|         |          |          |       |              |             |      |         | NGC 2513 | GALXY | CNC  | 08 02.4       | +09 25         | 11.6 | 2.5 m       | 2 m         | 170         | Elliptical | F,S,R,psmbM,r                    | 77           |

## Deep Sky Object List (76/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------------|--------------|
|         | C 96     |          | x     |              |             |      |         | NGC 2516 | OPNCL | CAR  | 07 58.1       | -60 45        | 3.8  | 21 m        |             |             | I 3 r     | Cl,vB,vL,pRi,*7...13          | 126          |
|         |          |          |       |              |             |      |         | NGC 2517 | GALXY | PUP  | 08 02.8       | -12 19        | 11.8 | 1.4 m       | 1 m         | 70          | SBO       | F,vS,R,bet 3* 13-14           | 101          |
|         |          |          | x     |              |             |      |         | NGC 2523 | GALXY | CAM  | 08 15.0       | +73 35        | 11.9 | 2.9 m       | 1.8 m       | 57          | SBab      | pB,pL,IE,lbM,* nr,Theta shape | 9            |
|         |          |          |       |              | x           |      |         | NGC 2525 | GALXY | PUP  | 08 05.6       | -11 26        | 11.6 | 3 m         | 2 m         | 75          | SBc/P     | cF,pL,R,vglbM,am st           | 77           |
|         |          |          |       | x            |             |      | x       | NGC 2527 | OPNCL | PUP  | 08 05.0       | -28 09        | 6.5  | 22.0 m      |             |             | III 1 p   | Cl,vL,pRi,IC,*10..15          | 101          |
|         |          |          |       |              |             |      |         | NGC 2532 | GALXY | LYN  | 08 10.3       | +33 57        | 12.4 | 2.1 m       | 1.7 m       | 10          | SBc       | pB,pL,R,vglbM,r,2* nf         | 53           |
|         |          |          |       |              |             |      |         | NGC 2533 | OPNCL | PUP  | 08 07.1       | -29 53        | 7.6  | 3.5 m       |             |             | III 1 p   | Cl,pL,Ri,C,*9,13..14          | 101          |
|         |          |          |       |              |             |      |         | NGC 2537 | GALXY | LYN  | 08 13.2       | +45 59        | 11.7 | 3.1 m       | 2.7 m       | 0           | SBp       | pB,pL,R,rrr,st 20             | 29           |
|         |          | x        |       | x            |             | 36   | x       | NGC 2539 | OPNCL | PUP  | 08 10.6       | -12 49        | 6.5  | 22.0 m      |             |             | II 1 m    | Cl,vL,Ri,IC,*11...13          | 101          |
|         |          |          |       |              | x           |      |         | NGC 2541 | GALXY | LYN  | 08 14.7       | +49 04        | 11.8 | 6.3 m       | 2.9 m       | 165         | SBc       | F,L,E,vgbM                    | 29           |
|         |          |          |       |              |             |      |         | NGC 2543 | GALXY | LYN  | 08 13.0       | +36 15        | 11.9 | 2.3 m       | 1.2 m       | 45          | SBb       | F,pL,iR,vgbM,D* nr            | 53           |
|         |          |          |       |              |             |      |         | NGC 2545 | GALXY | CNC  | 08 14.2       | +21 21        | 12.4 | 2.2 m       | 1.2 m       | 170         | SBab Ring | F,S,IE45,*8 np 4'             | 53           |
|         |          |          | x     |              |             |      |         | NGC 2546 | OPNCL | PUP  | 08 12.3       | -37 36        | 6.3  | 41.0 m      |             |             | III 2 m   | Cl,B,L,IC,IE,*9...12          | 125          |

Deep Sky Object List (77/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|-------|-------------|-------------|-------------|----------|---|--------------|
|         |          |          | x     |              |             |      |         | NGC 2547 | OPNCL | VEL  | 08 10.2       | -49 12         | 4.7   | 20.0 m      |             |             | II 2 p n | Cl,B,L,IC,st7...16                        | 125          |
| M 48    |          |          | x     | x            |             |      |         | NGC 2548 | OPNCL | HYA  | 08 13.7       | -05 45         | 5.8   | 54 m        |             |             | I 2 m    | Cl,vL,pRi,pmC,* 9..13                     | 77           |
|         |          |          |       |              |             |      |         | NGC 2549 | GALXY | LYN  | 08 19.0       | +57 48         | 11.2  | 3.8 m       | 1.2 m       | 177         | SO       | pB,S,mE0,psmbM                            | 29           |
|         |          |          |       |              |             |      |         | NGC 2551 | GALXY | CAM  | 08 24.8       | +73 25         | 12.1  | 1.6 m       | 1 m         | 55          | Sa       | vF,S,F*in centre                          | 9            |
|         |          |          |       |              |             |      |         | NGC 2552 | GALXY | LYN  | 08 19.3       | +50 00         | 12.1  | 3.6 m       | 2.1 m       | 45          | lr       | eF,cL,IE45                                | 29           |
|         |          |          |       |              |             |      |         | NGC 2554 | GALXY | CNC  | 08 17.9       | +23 28         | 12    | 3.2 m       | 2.4 m       | 170         | Sa       | F,S,R,mbM,r                               | 53           |
|         |          |          |       |              |             |      |         | NGC 2555 | GALXY | HYA  | 08 17.9       | +00 45         | 12.2  | 1.9 m       | 1.4 m       | 115         | SBab     | vF,cS,iF,3 S * inv?                       | 77           |
|         |          |          |       |              |             |      |         | NGC 2559 | GALXY | PUP  | 08 17.1       | -27 27         | 10.9  | 3.7 m       | 1.7 m       | 6           | SBbc     | F,pL,gmbM,am 60*                          | 101          |
|         |          |          |       |              |             |      |         | NGC 2563 | GALXY | CNC  | 08 20.6       | +21 04         | 12.2  | 2 m         | 1.7 m       | 80          | SO       | cF,S,R,bM                                 | 53           |
|         |          |          |       |              |             |      |         | NGC 2566 | GALXY | PUP  | 08 18.8       | -25 30         | 11    | 3.4 m       | 2.3 m       | 110         | SBab     | vF,cL,eR,vS neg or neb<br>*11 w *12 close | 101          |
|         |          |          |       | x            |             |      | x       | NGC 2567 | OPNCL | PUP  | 08 18.5       | -30 39         | 7.4   | 10.0 m      |             |             | III 2 m  | Cl,pL,pRi,IC,iR,*11.                      | 101          |
|         |          |          |       |              |             |      |         | NGC 2568 | OPNCL | PUP  | 08 18.3       | -37 06         | 10.0p |             |             |             |          | vF,pL,F* inv                              | 125          |
|         |          |          |       | x            |             |      |         | NGC 2571 | OPNCL | PUP  | 08 18.9       | -29 45         | 7     | 13.0 m      |             |             | IV 1 p   | Cl,vL,cRi,IC,st9                          | 101          |

Deep Sky Object List (78/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2577 | GALXY | CNC  | 08 22.7       | +22 33        | 12.4 | 1.8 m       | 1.1 m       | 105         | SO         | F,S,iF,r             | 53           |
|         |          |          |       |              |             |      |         | NGC 2580 | OPNCL | PUP  | 08 21.5       | -30 19        | 9.7  | 8.0 m       |             |             | II 2 m     | Cl,cL,pRi,pC,R,st12  | 101          |
|         |          |          |       |              |             |      |         | NGC 2587 | OPNCL | PUP  | 08 23.4       | -29 31        | 9.2  | 9.0 m       |             |             | II 1 p     | Cl,pmCM,iF,st9...13  | 101          |
|         |          |          |       |              |             |      |         | NGC 2591 | GALXY | CAM  | 08 37.4       | +78 02        | 12.3 | 3 m         | 0.6 m       | 32          | Sc         | F,S,E,lbM            | 9            |
|         |          |          |       |              |             |      |         | NGC 2592 | GALXY | CNC  | 08 27.1       | +25 58        | 12.3 | 1.7 m       | 1.4 m       | 45          | Elliptical | pF,S,R,vsbM *        | 53           |
|         |          |          |       |              |             |      |         | NGC 2595 | GALXY | CNC  | 08 27.7       | +21 29        | 12.3 | 3.1 m       | 2.7 m       | 45          | SBc        | vF,pL,iF,R,D* sp 2'  | 53           |
|         |          |          |       |              |             |      |         | NGC 2599 | GALXY | CNC  | 08 32.2       | +22 34        | 12.2 | 1.9 m       | 1.7 m       |             | Sa         | vF,S,stellar         | 53           |
|         |          |          |       |              |             |      |         | NGC 2601 | GALXY | VOL  | 08 25.5       | -68 07        | 12.5 | 1.6 m       | 1.1 m       | 120         | SBa        | F,pS,R,gbM           | 141          |
|         |          |          |       |              |             |      |         | NGC 2608 | GALXY | CNC  | 08 35.3       | +28 28        | 12.3 | 2.2 m       | 1.4 m       | 60          | SBb Ring   | F,viE,mbM,r          | 53           |
|         |          |          |       |              | x           |      |         | NGC 2610 | PLNNB | HYA  | 08 33.4       | -16 09        | 13   | 50 s        | 47 s        |             | 4(2)       | F,S,att to *13,*7 nf | 101          |
|         |          |          | x     | x            |             |      |         | NGC 2613 | GALXY | PYX  | 08 33.4       | -22 58        | 10.3 | 7.1 m       | 1.6 m       | 113         | Sb         | cB,L,vmE 110 deg     | 101          |
|         |          |          |       |              |             |      |         | NGC 2615 | GALXY | HYA  | 08 34.6       | -02 33        | 12.5 | 1.9 m       | 1.1 m       | 40          | SBb        | F,pS,IE,lbM,F* inv r | 77           |
|         |          |          |       |              |             |      |         | NGC 2616 | GALXY | HYA  | 08 35.6       | -01 51        | 12.5 | 1.5 m       | 1.3 m       | 145         | SO         | vF,S,R,* nr nf       | 77           |



## Deep Sky Object List (79/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|--------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2618 | GALXY | HYA  | 08 35.9       | +00 42         | 12.1 | 2.5 m       | 2 m         | 140         | Sab     | eF,pL,iF                       | 77           |
|         |          |          |       |              |             |      |         | NGC 2619 | GALXY | CNC  | 08 37.5       | +28 42         | 12.4 | 2.3 m       | 1.4 m       | 35          | SBbc    | F,pS,R,bM,r                    | 53           |
|         |          |          | x     |              |             |      |         | NGC 2623 | GALXY | CNC  | 08 38.4       | +25 45         | 13.4 | 2.4 m       | 0.7 m       | 60          | Sb      | vF,vS,R,bM,r                   | 53           |
|         |          |          | x     | x            |             |      | x       | NGC 2627 | OPNCL | PYX  | 08 37.2       | -29 57         | 8.4  | 11.0 m      |             |             | III 2 m | Cl,cL,pRi,pC,*11..13           | 101          |
|         |          |          |       |              |             |      |         | NGC 2629 | GALXY | UMA  | 08 47.3       | +72 59         | 12.3 | 2.3 m       | 1.8 m       | 105         | SO      | vF,S,stellar                   | 9            |
| M 44    |          |          | !!    |              |             |      |         | NGC 2632 | OPNCL | CNC  | 08 40.0       | +19 40         | 3.1  | 95 m        |             |             | II 2 m  | !!Praesepe                     | 53           |
|         |          |          |       |              |             |      |         | NGC 2633 | GALXY | CAM  | 08 48.1       | +74 06         | 12.2 | 2.3 m       | 1.5 m       | 175         | SBb/P   | F,S,IE                         | 9            |
|         |          |          |       |              |             |      |         | NGC 2634 | GALXY | CAM  | 08 48.4       | +73 58         | 12   | 2 m         | 2 m         |             | E1      | F,S,IE                         | 9            |
|         |          |          |       |              | x           |      |         | NGC 2639 | GALXY | UMA  | 08 43.6       | +50 12         | 11.6 | 1.8 m       | 1.4 m       | 140         | Sa      | cB,S,E130,psmbM                | 29           |
|         |          |          |       |              |             |      |         | NGC 2644 | GALXY | HYA  | 08 41.5       | +04 59         | 12.3 | 2.1 m       | 0.8 m       | 14          | Sc      | vF,pL,irr oval,sev S<br>points | 77           |
|         |          |          |       |              |             |      |         | NGC 2646 | GALXY | CAM  | 08 50.4       | +73 28         | 12.1 | 1.5 m       | 1.5 m       |             | SBO     | vF,S,2 F* 2'.5 sf              | 9            |
|         |          |          |       |              |             |      |         | NGC 2648 | GALXY | CNC  | 08 42.7       | +14 17         | 11.8 | 3.2 m       | 1.1 m       | 148         | Sa      | F,S,vIE135,psbM                | 53           |
|         |          |          |       |              |             |      |         | NGC 2649 | GALXY | LYN  | 08 44.1       | +34 43         | 12.3 | 1.5 m       | 1.4 m       |             | SBbc    | F,L,R,r                        | 53           |

## Deep Sky Object List (80/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2654 | GALXY | UMA  | 08 49.2       | +60 13        | 11.8 | 4.2 m       | 0.8 m       | 63          | SBab       | pF,S,F* in M,F* close<br>sp   | 29           |
|         |          | x        |       | x            |             | 38   |         | NGC 2655 | GALXY | CAM  | 08 55.6       | +78 13        | 10.1 | 4.9 m       | 4.1 m       | 85          | SBO-a      | vB,cL,IE 90,gsymbM,diff       | 9            |
|         |          |          |       |              |             |      |         | NGC 2658 | OPNCL | PYX  | 08 43.5       | -32 39        | 9.2  | 10 m        |             |             | I 2 r :b   | Cl,pS,iRi,IC,iF,st12-13       | 101          |
|         |          |          | x     |              |             |      |         | NGC 2659 | OPNCL | VEL  | 08 42.6       | -45 00        | 8.6  | 14 m        |             |             | III 3 m    | Cl,L,Ri,pmE,st11..14          | 125          |
|         |          |          |       |              |             |      |         | NGC 2660 | OPNCL | VEL  | 08 42.6       | -47 12        | 8.8  | 4.0 m       |             |             | I 3 m      | Cl,pS,mC,iR,gbM,*13...<br>15  | 125          |
|         |          |          |       |              |             |      |         | NGC 2663 | GALXY | PYX  | 08 45.1       | -33 48        | 10.9 | 3.5 m       | 2.4 m       | 110         | Elliptical | pF,pS,IE                      | 101          |
|         |          |          |       |              |             |      |         | NGC 2665 | GALXY | HYA  | 08 46.0       | -19 18        | 12.2 | 2 m         | 1.5 m       | 144         | SBa        | F,S,R,gbMN                    | 101          |
|         |          |          |       |              |             |      |         | NGC 2669 | OPNCL | VEL  | 08 46.4       | -52 57        | 6.1  | 20 m        |             |             | II 3 p     | Cl,L,P,IC,*10...13            | 125          |
|         |          |          |       |              |             |      |         | NGC 2670 | OPNCL | VEL  | 08 45.5       | -48 48        | 7.8  | 6 m         |             |             | II 2 p     | Cl,pL,P,IC,st13...            | 125          |
|         |          |          |       |              |             |      |         | NGC 2672 | GALXY | CNC  | 08 49.4       | +19 04        | 11.7 | 2.5 m       | 2.4 m       |             | E1         | pB,pL,iR,mbM                  | 53           |
|         |          |          | x     | x            |             |      |         | NGC 2681 | GALXY | UMA  | 08 53.5       | +51 19        | 10.3 | 3.7 m       | 3.7 m       |             | SBO-a      | vB,vL,vg,vsmbM *10            | 29           |
| M 67    |          |          | *     |              |             |      |         | NGC 2682 | OPNCL | CNC  | 08 50.8       | +11 49        | 6.9  | 30 m        |             |             | II 2 m     | !<br>Cl,vB,vL,eRi,IC,*10...15 | 77           |
|         |          | x        | x     | x            |             | 39   | x       | NGC 2683 | GALXY | LYN  | 08 52.7       | +33 25        | 9.8  | 8.8 m       | 2.5 m       | 44          | Sb         | vB,vL,vmE39,gmbM              | 53           |

## Deep Sky Object List (81/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|----------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2685 | GALXY | UMA  | 08 55.6       | +58 44         | 11.3 | 4.6 m       | 2.1 m       | 38          | SBO-a    | pF,R,F* in centre     | 29           |
|         |          |          |       |              |             |      |         | NGC 2693 | GALXY | UMA  | 08 57.0       | +51 21         | 11.9 | 3 m         | 2.1 m       | 160         | Ep       | pB,IE,psmbM           | 29           |
|         |          |          |       |              |             |      |         | NGC 2695 | GALXY | HYA  | 08 54.5       | -03 04         | 11.9 | 1.7 m       | 1.2 m       | 175         | SO       | pF,cS,R               | 77           |
|         |          |          |       |              |             |      |         | NGC 2697 | GALXY | HYA  | 08 55.0       | -02 59         | 12.3 | 1.8 m       | 1.1 m       | 120         | Sa       | vF,vS,R               | 77           |
|         |          |          |       |              |             |      |         | NGC 2701 | GALXY | UMA  | 08 59.1       | +53 46         | 12.3 | 2.2 m       | 1.6 m       | 23          | SBc      | pB,fan-shaped,*11 att | 29           |
|         |          |          |       |              |             |      |         | NGC 2708 | GALXY | HYA  | 08 56.1       | -03 22         | 12   | 2.7 m       | 1.4 m       | 20          | Sb       | pF,pS,E,2* nr         | 77           |
|         |          |          |       |              |             |      |         | NGC 2712 | GALXY | LYN  | 08 59.5       | +44 55         | 12.1 | 2.8 m       | 1.5 m       | 178         | SBb      | pB,L,E,vgbM *18       | 29           |
|         |          |          |       |              |             |      |         | NGC 2713 | GALXY | HYA  | 08 57.3       | +02 55         | 11.8 | 3.3 m       | 1.3 m       | 107         | SBab     | pB,iR,mbM             | 77           |
|         |          |          |       |              |             |      |         | NGC 2715 | GALXY | CAM  | 09 08.1       | +78 05         | 11.2 | 4.8 m       | 1.6 m       | 22          | SBc      | pB,L,E                | 9            |
|         |          |          |       |              |             |      |         | NGC 2716 | GALXY | HYA  | 08 57.6       | +03 05         | 11.8 | 1.6 m       | 1.2 m       | 30          | SBO-a    | F,S,R,mbM             | 77           |
|         |          |          |       |              |             |      |         | NGC 2717 | GALXY | PYX  | 08 57.0       | -24 40         | 12.3 | 2.1 m       | 1.5 m       | 10          | E-SO Bar | pF,S,R,vgpmbM         | 101          |
|         |          |          |       |              |             |      |         | NGC 2718 | GALXY | HYA  | 08 58.8       | +06 18         | 11.8 | 2.1 m       | 2.1 m       |             | SBab     | F,pL,E,am 3*          | 77           |
|         |          |          |       |              |             |      |         | NGC 2721 | GALXY | HYA  | 08 58.9       | -04 54         | 12.5 | 2.4 m       | 1.6 m       | 160         | Sbc Ring | cF,pL,R,vgbM          | 77           |

Deep Sky Object List (82/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2726  | GALXY | UMA  | 09 04.9       | +59 56        | 12.5 | 1.6 m       | 0.5 m       | 87          | Sa    | cF,pS,iR,er                        | 28           |
|         |          |          |       |              |             |      |         | NGC 2732  | GALXY | CAM  | 09 13.4       | +79 11        | 11.9 | 2.1 m       | 0.9 m       | 67          | SO    | pB,S,E 45 deg,*13<br>nf,lenticular | 9            |
|         |          |          |       | x            |             |      |         | NGC 2742  | GALXY | UMA  | 09 07.6       | +60 29        | 11.4 | 3 m         | 1.5 m       | 87          | Sc    | cB,cL,E 90 deg,er                  | 28           |
|         |          |          |       |              |             |      |         | NGC 2748  | GALXY | CAM  | 09 13.7       | +76 29        | 11.7 | 3.1 m       | 1.1 m       | 38          | Sbc   | pB,pL,E,vglbM                      | 9            |
|         |          |          |       |              |             |      |         | NGC 2749  | GALXY | CNC  | 09 05.4       | +18 19        | 11.8 | 1.8 m       | 1.7 m       |             | E2    | pF,S,R,bMN=*15                     | 52           |
|         |          |          |       |              |             |      |         | NGC 2750  | GALXY | CNC  | 09 05.8       | +25 26        | 11.9 | 2.2 m       | 1.9 m       | 80          | Sc    | vF,cL,R,bMN,2 c * p                | 52           |
|         |          |          |       |              | x           |      |         | NGC 2756  | GALXY | UMA  | 09 09.0       | +53 51        | 12.4 | 1.7 m       | 1.2 m       | 0           | Sb    | pB,pS,E,vgbM                       | 28           |
|         |          |          |       |              |             |      |         | NGC 2763  | GALXY | HYA  | 09 06.8       | -15 30        | 12   | 2.3 m       | 2 m         | 120         | SBc   | vF,pS,bM,S* 30" n                  | 100          |
|         |          |          |       |              | x           |      |         | NGC 2765  | GALXY | HYA  | 09 07.6       | +03 24        | 12.1 | 2.1 m       | 1.1 m       | 107         | SO    | vF,pL,E,gbM,er                     | 76           |
|         |          |          |       | x            |             |      |         | NGC 2768  | GALXY | UMA  | 09 11.6       | +60 02        | 9.9  | 8.2 m       | 5.3 m       | 95          | E5    | cB,cL,IE,psbM,LBN                  | 28           |
|         |          |          |       |              |             |      |         | NGC 2770A | GALXY | LYN  | 09 09.6       | +33 07        | 12.2 | 3.7 m       | 1.1 m       | 148         | Sc    | F,L,mE150,r,2* n                   | 52           |
|         | C 48     |          |       | x            |             |      |         | NGC 2775  | GALXY | CNC  | 09 10.3       | +07 02        | 10.1 | 4.5 m       | 3.6 m       | 155         | Sab   | cB,cL,R,vgvsmbM,r                  | 76           |
|         |          |          |       |              |             |      |         | NGC 2776  | GALXY | LYN  | 09 12.2       | +44 57        | 11.6 | 2.8 m       | 2.5 m       |             | SBc   | pB,L,R,vgbM,r                      | 28           |

## Deep Sky Object List (83/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2778 | GALXY | LYN  | 09 12.4       | +35 02        | 12.4 | 1.4 m       | 1 m         | 40          | E          | pB,S,R,psmbM                          | 52           |
|         |          |          |       |              | x           |      |         | NGC 2781 | GALXY | HYA  | 09 11.5       | -14 49        | 11.6 | 3.1 m       | 1.8 m       | 75          | SBO-a Ring | B,S,vIE,psmbM                         | 100          |
|         |          |          | x     | x            |             |      |         | NGC 2782 | GALXY | LYN  | 09 14.1       | +40 07        | 11.6 | 3.7 m       | 2.4 m       | 40          | SBa        | cB,R,mbMBN                            | 28           |
|         |          |          |       |              | x           |      |         | NGC 2784 | GALXY | HYA  | 09 12.3       | -24 10        | 10.2 | 5.7 m       | 2.5 m       | 73          | SO         | B,L,mE 64 deg,gmbM                    | 100          |
|         |          |          |       | x            |             |      |         | NGC 2787 | GALXY | UMA  | 09 19.3       | +69 12        | 10.8 | 3.1 m       | 1.8 m       | 117         | SBO-a      | B,pL,IE 90<br>deg,mbM,r,vS* sf inv    | 9            |
|         |          |          |       |              |             |      |         | NGC 2788 | GALXY | CAR  | 09 09.1       | -67 56        | 12.3 | 1.8 m       | 0.4 m       | 114         | Sab        | vF,vS,mE 105 deg                      | 141          |
|         |          |          |       |              |             |      |         | NGC 2789 | GALXY | CNC  | 09 15.0       | +29 44        | 12.2 | 2 m         | 2 m         |             | SBO-a      | pF,S,R,gbM                            | 52           |
|         |          |          |       |              |             |      |         | NGC 2798 | GALXY | LYN  | 09 17.4       | +42 00        | 12.3 | 2.8 m       | 0.9 m       | 160         | SBap       | pB,S,stellar                          | 28           |
|         |          |          |       |              | x           |      |         | NGC 2805 | GALXY | UMA  | 09 20.3       | +64 06        | 11   | 6.3 m       | 4.5 m       | 125         | SBcd Ring  | vF,L,R,mbM                            | 9            |
|         |          |          |       |              |             |      |         | NGC 2808 | GLOCL | CAR  | 09 12.0       | -64 52        | 6.3  | 13.8 m      |             |             | I          | ! vL,eRi,vgeCM 45 sec<br>d,st 13...15 | 141          |
|         |          |          |       | x            |             |      |         | NGC 2811 | GALXY | HYA  | 09 16.2       | -16 19        | 11.3 | 2.2 m       | 0.7 m       | 20          | SBa        | pB,pS,E,psmbM                         | 100          |
|         |          |          |       |              |             |      |         | NGC 2815 | GALXY | HYA  | 09 16.3       | -23 38        | 11.9 | 3.5 m       | 1.1 m       | 10          | SBb        | F,S,IE,gbM                            | 100          |
|         |          |          |       |              |             |      |         | NGC 2816 | GALXY | UMA  | 09 07.6       | +60 29        | 12.1 | 3 m         | 1.5 m       | 87          | Sc         | F,pmE                                 | 28           |

## Deep Sky Object List (84/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 2818  | OPNCL | PYX  | 09 16.0       | -36 38        | 8.2  | 0.6 m       |             |             | II 2 m n   |                               | 100          |
|         |          |          |       |              |             |      |         | NGC 2818A | PLNNB | PYX  | 09 16.0       | -36 36        | 11.9 | 36 s        | 36 s        |             | 3b         | !pB,pL,R,vglbM,in L Cl        | 100          |
|         |          |          |       |              |             |      |         | NGC 2822  | GALXY | CAR  | 09 13.8       | -69 39        | 10.7 | 2.8 m       | 2 m         | 90          | E          | pF,vS,R,glbM                  | 141          |
|         |          |          |       |              |             |      |         | NGC 2832  | GALXY | LYN  | 09 19.8       | +33 45        | 11.9 | 3 m         | 2 m         | 160         | E4         | cB,cL,E,3rd of 3              | 52           |
|         |          |          |       |              |             |      |         | NGC 2835  | GALXY | HYA  | 09 17.9       | -22 21        | 10.5 | 6.3 m       | 4.2 m       | 8           | SBc        | F,*10 inv f,bet 2 st 9        | 100          |
|         |          |          |       |              |             |      |         | NGC 2836  | GALXY | CAR  | 09 13.8       | -69 20        | 11.8 | 2.7 m       | 2 m         | 118         | Sbc        | F,pS,R,glbM                   | 141          |
|         |          | x        | x     | x            |             | 40   | x       | NGC 2841  | GALXY | UMA  | 09 22.0       | +50 59        | 9.2  | 7.7 m       | 3.6 m       | 147         | Sb         | vB,L,vmE151,vsmbM = *10       | 28           |
|         |          |          |       |              |             |      |         | NGC 2845  | GALXY | VEL  | 09 18.6       | -38 01        | 11.7 | 2 m         | 1 m         | 67          | Sa         | vF,S,R,*12 att sf             | 124          |
|         |          |          |       |              |             |      |         | NGC 2848  | GALXY | HYA  | 09 20.2       | -16 32        | 11.8 | 2.5 m       | 1.5 m       | 30          | SBc        | vF,cL,E 45 deg,glbM,*11 nf 3' | 100          |
|         |          |          |       |              | x           |      |         | NGC 2855  | GALXY | HYA  | 09 21.5       | -11 55        | 11.6 | 2.4 m       | 1.9 m       | 130         | Sa         | pB,pL,R,gmbMN                 | 76           |
|         |          |          |       |              |             |      |         | NGC 2857  | GALXY | UMA  | 09 24.6       | +49 21        | 12.3 | 2.2 m       | 2 m         |             | Sc         | vF,pL,4 st p                  | 28           |
|         |          |          |       | x            |             |      |         | NGC 2859  | GALXY | LMI  | 09 24.3       | +34 31        | 10.9 | 4 m         | 3.6 m       | 85          | SBO-a Ring | vB,pL,R,smbM                  | 52           |
|         |          |          |       |              |             |      |         | NGC 2865  | GALXY | HYA  | 09 23.5       | -23 10        | 11.7 | 2.5 m       | 1.8 m       | 160         | E4         | B,S,R,gbM                     | 100          |

Deep Sky Object List (85/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|----------|---|--------------|
|         |          |          |       |              |             |      |         | NGC 2866 | OPNCL | VEL  | 09 22.1       | -51 06         | 10   | 1.5 m       |             |             |          | Cl,IC   | 124          |
|         | C 90     |          |       |              |             |      |         | NGC 2867 | PLNNB | CAR  | 09 21.4       | -58 19         | 9.7  | 12.0 s      |             |             | 4        | !! =*8,vS,R,*15 np<br>(90deg),*nr 13"           | 124          |
|         |          |          |       |              |             |      |         | NGC 2872 | GALXY | LEO  | 09 25.7       | +11 26         | 11.9 | 1.8 m       | 1.7 m       | 22          | E2       | pF,pS,R,bM                                      | 76           |
|         |          |          |       |              |             |      |         | NGC 2874 | GALXY | LEO  | 09 25.8       | +11 26         | 12.5 | 2.2 m       | 0.7 m       | 43          | SBbc     | vF,pL,mE  | 76           |
|         |          |          |       |              | x           |      |         | NGC 2880 | GALXY | UMA  | 09 29.6       | +62 29         | 11.5 | 2.4 m       | 1.5 m       | 140         | E3       | B,cS,R,mbM,am st,in<br>field of 23 Ursa Majoris | 9            |
|         |          |          |       |              | x           |      |         | NGC 2889 | GALXY | HYA  | 09 27.2       | -11 39         | 11.7 | 2.3 m       | 1.9 m       | 65          | SBc Ring | pF,pS,vIE,vglbM,r                               | 76           |
|         |          |          |       |              |             |      |         | NGC 2894 | GALXY | LEO  | 09 29.5       | +07 43         | 12.4 | 1.9 m       | 1 m         | 27          | Sa       | vF,E,er,2 or 3* inv                             | 76           |
|         |          |          |       |              |             |      |         | NGC 2899 | PLNNB | VEL  | 09 27.1       | -56 06         | 12.2 | 2.0 m       |             |             |          | F,pL,R,gmbM,am 80st                             | 124          |
|         |          |          |       |              |             |      |         | NGC 2902 | GALXY | HYA  | 09 30.9       | -14 44         | 12.2 | 1.6 m       | 1.3 m       | 35          | SO       | vF,vS,stellar                                   | 100          |
|         |          | x        | *     | x            |             | 54   | x       | NGC 2903 | GALXY | LEO  | 09 32.2       | +21 30         | 9    | 12 m        | 5.6 m       | 17          | SBbc     | cB,vL,E,gmbM,r,sp of 2                          | 52           |
|         |          |          |       |              |             |      |         | NGC 2904 | GALXY | ANT  | 09 30.3       | -30 23         | 12.4 | 1.5 m       | 1 m         | 90          | E-SO Bar | F,S,IE,psbM                                     | 100          |
|         |          |          |       |              |             |      |         | NGC 2907 | GALXY | HYA  | 09 31.6       | -16 44         | 11.6 | 2 m         | 1.2 m       | 115         | Sab      | pF,S,IE,mb sf                                   | 100          |
|         |          |          | x     |              |             |      |         | NGC 2910 | OPNCL | VEL  | 09 30.5       | -52 55         | 7.2  | 5.0 m       |             |             | I 2 p    | Cl,cL,pRi,pC,*10..14                            | 124          |

Deep Sky Object List (86/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2911 | GALXY | LEO  | 09 33.8       | +10 09        | 11.5 | 4 m         | 3.1 m       | 140         | SO         | F,pL,R,gbM,p of 2             | 76           |
|         |          |          |       |              |             |      |         | NGC 2916 | GALXY | LEO  | 09 35.0       | +21 42        | 12.1 | 2.5 m       | 1.7 m       | 20          | Sb         | F,S,vIE                       | 52           |
|         |          |          |       |              |             |      |         | NGC 2921 | GALXY | HYA  | 09 34.5       | -20 55        | 12   | 2.9 m       | 1.1 m       | 83          | SB Ring    | vF,pS,IE,vglbM,f of 2         | 100          |
|         |          |          |       |              |             |      |         | NGC 2924 | GALXY | HYA  | 09 35.2       | -16 24        | 12   | 1.3 m       | 1.2 m       | 150         | E0         | pB,S,R                        | 100          |
|         |          |          | x     |              |             |      |         | NGC 2925 | OPNCL | VEL  | 09 33.2       | -53 24        | 8.3  | 12.0 m      |             |             | III 1 p    | Cl,pRi,pC,D* taken            | 124          |
|         |          |          |       |              |             |      |         | NGC 2935 | GALXY | HYA  | 09 36.7       | -21 08        | 11.4 | 3.7 m       | 2.8 m       | 175         | SBab       | pB,pS,vIE,gmbM                | 100          |
|         |          |          |       |              |             |      |         | NGC 2939 | GALXY | LEO  | 09 38.1       | +09 31        | 12.4 | 2.5 m       | 0.9 m       | 154         | Sbc        | vF,S,vIE,bM,triangle st<br>nf | 76           |
|         |          |          |       |              |             |      |         | NGC 2943 | GALXY | LEO  | 09 38.5       | +17 02        | 12.4 | 2.2 m       | 1.2 m       | 130         | Elliptical | F,S,iR,bM,f of 2              | 52           |
|         |          |          |       |              |             |      |         | NGC 2945 | GALXY | HYA  | 09 37.7       | -22 02        | 12.2 | 1.6 m       | 1.2 m       | 168         | E-SO       | F,S,R,glbM,2 or 3 S st<br>nr  | 100          |
|         |          |          |       | x            |             |      |         | NGC 2950 | GALXY | UMA  | 09 42.6       | +58 51        | 10.9 | 2.7 m       | 1.8 m       | 145         | SBO Ring   | B,pS,R,vgvmbMN                | 28           |
|         |          |          |       |              |             |      |         | NGC 2954 | GALXY | LEO  | 09 40.4       | +14 55        | 12.4 | 1.7 m       | 1.1 m       | 160         | Elliptical | vF,S,R,n of 2                 | 52           |
|         |          |          |       |              |             |      |         | NGC 2960 | GALXY | HYA  | 09 40.6       | +03 35        | 12.4 | 1.8 m       | 1.2 m       | 40          | Sa         | vF,R,gbM                      | 76           |
|         |          |          |       |              |             |      |         | NGC 2962 | GALXY | HYA  | 09 40.9       | +05 10        | 11.9 | 2.6 m       | 2 m         | 3           | SBO-a Ring | F,vS,vIE,psbM                 | 76           |



Deep Sky Object List (87/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 2964 | GALXY | LEO  | 09 42.9       | +31 51        | 11.3 | 3 m         | 1.7 m       | 97          | SBbc Ring | B,vL,IE,vgbM,sp of 3          | 52           |
|         |          |          |       |              |             |      |         | NGC 2967 | GALXY | SEX  | 09 42.1       | +00 20        | 11.6 | 2.8 m       | 2.8 m       |             | Sc        | pF,pL,R,vglbM                 | 76           |
|         |          |          |       |              |             |      |         | NGC 2968 | GALXY | LEO  | 09 43.2       | +31 56        | 11.7 | 2.1 m       | 1.6 m       | 45          | Sa        | pB,pL,IE,vglbM,2nd of 3       | 52           |
|         |          |          |       | x            |             |      |         | NGC 2974 | GALXY | SEX  | 09 42.6       | -03 42        | 10.9 | 3.4 m       | 2.1 m       | 42          | Sa        | B,cS,iR,bM,*9 sp 43"          | 76           |
|         |          |          | x     | x            |             |      | x       | NGC 2976 | GALXY | UMA  | 09 47.2       | +67 55        | 10.2 | 6.2 m       | 3.1 m       | 143         | Scp       | B,vL,mE152,st inv             | 9            |
|         |          |          |       |              |             |      |         | NGC 2977 | GALXY | DRA  | 09 43.8       | +74 52        | 12.5 | 1.8 m       | 0.8 m       | 145         | Sb        | cB,pL,iF                      | 9            |
|         |          |          |       |              |             |      |         | NGC 2983 | GALXY | HYA  | 09 43.7       | -20 29        | 11.8 | 2.5 m       | 1.4 m       | 95          | SBO-a     | F,pS,R,bM,r,stellar           | 100          |
|         |          |          |       | x            |             |      |         | NGC 2985 | GALXY | UMA  | 09 50.4       | +72 17        | 10.4 | 4.6 m       | 3.4 m       | 175         | Sb        | vB,cL,R,psmbM,* inv f         | 9            |
|         |          |          |       |              | x           |      |         | NGC 2986 | GALXY | HYA  | 09 44.3       | -21 17        | 10.8 | 3.5 m       | 3 m         | 105         | E1        | pB,pS,iR,mbM                  | 100          |
|         |          |          |       |              |             |      |         | NGC 2992 | GALXY | HYA  | 09 45.7       | -14 20        | 12.2 | 3.7 m       | 0.9 m       | 15          | Sa        | cF,S,R,bM,stellar,p of 2      | 100          |
|         |          |          |       |              |             |      |         | NGC 2996 | GALXY | HYA  | 09 46.5       | -21 34        | 12.5 | 1.5 m       | 1.3 m       | 115         | Sa        | vF,S,*9 f 1'                  | 100          |
|         |          |          | x     |              |             |      | x       | NGC 2997 | GALXY | ANT  | 09 45.6       | -31 11        | 9.4  | 9.2 m       | 6.6 m       | 110         | SBc       | ! vF,vL,vgvsbMN<br>4",19s.5 d | 100          |
|         |          |          |       |              |             |      |         | NGC 2998 | GALXY | UMA  | 09 48.7       | +44 05        | 12.5 | 2.7 m       | 1.2 m       | 53          | SBc       | pF,pL,E51,bMN,r               | 28           |

Deep Sky Object List (88/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|-----------|----------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 2999 | OPNCL | VEL  | 09 40.2       | -50 19         | 9    | 5 m         |             |             |           | Cl,S,IRi,iF,st12..15       | 124          |
|         |          |          |       |              |             |      |         | NGC 3001 | GALXY | ANT  | 09 46.3       | -30 26         | 11.9 | 2.9 m       | 2 m         | 6           | SBbc Ring | F,S,R,*12 att nf           | 100          |
|         |          |          |       |              |             | 51   |         | NGC 3003 | GALXY | LMI  | 09 48.6       | +33 25         | 11.9 | 5.7 m       | 1.4 m       | 79          | SBbc      | !,cB,L,vmE90               | 52           |
|         |          |          |       |              |             |      |         | NGC 3020 | GALXY | LEO  | 09 50.1       | +12 49         | 11.9 | 3 m         | 1.6 m       | 105         | SBc       | eF,pS,IE 0,r               | 52           |
|         |          |          |       |              |             |      |         | NGC 3021 | GALXY | LMI  | 09 51.0       | +33 33         | 12.1 | 1.5 m       | 0.9 m       | 110         | Sbc       | pB,pS,vIE,mbM,*10 sp       | 52           |
|         |          |          |       |              |             |      |         | NGC 3027 | GALXY | UMA  | 09 55.7       | +72 12         | 11.8 | 4.2 m       | 1.8 m       | 130         | SBcd      | vF,vL,IE,r                 | 9            |
| M 81    |          |          | !!*   |              |             |      |         | NGC 3031 | GALXY | UMA  | 09 55.6       | +69 04         | 6.9  | 24.9 m      | 11.5 m      | 157         | Sb        | ! eB,eL,E<br>156,gsvmbM,BN | 9            |
|         |          |          |       |              |             |      |         | NGC 3032 | GALXY | LEO  | 09 52.1       | +29 14         | 12.5 | 2.4 m       | 2.3 m       | 95          | SBO Ring  | F,S,sbM *12,bet 2 B st     | 52           |
|         |          |          |       |              |             |      |         | NGC 3033 | OPNCL | VEL  | 09 48.7       | -56 25         | 8.8  | 12 m        |             |             | II 3 p    | Cl,pL,pRi,iF,*11..12       | 124          |
| M 82    |          |          | !!*   | x            |             |      |         | NGC 3034 | GALXY | UMA  | 09 55.9       | +69 41         | 8.4  | 10.5 m      | 5.1 m       | 65          | Sd        | vB,vL,vmE(ray)             | 9            |
|         |          |          |       |              |             |      |         | NGC 3038 | GALXY | ANT  | 09 51.3       | -32 45         | 11.6 | 2.5 m       | 1.4 m       | 130         | Sb        | pB,pS,R                    | 100          |
|         |          |          |       |              |             |      |         | NGC 3041 | GALXY | LEO  | 09 53.1       | +16 41         | 11.5 | 3.7 m       | 2.4 m       | 95          | SBc       | F,L,R,vglbM,rr,2 B st sp   | 52           |
|         |          |          |       |              |             |      |         | NGC 3044 | GALXY | SEX  | 09 53.7       | +01 35         | 11.9 | 4.7 m       | 0.7 m       | 13          | SBc       | vF,vL,vmE 122              | 76           |

Deep Sky Object List (89/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3049 | GALXY | LEO  | 09 54.8       | +09 16        | 12.1 | 2.2 m       | 1.5 m       | 25          | SBab Ring  | vF,vS,F * vnr              | 76           |
|         |          |          |       |              |             |      |         | NGC 3051 | GALXY | ANT  | 09 54.0       | -27 17        | 11.8 | 2.1 m       | 1.9 m       | 20          | E-SO Bar   | pF,S,R,gbM,nf of 2         | 100          |
|         |          |          |       |              |             |      |         | NGC 3052 | GALXY | HYA  | 09 54.5       | -18 38        | 12.2 | 2.1 m       | 1.3 m       | 102         | SBc Ring   | F,pL,R,glbM,nf of 2        | 100          |
|         |          |          |       |              |             |      |         | NGC 3054 | GALXY | HYA  | 09 54.5       | -25 42        | 11.8 | 3.8 m       | 2.4 m       | 118         | SBb        | pB,L,irr oblong            | 100          |
|         |          |          |       |              |             |      |         | NGC 3055 | GALXY | SEX  | 09 55.3       | +04 16        | 12.1 | 2.1 m       | 1.3 m       | 63          | SBc        | F,pL,vIE,vgbM,rr,*7 f 92   | 76           |
|         |          |          |       |              |             |      |         | NGC 3056 | GALXY | ANT  | 09 54.5       | -28 18        | 11.7 | 2.1 m       | 1.3 m       | 16          | SBO-a      | pB,S,R,vgmbM,*11 att<br>S  | 100          |
|         |          |          |       |              |             |      |         | NGC 3059 | GALXY | CAR  | 09 50.1       | -73 55        | 11   | 3.8 m       | 3.6 m       |             | SBbc       | F,L,iR,glbM,S* inv         | 141          |
|         |          |          |       |              | x           |      |         | NGC 3065 | GALXY | UMA  | 10 01.9       | +72 10        | 12.5 | 1.8 m       | 1.8 m       |             | SO         | pF,vS,R,bM,*11 nr          | 8            |
|         |          |          |       |              | x           |      |         | NGC 3067 | GALXY | LEO  | 09 58.4       | +32 22        | 12.1 | 2.4 m       | 0.9 m       | 105         | SBab       | pB,pL,E 106,gbM,*9 4'<br>E | 52           |
|         |          |          |       |              |             |      |         | NGC 3070 | GALXY | LEO  | 09 58.1       | +10 22        | 12.3 | 1.5 m       | 1.5 m       |             | Elliptical | pB,pS,R,gmbMN,am 3<br>st   | 76           |
|         |          |          |       |              | x           |      |         | NGC 3073 | GALXY | UMA  | 10 00.9       | +55 37        | 13.4 | 1.2 m       | 1.1 m       |             | SBO        | vF,S,vglbM                 | 27           |
|         |          | x        | x     | x            |             |      | x       | NGC 3077 | GALXY | UMA  | 10 03.3       | +68 44        | 9.9  | 5.2 m       | 4.7 m       | 45          | Sd         | cB,cL,mbM,R w ray          | 8            |
|         |          |          |       |              | x           |      |         | NGC 3078 | GALXY | HYA  | 09 58.4       | -26 56        | 11.1 | 2.7 m       | 2.3 m       | 177         | E3         | pB,S,R,mbM                 | 100          |

Deep Sky Object List (90/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|----------------------------|--------------|
|         |          | x        |       | x            |             | 41   | x       | NGC 3079 | GALXY | UMA  | 10 02.0       | +55 41         | 10.9 | 8.1 m       | 1.3 m       | 165         | SBc        | vB,L,mE 135,long<br>streak | 27           |
|         |          |          |       |              |             |      |         | NGC 3081 | GALXY | HYA  | 09 59.5       | -22 50         | 12   | 2.2 m       | 1.8 m       | 158         | SBO-a Ring | vF,cS,lbM,tri S st np      | 100          |
|         |          |          |       |              |             |      |         | NGC 3082 | GALXY | ANT  | 09 58.9       | -30 21         | 12.5 | 1.8 m       | 0.7 m       | 26          | E-SO       | vF,S,R,D* att              | 100          |
|         |          |          |       |              |             |      |         | NGC 3084 | GALXY | ANT  | 09 59.1       | -27 08         | 12.3 | 1.7 m       | 1.2 m       | 2           | SBab Ring  | vF,S,R,*13 att sf          | 100          |
|         |          |          |       |              |             |      |         | NGC 3087 | GALXY | ANT  | 09 59.1       | -34 14         | 11.6 | 2.5 m       | 2.2 m       |             | E0         | pB,S,R,pmbM,bet 2 st       | 100          |
|         |          |          |       |              |             |      |         | NGC 3089 | GALXY | ANT  | 09 59.6       | -28 20         | 12.4 | 1.8 m       | 1 m         | 139         | SBb Ring   | pF,pS,R,vS st inv          | 100          |
|         |          |          |       |              |             |      |         | NGC 3091 | GALXY | HYA  | 10 00.2       | -19 38         | 11.1 | 3 m         | 1.9 m       | 149         | E2         | pB,pS,iR,bM,p of 2         | 99           |
|         |          |          |       |              |             |      |         | NGC 3094 | GALXY | LEO  | 10 01.4       | +15 46         | 12.3 | 2 m         | 1.4 m       | 75          | SBa        | F,bM,*9 30" sf             | 51           |
|         |          |          |       |              |             |      |         | NGC 3095 | GALXY | ANT  | 10 00.1       | -31 33         | 11.7 | 3.6 m       | 2 m         | 126         | SBc        | F,L,E,vgvlbM               | 99           |
|         |          |          |       |              |             |      |         | NGC 3098 | GALXY | LEO  | 10 02.3       | +24 43         | 12   | 2.2 m       | 0.6 m       | 90          | Sa         | pB,S,E 85,psbMN            | 51           |
|         |          |          |       |              |             |      |         | NGC 3100 | GALXY | ANT  | 10 00.7       | -31 40         | 11.1 | 3.2 m       | 1.7 m       | 154         | SBO        | pB,pS,R,gpmbM              | 99           |
|         |          |          |       |              |             |      |         | NGC 3105 | OPNCL | VEL  | 10 00.7       | -54 47         | 9.7  | 2.0 m       |             |             | I 3 p      | Cl,C,IE,st 13...16         | 123          |
|         |          |          |       |              |             |      |         | NGC 3106 | GALXY | LMI  | 10 04.1       | +31 11         | 12.4 | 1.8 m       | 1.8 m       |             | SO Ring    | F,S,R,sbM                  | 51           |

Deep Sky Object List (91/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|-------------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 3107  | GALXY | LEO  | 10 04.4       | +13 37         | 13.4 | 0.7 m       | 0.6 m       | 140         | Sbc        | pF,pL,iR,*8 148,112"                | 51           |
|         |          |          |       |              |             |      |         | NGC 3108  | GALXY | ANT  | 10 02.5       | -31 41         | 11.8 | 2.5 m       | 1.8 m       | 110         | Sa         | F,S,R,glbM                          | 99           |
|         |          |          | x     |              |             |      |         | NGC 3109  | GALXY | HYA  | 10 03.1       | -26 10         | 9.9  | 19.7 m      | 3.4 m       | 93          | lr         | cF,vL,vmE 82,lbM                    | 99           |
|         |          |          | x     |              |             |      |         | NGC 3114  | OPNCL | CAR  | 10 02.5       | -60 08         | 4.2  | 35.0 m      |             |             | ll 3 r     | Cl,eL,IC,B,*9...14                  | 123          |
|         | C 53     | x        | x     | x            |             | 49   | x       | NGC 3115  | GALXY | SEX  | 10 05.2       | -07 43         | 8.9  | 7.3 m       | 3.4 m       | 43          | E6         | vB,L,vmE<br>46,vgsmbMEN             | 75           |
|         |          |          |       |              |             |      |         | NGC 3124  | GALXY | HYA  | 10 06.7       | -19 13         | 12.1 | 2.9 m       | 2.5 m       | 165         | SBbc       | F,pL,R,lbM,D* s                     | 99           |
|         | C 74     |          | x     |              |             |      | x       | NGC 3132  | PLNNB | VEL  | 10 07.0       | -40 26         | 8.2  | 84 s        | 53 s        |             | 4(2)       | !! Planetary,vB,vL,IE<br>*9m        | 123          |
|         |          |          |       |              |             |      |         | NGC 3136  | GALXY | CAR  | 10 05.8       | -67 23         | 10.7 | 3.3 m       | 2.4 m       | 30          | E4         | pB,pS,R,gbM,*13n                    | 140          |
|         |          |          |       |              |             |      |         | NGC 3136B | GALXY | CAR  | 10 10.2       | -67 00         | 11.7 | 1.4 m       | 0.8 m       | 30          | Elliptical |                                     | 140          |
|         |          |          |       |              |             |      |         | NGC 3137  | GALXY | ANT  | 10 09.1       | -29 04         | 11.5 | 6.2 m       | 2.2 m       | 1           | SBc        | vF,S,IE                             | 99           |
|         |          |          | x     |              | x           |      |         | NGC 3145  | GALXY | HYA  | 10 10.2       | -12 26         | 11.7 | 3 m         | 1.6 m       | 20          | SBbc       | F,pL,mE,vgsIbM,lambd<br>a Hya np 8' | 99           |
|         |          |          | x     | x            |             |      |         | NGC 3147  | GALXY | DRA  | 10 16.9       | +73 24         | 10.6 | 4.3 m       | 3.7 m       | 155         | Sbc        | vB,L,R,vgsvmbM                      | 8            |
|         |          |          |       |              | x           |      |         | NGC 3156  | GALXY | SEX  | 10 12.7       | +03 08         | 12.3 | 1.9 m       | 1.2 m       | 47          | SO         | F,cS,R,psbM,*9-10 sf 2'             | 75           |

Deep Sky Object List (92/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|--|--------------|
|         |          |          |       |              | x           |      |         | NGC 3158 | GALXY | LMI  | 10 13.8       | +38 46        | 11.9 | 2.3 m       | 2.2 m       |             | E2        | cB,cS,R,psbM,r                         | 27           |
|         |          |          |       |              | x           |      |         | NGC 3162 | GALXY | LEO  | 10 13.5       | +22 44        | 11.6 | 3.1 m       | 2.7 m       | 30          | SBbc Ring | pF,cL,R,vglbM,r,S* inv                 | 51           |
|         |          |          | x     | x            |             |      |         | NGC 3166 | GALXY | SEX  | 10 13.8       | +03 26        | 10.4 | 4.8 m       | 1.9 m       | 87          | SBO-a     | B,pS,R,psmbM,2nd of 3                  | 75           |
|         |          |          | x     | x            |             |      |         | NGC 3169 | GALXY | SEX  | 10 14.2       | +03 28        | 10.2 | 4.2 m       | 2.9 m       | 45          | Sa        | B,pL,vIE,pgmbM,*11,78<br>,80",3rd of 3 | 75           |
|         |          |          |       |              |             |      |         | NGC 3175 | GALXY | ANT  | 10 14.7       | -28 52        | 11.2 | 5.1 m       | 1.3 m       | 56          | SBab      | cB,L,mE 51,vglbM                       | 99           |
|         |          |          |       |              | x           |      |         | NGC 3177 | GALXY | LEO  | 10 16.6       | +21 07        | 12.4 | 1.5 m       | 1.2 m       | 135         | Sbc       | cF,S,R,psbM                            | 51           |
|         |          |          |       |              |             |      |         | NGC 3182 | GALXY | UMA  | 10 19.6       | +58 12        | 12.1 | 2.1 m       | 1.7 m       | 155         | Sa        | cB,cL,iR,vgbM                          | 27           |
|         |          |          |       |              |             |      |         | NGC 3183 | GALXY | DRA  | 10 21.8       | +74 11        | 11.9 | 2.3 m       | 1.4 m       | 170         | SBbc      | F,pL,E,lbM                             | 8            |
|         |          | x        | x     | x            |             | 42   | x       | NGC 3184 | GALXY | UMA  | 10 18.3       | +41 25        | 9.8  | 7.6 m       | 7.4 m       | 135         | SBc       | pB,vL,R,vgbM                           | 27           |
|         |          |          | x     |              |             |      |         | NGC 3185 | GALXY | LEO  | 10 17.6       | +21 41        | 12.2 | 2.1 m       | 1.4 m       | 130         | SBbc      | pF,pL,gmbM                             | 51           |
|         |          |          | x     |              |             |      |         | NGC 3187 | GALXY | LEO  | 10 17.8       | +21 52        | 13.4 | 2.9 m       | 1.2 m       | 115         | SBc/P     | vF,E                                   | 51           |
|         |          |          | x     | x            |             |      | x       | NGC 3190 | GALXY | LEO  | 10 18.1       | +21 50        | 11.1 | 4 m         | 1.5 m       | 125         | Sa        | B,pS,E,psbMN                           | 51           |
|         |          |          | x     | x            |             |      |         | NGC 3193 | GALXY | LEO  | 10 18.4       | +21 54        | 10.9 | 2.9 m       | 2.8 m       |             | E0        | B,S,vIE,pslbM,*9.5,354,<br>80"         | 51           |

Deep Sky Object List (93/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         | C109     |          |       |              |             |      |         | NGC 3195 | PLNNB | CHA  | 10 09.4       | -80 52        | 11.5 | 40 s        | 30 s        |             | 3          | ! pB,S,IE,3 S * nr     | 140          |
|         |          |          | x     | x            |             |      | x       | NGC 3198 | GALXY | UMA  | 10 19.9       | +45 33        | 10.3 | 8.1 m       | 3 m         | 35          | SBc Ring   | pB,vL,mE 45,vgbM       | 27           |
|         |          |          |       |              |             |      |         | NGC 3200 | GALXY | HYA  | 10 18.6       | -17 59        | 12   | 4.2 m       | 1.3 m       | 169         | SBbc       | pB,E 160,bMN           | 99           |
|         | C 79     |          | x     |              |             |      | x       | NGC 3201 | GLOCL | VEL  | 10 17.6       | -46 25        | 6.8  | 18.2 m      |             |             | X          | vL,iR,ICM,st 13...16   | 123          |
|         |          |          |       |              |             |      |         | NGC 3203 | GALXY | HYA  | 10 19.6       | -26 42        | 12.1 | 2.8 m       | 0.6 m       | 58          | Sa         | pB,S,cE,gbM            | 99           |
|         |          |          |       |              |             |      |         | NGC 3206 | GALXY | UMA  | 10 21.8       | +56 56        | 11.9 | 2.9 m       | 1.9 m       | 0           | SBc        | pB,cL,E,vglbM          | 27           |
|         |          |          |       |              |             |      |         | NGC 3211 | PLNNB | CAR  | 10 17.8       | -62 40        | 11.8 | 12 s        |             |             | 2b         | plan = *10,R,am 150 st | 140          |
|         |          |          |       |              |             |      |         | NGC 3223 | GALXY | ANT  | 10 21.6       | -34 16        | 11   | 4.1 m       | 2.7 m       | 135         | Sb         | pB,vL,vIE,pslbMN       | 99           |
|         |          |          |       |              |             |      |         | NGC 3224 | GALXY | ANT  | 10 21.7       | -34 42        | 12   | 1.9 m       | 1.5 m       | 133         | Elliptical | vF,pS,R,vgmbM          | 99           |
|         |          |          |       |              | x           |      |         | NGC 3225 | GALXY | UMA  | 10 25.2       | +58 09        | 12.6 | 2 m         | 1 m         | 155         | Sc         | cF,pL,IE,vgbM          | 27           |
|         |          |          |       | x            |             |      |         | NGC 3226 | GALXY | LEO  | 10 23.4       | +19 54        | 11.4 | 2.5 m       | 2.2 m       | 15          | Elliptical | pB,cL,R,D              | 51           |
|         |          |          |       | x            |             |      |         | NGC 3227 | GALXY | LEO  | 10 23.5       | +19 52        | 10.3 | 6.6 m       | 5 m         | 155         | SBa        | pB,cL,R,D              | 51           |
|         |          |          | x     |              |             |      |         | NGC 3228 | OPNCL | VEL  | 10 21.4       | -51 43        | 6    | 5 m         |             |             | I 1 p      | Cl,9 L and a few S st  | 123          |

Deep Sky Object List (94/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3233  | GALXY | HYA  | 10 22.0       | -22 16        | 12.5 | 1.8 m       | 0.9 m       | 140         | SBO-a Ring | eF,pL,iF,stell N       | 99           |
|         |          |          |       |              |             |      |         | NGC 3239  | GALXY | LEO  | 10 25.1       | +17 10        | 11.3 | 4.5 m       | 2.4 m       | 80          | Ir Bar     | vF,*9 inv nr M         | 51           |
|         |          |          |       |              |             |      |         | NGC 3241  | GALXY | ANT  | 10 24.3       | -32 29        | 12.2 | 2.4 m       | 1.6 m       | 123         | SBab       | F,pmE,glbM,*11 np      | 99           |
|         | C 59     | x        | x     | x            |             | 50   | x       | NGC 3242  | PLNNB | HYA  | 10 24.8       | -18 39        | 8.6  | 40 s        | 35 s        |             | 4(3b)      | ! vB,IE 147,45" d,blue | 99           |
|         |          |          |       |              |             |      |         | NGC 3244  | GALXY | ANT  | 10 25.5       | -39 50        | 12.3 | 2.1 m       | 1.5 m       | 170         | Sc         | vF,*11 n 90"           | 123          |
|         |          |          |       | x            |             |      |         | NGC 3245  | GALXY | LMI  | 10 27.3       | +28 30        | 10.8 | 3.5 m       | 2.4 m       | 177         | SO         | vB,pL,E 0,smbMEN       | 51           |
|         |          |          |       |              |             |      |         | NGC 3247  | OPNCL | CAR  | 10 25.9       | -57 56        | 7.6  | 7.0 m       |             |             | II 2 p n   | st inv in neb          | 123          |
|         |          |          |       |              |             |      |         | NGC 3248  | GALXY | LEO  | 10 27.8       | +22 51        | 12.4 | 2.5 m       | 1.1 m       | 135         | SO         | pB,S,R,psbM            | 51           |
|         |          |          |       |              |             |      |         | NGC 3250  | GALXY | ANT  | 10 26.5       | -39 57        | 11.1 | 2.7 m       | 2 m         | 148         | Elliptical | pB,pL,R,vgpsbM,*13,45  | 123          |
|         |          |          |       |              |             |      |         | NGC 3250E | GALXY | ANT  | 10 29.0       | -40 05        | 12.5 | 2.1 m       | 1.4 m       | 142         | SBc        |                        | 123          |
|         |          |          |       |              | x           |      |         | NGC 3254  | GALXY | LMI  | 10 29.3       | +29 30        | 11.7 | 4.8 m       | 1.5 m       | 46          | Sbc        | cB,L,mE 45,psmbMN      | 51           |
|         |          |          | x     |              |             |      |         | NGC 3256  | GALXY | VEL  | 10 27.9       | -43 54        | 11.5 | 4.5 m       | 2.3 m       | 100         | Sb         | cB,S,R,gmbM            | 123          |
|         |          |          |       |              |             |      |         | NGC 3258  | GALXY | ANT  | 10 28.9       | -35 36        | 11.5 | 3.3 m       | 2.7 m       | 75          | Elliptical | cF,S,R,pslbM,2nd of 4  | 99           |



Deep Sky Object List (95/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3259 | GALXY | UMA  | 10 32.6       | +65 02        | 12.1 | 2.2 m       | 1.1 m       | 20          | SBbc       | F,S,R,gbM              | 8            |
|         |          |          |       |              |             |      |         | NGC 3261 | GALXY | VEL  | 10 29.0       | -44 39        | 11.2 | 3.5 m       | 2.8 m       | 85          | SBbc       | F,S,R,am st            | 123          |
|         |          |          |       |              |             |      |         | NGC 3263 | GALXY | VEL  | 10 29.2       | -44 07        | 11.9 | 6.2 m       | 1.4 m       | 97          | SBc        | F,S,mE 280,psbM        | 123          |
|         |          |          |       |              |             |      |         | NGC 3264 | GALXY | UMA  | 10 32.3       | +56 05        | 12   | 2.9 m       | 1.2 m       | 177         | SB         | eF,bet 2 S st          | 27           |
|         |          |          |       |              |             |      |         | NGC 3266 | GALXY | UMA  | 10 33.3       | +64 45        | 12.4 | 1.4 m       | 1.2 m       | 105         | SBO        | cF,vS,R,psmbM *        | 8            |
|         |          |          |       |              |             |      |         | NGC 3267 | GALXY | ANT  | 10 29.8       | -35 19        | 12.5 | 1.7 m       | 1 m         | 148         | SBO        | eF,vS,R,1st of 4       | 99           |
|         |          |          |       |              |             |      |         | NGC 3268 | GALXY | ANT  | 10 30.0       | -35 20        | 11.4 | 4 m         | 2.8 m       | 71          | Elliptical | F,S,R,2nd of 4         | 99           |
|         |          |          |       |              |             |      |         | NGC 3269 | GALXY | ANT  | 10 30.0       | -35 13        | 12.2 | 2.4 m       | 1.1 m       | 8           | SBO-a Ring | F,S,R,bM,3rd of 4      | 99           |
|         |          |          |       |              |             |      |         | NGC 3271 | GALXY | ANT  | 10 30.4       | -35 22        | 11.8 | 2.8 m       | 1.4 m       | 106         | SBO        | pF,S,E,pmbM,4th of 4   | 99           |
|         |          |          |       |              |             |      |         | NGC 3273 | GALXY | ANT  | 10 30.5       | -35 37        | 12.5 | 1.6 m       | 0.7 m       | 97          | SBO        | vF,vS,R,pslbM,4th of 4 | 99           |
|         |          |          |       |              | x           |      |         | NGC 3274 | GALXY | LEO  | 10 32.3       | +27 40        | 12.8 | 2 m         | 1.1 m       | 100         | SBcd       | F,pL,R,glbM,D* f       | 51           |
|         |          |          |       |              |             |      |         | NGC 3275 | GALXY | ANT  | 10 30.9       | -36 44        | 11.8 | 2.8 m       | 2.1 m       |             | SBab       | F,L,vIE,pslbM          | 99           |
|         |          |          |       | x            |             |      |         | NGC 3277 | GALXY | LMI  | 10 32.9       | +28 31        | 11.7 | 2.1 m       | 1.8 m       |             | Sab        | cB,cS,R,pgmbM          | 51           |

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| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3278 | GALXY | ANT  | 10 31.6       | -39 57        | 12.3 | 1.3 m       | 0.9 m       | 62          | Sc         | F,S,R,D* nf               | 123          |
|         |          |          |       |              |             |      |         | NGC 3281 | GALXY | ANT  | 10 31.9       | -34 51        | 11.7 | 3.2 m       | 1.6 m       | 140         | Sab Ring   | eF,pL,E,glbM              | 99           |
|         |          |          |       |              |             |      |         | NGC 3285 | GALXY | HYA  | 10 33.6       | -27 27        | 12   | 2.7 m       | 1.5 m       | 108         | SBa        | pB,S,IE,gbM,1st of 9      | 99           |
|         |          |          |       |              |             |      |         | NGC 3287 | GALXY | LEO  | 10 34.8       | +21 39        | 12.3 | 2 m         | 0.9 m       | 20          | SBcd       | F,pL,D* p 24",s 4'        | 51           |
|         |          |          |       |              |             |      |         | NGC 3289 | GALXY | ANT  | 10 34.1       | -35 19        | 12.5 | 2.2 m       | 0.6 m       | 153         | SBO-a      | eF,vS,R                   | 99           |
|         |          |          | x     |              |             |      |         | NGC 3293 | OPNCL | CAR  | 10 35.8       | -58 13        | 4.7  | 40 m        |             |             | I 3 r n    | Cl,B,Ri,pL                | 123          |
|         |          |          |       | x            |             |      |         | NGC 3294 | GALXY | LMI  | 10 36.3       | +37 19        | 11.8 | 3.4 m       | 1.8 m       | 122         | Sc         | cB,L,mE 135,glbM          | 27           |
|         |          |          |       |              |             |      |         | NGC 3300 | GALXY | LEO  | 10 36.6       | +14 10        | 12.1 | 1.7 m       | 0.9 m       | 173         | SBO        | cF,cS,R,pmbM,r,am B<br>st | 51           |
|         |          |          |       |              | x           |      |         | NGC 3301 | GALXY | LEO  | 10 36.9       | +21 53        | 11.4 | 3.3 m       | 1 m         | 52          | SBO-a      | cB,S,IE 53,psbM,r         | 51           |
|         |          |          |       |              |             |      |         | NGC 3302 | GALXY | ANT  | 10 35.8       | -32 22        | 12.5 | 1.6 m       | 1.2 m       | 118         | SO         | eF,S,R                    | 99           |
|         |          |          |       |              |             |      |         | NGC 3308 | GALXY | HYA  | 10 36.4       | -27 26        | 11.9 | 1.7 m       | 1.3 m       | 32          | E-SO Bar   | F,S,R,4th of 9            | 99           |
|         |          |          |       |              |             |      |         | NGC 3309 | GALXY | HYA  | 10 36.6       | -27 31        | 11.6 | 2.4 m       | 2.1 m       |             | Elliptical | B,L,R,p of Dneb,5th of 9  | 99           |
|         |          |          | x     | x            |             |      | x       | NGC 3310 | GALXY | UMA  | 10 38.8       | +53 30        | 10.8 | 2.8 m       | 2.6 m       |             | SBbc/P     | cB,pL,R,vg,vsmbMN<br>15"  | 27           |

Deep Sky Object List (97/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|-----------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3311 | GALXY | HYA  | 10 36.7       | -27 32         | 11.6 | 3.7 m       | 3 m         |             | E2        | B,L,R,f of Dneb,6th of 9 | 99           |
|         |          |          |       |              |             |      |         | NGC 3312 | GALXY | HYA  | 10 37.0       | -27 34         | 11.9 | 3.3 m       | 1.2 m       | 175         | Sb Ring   | cF,E,gbM,7th of 9        | 99           |
|         |          |          |       |              |             |      |         | NGC 3313 | GALXY | HYA  | 10 37.4       | -25 19         | 11.4 | 3.9 m       | 3.2 m       | 55          | SBab Ring | eF,pS,iR,gbMN,*15 s 3"   | 99           |
|         |          |          |       |              |             |      |         | NGC 3318 | GALXY | VEL  | 10 37.3       | -41 38         | 11.6 | 2.3 m       | 1.2 m       | 78          | SBbc      | cF,pL,pmE,lbM            | 123          |
|         |          |          | x     |              | x           |      |         | NGC 3319 | GALXY | UMA  | 10 39.2       | +41 41         | 11.1 | 6.1 m       | 3.4 m       | 37          | SBc       | cF,L,mE                  | 27           |
|         |          |          |       |              |             |      |         | NGC 3320 | GALXY | UMA  | 10 39.6       | +47 24         | 12.3 | 2.2 m       | 1 m         | 20          | SBc       | F,pS,mE,*10 nf           | 27           |
|         |          |          |       |              |             |      |         | NGC 3324 | OPNCL | CAR  | 10 37.3       | -58 40         | 6.7  | 16 m        |             |             | I 3 r n   | pB,vvL,iF,D* inv         | 123          |
|         |          |          |       |              |             |      |         | NGC 3329 | GALXY | DRA  | 10 44.7       | +76 49         | 12.2 | 1.9 m       | 1.1 m       | 140         | Sb        | pB,S,IE,psmbM            | 8            |
|         |          |          |       |              |             |      |         | NGC 3330 | OPNCL | VEL  | 10 38.8       | -54 07         | 7.4  | 7.0 m       |             |             | II 2 p    | Cl,P,st 9...             | 123          |
|         |          |          |       |              |             |      |         | NGC 3332 | GALXY | LEO  | 10 40.5       | +09 11         | 12.3 | 1.4 m       | 1.4 m       |             | E-SO      | vF,S,IE 130              | 75           |
|         |          |          |       |              |             |      |         | NGC 3336 | GALXY | HYA  | 10 40.3       | -27 47         | 12.3 | 2 m         | 1.6 m       | 123         | SBc       | vF,pL,IE,glbM            | 99           |
|         |          |          |       |              | x           |      |         | NGC 3338 | GALXY | LEO  | 10 42.1       | +13 45         | 11.1 | 5.7 m       | 3.4 m       | 100         | Sc        | F,cL,E,vgbM,*7 p 10"     | 51           |
|         |          | x        | x     | x            |             | 52   | x       | NGC 3344 | GALXY | LMI  | 10 43.5       | +24 55         | 9.9  | 7.1 m       | 6.8 m       |             | SBbc Ring | cB,L,gbM,* inv,2 st f    | 51           |

Deep Sky Object List (98/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3346 | GALXY | LEO  | 10 43.6       | +14 52        | 11.7 | 2.7 m       | 2.6 m       |             | SBc        | cF,vL,R,vglbM,er              | 51           |
|         |          |          |       |              |             |      |         | NGC 3347 | GALXY | ANT  | 10 42.8       | -36 21        | 11.3 | 3.4 m       | 2.1 m       | 173         | SBb        | pF,S,mE 0,vsymbM,1st<br>of 3  | 99           |
|         |          |          |       |              |             |      |         | NGC 3348 | GALXY | UMA  | 10 47.2       | +72 50        | 11.1 | 2 m         | 2 m         |             | Elliptical | B,S,ilE,psbM,*11<br>282,21"   | 8            |
| M 95    |          |          | x     |              |             |      |         | NGC 3351 | GALXY | LEO  | 10 44.0       | +11 42        | 9.7  | 7.3 m       | 4.4 m       | 13          | SBb        | B,L,R,pgmbMN                  | 75           |
|         |          |          |       |              |             |      |         | NGC 3358 | GALXY | ANT  | 10 43.6       | -36 25        | 11.4 | 3.2 m       | 1.8 m       | 141         | SBO-a      | cF,vS,vIE,vS* att,3rd of<br>3 | 99           |
|         |          |          | x     |              | x           |      |         | NGC 3359 | GALXY | UMA  | 10 46.6       | +63 13        | 10.6 | 7.5 m       | 4.2 m       | 170         | SBc        | pB,L,E 0,glbM                 | 8            |
|         |          |          |       |              |             |      |         | NGC 3366 | GALXY | VEL  | 10 35.1       | -43 42        | 11.3 | 2.2 m       | 1.1 m       | 37          | SBb        | F,E,gbM,*6-7 vnr              | 123          |
|         |          |          |       |              |             |      |         | NGC 3367 | GALXY | LEO  | 10 46.6       | +13 45        | 11.5 | 2.5 m       | 2.4 m       |             | SBc        | pB,cL,iR,vglbM,r,1st of<br>3  | 51           |
| M 96    |          |          | *     |              |             |      |         | NGC 3368 | GALXY | LEO  | 10 46.8       | +11 49        | 9.3  | 7.8 m       | 5.2 m       | 5           | SBab Ring  | vB,vL,IE,vsymbM,r             | 75           |
|         |          |          |       |              |             |      |         | NGC 3370 | GALXY | LEO  | 10 47.1       | +17 16        | 11.6 | 2.9 m       | 1.7 m       | 148         | Sc         | cB,pL,vIE,gbM,r               | 51           |
|         | C 92     |          | !!!!  |              |             |      |         | NGC 3372 | BRTNB | CAR  | 10 45.1       | -59 52        | 3    | 120 m       | 120 m       |             | E          | ! great neb,Eta Carinae       | 123          |
|         |          |          |       | x            |             |      |         | NGC 3377 | GALXY | LEO  | 10 47.7       | +13 59        | 10.4 | 4.3 m       | 2.6 m       | 35          | Elliptical | vB,cL,IE,svmbMBN              | 51           |
| M105    |          |          | *     | x            |             |      |         | NGC 3379 | GALXY | LEO  | 10 47.8       | +12 35        | 9.3  | 5.3 m       | 4.8 m       | 60          | E1         | vB,cL,R,psbM,r                | 51           |

Deep Sky Object List (99/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3380 | GALXY | LMI  | 10 48.2       | +28 36         | 12.5 | 1.6 m       | 1.4 m       |             | SBa        | pB,pS,R,sbM             | 51           |
|         |          |          |       |              |             |      |         | NGC 3381 | GALXY | LMI  | 10 48.4       | +34 43         | 11.7 | 2 m         | 1.8 m       |             | SB/P       | pF,cL,iR,vglbM          | 51           |
|         |          | x        | *     | x            |             | 55   |         | NGC 3384 | GALXY | LEO  | 10 48.3       | +12 38         | 9.9  | 5.4 m       | 2.7 m       | 53          | E7         | vB,L,R,psmbM,2nd of 3   | 51           |
|         |          |          | *     |              |             |      |         | NGC 3389 | GALXY | LEO  | 10 48.5       | +12 32         | 11.9 | 2.9 m       | 1.3 m       | 112         | Sc         | F,L,E pf,vglbM,3rd of 3 | 51           |
|         |          |          |       |              |             |      |         | NGC 3390 | GALXY | HYA  | 10 48.1       | -31 32         | 11.9 | 3.5 m       | 0.6 m       | 177         | Sb         | F,S,pmE 0               | 99           |
|         |          |          |       |              |             |      |         | NGC 3393 | GALXY | HYA  | 10 48.4       | -25 10         | 12.2 | 2.2 m       | 2 m         |             | SBa        | F,S,R,psbM,2st 10f      | 99           |
|         |          |          |       |              |             |      |         | NGC 3394 | GALXY | UMA  | 10 50.7       | +65 44         | 12.4 | 1.9 m       | 1.4 m       | 35          | Sc Ring    | cF,S,IE,vgbM            | 8            |
|         |          |          | x     | x            |             |      |         | NGC 3395 | GALXY | LMI  | 10 49.8       | +32 59         | 12.1 | 1.7 m       | 0.9 m       | 50          | SBc        | cB,pS,iE,1st of 2       | 51           |
|         |          |          | x     |              |             |      |         | NGC 3396 | GALXY | LMI  | 10 49.9       | +32 59         | 12.1 | 2.9 m       | 1.2 m       | 100         | SB         | pB,pS,iE,2nd of 2       | 51           |
|         |          |          |       |              |             |      |         | NGC 3403 | GALXY | DRA  | 10 53.9       | +73 41         | 12.2 | 3 m         | 1.3 m       | 73          | Sbc        | pF,L,iE,vgbM            | 8            |
|         |          |          |       |              |             |      |         | NGC 3411 | GALXY | HYA  | 10 50.4       | -12 51         | 11.9 | 2.1 m       | 2.1 m       |             | Elliptical | F,S,R,lbM               | 99           |
|         |          |          |       | x            |             |      |         | NGC 3412 | GALXY | LEO  | 10 50.9       | +13 25         | 10.5 | 3.7 m       | 2.2 m       | 155         | SBO        | B,S,IE 135,smbMN        | 51           |
|         |          |          |       |              |             |      |         | NGC 3413 | GALXY | LMI  | 10 51.3       | +32 46         | 12.1 | 1.8 m       | 0.8 m       | 178         | SO         | F,S                     | 51           |

## Deep Sky Object List (100/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|-----------------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 3414 | GALXY | LMI  | 10 51.3       | +27 58        | 11   | 3.6 m       | 3.1 m       | 25          | SBO   | B,pL,R,mbM                  | 51           |
|         |          |          |       |              |             |      |         | NGC 3419 | GALXY | LEO  | 10 51.3       | +13 57        | 12.5 | 0.8 m       | 0.7 m       | 115         | SBO-a | F,vS,R,alm stell,S* vnr     | 51           |
|         |          |          | x     |              |             |      |         | NGC 3423 | GALXY | SEX  | 10 51.2       | +05 50        | 11.1 | 3.9 m       | 3.3 m       | 10          | Sc    | F,vL,R,vgbM,rr              | 75           |
|         |          |          |       |              | x           |      |         | NGC 3424 | GALXY | LMI  | 10 51.8       | +32 54        | 12.4 | 2.7 m       | 0.8 m       | 112         | SBb   | pF,pL,IE,sp of 3            | 51           |
|         |          |          |       |              | x           |      |         | NGC 3430 | GALXY | LMI  | 10 52.2       | +32 57        | 11.6 | 4.1 m       | 2.2 m       | 30          | SBc   | pB,L,iE,gbM,2nd of 3        | 51           |
|         |          | x        |       | x            |             | 53   | x       | NGC 3432 | GALXY | LMI  | 10 52.5       | +36 37        | 11.3 | 6.6 m       | 1.6 m       | 38          | SB    | pB,pL,vmE 40,** close<br>sp | 51           |
|         |          |          |       |              |             |      |         | NGC 3433 | GALXY | LEO  | 10 52.1       | +10 09        | 11.6 | 3.7 m       | 3.3 m       | 50          | Sc    | vF,vL,R,vgbM                | 75           |
|         |          |          |       |              |             |      |         | NGC 3434 | GALXY | LEO  | 10 52.0       | +03 47        | 12.1 | 2.1 m       | 1.9 m       | 5           | Sb    | F,pS,R,vglbM                | 75           |
|         |          |          |       |              |             |      |         | NGC 3437 | GALXY | LEO  | 10 52.6       | +22 56        | 12.1 | 2.6 m       | 0.8 m       | 122         | SBc   | pB,pL,IE 120,gbM            | 51           |
|         |          |          |       |              |             |      |         | NGC 3448 | GALXY | UMA  | 10 54.6       | +54 18        | 12.1 | 5.6 m       | 1.7 m       | 65          | Sa    | B,pL,mE 67,gbM              | 27           |
|         |          |          |       |              |             |      |         | NGC 3449 | GALXY | ANT  | 10 52.9       | -32 56        | 12.2 | 3.3 m       | 1 m         | 148         | SBab  | F,S,R,*6-7 sf               | 99           |
|         |          |          |       |              |             |      |         | NGC 3450 | GALXY | HYA  | 10 48.1       | -20 51        | 11.9 | 2.6 m       | 2.3 m       | 140         | SBb   | vF,L,R,vglbM,r              | 99           |
|         |          |          |       |              |             |      |         | NGC 3455 | GALXY | LEO  | 10 54.5       | +17 17        | 12   | 2.7 m       | 1.7 m       | 80          | SBb   | pF,S,E,gbM,r,sf of 2        | 51           |

Deep Sky Object List (101/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-----------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3458 | GALXY | UMA  | 10 56.0       | +57 07        | 12.2 | 1.4 m       | 0.8 m       | 5           | SBO       | vB,vS,R,stellar             | 27           |
|         |          |          |       |              |             |      |         | NGC 3462 | GALXY | LEO  | 10 55.4       | +07 42        | 12.2 | 1.7 m       | 1.2 m       | 60          | SO        | vF,vS,vIE,psbM              | 75           |
|         |          |          |       |              |             |      |         | NGC 3471 | GALXY | UMA  | 10 59.1       | +61 32        | 12.5 | 1.7 m       | 0.8 m       | 14          | Sa        | vF,S,R,bM                   | 27           |
|         |          |          |       |              |             |      |         | NGC 3483 | GALXY | HYA  | 10 59.0       | -28 29        | 12.1 | 1.8 m       | 1.2 m       | 105         | Sa        | pF,S,R,bM,am st             | 99           |
|         |          |          |       |              |             |      |         | NGC 3485 | GALXY | LEO  | 11 00.0       | +14 50        | 11.8 | 2.4 m       | 2.2 m       |             | SBbc      | F,L,R,glbM,r                | 50           |
|         |          |          | x     | x            |             |      |         | NGC 3486 | GALXY | LMI  | 11 00.4       | +28 59        | 10.5 | 6.8 m       | 4.8 m       | 80          | SBc       | cB,cL,R,gmbM                | 50           |
|         |          |          |       | x            |             |      |         | NGC 3489 | GALXY | LEO  | 11 00.3       | +13 54        | 10.3 | 3.6 m       | 2.2 m       | 70          | SBO-a     | vB,pL,IE 80,smbMN           | 50           |
|         |          |          |       |              |             |      |         | NGC 3495 | GALXY | LEO  | 11 01.3       | +03 38        | 11.8 | 4.9 m       | 1.1 m       | 20          | Scd       | vF,pL,mE                    | 74           |
|         |          |          |       |              |             |      |         | NGC 3496 | OPNCL | CAR  | 10 59.6       | -60 20        | 8.2  | 6 m         |             |             | III 1 m   | Cl,pL,pRi,IC,st 13          | 123          |
|         |          |          | x     | x            |             |      |         | NGC 3504 | GALXY | LMI  | 11 03.2       | +27 58        | 11   | 2.7 m       | 2.5 m       |             | SBab Ring | B,L,E,mbMN,rr,p of 2        | 50           |
|         |          |          |       |              |             |      |         | NGC 3506 | GALXY | LEO  | 11 03.2       | +11 05        | 12.5 | 1.1 m       | 1 m         |             | Sc        | vF,cS,R,vglbM               | 74           |
|         |          |          |       |              | x           |      |         | NGC 3507 | GALXY | LEO  | 11 03.4       | +18 08        | 10.9 | 3.4 m       | 2.9 m       | 110         | SBb       | cF,pL,R,sbMS *,*9 att<br>25 | 50           |
|         |          |          |       |              |             |      |         | NGC 3510 | GALXY | LMI  | 11 03.7       | +28 53        | 12.2 | 4.1 m       | 0.8 m       | 163         | SB        | F,L,cE,*7,310,8'            | 50           |

Deep Sky Object List (102/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------|--------------|
|         |          |          | x     |              | x           |      |         | NGC 3511 | GALXY | CRT  | 11 03.4       | -23 05        | 11   | 6 m         | 2.1 m       | 76          | SBc        | vF,vL,mE                    | 98           |
|         |          |          |       |              |             |      |         | NGC 3512 | GALXY | LMI  | 11 04.0       | +28 02        | 12.3 | 1.5 m       | 1.5 m       |             | SBc        | F,pS,R,pgbM,f of 2          | 50           |
|         |          |          | x     |              | x           |      |         | NGC 3513 | GALXY | CRT  | 11 03.8       | -23 15        | 11.5 | 2.9 m       | 2.4 m       | 75          | SBb        | vF,vL,mE                    | 98           |
|         |          |          |       |              | x           |      |         | NGC 3516 | GALXY | UMA  | 11 06.8       | +72 34        | 11.7 | 1.9 m       | 1.4 m       | 45          | SBO Ring   | pB,vS,iR,psmbM *            | 8            |
|         |          | x        | x     | x            |             | 56   | x       | NGC 3521 | GALXY | LEO  | 11 05.8       | -00 02        | 9    | 11.2 m      | 5.4 m       | 163         | SBbc       | cB,cL,mE 140,vsmbMN         | 74           |
|         |          |          |       |              | x           |      |         | NGC 3524 | GALXY | LEO  | 11 06.5       | +11 23        | 12.8 | 1.6 m       | 0.5 m       | 14          | Sa         | F,S,IE,psbM,2 st np in line | 74           |
|         | C 91     |          | x     |              |             |      |         | NGC 3532 | OPNCL | CAR  | 11 05.2       | -58 44        | 3    | 50 m        |             |             | II 1 m     | !! ,Cl,eL,R,IC,st 8...12    | 122          |
|         |          |          |       |              | x           |      |         | NGC 3547 | GALXY | LEO  | 11 09.9       | +10 43        | 12.8 | 2 m         | 0.9 m       | 7           | Sb         | F,S,IE,vlbM                 | 74           |
|         |          |          |       |              |             |      |         | NGC 3549 | GALXY | UMA  | 11 10.9       | +53 23        | 12.1 | 3.1 m       | 1 m         | 38          | Sc         | cB,cL,cE 160                | 26           |
| M108    |          |          | *     | x            |             |      |         | NGC 3556 | GALXY | UMA  | 11 11.5       | +55 40        | 10   | 8.6 m       | 2.4 m       | 80          | SBc        | cB,vL,vmE 79,pBM            | 26           |
|         |          |          |       |              |             |      |         | NGC 3557 | GALXY | CEN  | 11 10.0       | -37 32        | 10.4 | 4 m         | 3 m         | 30          | Elliptical | B,S,R,pgmbM,1st of 3        | 122          |
|         |          |          |       |              |             |      |         | NGC 3562 | GALXY | DRA  | 11 13.0       | +72 53        | 12.2 | 1.7 m       | 1.3 m       | 165         | Elliptical | pF,pS,IE,gbM,*15,22,70<br>" | 8            |
|         |          |          |       |              |             |      |         | NGC 3564 | GALXY | CEN  | 11 10.6       | -37 33        | 12.1 | 1.7 m       | 0.9 m       | 15          | SO         | pF,S,R,bM,2nd of 3          | 122          |



## Deep Sky Object List (103/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3568 | GALXY | CEN  | 11 10.8       | -37 27        | 12.3 | 2.5 m       | 0.9 m       | 7           | SBc        | vF,pL,R,* inv,3 B st<br>nr,3rd of 3 | 122          |
|         |          |          |       |              |             |      |         | NGC 3571 | GALXY | CRT  | 11 11.5       | -18 17        | 12.1 | 3 m         | 0.9 m       | 94          | SBa        | pF,pL,iF,bM                         | 98           |
|         |          |          |       |              |             |      |         | NGC 3572 | OPNCL | CAR  | 11 10.3       | -60 15        | 6.6  | 7.0 m       |             |             | I 2 m n    | Cl,pRi,IC                           | 122          |
|         |          |          |       |              |             |      |         | NGC 3573 | GALXY | CEN  | 11 11.3       | -36 53        | 12.3 | 3.6 m       | 1 m         | 4           | Sa         | eF,S,R,glbM,3 st 11 f               | 98           |
|         |          |          |       |              | x           |      |         | NGC 3583 | GALXY | UMA  | 11 14.2       | +48 19        | 11.1 | 2.5 m       | 1.5 m       | 125         | SBb        | pB,pL,R,vgmbM                       | 26           |
|         |          |          |       |              | x           |      |         | NGC 3585 | GALXY | HYA  | 11 13.3       | -26 45        | 9.9  | 5.2 m       | 3.1 m       | 107         | Elliptical | B,pL,E,vsmbMN,2 B st<br>tri         | 98           |
| M 97    |          |          | *     |              |             |      |         | NGC 3587 | PLNNB | UMA  | 11 14.8       | +55 01        | 11   | 202 s       | 196 s       |             | 3a         | !! vB,vL,R,vvg,vsbM                 | 26           |
|         |          |          |       |              |             |      |         | NGC 3590 | OPNCL | CAR  | 11 13.0       | -60 47        | 8.2  | 4.0 m       |             |             | II 1 p     | Cl,pRi,C,E                          | 122          |
|         |          |          |       | x            |             |      |         | NGC 3593 | GALXY | LEO  | 11 14.6       | +12 49        | 10.9 | 4.9 m       | 2.1 m       | 92          | Sa         | B,cL,E 90,psmbM                     | 50           |
|         |          |          |       |              |             |      |         | NGC 3595 | GALXY | UMA  | 11 15.4       | +47 27        | 12.1 | 1.6 m       | 0.7 m       | 176         | E-SO       | vF,vS,vIE,stellar,cB* n             | 26           |
|         |          |          |       |              | x           |      |         | NGC 3596 | GALXY | LEO  | 11 15.1       | +14 47        | 11.3 | 4.1 m       | 4.1 m       |             | SBc        | pF,L,R,glbM                         | 50           |
|         |          |          |       |              |             |      |         | NGC 3598 | GALXY | LEO  | 11 15.2       | +17 16        | 12.3 | 1.8 m       | 1.3 m       | 35          | E-SO       | F,vS,stell,* n                      | 50           |
|         |          |          |       |              | x           |      |         | NGC 3599 | GALXY | LEO  | 11 15.4       | +18 07        | 11.9 | 2.5 m       | 2.5 m       |             | SO         | B,pS,R,pgmbM                        | 50           |

Deep Sky Object List (104/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3600 | GALXY | UMA  | 11 15.9       | +41 35        | 11.7 | 4.1 m       | 0.8 m       | 3           | Sa         | pF,S,IE 0,vgbM                 | 26           |
|         |          |          |       |              |             |      |         | NGC 3603 | OPNCL | CAR  | 11 15.1       | -61 16        | 9.1  | 2.5 m       |             |             | l 1 p n    | globular and neb,st<br>15...18 | 122          |
|         |          |          |       |              | x           |      |         | NGC 3605 | GALXY | LEO  | 11 16.8       | +18 01        | 12.3 | 1.4 m       | 0.9 m       | 17          | Elliptical | F,S,R,sp of 3                  | 50           |
|         |          |          |       |              |             |      |         | NGC 3606 | GALXY | HYA  | 11 16.3       | -33 50        | 12.4 | 1.5 m       | 1.4 m       |             | Elliptical | eF,S,R,gbM                     | 98           |
|         |          | x        |       | x            |             | 57   |         | NGC 3607 | GALXY | LEO  | 11 16.9       | +18 03        | 9.9  | 4.6 m       | 4 m         | 120         | E-SO       | vB,L,R,vmbM,2nd of 3           | 50           |
|         |          |          |       | x            |             |      |         | NGC 3608 | GALXY | LEO  | 11 17.0       | +18 09        | 10.8 | 3.5 m       | 3 m         | 75          | Elliptical | B,pL,R,psbM,3rd of 3           | 50           |
|         |          |          | x     | x            |             |      |         | NGC 3610 | GALXY | UMA  | 11 18.4       | +58 47        | 10.8 | 2.5 m       | 2.5 m       |             | Elliptical | vB,pS,IE 90,vsymbMSN           | 26           |
|         |          |          |       |              | x           |      |         | NGC 3611 | GALXY | LEO  | 11 17.5       | +04 33        | 12.1 | 2 m         | 1.6 m       |             | Sa         | pF,cS,iR,psmbM,*10 np<br>3'    | 74           |
|         |          |          | x     | x            |             |      |         | NGC 3613 | GALXY | UMA  | 11 18.6       | +58 00        | 10.9 | 3.6 m       | 2 m         | 102         | Elliptical | vB,cL,mE 305,smbMN             | 26           |
|         |          |          |       |              |             |      |         | NGC 3614 | GALXY | UMA  | 11 18.4       | +45 45        | 11.6 | 4.8 m       | 2.9 m       | 80          | Sc         | F,pL,IE 90,glbM,r              | 26           |
|         |          |          |       | x            |             |      |         | NGC 3619 | GALXY | UMA  | 11 19.4       | +57 45        | 11.5 | 3.5 m       | 2.4 m       | 25          | Sa         | cB,cL,R,vgbmM                  | 26           |
|         |          |          | x     | x            |             |      | x       | NGC 3621 | GALXY | HYA  | 11 18.3       | -32 49        | 9.7  | 12.4 m      | 5.7 m       | 159         | SBcd       | cB,vL,E 160,am 4 st            | 98           |
|         |          |          |       |              | x           |      |         | NGC 3622 | GALXY | UMA  | 11 20.2       | +67 14        | 13.2 | 1.2 m       | 0.5 m       | 7           | S pec      | pB,S,R,gbM                     | 8            |

## Deep Sky Object List (105/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|----------------------------|--------------|
| M 65    |          |          | !*    |              |             |      |         | NGC 3623 | GALXY | LEO  | 11 18.9       | +13 05         | 9.3  | 9 m         | 2.3 m       | 174         | SBa        | B,vL,mE 165,gbMBN          | 50           |
|         | C 40     |          |       | x            |             |      |         | NGC 3626 | GALXY | LEO  | 11 20.1       | +18 21         | 11   | 3.2 m       | 2.4 m       | 157         | Sa         | B,S,vIE,sbM                | 50           |
| M 66    |          |          | !*    |              |             |      |         | NGC 3627 | GALXY | LEO  | 11 20.2       | +13 00         | 8.9  | 9.1 m       | 4.1 m       | 173         | SBb        | B,vL,mE 150,mbM,2 st<br>np | 50           |
|         |          | x        | *     | x            |             | 58   | x       | NGC 3628 | GALXY | LEO  | 11 20.3       | +13 35         | 9.5  | 13.1 m      | 3.1 m       | 104         | Sb         | pB,vL,vmE 102              | 50           |
|         |          |          |       |              |             |      |         | NGC 3629 | GALXY | LEO  | 11 20.5       | +26 58         | 12.1 | 2 m         | 1.5 m       | 30          | SBc        | cF,L,R,vglbM               | 50           |
|         |          |          |       |              |             |      |         | NGC 3630 | GALXY | LEO  | 11 20.3       | +02 58         | 11.9 | 2 m         | 0.8 m       | 37          | Sa         | pB,S,R,smbMN               | 74           |
|         |          |          | x     | x            |             |      | x       | NGC 3631 | GALXY | UMA  | 11 21.0       | +53 10         | 10.4 | 5 m         | 4.8 m       |             | Sc         | pB,L,R,svmbMrN             | 26           |
|         |          |          |       |              | x           |      |         | NGC 3636 | GALXY | CRT  | 11 20.4       | -10 17         | 12.4 | 1.7 m       | 1.7 m       |             | Elliptical | F,vS,R,lbM,*7 f,p of 2     | 74           |
|         |          |          |       |              | x           |      |         | NGC 3637 | GALXY | CRT  | 11 20.7       | -10 15         | 12.7 | 1.8 m       | 1.7 m       |             | SBO Ring   | F,vS,R,psbM,*7 p,f of 2    | 74           |
|         |          |          |       | x            |             |      |         | NGC 3640 | GALXY | LEO  | 11 21.1       | +03 14         | 10.4 | 4.5 m       | 4 m         | 100         | Elliptical | B,pL,R,psbM                | 74           |
|         |          |          |       |              | x           |      |         | NGC 3642 | GALXY | UMA  | 11 22.3       | +59 04         | 11.2 | 5.5 m       | 4.7 m       | 105         | Sbc        | pB,pL,R,vgbM               | 26           |
|         |          |          |       |              | x           |      |         | NGC 3646 | GALXY | LEO  | 11 21.7       | +20 10         | 11.1 | 3.9 m       | 2.2 m       | 50          | Sc         | cF,cL,IE,gbM,sp of 2       | 50           |
|         |          |          |       |              | x           |      |         | NGC 3652 | GALXY | UMA  | 11 22.7       | +37 46         | 12.2 | 2 m         | 0.7 m       | 150         | SBc/P      | pF,cL,IE,vgbM              | 26           |

## Deep Sky Object List (106/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 3655 | GALXY | LEO  | 11 22.9       | +16 35        | 11.6 | 1.5 m       | 1 m         | 30          | Sc         | pB,pS,iR,bM,r        | 50           |
|         |          |          |       |              |             |      |         | NGC 3656 | GALXY | UMA  | 11 23.6       | +53 51        | 12.5 | 1.5 m       | 1.5 m       |             | Elliptical | pB,S,R,vgbM,*12 p    | 26           |
|         |          |          |       |              |             |      |         | NGC 3657 | GALXY | UMA  | 11 23.9       | +52 55        | 12.4 | 1.7 m       | 1.7 m       |             | SBc/P      | cF,vS,R,stellar      | 26           |
|         |          |          |       |              |             |      |         | NGC 3658 | GALXY | UMA  | 11 24.0       | +38 34        | 12.2 | 1.8 m       | 1.7 m       |             | SO         | F,S,R,svmbMN = *14   | 26           |
|         |          |          |       |              | x           |      |         | NGC 3659 | GALXY | LEO  | 11 23.8       | +17 49        | 12.3 | 2.3 m       | 1.3 m       | 60          | SB         | cF,S,IE,r            | 50           |
|         |          |          |       |              |             |      |         | NGC 3660 | GALXY | CRT  | 11 23.5       | -08 40        | 12.5 | 2.8 m       | 2.3 m       | 115         | SBbc       | F,pL,iR,vgbM         | 74           |
|         |          |          |       | x            |             |      |         | NGC 3665 | GALXY | UMA  | 11 24.7       | +38 46        | 10.8 | 3.5 m       | 3 m         | 30          | SO         | cB,cL,iR,pgmbM       | 26           |
|         |          |          |       |              | x           |      |         | NGC 3666 | GALXY | LEO  | 11 24.4       | +11 21        | 12   | 4.6 m       | 1.3 m       | 100         | SBc        | F,E 90,*6 f 34",5' n | 74           |
|         |          |          |       |              | x           |      |         | NGC 3668 | GALXY | UMA  | 11 25.5       | +63 27        | 12.3 | 1.7 m       | 1.3 m       | 135         | Sbc        | F,pS,iR,gbM,*9 np    | 8            |
|         |          |          |       |              | x           |      |         | NGC 3669 | GALXY | UMA  | 11 25.4       | +57 43        | 12.4 | 2 m         | 0.5 m       | 153         | SBcd       | vF,pL,pmE 135,er     | 26           |
|         |          |          | x     |              | x           |      |         | NGC 3672 | GALXY | CRT  | 11 25.0       | -09 48        | 11.4 | 4 m         | 1.8 m       | 8           | Sc         | pB,L,E 0,gbM         | 74           |
|         |          |          |       |              |             |      |         | NGC 3673 | GALXY | HYA  | 11 25.2       | -26 44        | 11.5 | 3.7 m       | 2.4 m       | 70          | SBb        | F,vL,gvlbM,*7 s 6'   | 98           |
|         |          |          |       |              |             |      |         | NGC 3674 | GALXY | UMA  | 11 26.4       | +57 03        | 12.2 | 1.7 m       | 0.6 m       | 33          | SO         | pF,iF                | 26           |

## Deep Sky Object List (107/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|---------------------------------|--------------|
|         |          | x        | x     | x            |             |      |         | NGC 3675  | GALXY | UMA  | 11 26.1       | +43 35        | 10.2 | 6.2 m       | 3.6 m       | 178         | Sb        | vB,cL,vmE<br>0,vsmbMN,many st p | 26           |
|         |          |          |       |              |             |      |         | NGC 3677  | GALXY | UMA  | 11 26.3       | +46 58        | 12.3 | 1.6 m       | 1.3 m       | 130         | Sa        | eF,S,R,vsbM *,2 st 11<br>nf     | 26           |
|         |          |          |       |              |             |      |         | NGC 3680  | OPNCL | CEN  | 11 25.6       | -43 15        | 7.6  | 6 m         |             |             | I 2 p     | Cl,cL,pRi,IC,*10..14            | 122          |
|         |          |          |       |              | x           |      |         | NGC 3681  | GALXY | LEO  | 11 26.5       | +16 52        | 11.2 | 3 m         | 2.2 m       | 170         | SBbc      | B,pS,R,bM                       | 50           |
|         |          |          |       |              | x           |      |         | NGC 3682  | GALXY | DRA  | 11 27.7       | +66 35        | 12.5 | 1.7 m       | 1.1 m       | 95          | Sa        | cB,S,iR,spmbMN                  | 8            |
|         |          |          |       |              | x           |      |         | NGC 3683  | GALXY | UMA  | 11 27.5       | +56 53        | 12.4 | 1.8 m       | 0.7 m       | 128         | SBc       | cB,pL,E                         | 26           |
|         |          |          |       |              |             |      |         | NGC 3683A | GALXY | UMA  | 11 29.2       | +57 08        | 11.9 | 2.4 m       | 1.7 m       | 75          | SBc       |                                 | 26           |
|         |          |          |       |              |             |      |         | NGC 3684  | GALXY | LEO  | 11 27.2       | +17 02        | 11.4 | 3.4 m       | 2.2 m       | 130         | Sbc       | pB,pL,E,vgbM                    | 50           |
|         |          |          |       | x            |             |      |         | NGC 3686  | GALXY | LEO  | 11 27.7       | +17 13        | 11.3 | 3.1 m       | 2.4 m       | 15          | SBbc      | pB,L,vIE,vgbM,r                 | 50           |
|         |          |          |       |              |             |      |         | NGC 3687  | GALXY | UMA  | 11 28.0       | +29 31        | 12   | 1.9 m       | 1.9 m       |             | SBbc Ring | pB,pS,R,lbM,r                   | 50           |
|         |          |          |       |              | x           |      |         | NGC 3689  | GALXY | LEO  | 11 28.2       | +25 40        | 12.3 | 1.7 m       | 1.1 m       | 97          | SBc       | pB,pL,IE,bM                     | 50           |
|         |          |          |       |              |             |      |         | NGC 3690  | GALXY | UMA  | 11 28.5       | +58 34        | 11.5 | 2 m         | 1 m         | 130         | Sp?       | pB,pS,vIE 80,pgbM,S st<br>sf nr | 26           |
|         |          |          |       |              |             |      |         | NGC 3691  | GALXY | LEO  | 11 28.2       | +16 55        | 11.8 | 1.4 m       | 1 m         | 15          | SB/P      | F,pS,IE,r                       | 50           |

## Deep Sky Object List (108/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3692 | GALXY | LEO  | 11 28.4       | +09 24        | 12.1 | 3.1 m       | 0.7 m       | 95          | Sb        | F,mE,r                        | 74           |
|         |          |          |       |              | x           |      |         | NGC 3693 | GALXY | CRT  | 11 28.2       | -13 12        | 13   | 3.4 m       | 0.7 m       | 85          | Sb        | cF,S,E,gbM                    | 98           |
|         |          |          |       |              | x           |      |         | NGC 3705 | GALXY | LEO  | 11 30.1       | +09 17        | 11.1 | 4.6 m       | 1.9 m       | 122         | SBab      | pF,pL,R,vsmbM,r               | 74           |
|         |          |          |       |              |             |      |         | NGC 3706 | GALXY | CEN  | 11 29.7       | -36 24        | 11.3 | 3.1 m       | 1.8 m       | 78          | E-SO      | pB,cS,R,psmbM                 | 98           |
|         |          |          |       |              |             |      |         | NGC 3717 | GALXY | HYA  | 11 31.5       | -30 19        | 11.2 | 6.2 m       | 1 m         | 33          | Sb        | pB,S,mE,*13 att               | 98           |
|         |          |          | x     |              |             |      |         | NGC 3718 | GALXY | UMA  | 11 32.6       | +53 04        | 10.8 | 8.2 m       | 3.5 m       | 15          | SBap      | pB,vL,R,vglbM                 | 26           |
|         |          |          | x     | x            |             |      | x       | NGC 3726 | GALXY | UMA  | 11 33.3       | +47 02        | 10.4 | 6 m         | 4.1 m       | 10          | SBc Ring  | pB,vL,IE 0,vsmbM<br>*15,*11 n | 26           |
|         |          |          |       | x            |             |      |         | NGC 3729 | GALXY | UMA  | 11 33.8       | +53 08        | 11.4 | 2.9 m       | 1.9 m       | 15          | SB/P      | pB,pL,IE 0,gbM,*12 nr         | 26           |
|         |          |          |       |              | x           |      |         | NGC 3732 | GALXY | CRT  | 11 34.2       | -09 51        | 12.5 | 1.4 m       | 1.2 m       | 85          | SBO-a     | F,S,R,psbM,*14 sp 225         | 74           |
|         |          |          |       |              |             |      |         | NGC 3733 | GALXY | UMA  | 11 35.0       | +54 51        | 12.4 | 4.9 m       | 2.2 m       | 170         | SBc       | eF,S,iR,*6 sf                 | 26           |
|         |          |          |       |              |             |      |         | NGC 3735 | GALXY | DRA  | 11 36.0       | +70 32        | 11.8 | 4 m         | 0.8 m       | 131         | Sc        | pB,L,mE 130,mbM               | 8            |
|         |          |          |       |              |             |      |         | NGC 3738 | GALXY | UMA  | 11 35.8       | +54 31        | 11.7 | 2.6 m       | 2.2 m       | 155         | lr        | pB,pL,bM                      | 26           |
|         |          |          |       |              |             |      |         | NGC 3742 | GALXY | CEN  | 11 35.5       | -37 57        | 12.1 | 2.4 m       | 1.7 m       | 116         | SBab Ring | pF,pL,vIE,glbM                | 122          |

Deep Sky Object List (109/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3749 | GALXY | CEN  | 11 35.9       | -38 00        | 12.3 | 3.2 m       | 0.8 m       | 107         | Sa    | F,cS,IE,gvlbM                   | 122          |
|         |          |          |       |              | x           |      |         | NGC 3756 | GALXY | UMA  | 11 36.8       | +54 18        | 11.5 | 4.2 m       | 2.1 m       | 177         | SBbc  | pF,L,mE N-S                     | 26           |
|         | C 97     |          |       |              |             |      |         | NGC 3766 | OPNCL | CEN  | 11 36.2       | -61 37        | 5.3  | 12.0 m      |             |             | I 1 p | Cl,pL,pRi,pC,st 8...13          | 122          |
|         |          |          |       |              |             |      |         | NGC 3768 | GALXY | LEO  | 11 37.2       | +17 50        | 12.4 | 1.8 m       | 1.2 m       | 155         | SO    | vF,eS,stellar                   | 50           |
|         |          |          |       |              |             |      |         | NGC 3769 | GALXY | UMA  | 11 37.7       | +47 54        | 11.8 | 2.9 m       | 1 m         | 152         | SBb   | pB,S,pmE                        | 26           |
|         |          |          |       |              |             |      |         | NGC 3773 | GALXY | LEO  | 11 38.2       | +12 07        | 12   | 1.2 m       | 1 m         | 165         | SO    | cF,cS,R,psbM                    | 50           |
|         |          |          |       |              |             |      |         | NGC 3780 | GALXY | UMA  | 11 39.4       | +56 16        | 11.5 | 3 m         | 2.4 m       | 90          | Sc    | pF,L,vIE,vgbM,r                 | 26           |
|         |          |          |       |              |             |      |         | NGC 3782 | GALXY | UMA  | 11 39.3       | +46 31        | 12.4 | 1.6 m       | 1.1 m       | 0           | SBcd  | F,S,att to *15,another *<br>inv | 26           |
|         |          |          |       |              |             |      |         | NGC 3783 | GALXY | CEN  | 11 39.0       | -37 44        | 11.7 | 1.9 m       | 1.7 m       |             | SBa   | cB,R,sbMN *,*9 sf               | 122          |
|         |          |          |       |              |             |      |         | NGC 3786 | GALXY | UMA  | 11 39.7       | +31 54        | 12.3 | 2.1 m       | 1.1 m       | 77          | SBap  | pB,pL,E 57,gbM,p of 2           | 50           |
|         |          |          |       |              |             |      |         | NGC 3796 | GALXY | UMA  | 11 40.5       | +60 18        | 12.5 | 1.3 m       | 0.9 m       | 127         | S pec | F,cS,R,mbM                      | 26           |
|         |          |          |       |              |             |      |         | NGC 3798 | GALXY | LEO  | 11 40.2       | +24 42        | 12.1 | 2.5 m       | 1.8 m       | 60          | SBO   | F,cS,IE,stellar,r               | 50           |
|         |          |          |       |              |             |      |         | NGC 3801 | GALXY | LEO  | 11 40.3       | +17 44        | 12   | 2.8 m       | 1.7 m       | 120         | SO    | pF,pL,R,bM,r,2nd of 3           | 50           |

Deep Sky Object List (110/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 3810 | GALXY | LEO  | 11 41.0       | +11 28        | 10.8 | 4.1 m       | 2.7 m       | 15          | Sc         | B,L,vIE                   | 74           |
|         |          |          |       |              |             |      |         | NGC 3811 | GALXY | UMA  | 11 41.3       | +47 41        | 12.3 | 2.2 m       | 1.7 m       | 160         | SBc/P      | F,S,vIE,glbM              | 26           |
|         |          |          |       |              |             |      |         | NGC 3812 | GALXY | LEO  | 11 41.1       | +24 49        | 12.4 | 1.7 m       | 1.6 m       |             | Elliptical | cF,vS,R,1st of 3,*6 sf 3' | 50           |
|         |          |          |       | x            |             |      |         | NGC 3813 | GALXY | UMA  | 11 41.3       | +36 33        | 11.6 | 2 m         | 1 m         | 87          | Sb         | cB,pL,pmE 83,bM           | 50           |
|         |          |          |       |              |             |      |         | NGC 3816 | GALXY | LEO  | 11 41.8       | +20 06        | 12.5 | 1.9 m       | 1.1 m       | 70          | SO         | F,S,bM                    | 50           |
|         |          |          |       |              |             |      |         | NGC 3818 | GALXY | VIR  | 11 42.0       | -06 09        | 11.7 | 2 m         | 1.2 m       | 103         | Elliptical | F,pS,R,psbM               | 74           |
|         |          |          |       |              |             |      |         | NGC 3835 | GALXY | UMA  | 11 44.1       | +60 07        | 12.4 | 1.8 m       | 0.7 m       | 60          | Sab        | pB,E,gbM,sf 5'            | 26           |
|         |          |          |       |              |             |      |         | NGC 3838 | GALXY | UMA  | 11 44.2       | +57 57        | 12.3 | 1.4 m       | 0.6 m       | 141         | Sa         | pB,cS,E,psbM *12          | 26           |
|         |          |          |       |              |             |      |         | NGC 3842 | GALXY | LEO  | 11 44.0       | +19 57        | 11.8 | 1.4 m       | 1 m         | 5           | Elliptical | F,S,R,vglbM,3rd of 5      | 50           |
|         |          |          |       |              |             |      |         | NGC 3853 | GALXY | LEO  | 11 44.5       | +16 33        | 12.4 | 1.6 m       | 1 m         | 140         | Elliptical | S,R,bM                    | 50           |
|         |          |          |       |              |             |      |         | NGC 3865 | GALXY | CRT  | 11 44.9       | -09 14        | 12   | 2.1 m       | 1.5 m       | 135         | SBb        | F,pL,dif                  | 74           |
|         |          |          |       |              |             |      |         | NGC 3872 | GALXY | LEO  | 11 45.8       | +13 46        | 11.7 | 2.3 m       | 1.7 m       | 25          | Elliptical | B,S,R,smbM *              | 50           |
|         |          | x        |       | x            |             | 43   |         | NGC 3877 | GALXY | UMA  | 11 46.1       | +47 30        | 11   | 5.3 m       | 1.2 m       | 35          | Sc         | B,L,mE 37                 | 26           |



Deep Sky Object List (111/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3885 | GALXY | HYA  | 11 46.8       | -27 55        | 11.9 | 2.7 m       | 1 m         | 123         | SBO-a      | cF,vS,vIE,bM,vF * sf     | 98           |
|         |          |          | x     |              | x           |      |         | NGC 3887 | GALXY | CRT  | 11 47.1       | -16 51        | 10.6 | 3.5 m       | 2.7 m       | 20          | SBbc       | pB,L,iR,vgpmbM           | 98           |
|         |          |          |       |              |             |      |         | NGC 3888 | GALXY | UMA  | 11 47.6       | +55 58        | 12.1 | 1.8 m       | 1.4 m       | 120         | SBc        | pB,S,IE,pgbM             | 26           |
|         |          |          |       |              |             |      |         | NGC 3891 | GALXY | UMA  | 11 48.1       | +30 22        | 12.4 | 2 m         | 1.7 m       | 70          | Sbc        | pB,S,bM                  | 50           |
|         |          |          |       |              | x           |      |         | NGC 3892 | GALXY | CRT  | 11 48.0       | -10 58        | 11.5 | 3.1 m       | 2.3 m       | 95          | SBO-a      | pB,pL,R,gbM,r            | 74           |
|         |          |          | x     | x            |             |      |         | NGC 3893 | GALXY | UMA  | 11 48.6       | +48 43        | 10.5 | 4.5 m       | 2.4 m       | 165         | SBc        | B,pL,R,mbM               | 26           |
|         |          |          |       |              |             |      |         | NGC 3894 | GALXY | UMA  | 11 48.8       | +59 25        | 11.6 | 2 m         | 1.4 m       | 20          | E3         | B,pL,iR,pgmbM,p of 2     | 26           |
|         |          |          |       | x            |             |      |         | NGC 3898 | GALXY | UMA  | 11 49.3       | +56 05        | 10.7 | 3.8 m       | 2.6 m       | 107         | Sab        | B,pL,IE,symbM            | 26           |
|         |          |          |       | x            |             |      |         | NGC 3900 | GALXY | LEO  | 11 49.2       | +27 01        | 11.4 | 3.5 m       | 1.8 m       | 2           | Sa Ring    | B,pL,vIE 0,bMN           | 50           |
|         |          |          |       |              |             |      |         | NGC 3904 | GALXY | HYA  | 11 49.2       | -29 17        | 10.9 | 2.7 m       | 2 m         | 8           | Elliptical | pB,S,R,mbM               | 98           |
|         |          |          |       | x            |             |      |         | NGC 3912 | GALXY | LEO  | 11 50.1       | +26 29        | 12.4 | 1.5 m       | 0.9 m       | 5           | SBb        | F,pL,R,pgbM              | 50           |
|         |          |          |       |              |             |      |         | NGC 3917 | GALXY | UMA  | 11 50.8       | +51 49        | 11.8 | 5 m         | 1.1 m       | 77          | Sc         | F,L,vmE,vgbM             | 26           |
|         |          |          | x     |              |             |      |         | NGC 3918 | PLNNB | CEN  | 11 50.3       | -57 11        | 8.4  | 12 s        |             |             | 2b         | !,S,R,blue,= *7,d = 1'.5 | 122          |

Deep Sky Object List (112/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3921 | GALXY | UMA  | 11 51.1       | +55 05        | 12.4 | 2.1 m       | 1.3 m       | 20          | Sa         | pF,S,R,pspmbM                    | 26           |
|         |          |          |       |              |             |      |         | NGC 3923 | GALXY | HYA  | 11 51.0       | -28 48        | 9.8  | 6.6 m       | 4.5 m       | 50          | Elliptical | B,pL,IE,gmbM,r,vS* sp<br>inv     | 98           |
|         |          |          |       |              |             |      |         | NGC 3930 | GALXY | UMA  | 11 51.8       | +38 01        | 12.4 | 3 m         | 2.3 m       | 30          | SBc        | eF,cL,iF,glbM,*7 (Grb<br>1830) f | 26           |
|         |          |          |       |              |             |      |         | NGC 3936 | GALXY | HYA  | 11 52.3       | -26 54        | 12   | 3.9 m       | 0.7 m       | 63          | SBbc       | vF,cL,vmE 59                     | 98           |
|         |          |          |       |              |             |      |         | NGC 3937 | GALXY | LEO  | 11 52.7       | +20 38        | 12.5 | 1.8 m       | 1.6 m       | 15          | E-SO       | vF,cS,R                          | 50           |
|         |          |          |       | x            |             |      |         | NGC 3938 | GALXY | UMA  | 11 52.8       | +44 07        | 10.4 | 5.1 m       | 5 m         |             | Sc         | B,vL,R,bM,pBN,er                 | 26           |
|         |          | x        |       | x            |             | 44   |         | NGC 3941 | GALXY | UMA  | 11 52.9       | +36 59        | 10.3 | 3.5 m       | 2.5 m       | 10          | SBO        | vB,pL,R,smbM *9                  | 50           |
|         |          |          |       | x            |             |      |         | NGC 3945 | GALXY | UMA  | 11 53.2       | +60 40        | 10.9 | 6.4 m       | 4.2 m       | 15          | SBO-a Ring | B,pL,R,gmbM,r,*12 sp             | 26           |
|         |          |          |       | x            |             |      |         | NGC 3949 | GALXY | UMA  | 11 53.7       | +47 52        | 11.1 | 2.9 m       | 1.7 m       | 120         | Sbc        | cB,pL,pmE,vgbM                   | 26           |
|         |          |          |       | x            |             |      | x       | NGC 3953 | GALXY | UMA  | 11 53.8       | +52 19        | 10.1 | 6.9 m       | 3.6 m       | 13          | SBbc       | cB,L,E 0,vsbM,fine<br>spiral     | 26           |
|         |          |          |       |              |             |      |         | NGC 3955 | GALXY | CRT  | 11 54.0       | -23 10        | 11.9 | 3.1 m       | 1 m         | 165         | Sa         | cF,S,E 170,lbs                   | 98           |
|         |          |          |       |              |             |      |         | NGC 3956 | GALXY | CRT  | 11 54.0       | -20 34        | 12.1 | 3.3 m       | 1 m         | 58          | SBc        | cF,pL,pmE 57                     | 98           |
|         |          |          |       |              |             |      |         | NGC 3957 | GALXY | CRT  | 11 54.0       | -19 34        | 11.8 | 2.9 m       | 0.7 m       | 173         | Sa         | F,S,E,r                          | 98           |

Deep Sky Object List (113/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 3960 | OPNCL | CEN  | 11 50.6       | -55 41        | 8.3  | 7.0 m       |             |             | I 2 m      | Cl,pL,pRi,gpmbM,st 13  | 122          |
|         |          |          |       | x            |             |      |         | NGC 3962 | GALXY | CRT  | 11 54.7       | -13 59        | 10.7 | 3.4 m       | 2.8 m       | 15          | Elliptical | cB,pL,iR,gmbM,tri 2 st | 98           |
|         |          |          |       |              |             |      |         | NGC 3963 | GALXY | UMA  | 11 55.0       | +58 30        | 11.9 | 2.7 m       | 2.4 m       |             | SBbc Ring  | pF,cL,R,vgsbM          | 26           |
|         |          |          |       |              |             |      |         | NGC 3968 | GALXY | LEO  | 11 55.5       | +11 58        | 11.8 | 2.7 m       | 1.9 m       | 10          | SBbc       | pB,L,iR,bM,*10,65,3'   | 74           |
|         |          |          |       |              |             |      |         | NGC 3972 | GALXY | UMA  | 11 55.8       | +55 19        | 12.3 | 3.7 m       | 1 m         | 120         | SBbc       | pB,E                   | 26           |
|         |          |          |       |              |             |      |         | NGC 3976 | GALXY | VIR  | 11 56.0       | +06 45        | 11.5 | 3.4 m       | 1.1 m       | 53          | SBb        | B,pL,cE 30,vsmbMN      | 74           |
|         |          |          |       |              |             |      |         | NGC 3981 | GALXY | CRT  | 11 56.1       | -19 54        | 11.3 | 5.3 m       | 2.5 m       | 15          | SBbc       | vF,pL,iF               | 98           |
|         |          |          |       | x            |             |      |         | NGC 3982 | GALXY | UMA  | 11 56.5       | +55 07        | 11   | 2.3 m       | 2 m         |             | SBb        | B,pL,R,g,sbM,disc      | 26           |
| M109    |          |          | *     | x            |             |      |         | NGC 3992 | GALXY | UMA  | 11 57.6       | +53 22        | 9.8  | 7.5 m       | 4.4 m       | 68          | SBbc       | cB,vL,pmE,sbM,BN       | 26           |
|         |          |          |       |              |             |      |         | NGC 3995 | GALXY | UMA  | 11 57.7       | +32 18        | 12.4 | 2.6 m       | 0.9 m       | 33          | SB         | F,pL,iR,bM,3rd of 3    | 50           |
|         |          |          | x     | x            |             |      |         | NGC 3998 | GALXY | UMA  | 11 57.9       | +55 27        | 10.7 | 2.7 m       | 2.3 m       | 140         | SO         | cB,pS,R,vg,smbM        | 26           |
|         |          |          |       |              |             |      |         | NGC 4008 | GALXY | LEO  | 11 58.3       | +28 12        | 12   | 2.4 m       | 1.3 m       | 167         | Elliptical | pB,pS,E,psbM,* inv n   | 50           |
|         |          |          |       |              | x           |      |         | NGC 4013 | GALXY | UMA  | 11 58.5       | +43 57        | 11.2 | 4.8 m       | 1 m         | 66          | Sb         | B,cL,mE62,vsvmbM*10    | 26           |

## Deep Sky Object List (114/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4014  | GALXY | COM  | 11 58.6       | +16 11        | 12.3 | 2.2 m       | 1.3 m       | 120         | Sa         | pB,pS,R,psbM              | 50           |
|         |          |          |       |              |             |      |         | NGC 4017  | GALXY | COM  | 11 58.8       | +27 27        | 12.2 | 1.8 m       | 1.4 m       | 15          | SBbc       | F,L,E,gbfM                | 50           |
|         |          |          |       |              | x           |      |         | NGC 4024  | GALXY | CRV  | 11 58.5       | -18 21        | 11.7 | 1.9 m       | 1.6 m       | 125         | E-SO Bar   | F,vS,iF,bM                | 98           |
|         |          | x        | x     | x            |             | 45   |         | NGC 4026  | GALXY | UMA  | 11 59.4       | +50 58        | 10.8 | 4.7 m       | 1.2 m       | 178         | SO         | vB,cL,mE176,vsvmbM,<br>BN | 26           |
|         |          |          | x     |              |             |      |         | NGC 4027  | GALXY | CRV  | 11 59.5       | -19 16        | 11.1 | 3.3 m       | 2.4 m       | 167         | SBd        | pF,pL,R,rr,st16           | 98           |
|         |          |          |       | x            |             |      |         | NGC 4027A | GALXY | CRV  | 11 59.5       | -19 20        | 15   | 0.9 m       | 0.6 m       | 159         | Ir         |                           | 98           |
|         |          |          | x     | x            |             |      | x       | NGC 4030  | GALXY | VIR  | 12 00.4       | -01 06        | 10.6 | 4.2 m       | 3.2 m       | 27          | Sbc        | cB,L,vIE,psmbM,B* nr      | 73           |
|         |          |          |       |              |             |      |         | NGC 4032  | GALXY | COM  | 12 00.5       | +20 04        | 12.3 | 1.9 m       | 1.8 m       |             | Ir         | pF,pL,R,gbM,*12 nf        | 49           |
|         |          |          |       |              |             |      |         | NGC 4033  | GALXY | CRV  | 12 00.6       | -17 51        | 11.7 | 2.4 m       | 1.2 m       | 47          | Elliptical | pB,S,IE,bM                | 97           |
|         |          |          | x     | x            |             |      |         | NGC 4036  | GALXY | UMA  | 12 01.5       | +61 54        | 10.7 | 4 m         | 1.8 m       | 85          | E6         | vB,vL,E,vBN               | 25           |
|         |          |          |       |              |             |      |         | NGC 4037  | GALXY | COM  | 12 01.4       | +13 24        | 11.9 | 2.4 m       | 2.2 m       |             | SBb        | eF,pL,R,r                 | 49           |
|         | C 60     |          | !*    | x            |             | 74   | x       | NGC 4038  | GALXY | CRV  | 12 01.9       | -18 52        | 10.3 | 3.4 m       | 2 m         | 80          | Sp         | pB,cL,R,vgbM              | 97           |
|         | C 61     |          | !*    |              | x           | 74   | x       | NGC 4039  | GALXY | CRV  | 12 01.9       | -18 53        | 10.6 | 3.3 m       | 1.7 m       | 130         | SB         | pF,pL                     | 97           |

Deep Sky Object List (115/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|--|--------------|
|         |          |          | x     | x            |             |      |         | NGC 4041 | GALXY | UMA  | 12 02.2       | +62 08        | 11.3 | 2.7 m       | 2.6 m       |             | Sbc      | B,cL,R,g,psvmbMrN,vB<br>cent w comp struct | 7            |
|         |          |          |       |              | x           |      |         | NGC 4045 | GALXY | VIR  | 12 02.7       | +01 59        | 12   | 3.1 m       | 1.9 m       | 95          | Sba Ring | pF,L,R,sbM,* sf                            | 73           |
|         |          |          |       |              | x           |      |         | NGC 4047 | GALXY | UMA  | 12 02.8       | +48 38        | 12.2 | 1.2 m       | 1 m         | 105         | Sbc      | pB,pS,R,vsvBN                              | 25           |
|         |          |          |       |              |             |      |         | NGC 4050 | GALXY | CRV  | 12 02.9       | -16 22        | 12.2 | 3 m         | 2 m         | 95          | SBab     | F,cL,iR,lbM                                | 97           |
|         |          |          | x     | x            |             |      |         | NGC 4051 | GALXY | UMA  | 12 03.2       | +44 32        | 10.2 | 5.3 m       | 4.4 m       | 135         | SBbc     | B,vL,E,vgvsmbM*11,vs<br>eBN or *           | 25           |
|         |          |          |       |              |             |      |         | NGC 4052 | OPNCL | CRU  | 12 02.1       | -63 13        | 8.8  | 10 m        |             |             | II 1 p   | Cl,pRi,IC                                  | 139          |
|         |          |          |       |              | x           |      |         | NGC 4062 | GALXY | UMA  | 12 04.1       | +31 54        | 11.1 | 4 m         | 1.8 m       | 100         | SBc      | pB,vL,mE97,vgbM,vsB<br>N                   | 49           |
|         |          |          |       |              |             |      |         | NGC 4064 | GALXY | COM  | 12 04.2       | +18 27        | 11.4 | 4.6 m       | 1.7 m       | 150         | SBa      | B,E,gbM                                    | 49           |
|         |          |          |       |              |             |      |         | NGC 4067 | GALXY | VIR  | 12 04.2       | +10 51        | 12.5 | 1.3 m       | 0.9 m       | 35          | Sb       | F,pS,R,gbM                                 | 73           |
|         |          |          |       |              |             |      |         | NGC 4068 | GALXY | UMA  | 12 04.0       | +52 35        | 12.5 | 3.2 m       | 1.7 m       | 30          | Ir       | pF,S,stellar                               | 25           |
|         |          |          |       |              | x           |      |         | NGC 4073 | GALXY | VIR  | 12 04.5       | +01 54        | 11.4 | 3.2 m       | 2.3 m       | 105         | E1       | F,pS,R,pgbM,np of 2                        | 73           |
|         |          |          |       |              |             |      |         | NGC 4079 | GALXY | VIR  | 12 04.8       | -02 23        | 12.4 | 2.3 m       | 1.6 m       | 125         | Sbc      | F,L,R,*10 n 1'                             | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4085 | GALXY | UMA  | 12 05.4       | +50 21        | 12.4 | 2.5 m       | 0.8 m       | 78          | SBc      | B,pL,pmE78,vsbM                            | 25           |

Deep Sky Object List (116/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4087 | GALXY | HYA  | 12 05.6       | -26 31        | 12.1 | 2.1 m       | 1.7 m       |             | E-SO       | pB,S,R,bM                    | 97           |
|         |          | x        | x     | x            |             | 46   | x       | NGC 4088 | GALXY | UMA  | 12 05.6       | +50 32        | 10.6 | 5.6 m       | 2.1 m       | 43          | SBbc       | B,cL,E55,lbM                 | 25           |
|         |          |          |       |              |             |      |         | NGC 4094 | GALXY | CRV  | 12 05.9       | -14 32        | 11.8 | 4.1 m       | 1.5 m       | 63          | SBc        | eF,L,pmE,vgbM,2*11 nr        | 97           |
|         |          |          | x     |              | x           |      |         | NGC 4096 | GALXY | UMA  | 12 06.0       | +47 29        | 10.9 | 6.5 m       | 1.8 m       | 20          | SBc        | pB,vL,mE32,sBN or bar        | 25           |
|         |          |          | x     |              | x           |      |         | NGC 4100 | GALXY | UMA  | 12 06.1       | +49 35        | 11.2 | 5.4 m       | 1.7 m       | 167         | Sbc        | pB,vL,vmE161,vgvlbM,v<br>sBN | 25           |
|         |          |          |       | x            |             |      |         | NGC 4102 | GALXY | UMA  | 12 06.4       | +52 43        | 11.2 | 3.1 m       | 1.7 m       | 38          | SBb Ring   | B,pS,R,bM,BN,*12 sp          | 25           |
|         |          |          |       |              |             |      |         | NGC 4103 | OPNCL | CRU  | 12 06.7       | -61 15        | 7.4  | 7.0 m       |             |             | I 3 m      | Cl,pL,pC,iR,*10...14         | 121          |
|         |          |          |       |              |             |      |         | NGC 4104 | GALXY | COM  | 12 06.6       | +28 10        | 12.1 | 2.6 m       | 1.6 m       | 35          | SBO        | pB,pS,IE,bM                  | 49           |
|         |          |          | x     |              | x           |      |         | NGC 4105 | GALXY | HYA  | 12 06.7       | -29 46        | 10.6 | 2.8 m       | 2.1 m       | 151         | Elliptical | pF,pS,R,psbM,r,p of 2        | 97           |
|         |          |          | x     |              |             |      |         | NGC 4106 | GALXY | HYA  | 12 06.8       | -29 46        | 11.4 | 2.3 m       | 1.7 m       | 77          | SBO-a      | pF,pS,R,pgbM,f of 2          | 97           |
|         |          |          |       |              |             |      |         | NGC 4108 | GALXY | DRA  | 12 06.7       | +67 10        | 12.3 | 1.7 m       | 1.4 m       | 105         | Sc         | B,S,R,gbM,f of 3             | 7            |
|         |          | x        | x     | x            |             | 59   | x       | NGC 4111 | GALXY | CVN  | 12 07.0       | +43 04        | 10.7 | 4.6 m       | 1 m         | 150         | Sa         | vB,pS,mE151,vsvBN            | 25           |
|         |          |          |       |              |             |      |         | NGC 4112 | GALXY | CEN  | 12 07.2       | -40 13        | 12   | 1.6 m       | 0.9 m       | 5           | SBb        | F,S,vIE,glbM,3B* nr          | 121          |

## Deep Sky Object List (117/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 4116 | GALXY | VIR  | 12 07.6       | +02 41        | 12   | 3.8 m       | 2.3 m       | 155         | SBc        | vF,E(hook shape),sp of 2    | 73           |
|         |          |          |       |              |             |      |         | NGC 4119 | GALXY | VIR  | 12 08.2       | +10 23        | 12.2 | 3.9 m       | 1.8 m       | 114         | Sa         | IE                          | 73           |
|         |          |          | x     |              |             |      |         | NGC 4123 | GALXY | VIR  | 12 08.2       | +02 53        | 11.4 | 4.3 m       | 3.2 m       | 135         | SBb        | cF,vL,E90,bMN               | 73           |
|         |          |          |       |              | x           |      |         | NGC 4124 | GALXY | VIR  | 12 08.2       | +10 23        | 11.4 | 3.9 m       | 1.8 m       | 114         | Sa         | pB,pL,mE118,bM,r            | 73           |
|         |          |          |       |              |             |      |         | NGC 4125 | GALXY | DRA  | 12 08.1       | +65 10        | 9.7  | 6 m         | 5.1 m       | 95          | Elliptical | pB,pL,cE,mbM                | 7            |
|         |          |          |       |              |             |      |         | NGC 4128 | GALXY | DRA  | 12 08.5       | +68 46        | 12   | 2.4 m       | 0.9 m       | 58          | SO         | cB,IE,bM,svBN,spindle shape | 7            |
|         |          |          |       |              |             |      |         | NGC 4129 | GALXY | VIR  | 12 08.9       | -09 02        | 12.5 | 2.3 m       | 0.6 m       | 93          | SBab       | F,pL,pmE95,vglbM            | 73           |
|         |          |          |       |              | x           |      |         | NGC 4133 | GALXY | DRA  | 12 08.8       | +74 54        | 12.3 | 1.8 m       | 1.3 m       | 125         | SBb        | pB,cL,R,gmbM                | 7            |
|         |          |          |       |              | x           |      |         | NGC 4136 | GALXY | COM  | 12 09.3       | +29 56        | 11   | 3.9 m       | 3.6 m       |             | SBc Ring   | F,vL,vgmbM                  | 49           |
|         |          |          |       |              | x           |      |         | NGC 4138 | GALXY | CVN  | 12 09.5       | +43 41        | 11.3 | 2.9 m       | 1.8 m       | 150         | Sa         | B,pL,IE,vgbM,* np           | 25           |
|         |          |          |       | x            |             |      |         | NGC 4143 | GALXY | CVN  | 12 09.6       | +42 32        | 10.6 | 2.9 m       | 1.9 m       | 144         | SBO        | cB,R,vg,vsbMN               | 25           |
|         |          |          |       |              | x           |      |         | NGC 4144 | GALXY | UMA  | 12 10.0       | +46 27        | 11.6 | 6.1 m       | 1.5 m       | 104         | SBc        | pF,cL,vmE109,vgbM,B M no BN | 25           |
|         |          |          |       |              |             |      |         | NGC 4145 | GALXY | CVN  | 12 10.0       | +39 53        | 11.3 | 5.9 m       | 4.1 m       | 100         | SBcd       | B,vL,vglbM                  | 25           |

Deep Sky Object List (118/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                   | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------------|--------------|
|         |          |          | x     | x            |             |      |         | NGC 4147 | GLOCL | COM  | 12 10.1       | +18 33        | 10.3 | 4.0 m       |             |             | VI         | vB,pL,R,gbM,rrr                   | 49           |
|         |          |          |       | x            |             |      |         | NGC 4150 | GALXY | COM  | 12 10.6       | +30 24        | 11.6 | 2.3 m       | 1.6 m       | 147         | SO         | B,S,R,pgmbM,vsvBN                 | 49           |
|         |          |          |       | x            |             |      | x       | NGC 4151 | GALXY | CVN  | 12 10.5       | +39 24        | 10.8 | 6.8 m       | 5.3 m       | 50          | SBab Ring  | vB,S,R,vsmbMBN,p of 2             | 25           |
|         |          |          |       |              | x           |      |         | NGC 4152 | GALXY | COM  | 12 10.6       | +16 02        | 12.2 | 2.3 m       | 1.9 m       | 115         | SBc        | pB,pL,R,pgmbM,r                   | 49           |
|         |          |          |       |              |             |      |         | NGC 4153 | GLOCL | COM  | 12 10.1       | +18 33        | 10.3 | 4.1 m       |             |             | VI         | B,pL,E,bM                         | 49           |
|         |          |          |       |              | x           | 47   |         | NGC 4157 | GALXY | UMA  | 12 11.1       | +50 29        | 11.4 | 6.7 m       | 1.2 m       | 66          | SBb        | pF,cL,vmE60                       | 25           |
|         |          |          |       |              |             |      |         | NGC 4158 | GALXY | COM  | 12 11.2       | +20 11        | 12.1 | 2 m         | 1.8 m       |             | Sb         | F,pS,IE,bM,pB* sf,vBN             | 49           |
|         |          |          |       |              |             |      |         | NGC 4162 | GALXY | COM  | 12 11.9       | +24 07        | 12.2 | 2.3 m       | 1.4 m       | 174         | Sbc        | B,L,iE,bM,vBN w * att.<br>@ 0.2'  | 49           |
|         |          |          |       |              | x           |      |         | NGC 4168 | GALXY | VIR  | 12 12.3       | +13 12        | 11.2 | 2.8 m       | 2.2 m       |             | Elliptical | pB,pL,iF,psbM,r,* inv             | 49           |
|         |          |          |       |              | x           |      |         | NGC 4169 | GALXY | COM  | 12 12.3       | +29 11        | 12.2 | 1.8 m       | 0.9 m       | 153         | SO         | F,S,1st of 4                      | 49           |
|         |          |          |       |              |             |      |         | NGC 4178 | GALXY | VIR  | 12 12.8       | +10 52        | 11.4 | 5 m         | 1.7 m       | 30          | SBcd       | vF,vL,E45,*7f                     | 73           |
|         |          |          |       | x            |             |      |         | NGC 4179 | GALXY | VIR  | 12 12.9       | +01 18        | 11   | 4.2 m       | 1.3 m       | 143         | SO         | pB,pS,pmE135,bMN                  | 73           |
|         |          |          |       |              |             |      |         | NGC 4183 | GALXY | CVN  | 12 13.3       | +43 42        | 12.3 | 5.3 m       | 0.7 m       | 166         | Sc         | vF,cL,mE170,B<br>center,no def. N | 25           |



## Deep Sky Object List (119/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 4185 | GALXY | COM  | 12 13.4       | +28 31        | 12.1 | 2.6 m       | 2 m         | 165         | SBbc Ring  | cF,L,R,gbM                          | 49           |
|         |          |          |       |              | x           |      |         | NGC 4189 | GALXY | COM  | 12 13.8       | +13 25        | 11.7 | 2.5 m       | 1.7 m       | 85          | SBc        | F,L,IE,vglbM,r                      | 49           |
| M 98    |          |          | x     |              |             |      |         | NGC 4192 | GALXY | COM  | 12 13.8       | +14 54        | 10.1 | 9.4 m       | 2.3 m       | 155         | SBb        | B,vL,vmE152,vsymbM                  | 49           |
|         |          |          |       |              |             |      |         | NGC 4193 | GALXY | VIR  | 12 13.9       | +13 10        | 12.3 | 2.2 m       | 1.1 m       | 93          | SBbc       | vF,pL,E,vgbM                        | 49           |
|         |          |          |       |              |             |      |         | NGC 4194 | GALXY | UMA  | 12 14.2       | +54 32        | 12.5 | 1.8 m       | 1.1 m       | 170         | Ir Bar     | pB,vS,vsbM *12                      | 25           |
|         |          |          |       | x            |             |      |         | NGC 4203 | GALXY | COM  | 12 15.1       | +33 12        | 10.9 | 3.5 m       | 3.2 m       | 10          | E-SO Bar   | vB,S,R,psmbM                        | 49           |
|         |          |          |       |              |             |      |         | NGC 4204 | GALXY | COM  | 12 15.2       | +20 40        | 12.4 | 3.6 m       | 2.9 m       | 130         | SBd        | vF,cL,iR,vgbM                       | 49           |
|         |          |          |       |              |             |      |         | NGC 4206 | GALXY | VIR  | 12 15.3       | +13 01        | 12.1 | 6.4 m       | 1.1 m       | 0           | Sbc        | F,vmE                               | 49           |
|         |          |          |       |              |             |      |         | NGC 4207 | GALXY | VIR  | 12 15.5       | +09 35        | 12.5 | 1.6 m       | 0.8 m       | 124         | Scd        | pF,pS,IE,*14 np                     | 73           |
|         |          |          |       |              |             |      |         | NGC 4210 | GALXY | DRA  | 12 15.3       | +65 59        | 12.5 | 2 m         | 1.6 m       | 105         | SBb        | pF,pS,R,vgbM,sBN in<br>narrow B bar | 7            |
|         |          |          |       |              | x           |      |         | NGC 4212 | GALXY | COM  | 12 15.7       | +13 54        | 11.2 | 3.2 m       | 2 m         | 75          | Sc         | B,L,E107,g,sbM,r                    | 49           |
|         |          |          |       |              |             |      |         | NGC 4213 | GALXY | COM  | 12 15.6       | +23 59        | 12.5 | 1.7 m       | 1.7 m       |             | Elliptical | cF,vS,R                             | 49           |
|         |          | x        | x     | x            |             | 60   | x       | NGC 4214 | GALXY | CVN  | 12 15.6       | +36 20        | 9.8  | 8.4 m       | 7.2 m       | 155         | Ir         | cB,cL,iE,biN,=NGC<br>4208           | 49           |

## Deep Sky Object List (120/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|----------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4215 | GALXY | VIR  | 12 15.9       | +06 24        | 12.1 | 1.8 m       | 0.7 m       | 174         | Sa        | B,pS,E,sbM*11              | 73           |
|         |          | x        | x     | x            |             | 76   | x       | NGC 4216 | GALXY | VIR  | 12 15.9       | +13 09        | 10   | 7.8 m       | 1.8 m       | 19          | SBb       | vB,vL,vmE17,sbMN           | 49           |
|         |          |          |       |              | x           |      |         | NGC 4217 | GALXY | CVN  | 12 15.8       | +47 05        | 11.2 | 4.8 m       | 1.5 m       | 50          | Sb        | pF,L,mE45,**n,p of 2       | 25           |
|         |          |          |       |              |             |      |         | NGC 4218 | GALXY | CVN  | 12 15.8       | +48 08        | 12.5 | 0.9 m       | 0.5 m       | 142         | Sa        | vF,vS                      | 25           |
|         |          |          |       |              |             |      |         | NGC 4219 | GALXY | CEN  | 12 16.5       | -43 19        | 11.9 | 4.2 m       | 1.2 m       | 36          | Sbc       | pF,pL,pmE,vglbM            | 121          |
|         |          |          |       |              | x           |      |         | NGC 4220 | GALXY | CVN  | 12 16.2       | +47 53        | 11.4 | 3.9 m       | 1.5 m       | 141         | Sa        | cB,pL,pmE134,psbM,sBN      | 25           |
|         |          |          |       |              |             |      |         | NGC 4221 | GALXY | DRA  | 12 16.0       | +66 14        | 12.3 | 2 m         | 1.4 m       | 25          | SBO-a     | pB,S,R,psbM,vsvBN on B bar | 7            |
|         |          |          |       |              | x           |      |         | NGC 4224 | GALXY | VIR  | 12 16.6       | +07 28        | 11.8 | 2.5 m       | 1 m         | 57          | Sa        | pB,pS,IE,gbM,r             | 73           |
|         |          |          |       |              |             |      |         | NGC 4230 | OPNCL | CEN  | 12 17.3       | -55 05        | 9.4  | 6.0 m       |             |             | IV 2 p    | Cl,F,pL,iF,* 13...15       | 121          |
|         |          |          |       |              | x           |      |         | NGC 4233 | GALXY | VIR  | 12 17.1       | +07 37        | 11.9 | 2.4 m       | 1.1 m       | 174         | SBO       | pF,R,vsbMSN                | 73           |
|         |          |          |       |              | x           |      |         | NGC 4235 | GALXY | VIR  | 12 17.2       | +07 11        | 11.6 | 3.9 m       | 0.9 m       | 48          | Sa        | pB,pL,pmE,bM,p of 2        | 73           |
|         | C 3      |          | x     |              | x           |      |         | NGC 4236 | GALXY | DRA  | 12 16.7       | +69 28        | 9.6  | 22.6 m      | 6.9 m       | 162         | SBd       | vF,eL,mE160,vgbM           | 7            |
|         |          |          |       |              | x           |      |         | NGC 4237 | GALXY | COM  | 12 17.2       | +15 19        | 11.6 | 2.1 m       | 1.4 m       | 108         | SBbc Ring | pB,pL,IE,vgbM,r            | 49           |

Deep Sky Object List (121/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 4241 | GALXY | VIR  | 12 18.0       | +06 39        | 11.9 | 1.7 m       | 1.4 m       |             | SBc        | vF,L,vgbM,*7S                    | 73           |
|         |          |          |       |              |             |      |         | NGC 4242 | GALXY | CVN  | 12 17.5       | +45 37        | 10.8 | 5.2 m       | 4 m         | 25          | SBd        | vF,cL,iR,vgbM,r                  | 25           |
|         | C 26     | x        | x     |              | x           | 61   | x       | NGC 4244 | GALXY | CVN  | 12 17.5       | +37 48        | 10.4 | 15.9 m      | 1.8 m       | 48          | Sc         | pB,vL,eE43,vgbM,vsBN<br>or *?    | 25           |
|         |          |          |       | x            |             |      |         | NGC 4245 | GALXY | COM  | 12 17.6       | +29 36        | 11.4 | 3.3 m       | 2.4 m       | 165         | SBO-a Ring | cB,pL,vIE,smbM,r,vsvB<br>N       | 49           |
|         |          |          |       |              | x           |      |         | NGC 4248 | GALXY | CVN  | 12 17.8       | +47 25        | 12.5 | 2.9 m       | 1.2 m       | 108         | SBb        | vF,S,pmE,psbM                    | 25           |
|         |          |          |       |              | x           |      |         | NGC 4250 | GALXY | DRA  | 12 17.4       | +70 48        | 11.8 | 2.3 m       | 1.9 m       | 168         | SBO-a      | pB,S,R,pgbM,vsvBN                | 7            |
|         |          |          | x     | x            |             |      |         | NGC 4251 | GALXY | COM  | 12 18.1       | +28 10        | 10.7 | 3.6 m       | 2.5 m       | 100         | SBO Ring   | vB,S,E,vsymbMN,*6-7 f<br>90"     | 49           |
| M 99    |          |          | *     |              |             |      |         | NGC 4254 | GALXY | COM  | 12 18.8       | +14 25        | 9.9  | 5.3 m       | 4.6 m       | 40          | Sc         | !,B,L,R,gbM,r,3 branch<br>spiral | 49           |
|         |          |          |       |              | x           |      |         | NGC 4256 | GALXY | DRA  | 12 18.7       | +65 54        | 11.9 | 4.1 m       | 0.7 m       | 42          | Sb         | pB,L,cE38,bMBN,sBN<br>in B bulge | 7            |
| M106    |          |          | *     | x            |             |      |         | NGC 4258 | GALXY | CVN  | 12 19.0       | +47 18        | 8.4  | 17.4 m      | 6.6 m       | 150         | SBbc       | !,vB,vL,vmE0,sbMBN               | 25           |
|         |          |          | x     |              | x           |      |         | NGC 4260 | GALXY | VIR  | 12 19.4       | +06 06        | 11.8 | 2.4 m       | 1.2 m       | 58          | SBab       | pB,E,psbM                        | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4261 | GALXY | VIR  | 12 19.4       | +05 49        | 10.4 | 3.8 m       | 3.5 m       | 160         | E2         | pB,pS,R,gbM                      | 73           |
|         |          |          |       |              |             |      |         | NGC 4262 | GALXY | COM  | 12 19.5       | +14 53        | 11.6 | 1.8 m       | 1.6 m       |             | E-SO Bar   | B,S,R,r                          | 49           |

## Deep Sky Object List (122/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 4264 | GALXY | VIR  | 12 19.6       | +05 51        | 12.8 | 0.9 m       | 0.7 m       | 130         | SBO-a      | F,pS,R,gbM                    | 73           |
|         |          |          |       |              | x           |      |         | NGC 4267 | GALXY | VIR  | 12 19.8       | +12 48        | 10.9 | 3 m         | 2.8 m       |             | E-SO Bar   | pB,vS,R,vsmbM                 | 49           |
|         |          |          |       |              | x           |      |         | NGC 4270 | GALXY | VIR  | 12 19.8       | +05 28        | 12.2 | 2 m         | 0.9 m       | 110         | SO         | pB,S,E                        | 73           |
|         |          |          |       |              | x           |      |         | NGC 4271 | GALXY | UMA  | 12 19.5       | +56 44        | 12.6 | 1.5 m       | 1.3 m       | 55          | E-SO       | pB,pL,iF                      | 25           |
|         |          |          | x     | x            |             |      |         | NGC 4273 | GALXY | VIR  | 12 19.9       | +05 21        | 11.9 | 2.3 m       | 1.5 m       | 10          | SBc        | pB,L,E,gbM                    | 73           |
|         |          | x        | x     | x            |             | 68   | x       | NGC 4274 | GALXY | COM  | 12 19.8       | +29 37        | 10.4 | 6.8 m       | 2.4 m       | 102         | SBab Ring  | vB,vL,E90,mbMN                | 49           |
|         |          |          |       |              |             |      |         | NGC 4276 | GALXY | VIR  | 12 20.1       | +07 41        | 12.4 | 1.6 m       | 1.4 m       |             | SBc        | pF,pL                         | 73           |
|         |          |          |       | x            |             |      |         | NGC 4278 | GALXY | COM  | 12 20.1       | +29 17        | 10.2 | 4 m         | 3.9 m       |             | Elliptical | vB,pL,R,mbM,r,1 of 3          | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4281 | GALXY | VIR  | 12 20.4       | +05 23        | 11.3 | 3 m         | 1.6 m       | 88          | Sa         | B,vL,R,pgbM                   | 73           |
|         |          |          |       |              |             |      |         | NGC 4283 | GALXY | COM  | 12 20.3       | +29 19        | 12.1 | 1.4 m       | 1.4 m       |             | Elliptical | B,S,R,bM,2 of 3,svB<br>center | 49           |
|         |          |          |       |              | x           |      |         | NGC 4290 | GALXY | UMA  | 12 20.8       | +58 06        | 11.8 | 2.2 m       | 1.6 m       | 90          | SBab Ring  | pB,L,R,gmbM                   | 25           |
|         |          |          |       |              | x           |      |         | NGC 4291 | GALXY | DRA  | 12 20.3       | +75 22        | 11.5 | 2 m         | 1.7 m       | 110         | Elliptical | pB,vS,R,lbM,3*f               | 7            |
|         |          |          |       |              |             |      |         | NGC 4292 | GALXY | VIR  | 12 21.3       | +04 36        | 12.2 | 1.6 m       | 1.2 m       | 7           | SBO        | F,S,R,vglbM,*9 np 72"         | 73           |

Deep Sky Object List (123/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---|--------------|
|         |          |          | x     | x            |             |      | x       | NGC 4293 | GALXY | COM  | 12 21.2       | +18 23        | 10.4 | 5.5 m       | 2.9 m       | 72          | SBO-a      | F,vL,E,lbM,r,vsBN                       | 49           |
|         |          |          | x     |              | x           |      |         | NGC 4294 | GALXY | VIR  | 12 21.3       | +11 31        | 12.1 | 3.2 m       | 1.2 m       | 155         | SBc        | F,L,mE135,biN,p of 2                    | 73           |
|         |          |          | x     |              | x           |      |         | NGC 4298 | GALXY | COM  | 12 21.5       | +14 36        | 11.3 | 3.2 m       | 1.9 m       | 140         | Sc         | F,L,E,vgbM,p of 2                       | 49           |
|         |          |          | x     |              | x           |      |         | NGC 4299 | GALXY | VIR  | 12 21.7       | +11 30        | 12.5 | 1.7 m       | 1.6 m       | 26          | SBd        | F,L,IE,vgbM,f of 2                      | 73           |
|         |          |          | x     |              | x           |      |         | NGC 4302 | GALXY | COM  | 12 21.7       | +14 36        | 11.6 | 5.3 m       | 1 m         | 178         | Sc         | L,vmE177,f of 2                         | 49           |
| M 61    |          |          | x     | x            |             |      |         | NGC 4303 | GALXY | VIR  | 12 21.9       | +04 28        | 9.6  | 6.5 m       | 5.9 m       |             | SBbc Ring  | vB,vL,vsbM*,biN                         | 73           |
|         |          |          |       |              |             |      |         | NGC 4304 | GALXY | HYA  | 12 22.2       | -33 29        | 11.6 | 2.6 m       | 2.5 m       |             | SBbc       | vF,vL,R,vgvlbM,r                        | 97           |
|         |          |          |       |              |             |      |         | NGC 4307 | GALXY | VIR  | 12 22.1       | +09 02        | 12   | 3.5 m       | 0.8 m       | 24          | Sb         | pF,L,mE,3 knots                         | 73           |
|         |          |          |       |              | x           |      |         | NGC 4310 | GALXY | COM  | 12 22.4       | +29 12        | 12.2 | 2.4 m       | 1.3 m       | 128         | SBO-a Ring | F,cL,IE,n of 2                          | 49           |
|         |          |          |       |              | x           |      |         | NGC 4312 | GALXY | COM  | 12 22.5       | +15 32        | 11.7 | 4.6 m       | 1.1 m       | 170         | Sab        | pB,cL,E,gbM                             | 49           |
|         |          |          |       |              | x           |      |         | NGC 4313 | GALXY | VIR  | 12 22.6       | +11 48        | 11.6 | 3.8 m       | 0.9 m       | 143         | Sab        | vF,L,E135                               | 73           |
|         |          |          |       | x            |             |      |         | NGC 4314 | GALXY | COM  | 12 22.5       | +29 54        | 10.6 | 3.9 m       | 3.7 m       |             | SBa        | cB,L,E150,sbM,*<br>np,eBN w spir struct | 49           |
|         |          |          |       |              | x           |      |         | NGC 4319 | GALXY | DRA  | 12 21.7       | +75 19        | 11.9 | 2.8 m       | 2.1 m       | 160         | SBab       | pB,pS,vIE,sbM,vsBN<br>in bar            | 7            |

## Deep Sky Object List (124/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------------|--------------|
| M100    |          |          | *     |              |             |      |         | NGC 4321 | GALXY | COM  | 12 22.9       | +15 49        | 9.4  | 7.5 m       | 6.1 m       | 30          | SBbc       | pF,vL,R,vg,psbMrN,spiral-Rosse      | 49           |
|         |          |          |       |              |             |      |         | NGC 4324 | GALXY | VIR  | 12 23.1       | +05 15        | 11.6 | 2.9 m       | 1.2 m       | 53          | Sa Ring    | pB,R or IE,bM                       | 73           |
|         |          |          |       |              |             |      |         | NGC 4330 | GALXY | VIR  | 12 23.3       | +11 22        | 12.4 | 4.5 m       | 0.9 m       | 59          | Sc         | vF,L,mE                             | 73           |
|         |          |          |       |              |             |      |         | NGC 4332 | GALXY | DRA  | 12 22.8       | +65 51        | 12.2 | 2.1 m       | 1.5 m       | 130         | SBa        | pF,S,vIE,vgbM,B bar,2 F smooth arms | 7            |
|         |          |          |       |              |             |      |         | NGC 4335 | GALXY | UMA  | 12 23.0       | +58 27        | 12.4 | 1.9 m       | 1.5 m       | 145         | Elliptical | pB,S,E,gbM                          | 25           |
|         |          |          |       |              | x           |      |         | NGC 4336 | GALXY | COM  | 12 23.5       | +19 26        | 12.5 | 2 m         | 0.9 m       | 162         | SBO-a      | vF,pL,iR,biN?                       | 49           |
|         |          |          |       |              |             |      |         | NGC 4337 | OPNCL | CRU  | 12 24.1       | -58 07        | 8.9  | 3.5 m       |             |             | II 3 p     | Cl,pRi,IC,* 12...14                 | 121          |
|         |          |          |       |              | x           |      |         | NGC 4339 | GALXY | VIR  | 12 23.6       | +06 05        | 11.4 | 2.3 m       | 2.1 m       |             | Elliptical | B,pL,R,bM,3 of 3                    | 73           |
|         |          |          | x     |              | x           |      |         | NGC 4340 | GALXY | COM  | 12 23.6       | +16 43        | 11.2 | 3.1 m       | 2.3 m       | 102         | SBO-a Ring | pB,S,R,psbM                         | 49           |
|         |          |          |       |              |             |      |         | NGC 4342 | GALXY | VIR  | 12 23.7       | +07 03        | 12.5 | 1.2 m       | 0.6 m       | 168         | SO         | eF,vS,IE                            | 73           |
|         |          |          |       |              | x           |      |         | NGC 4343 | GALXY | VIR  | 12 23.6       | +06 57        | 12.1 | 2.3 m       | 0.7 m       | 133         | Sb         | pF,S,E,D?                           | 73           |
|         |          |          |       |              |             |      |         | NGC 4344 | GALXY | COM  | 12 23.6       | +17 32        | 12.3 | 1.4 m       | 1.4 m       |             | SBO        | vF,pS,R,vglbM,tri 2*                | 49           |
|         |          |          |       | x            |             |      |         | NGC 4346 | GALXY | CVN  | 12 23.5       | +47 00        | 11.1 | 3.2 m       | 1.3 m       | 99          | SBO        | vF,S,mE100,vsmbMBN                  | 25           |

## Deep Sky Object List (125/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4348  | GALXY | VIR  | 12 23.9       | -03 27        | 12.5 | 3.2 m       | 0.7 m       | 40          | Sbc        | F,pL,E70,vlbM         | 73           |
|         |          |          | x     |              |             |      |         | NGC 4349  | OPNCL | CRU  | 12 24.1       | -61 52        | 7.4  | 4 m         |             |             | I 2 m      | Cl,vB,vL,IC,* 12...14 | 121          |
|         |          |          | x     | x            |             |      |         | NGC 4350  | GALXY | COM  | 12 24.0       | +16 42        | 11   | 2.9 m       | 1.6 m       | 28          | SO         | cB,vS,mE,vsbM         | 49           |
|         |          |          |       |              |             |      |         | NGC 4357  | GALXY | CVN  | 12 24.0       | +48 47        | 12.4 | 3.7 m       | 1.3 m       | 77          | Sbc        | F,pS,gbM,=4381?       | 25           |
|         |          |          |       |              | x           |      |         | NGC 4359  | GALXY | COM  | 12 24.2       | +31 31        | 12.7 | 3.5 m       | 0.8 m       | 108         | SBc        | cF,pmE90,vlbM         | 49           |
|         |          | x        | x     | x            |             | 75   | x       | NGC 4361  | PLNNB | CRV  | 12 24.5       | -18 47        | 10.9 | 80 s        |             |             | 3a(2)      | vB,L,R,vsmbMN,r       | 97           |
|         |          |          | x     | x            |             |      |         | NGC 4365  | GALXY | VIR  | 12 24.5       | +07 19        | 9.6  | 6.5 m       | 4.9 m       | 40          | Elliptical | cB,pL,vIE,gl,smbM     | 73           |
|         |          |          |       |              | x           |      |         | NGC 4369  | GALXY | CVN  | 12 24.6       | +39 23        | 11.7 | 2.4 m       | 2.4 m       |             | Sa         | cB,S,R,mbMN,r         | 25           |
|         |          |          |       | x            |             |      |         | NGC 4371  | GALXY | VIR  | 12 24.9       | +11 42        | 10.8 | 4 m         | 2.3 m       | 95          | SBO-a Ring | B,pS,R,gbM            | 73           |
|         | C108     |          | x     |              |             |      |         | NGC 4372  | GLOCL | MUS  | 12 25.8       | -72 40        | 7.8  | 18.6 m      |             |             | XII        | pF,L,R,* 12...16      | 139          |
|         |          |          |       |              |             |      |         | NGC 4373  | GALXY | CEN  | 12 25.3       | -39 46        | 10.9 | 3.6 m       | 2.6 m       | 43          | E-SO Bar   | pB,S,R,pgymbM         | 121          |
|         |          |          |       |              |             |      |         | NGC 4373A | GALXY | CEN  | 12 25.6       | -39 19        | 11.6 | 2.6 m       | 0.9 m       | 149         | SO         |                       | 121          |
| M 84    |          |          | *     |              |             |      |         | NGC 4374  | GALXY | VIR  | 12 25.1       | +12 53        | 9.1  | 6.7 m       | 6 m         | 135         | E1         | vB,pL,R,psbM          | 49           |

## Deep Sky Object List (126/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4377 | GALXY | COM  | 12 25.2       | +14 46        | 11.9 | 1.7 m       | 1.3 m       | 177         | E-SO       | B,S,R,smbM                   | 49           |
|         |          |          |       |              |             |      |         | NGC 4378 | GALXY | VIR  | 12 25.3       | +04 55        | 11.7 | 2.5 m       | 2.3 m       | 167         | Sa         | B,S,*8,9 sf 3'               | 73           |
|         |          |          |       |              | x           |      |         | NGC 4379 | GALXY | COM  | 12 25.2       | +15 36        | 11.7 | 2 m         | 1.6 m       | 105         | E-SO       | pS,R,psbMN                   | 49           |
|         |          |          |       |              |             |      |         | NGC 4380 | GALXY | VIR  | 12 25.4       | +10 01        | 11.7 | 3.2 m       | 1.8 m       | 153         | Sab        | vF,pL,R,lbM                  | 73           |
| M 85    |          |          | x     |              |             |      |         | NGC 4382 | GALXY | COM  | 12 25.4       | +18 11        | 9.1  | 7.4 m       | 5.9 m       | 5           | Sa         | vB,pL,R,bM,* np              | 49           |
|         |          |          |       |              |             |      |         | NGC 4383 | GALXY | COM  | 12 25.4       | +16 28        | 12.1 | 2 m         | 1 m         | 28          | Sa         | eS,stellar or neb,*11-12     | 49           |
|         |          |          |       |              |             |      |         | NGC 4385 | GALXY | VIR  | 12 25.7       | +00 34        | 12.5 | 2.1 m       | 1.3 m       | 82          | SBO-a      | vF,vS,alm stell,vsvBN        | 73           |
|         |          |          |       |              |             |      |         | NGC 4386 | GALXY | DRA  | 12 24.5       | +75 32        | 11.7 | 2.6 m       | 1.6 m       | 135         | SBO        | pB,cL,iE,psmbM               | 7            |
|         |          |          | *     |              |             |      |         | NGC 4387 | GALXY | VIR  | 12 25.7       | +12 49        | 12.1 | 1.7 m       | 1.1 m       | 140         | Elliptical | pF,vS,R,*13 np 90",np of 2   | 49           |
|         |          | x        | *     |              |             | 77   |         | NGC 4388 | GALXY | VIR  | 12 25.8       | +12 40        | 11   | 5.6 m       | 1.5 m       | 92          | Sb         | vF,E,sf of 2                 | 49           |
|         |          |          |       |              |             |      |         | NGC 4389 | GALXY | CVN  | 12 25.6       | +45 41        | 11.7 | 2.6 m       | 1.3 m       | 105         | SB/P       | pB,pL,iE,vglbM,sB narrow bar | 25           |
|         |          |          |       |              |             |      |         | NGC 4393 | GALXY | COM  | 12 25.9       | +27 34        | 12.1 | 3.2 m       | 3 m         |             | SBcd       | vF,vL,iF,B* p                | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4394 | GALXY | COM  | 12 25.9       | +18 13        | 10.9 | 3.4 m       | 3.2 m       | 160         | SBab       | pB,iE,bM                     | 49           |



Deep Sky Object List (127/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|--|--------------|
|         |          |          | x     |              | x           |      |         | NGC 4395  | GALXY | CVN  | 12 25.8       | +33 33        | 10.2 | 12.3 m      | 10 m        | 147         | SB Ring   | eF,vL,np of Dneb                       | 49           |
|         |          |          | *     |              |             |      |         | NGC 4402  | GALXY | VIR  | 12 26.1       | +13 07        | 11.8 | 3.6 m       | 1.1 m       | 90          | Sb        | F,L,mE90                               | 49           |
|         |          |          |       |              |             |      |         | NGC 4405  | GALXY | COM  | 12 26.1       | +16 11        | 12   | 1.6 m       | 1.1 m       | 20          | Sa        | pF,S,R,vsbM,r                          | 49           |
| M 86    |          |          | *     |              |             |      |         | NGC 4406  | GALXY | VIR  | 12 26.2       | +12 57        | 8.9  | 9.8 m       | 6.3 m       | 130         | E3        | vB,L,R,gbMN                            | 49           |
|         |          |          |       |              |             |      |         | NGC 4411B | GALXY | VIR  | 12 26.8       | +08 53        | 12.3 | 2.5 m       | 2.5 m       |             | SBd       |  | 73           |
|         |          |          |       |              |             |      |         | NGC 4412  | GALXY | VIR  | 12 26.6       | +03 58        | 12.4 | 1.4 m       | 1.2 m       |             | SB/P      | F,pL,R,gbM,r                           | 73           |
|         |          |          | *     |              |             |      |         | NGC 4413  | GALXY | VIR  | 12 26.5       | +12 37        | 12.3 | 2.3 m       | 1.4 m       | 60          | SBab Ring | cF,S,gbM,2* n,np                       | 49           |
|         |          | x        | x     | x            |             | 69   | x       | NGC 4414  | GALXY | COM  | 12 26.5       | +31 13        | 10.1 | 3.6 m       | 2 m         | 155         | Sc        | vB,L,E,g,vsmbM*,B diff<br>N in B bulge | 49           |
|         |          |          |       |              |             |      |         | NGC 4415  | GALXY | VIR  | 12 26.7       | +08 26        | 12.1 | 1.4 m       | 1.2 m       |             | Sa        | eF,pS                                  | 73           |
|         |          |          |       |              |             |      |         | NGC 4416  | GALXY | VIR  | 12 26.8       | +07 55        | 12.4 | 1.7 m       | 1.5 m       | 84          | SBc       | vF,L,R,*7 sp 5'                        | 73           |
|         |          |          | x     |              |             |      |         | NGC 4417  | GALXY | VIR  | 12 26.8       | +09 35        | 11.1 | 3.3 m       | 1.4 m       | 49          | SBO       | F,pL,E,lbp                             | 73           |
|         |          |          |       | x            |             |      |         | NGC 4419  | GALXY | COM  | 12 26.9       | +15 03        | 11.2 | 3.3 m       | 1.2 m       | 133         | SBa       | B,pmE135,sbM                           | 49           |
|         |          |          |       |              |             |      |         | NGC 4420  | GALXY | VIR  | 12 27.0       | +02 30        | 12.1 | 2 m         | 1 m         | 8           | SBbc      | F,pL,IE,r,=4409?                       | 73           |

Deep Sky Object List (128/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4421 | GALXY | COM  | 12 27.0       | +15 28        | 11.6 | 2.7 m       | 2 m         | 20          | SBO-a      | pB,pL,pgbM,B* np   | 49           |
|         |          |          | x     |              |             |      |         | NGC 4424 | GALXY | VIR  | 12 27.2       | +09 25        | 11.7 | 3.5 m       | 1.7 m       | 95          | SBa        | F,pL,iR,bM         | 73           |
|         |          |          | *     |              |             |      |         | NGC 4425 | GALXY | VIR  | 12 27.2       | +12 44        | 11.8 | 2.8 m       | 1 m         | 27          | SBO-a      | pF,S,R,bM          | 49           |
|         |          |          |       | x            |             |      |         | NGC 4429 | GALXY | VIR  | 12 27.4       | +11 06        | 10   | 5.8 m       | 2.8 m       | 99          | Sa         | B,L,cE,psbM,*10 nf | 73           |
|         |          |          |       |              |             |      |         | NGC 4430 | GALXY | VIR  | 12 27.4       | +06 16        | 12   | 2.3 m       | 2 m         | 80          | SBb/P      | cF,L,R,gbM         | 73           |
|         |          |          |       |              |             |      |         | NGC 4434 | GALXY | VIR  | 12 27.6       | +08 09        | 12.1 | 1.4 m       | 1.4 m       |             | Elliptical | pF,vS              | 73           |
|         |          |          | *     | x            |             |      | x       | NGC 4435 | GALXY | VIR  | 12 27.7       | +13 05        | 10.8 | 3 m         | 2.2 m       | 13          | SBO        | vB,cL,R,np of 2    | 49           |
|         |          | x        | *     | x            |             | 78   | x       | NGC 4438 | GALXY | VIR  | 12 27.8       | +13 00        | 10.2 | 8.5 m       | 3 m         | 27          | Sa         | B,cL,vIE,r,sf of 2 | 49           |
|         |          |          |       |              |             |      |         | NGC 4439 | OPNCL | CRU  | 12 28.4       | -60 06        | 8.4  | 4.0 m       |             |             | II 1 p     | Cl,S,* 11...12     | 121          |
|         |          |          |       |              |             |      |         | NGC 4440 | GALXY | VIR  | 12 27.9       | +12 18        | 11.7 | 1.8 m       | 1.6 m       |             | SBa        | B,pS,R,bM,r        | 49           |
|         |          |          |       | x            |             |      |         | NGC 4442 | GALXY | VIR  | 12 28.1       | +09 48        | 10.4 | 4.5 m       | 1.8 m       | 87          | SBO        | vB,pL,R,smbM       | 73           |
|         |          |          |       |              |             |      |         | NGC 4444 | GALXY | CEN  | 12 28.6       | -43 16        | 12.3 | 2.5 m       | 2.3 m       |             | SBbc Ring  | eF,L,R,vgbM        | 121          |
|         |          |          | x     | x            |             |      |         | NGC 4448 | GALXY | COM  | 12 28.3       | +28 37        | 11.1 | 3.6 m       | 1.3 m       | 94          | SBab Ring  | B,L,E90,sbM        | 49           |

Deep Sky Object List (129/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|--|--------------|
|         | C 21     | x        | *     | x            |             | 62   | x       | NGC 4449 | GALXY | CVN  | 12 28.2       | +44 06         | 9.6  | 6.2 m       | 4.9 m       | 45          | lr         | vB,cL,mE,D or<br>bifid,rrr,*F,B center w N<br>or * | 25           |
|         |          |          | x     | x            |             |      |         | NGC 4450 | GALXY | COM  | 12 28.5       | +17 05         | 10.1 | 5.4 m       | 4.1 m       | 175         | Sab        | B,L,R,gvmbM*,r,B* sp                               | 49           |
|         |          |          |       |              |             |      |         | NGC 4451 | GALXY | VIR  | 12 28.7       | +09 16         | 12.5 | 1.5 m       | 0.9 m       | 162         | Sb         | pB,pS,R,bM,*13 s                                   | 73           |
|         |          |          |       |              |             |      |         | NGC 4452 | GALXY | VIR  | 12 28.7       | +11 45         | 12   | 2.7 m       | 0.6 m       | 32          | SO         | pB,S,vmE   | 73           |
|         |          |          |       |              |             |      |         | NGC 4454 | GALXY | VIR  | 12 28.8       | -01 56         | 11.9 | 1.9 m       | 1.6 m       | 100         | SBO-a Ring | F,L,R,gbM,er,vsBN,bro<br>ad weak bar               | 73           |
|         |          |          |       |              |             |      |         | NGC 4455 | GALXY | COM  | 12 28.7       | +22 49         | 12.3 | 2.6 m       | 0.8 m       | 16          | SBcd       | F,L,E,gbM,2 B* nf                                  | 49           |
|         |          |          |       |              |             |      |         | NGC 4457 | GALXY | VIR  | 12 29.0       | +03 34         | 10.9 | 2.6 m       | 2.3 m       |             | SBO-a Ring | cB,pS,R,smbMN,vBN                                  | 73           |
|         |          |          | *     |              |             |      |         | NGC 4458 | GALXY | VIR  | 12 29.0       | +13 15         | 12.1 | 1.6 m       | 1.5 m       |             | Elliptical | pB,S,R,bM,p of 2                                   | 49           |
|         |          |          | *     | x            |             |      |         | NGC 4459 | GALXY | COM  | 12 29.0       | +13 59         | 10.4 | 4 m         | 3.1 m       | 110         | Sa         | pB,pL,iR,bM,r,*8 sf 2'                             | 49           |
|         |          |          |       |              |             |      |         | NGC 4460 | GALXY | CVN  | 12 28.8       | +44 52         | 11.3 | 4.2 m       | 1.3 m       | 40          | SBO-a      | B,pL,E123,psbM                                     | 25           |
|         |          |          | *     |              |             |      |         | NGC 4461 | GALXY | VIR  | 12 29.0       | +13 11         | 11.2 | 3.4 m       | 1.4 m       | 9           | SBO-a      | pF,S,R,bM,f of 2                                   | 49           |
|         |          |          |       |              |             |      |         | NGC 4462 | GALXY | CRV  | 12 29.4       | -23 10         | 11.9 | 3.1 m       | 1.1 m       | 124         | SBab Ring  | pB,pS,E130,sbM                                     | 97           |

Deep Sky Object List (130/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4463 | OPNCL | MUS  | 12 29.9       | -64 47        | 7.2  | 5.0 m       |             |             | I 3 p      | Cl,P,vIC           | 139          |
|         |          |          |       |              |             |      |         | NGC 4464 | GALXY | VIR  | 12 29.4       | +08 09        | 12.5 | 0.9 m       | 0.7 m       |             | Sab        | F,vS,R,pgbM(=4665) | 73           |
|         |          |          |       |              |             |      |         | NGC 4469 | GALXY | VIR  | 12 29.5       | +08 45        | 11.2 | 3.4 m       | 1.2 m       | 89          | SBO-a      | pF,pL,mE,bM,r      | 73           |
|         |          |          |       |              |             |      |         | NGC 4470 | GALXY | VIR  | 12 29.6       | +07 49        | 12.1 | 1.3 m       | 0.9 m       | 0           | Sa         | F,pL,iR,bM         | 73           |
| M 49    |          |          | x     |              |             |      |         | NGC 4472 | GALXY | VIR  | 12 29.8       | +08 00        | 8.4  | 9.8 m       | 8.2 m       | 155         | E4         | vB,L,R,mbM,r       | 73           |
|         |          |          | *     | x            |             |      |         | NGC 4473 | GALXY | COM  | 12 29.8       | +13 26        | 10.2 | 4.2 m       | 2.6 m       | 100         | Elliptical | pB                 | 49           |
|         |          |          |       |              |             |      |         | NGC 4474 | GALXY | COM  | 12 29.9       | +14 04        | 11.5 | 2.4 m       | 1.6 m       | 80          | SO         | pF,R,r             | 49           |
|         |          |          | *     |              |             |      |         | NGC 4476 | GALXY | VIR  | 12 30.0       | +12 21        | 12.2 | 1.8 m       | 1.3 m       | 25          | E4         | F,S,R,bM,1 of 3    | 49           |
|         |          |          | *     | x            |             |      |         | NGC 4477 | GALXY | COM  | 12 30.0       | +13 38        | 10.4 | 3.7 m       | 3.3 m       | 15          | SBO        | pB,cL              | 49           |
|         |          |          | *     | x            |             |      |         | NGC 4478 | GALXY | VIR  | 12 30.3       | +12 20        | 11.4 | 1.8 m       | 1.5 m       | 140         | E1         | pB,S,R,psbM,2 of 3 | 49           |
|         |          |          | *     |              |             |      |         | NGC 4479 | GALXY | COM  | 12 30.3       | +13 35        | 12.4 | 1.6 m       | 1.3 m       |             | SBO        | pB,pL              | 49           |
|         |          |          |       |              |             |      |         | NGC 4480 | GALXY | VIR  | 12 30.4       | +04 15        | 12.4 | 2.2 m       | 1.1 m       | 175         | SBc        | pF,pS,E,bs         | 73           |
|         |          |          |       |              |             |      |         | NGC 4483 | GALXY | VIR  | 12 30.7       | +09 01        | 12.2 | 1.6 m       | 0.8 m       | 65          | SBO-a      | pB,pS,R,bM         | 73           |

Deep Sky Object List (131/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          | x     | x            |             |      |         | NGC 4485  | GALXY | CVN  | 12 30.5       | +41 42        | 11.9 | 2.4 m       | 1.8 m       | 15          | lr         | B,pS,iR,np of 2       | 25           |
| M 87    |          |          | !*    |              |             |      |         | NGC 4486  | GALXY | VIR  | 12 30.8       | +12 23        | 8.6  | 8.7 m       | 6.6 m       | 170         | E1p        | vB,vL,R,mbM,3 of 3    | 49           |
|         |          |          |       |              |             |      |         | NGC 4486A | GALXY | VIR  | 12 31.0       | +12 16        | 11.2 | 0.8 m       | 0.7 m       | 170         | Elliptical |                       | 49           |
|         |          |          |       |              | x           |      |         | NGC 4487  | GALXY | VIR  | 12 31.1       | -08 03        | 10.9 | 4 m         | 2.8 m       | 100         | SBc        | F,vL,er               | 73           |
|         |          |          |       |              |             |      |         | NGC 4488  | GALXY | VIR  | 12 30.9       | +08 22        | 12.2 | 3.8 m       | 1.5 m       | 5           | SBO-a      | vF,vS,IE              | 73           |
|         |          |          |       |              |             |      |         | NGC 4489  | GALXY | COM  | 12 30.9       | +16 46        | 12   | 1.7 m       | 1.6 m       |             | Elliptical | pF,cS,R,gbM           | 49           |
|         |          | x        | x     | x            |             | 63   | x       | NGC 4490  | GALXY | CVN  | 12 30.6       | +41 39        | 9.8  | 6.4 m       | 3.2 m       | 125         | SBcd       | vB,vL,mE130,r,sf of 2 | 25           |
|         |          | x        | x     | x            |             | 70   |         | NGC 4494  | GALXY | COM  | 12 31.4       | +25 46        | 9.8  | 4.5 m       | 4.3 m       |             | Elliptical | vB,pL,R,vsmbMN        | 49           |
|         |          |          |       |              |             |      |         | NGC 4496A | GALXY | VIR  | 12 31.7       | +03 56        | 11.4 | 3.9 m       | 3.1 m       | 70          | SBc        | F,cL,biN or Dneb      | 73           |
|         |          |          |       |              |             |      |         | NGC 4497  | GALXY | VIR  | 12 31.5       | +11 37        | 12.5 | 1.9 m       | 0.8 m       | 65          | SBO-a      | vF or pF              | 73           |
|         |          |          |       |              |             |      |         | NGC 4498  | GALXY | COM  | 12 31.7       | +16 51        | 12.2 | 3 m         | 1.6 m       | 133         | SBc        | vF,pL,E,biN?          | 49           |
|         |          |          |       |              |             |      |         | NGC 4500  | GALXY | UMA  | 12 31.4       | +57 58        | 12.5 | 1.6 m       | 1.1 m       | 130         | SBa        | B,cS,E,pgbM,*9 f 50"  | 25           |
| M 88    |          |          | x     |              |             |      |         | NGC 4501  | GALXY | COM  | 12 32.0       | +14 25        | 9.6  | 6.8 m       | 3.7 m       | 140         | Sbc        | B,vL,vmE              | 49           |

## Deep Sky Object List (132/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4503  | GALXY | VIR  | 12 32.1       | +11 11        | 11.1 | 3.5 m       | 1.7 m       | 12          | SBO       | pB,S,R,gbM                    | 73           |
|         |          |          |       |              |             |      |         | NGC 4504  | GALXY | VIR  | 12 32.3       | -07 34        | 11.2 | 4.3 m       | 2.8 m       | 30          | SBc       | pB,cL,iE,gvlbM,er             | 73           |
|         |          |          |       |              |             |      |         | NGC 4505  | GALXY | VIR  | 12 31.7       | +03 56        | 11.9 | 3.9 m       | 3.1 m       | 70          | SBc       | vF,cL,r,f of 2,=4496?         | 73           |
|         |          |          |       |              |             |      |         | NGC 4507  | GALXY | CEN  | 12 35.6       | -39 55        | 12.1 | 1.6 m       | 1.3 m       |             | SBab Ring | pB,S,R,psmbM *16              | 121          |
|         |          |          |       |              |             |      |         | NGC 4515  | GALXY | COM  | 12 33.1       | +16 16        | 12.3 | 1.4 m       | 1.1 m       |             | E-SO      | F,vS,bM*                      | 49           |
|         |          |          | x     |              |             | 79   |         | NGC 4517  | GALXY | VIR  | 12 32.8       | +00 07        | 10.4 | 10.2 m      | 1.7 m       | 83          | Sc        | cB,vL,vmE89,pB*in cont        | 73           |
|         |          |          |       |              |             |      |         | NGC 4517A | GALXY | VIR  | 12 32.5       | +00 23        | 12.5 | 4 m         | 2.6 m       | 30          | SBd       | vF narrow bar                 | 73           |
|         |          |          |       |              | x           |      |         | NGC 4519  | GALXY | VIR  | 12 33.5       | +08 39        | 11.8 | 2.9 m       | 2.3 m       | 145         | SBcd Ring | F,pL,R,bM,r                   | 73           |
|         |          |          |       |              |             |      |         | NGC 4521  | GALXY | DRA  | 12 32.8       | +63 56        | 12.2 | 2.5 m       | 0.6 m       | 167         | Sa        | pB,S,pmE,pgbM,*10 p<br>12sec  | 7            |
|         |          |          |       |              |             |      |         | NGC 4522  | GALXY | VIR  | 12 33.7       | +09 10        | 12.3 | 3.6 m       | 1 m         | 33          | SBc       | eF,pL,IE,vlbM                 | 73           |
|         |          |          |       |              |             |      |         | NGC 4525  | GALXY | COM  | 12 33.9       | +30 17        | 12.2 | 2.6 m       | 1.3 m       | 53          | SBc       | F,pL,iR,bM                    | 49           |
|         |          | x        | x     | x            |             | 80   | x       | NGC 4526  | GALXY | VIR  | 12 34.0       | +07 42        | 9.7  | 7 m         | 2.5 m       | 113         | SBO       | vB,vL,mE120,psmbM             | 73           |
|         |          |          | x     | x            |             |      | x       | NGC 4527  | GALXY | VIR  | 12 34.1       | +02 39        | 10.5 | 5.9 m       | 2.3 m       | 67          | SBbc      | pB,L,pmE69,mbM,vseB<br>N or * | 73           |

## Deep Sky Object List (133/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4528 | GALXY | VIR  | 12 34.1       | +11 19        | 12.1 | 1.6 m       | 1 m         | 5           | SBO        | pF,cS,R,bM,*9 f 30sec | 73           |
|         |          |          |       |              |             |      |         | NGC 4531 | GALXY | VIR  | 12 34.3       | +13 05        | 11.4 | 3.1 m       | 2 m         | 155         | SBO-a      | F,pL,R,vgbM           | 49           |
|         |          |          |       |              |             |      |         | NGC 4532 | GALXY | VIR  | 12 34.3       | +06 28        | 11.9 | 2.7 m       | 1.2 m       | 160         | Ir?        | pB,pL,pmE,vgbM,r      | 73           |
|         |          |          |       |              |             |      |         | NGC 4534 | GALXY | CVN  | 12 34.1       | +35 31        | 12.3 | 2.6 m       | 2.1 m       | 125         | Sd         | cF,L,IE,vglbM,r       | 49           |
|         |          | x        | x     | x            |             | 81   | x       | NGC 4535 | GALXY | VIR  | 12 34.3       | +08 12        | 10   | 6.9 m       | 5.4 m       | 0           | SBc        | pF,vL,r,vseBN or *    | 73           |
|         |          |          | x     | x            |             |      | x       | NGC 4536 | GALXY | VIR  | 12 34.4       | +02 11        | 10.6 | 7.1 m       | 3.1 m       | 130         | SBbc       | B,vL,mE110,sbM,er     | 73           |
|         |          |          |       |              |             |      |         | NGC 4539 | GALXY | COM  | 12 34.6       | +18 12        | 12   | 3.3 m       | 1.4 m       | 95          | SBa        | pB,pmE                | 49           |
|         |          |          |       |              |             |      |         | NGC 4540 | GALXY | COM  | 12 34.8       | +15 33        | 11.7 | 2.1 m       | 1.8 m       | 40          | SBc        | F,pS,bM,r,BM no def N | 49           |
|         |          |          |       |              |             |      |         | NGC 4545 | GALXY | DRA  | 12 34.6       | +63 31        | 12.3 | 2.5 m       | 1.5 m       | 8           | SBc        | F,L,iR,r,vgbM,S* nf   | 7            |
|         |          |          |       | x            |             |      |         | NGC 4546 | GALXY | VIR  | 12 35.5       | -03 48        | 10.3 | 3.3 m       | 1.6 m       | 80          | E-SO Bar   | vB,cL,pmE78,vsmbMN    | 73           |
| M 91    |          |          | x     | x            |             |      |         | NGC 4548 | GALXY | COM  | 12 35.4       | +14 30        | 10.1 | 5.2 m       | 4.2 m       | 150         | SBb        | B,L,IE,lbM            | 49           |
|         |          |          |       | x            |             |      |         | NGC 4550 | GALXY | VIR  | 12 35.5       | +12 13        | 11.7 | 3.3 m       | 0.9 m       | 178         | SBO        | pB,S,vIE,sp of 2      | 49           |
|         |          |          |       |              |             |      |         | NGC 4551 | GALXY | VIR  | 12 35.6       | +12 16        | 12   | 1.8 m       | 1.4 m       | 70          | Elliptical | pB,S,R,bM,nf of 2     | 49           |

Deep Sky Object List (134/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------|--------------|
| M 89    |          |          | x     |              |             |      |         | NGC 4552 | GALXY | VIR  | 12 35.7       | +12 33        | 9.8  | 5.3 m       | 4.8 m       |             | EO         | pB,pS,R,gmbM                | 49           |
|         |          |          |       |              |             |      |         | NGC 4553 | GALXY | CEN  | 12 36.1       | -39 26        | 12.2 | 2.4 m       | 1.2 m       | 176         | SBO-a Ring | F,vIE,glbM                  | 121          |
|         |          |          |       |              |             |      |         | NGC 4555 | GALXY | COM  | 12 35.7       | +26 31        | 12.1 | 1.4 m       | 1.1 m       | 125         | Elliptical | B,pS,iR,vsmbM*12            | 49           |
|         | C 36     | x        | x     | x            |             | 71   | x       | NGC 4559 | GALXY | COM  | 12 36.0       | +27 58        | 10   | 11 m        | 4.9 m       | 150         | SBc        | vB,vL,mE150,gbM,3 * f       | 49           |
|         |          |          |       |              |             |      |         | NGC 4561 | GALXY | COM  | 12 36.1       | +19 19        | 12.5 | 1.5 m       | 1.3 m       | 30          | SBcd       | pB,pL,vIE,lbM,r             | 49           |
|         |          |          | x     |              |             |      |         | NGC 4564 | GALXY | VIR  | 12 36.4       | +11 26        | 11.1 | 3.2 m       | 1.8 m       | 47          | E6         | pB,S,IE,psbM                | 73           |
|         | C 38     | x        | !!!*  | x            |             | 72   | x       | NGC 4565 | GALXY | COM  | 12 36.3       | +25 59        | 9.6  | 14.9 m      | 2 m         | 136         | Sb         | !!B,eL,eE135,vsbMN = *10-11 | 49           |
|         |          | x        | !     |              |             | 82   | x       | NGC 4567 | GALXY | VIR  | 12 36.5       | +11 15        | 11.3 | 3.1 m       | 2.2 m       | 85          | Sbc        | vF,L,np of Dneb             | 73           |
|         |          |          | x     |              |             | 82   | x       | NGC 4568 | GALXY | VIR  | 12 36.6       | +11 14        | 10.8 | 4.6 m       | 2.2 m       | 23          | Sbc        | vF,L,sf of Dneb             | 73           |
| M 90    |          |          | *     |              |             |      |         | NGC 4569 | GALXY | VIR  | 12 36.8       | +13 10        | 9.5  | 9.9 m       | 4.4 m       | 23          | SBab       | pL,bMN                      | 49           |
|         |          |          |       | x            |             |      |         | NGC 4570 | GALXY | VIR  | 12 36.9       | +07 15        | 10.9 | 3.7 m       | 1.2 m       | 159         | SO         | cB,pS,mE0,sbM               | 73           |
|         |          |          |       |              | x           |      |         | NGC 4571 | GALXY | COM  | 12 36.9       | +14 13        | 11.3 | 3.7 m       | 3.4 m       | 55          | Sc         | vF,L,E,vgbM,*9 nf nr        | 49           |
|         |          |          |       |              |             |      |         | NGC 4578 | GALXY | VIR  | 12 37.5       | +09 33        | 11.5 | 3.1 m       | 2.3 m       | 35          | SO         | pF,pS,R,sbMN,* np           | 73           |



## Deep Sky Object List (135/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------------|--------------|
| M 58    |          |          | x     |              |             |      |         | NGC 4579 | GALXY | VIR  | 12 37.7       | +11 49        | 9.7  | 6 m         | 4.8 m       | 95          | SBb        | B,L,iR,vmbM                         | 73           |
|         |          |          |       |              |             |      |         | NGC 4580 | GALXY | VIR  | 12 37.8       | +05 22        | 11.8 | 2.1 m       | 1.5 m       | 165         | SBab Ring  | pB,L,vgbM,vsBN                      | 73           |
|         |          |          |       |              |             |      |         | NGC 4581 | GALXY | VIR  | 12 38.1       | +01 29        | 12.5 | 1.9 m       | 1.1 m       | 173         | Elliptical | F,S,bM,stell N                      | 73           |
|         |          |          |       |              | x           |      |         | NGC 4586 | GALXY | VIR  | 12 38.5       | +04 19        | 11.7 | 3.8 m       | 1.2 m       | 115         | Sa Ring    | pB,L,E,psbM,sBN                     | 73           |
|         |          |          |       |              |             |      |         | NGC 4589 | GALXY | DRA  | 12 37.4       | +74 11        | 10.7 | 3.4 m       | 2.8 m       | 90          | Elliptical | cB,L,IE,pgmbM                       | 7            |
| M 68    |          |          | x     |              |             |      |         | NGC 4590 | GLOCL | HYA  | 12 39.5       | -26 45        | 8.2  | 9.8 m       |             |             | X          | L,eRi,vC,iR,rrr,st 13...            | 97           |
|         |          |          |       |              |             |      |         | NGC 4592 | GALXY | VIR  | 12 39.3       | -00 32        | 11.7 | 6.8 m       | 1.7 m       | 97          | Sd         | F,L,E90,vgbM,BM no<br>BN            | 73           |
|         |          |          |       |              |             |      |         | NGC 4593 | GALXY | VIR  | 12 39.7       | -05 21        | 10.9 | 3.7 m       | 2.6 m       | 125         | SBab       | pB,cL,E,sbMN=*,vBN in<br>smooth bar | 73           |
| M104    |          |          | !!*   | x            |             |      |         | NGC 4594 | GALXY | VIR  | 12 40.0       | -11 37        | 8    | 8.6 m       | 4.2 m       | 89          | Sab        | !vB,vL,eE92,vsmbMN                  | 73           |
|         |          |          |       |              |             |      |         | NGC 4595 | GALXY | COM  | 12 39.9       | +15 18        | 12.1 | 1.7 m       | 1.1 m       | 110         | SBb        | pF,pL,R,gbM                         | 49           |
|         |          |          |       | x            |             |      |         | NGC 4596 | GALXY | VIR  | 12 39.9       | +10 11        | 10.4 | 4 m         | 3.4 m       | 135         | SBO-a      | B,pS,R,gmbM,r,3 * f                 | 73           |
|         |          |          |       |              |             |      |         | NGC 4597 | GALXY | VIR  | 12 40.2       | -05 48        | 12.1 | 3.8 m       | 1.6 m       | 135         | SBc        | F,vL,bM                             | 73           |
|         |          |          |       |              |             |      |         | NGC 4602 | GALXY | VIR  | 12 40.6       | -05 08        | 11.5 | 3 m         | 1 m         | 99          | SBbc       | F,L,E,vglbM                         | 73           |

Deep Sky Object List (136/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4603 | GALXY | CEN  | 12 40.9       | -40 59        | 11.6 | 2.3 m       | 1.7 m       | 27          | SBc      | F,L,R,vgbM,r                 | 121          |
|         |          | x        | x     |              | x           | 48   | x       | NGC 4605 | GALXY | UMA  | 12 40.0       | +61 36        | 10.3 | 5.9 m       | 2.4 m       | 125         | SBc/P    | B,L,vmE118,glbM              | 25           |
|         |          |          |       |              |             |      |         | NGC 4606 | GALXY | VIR  | 12 41.0       | +11 55        | 11.8 | 3.3 m       | 1.7 m       | 33          | SBa      | vF,pS,E,2 or 3 vS * inv      | 73           |
|         |          |          |       |              | x           |      |         | NGC 4608 | GALXY | VIR  | 12 41.2       | +10 09        | 11   | 3.3 m       | 2.9 m       | 120         | SBO      | pB,pL,R,psbM,r,* np 1'       | 73           |
|         | C 98     |          |       |              |             |      |         | NGC 4609 | OPNCL | CRU  | 12 42.3       | -63 00        | 6.9  | 5.0 m       |             |             | II 1 p   | Cl,pL,pC,cE,st 10            | 139          |
|         |          |          |       |              | x           |      |         | NGC 4612 | GALXY | VIR  | 12 41.5       | +07 19        | 10.9 | 2.7 m       | 2 m         | 145         | SBO Ring | pB,S,R,psmbM                 | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4618 | GALXY | CVN  | 12 41.6       | +41 09        | 10.8 | 4.2 m       | 3.4 m       | 25          | SB       | B,L,E,mbM,curved<br>branch n | 25           |
|         |          |          |       |              |             |      |         | NGC 4620 | GALXY | VIR  | 12 42.0       | +12 57        | 12.2 | 1.8 m       | 1.5 m       |             | SO       | vF,S,R,vgbM                  | 49           |
| M 59    |          |          | x     |              |             |      |         | NGC 4621 | GALXY | VIR  | 12 42.0       | +11 39        | 9.6  | 5.3 m       | 4 m         | 165         | E3       | B,pL,IE,vsmbM,2 * p          | 73           |
|         |          |          |       |              |             |      |         | NGC 4622 | GALXY | CEN  | 12 42.6       | -40 45        | 12.2 | 1.7 m       | 1.6 m       |             | Sa       | pF,S,R,pslbM,f of 2          | 121          |
|         |          |          |       |              |             |      |         | NGC 4623 | GALXY | VIR  | 12 42.2       | +07 41        | 12.2 | 2.2 m       | 0.7 m       | 176         | SBO-a    | cF,pL,E,pslbM                | 73           |
|         |          |          |       |              |             |      |         | NGC 4624 | GALXY | VIR  | 12 45.1       | +03 03        | 11.2 | 3.5 m       | 3.5 m       |             | SBO-a    | B,E,=4636                    | 73           |
|         |          |          |       |              |             |      |         | NGC 4625 | GALXY | CVN  | 12 41.9       | +41 16        | 12.4 | 2.3 m       | 1.9 m       | 160         | SB pec   | pF,S,R                       | 25           |

## Deep Sky Object List (137/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4627  | GALXY | CVN  | 12 42.0       | +32 34        | 12.4 | 2.2 m       | 1.7 m       | 10          | Elliptical | F,S,R,np of 2,BM no BN | 49           |
|         | C 32     | x        | x     | x            |             | 64   | x       | NGC 4631  | GALXY | CVN  | 12 42.1       | +32 32        | 9.2  | 15.2 m      | 2.8 m       | 86          | SBcd       | vB,vL,eE70,bMN,* att n | 49           |
|         |          |          |       |              |             |      |         | NGC 4632  | GALXY | VIR  | 12 42.5       | -00 05        | 11.7 | 3 m         | 1.2 m       | 63          | Sc         | pB,L,E45,BM no def BN  | 73           |
|         |          |          |       |              |             |      |         | NGC 4634  | GALXY | COM  | 12 42.7       | +14 18        | 12.4 | 2.5 m       | 0.6 m       | 156         | SBc        | vF,L,mE135,vgbM        | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4636  | GALXY | VIR  | 12 42.8       | +02 41        | 9.5  | 5.9 m       | 4.6 m       | 150         | Elliptical | B,L,iR,vgvmbM,r        | 73           |
|         |          |          | x     |              |             |      |         | NGC 4638  | GALXY | VIR  | 12 42.8       | +11 27        | 11.2 | 2.4 m       | 1.7 m       | 125         | E5         | F,R,gbM,vB cent        | 73           |
|         |          |          | x     |              | x           |      |         | NGC 4639  | GALXY | VIR  | 12 42.9       | +13 15        | 11.5 | 2.9 m       | 2 m         | 123         | SBbc Ring  | pB,S,E,R,*12 sf 1'     | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4643  | GALXY | VIR  | 12 43.3       | +01 59        | 10.8 | 3.1 m       | 2.5 m       | 130         | SBO-a      | cB,pS,IE,mbM           | 73           |
|         |          |          |       |              |             |      |         | NGC 4645  | GALXY | CEN  | 12 44.2       | -41 45        | 11.8 | 2.2 m       | 1.4 m       | 52          | Elliptical | pB,S,psbM              | 121          |
|         |          |          |       |              |             |      |         | NGC 4645A | GALXY | CEN  | 12 43.1       | -41 22        | 12.2 | 2.8 m       | 0.8 m       | 33          | SBO        |                        | 121          |
|         |          |          |       |              |             |      |         | NGC 4645B | GALXY | CEN  | 12 43.5       | -41 22        | 12.1 | 1.9 m       | 0.7 m       | 154         | SBO        |                        | 121          |
|         |          |          | x     |              | x           |      |         | NGC 4647  | GALXY | VIR  | 12 43.5       | +11 35        | 11.3 | 2.9 m       | 2.3 m       | 125         | SBc Ring   | pF,pL,IE115,np of Dneb | 73           |
|         |          |          |       |              |             |      |         | NGC 4648  | GALXY | DRA  | 12 41.7       | +74 25        | 12   | 1.8 m       | 1.2 m       | 70          | Ellip Ring | pB,cS,R,gbM,**p,vBN    | 7            |

## Deep Sky Object List (138/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------------------|--------------|
| M 60    |          |          | x     |              |             |      |         | NGC 4649 | GALXY | VIR  | 12 43.7       | +11 33        | 8.8  | 7.6 m       | 6.2 m       | 105         | E1       | vB,pL,R,f of Dneb           | 73           |
|         |          |          |       |              |             |      |         | NGC 4650 | GALXY | CEN  | 12 44.3       | -40 44        | 11.6 | 3.2 m       | 2.7 m       | 83          | SBO-a    | vF,R,bM,r                   | 121          |
|         |          |          | x     |              |             |      |         | NGC 4651 | GALXY | COM  | 12 43.7       | +16 24        | 10.8 | 4 m         | 2.7 m       | 80          | Scp      | cB,L,E90,gbM,r              | 49           |
|         |          |          |       |              |             |      |         | NGC 4653 | GALXY | VIR  | 12 43.9       | -00 34        | 12.2 | 3.4 m       | 3 m         | 30          | SBc      | vF,pL                       | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4654 | GALXY | VIR  | 12 43.9       | +13 08        | 10.5 | 5 m         | 3.1 m       | 128         | SBc Ring | F,vL,pmE(D?),3 * nr         | 49           |
|         |          | x        | !     | x            |             | 65   | x       | NGC 4656 | GALXY | CVN  | 12 44.0       | +32 10        | 10.5 | 15.3 m      | 2.4 m       | 33          | SB       | pB,L,vmE34,sp of 2          | 49           |
|         |          |          |       |              |             | 65   |         | NGC 4657 | GALXY | CVN  | 12 44.1       | +32 13        | 10.6 | 1.1 m       | 0.7 m       | 90          | lr       | pF,L,E90,nf of 2            | 49           |
|         |          |          |       |              |             |      |         | NGC 4658 | GALXY | VIR  | 12 44.6       | -10 05        | 12.5 | 2.1 m       | 0.9 m       | 0           | SBbc     | vF,L,E,*16 att,*9 p         | 73           |
|         |          |          |       |              |             |      |         | NGC 4659 | GALXY | COM  | 12 44.5       | +13 30        | 12.1 | 1.8 m       | 1.3 m       | 173         | Sa       | F,cS,R,bM,r                 | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4660 | GALXY | VIR  | 12 44.5       | +11 11        | 11.2 | 2.1 m       | 1.7 m       | 100         | E5       | vB,S,vsmbMN                 | 73           |
|         |          |          |       |              |             |      |         | NGC 4664 | GALXY | VIR  | 12 45.1       | +03 03        | 11.2 | 3.5 m       | 3.5 m       |             | SBO-a    | pB,2 S * in M,S*<br>p,=4665 | 73           |
|         |          |          |       | x            |             |      |         | NGC 4665 | GALXY | VIR  | 12 45.1       | +03 03        | 10.5 | 3.5 m       | 3.5 m       |             | SBO-a    | B,pL,iR,mbM,*10 sp          | 73           |
|         |          |          | x     | x            |             |      | x       | NGC 4666 | GALXY | VIR  | 12 45.1       | -00 28        | 10.7 | 4.5 m       | 1.4 m       | 42          | SBc      | B,vL,mE45,psbM              | 73           |

## Deep Sky Object List (139/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 4668 | GALXY | VIR  | 12 45.5       | -00 32        | 13.1 | 1.4 m       | 0.8 m       | 5           | SBcd       | vF,S,iF            | 73           |
|         |          |          |       |              |             |      |         | NGC 4679 | GALXY | CEN  | 12 47.5       | -39 34        | 12.4 | 1.6 m       | 0.6 m       | 4           | SBc        | eeF,pL,R           | 121          |
|         |          |          |       |              |             |      |         | NGC 4682 | GALXY | VIR  | 12 47.3       | -10 04        | 12.1 | 2.5 m       | 1.2 m       | 85          | SBc        | cF,L,E45,gvlbM     | 73           |
|         |          |          |       |              |             |      |         | NGC 4684 | GALXY | VIR  | 12 47.3       | -02 44        | 11.4 | 2.8 m       | 1.1 m       | 23          | SBO-a      | B,pL,pmE25         | 73           |
|         |          |          |       |              |             |      |         | NGC 4688 | GALXY | VIR  | 12 47.8       | +04 20        | 11.9 | 3.5 m       | 3.1 m       |             | SBc        | eF,pL,*9-10 p 10s  | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4689 | GALXY | COM  | 12 47.8       | +13 46        | 10.9 | 4.7 m       | 4 m         | 160         | Sbc        | pB,vL,E,vglbM,r    | 49           |
|         |          |          |       |              | x           |      |         | NGC 4691 | GALXY | VIR  | 12 48.2       | -03 20        | 11.1 | 2.7 m       | 2.5 m       | 15          | SBO-a      | pB,pL,E90,mbM      | 73           |
|         |          |          |       |              |             |      |         | NGC 4694 | GALXY | VIR  | 12 48.2       | +10 59        | 11.4 | 3.3 m       | 1.6 m       | 140         | SBO        | pF,S,vIE,vBN       | 73           |
|         |          |          |       |              |             |      |         | NGC 4696 | GALXY | CEN  | 12 48.8       | -41 19        | 10.4 | 4.7 m       | 3.3 m       | 95          | Elliptical | pB,L,R,gbM,r       | 121          |
|         | C 52     |          | x     | x            |             |      | x       | NGC 4697 | GALXY | VIR  | 12 48.6       | -05 48        | 9.2  | 6.2 m       | 4.5 m       | 70          | Elliptical | vB,L,IE45,smbMN    | 73           |
|         |          |          |       | x            |             |      |         | NGC 4698 | GALXY | VIR  | 12 48.4       | +08 29        | 10.6 | 4 m         | 2.9 m       | 170         | Sab        | cB,pL,iR,bM,r      | 73           |
|         |          | x        | x     | x            |             | 83   | x       | NGC 4699 | GALXY | VIR  | 12 49.0       | -08 40        | 9.5  | 3.8 m       | 2.8 m       | 45          | SBb        | vB,R,vmbMrN,r      | 73           |
|         |          |          |       |              |             |      |         | NGC 4700 | GALXY | VIR  | 12 49.1       | -11 25        | 11.9 | 3 m         | 0.5 m       | 50          | SBc        | F,L,mE40,vlbM,B* p | 73           |

Deep Sky Object List (140/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4701 | GALXY | VIR  | 12 49.2       | +03 23        | 12.4 | 3.1 m       | 2.6 m       | 45          | Sc         | F,S,vsBN,complex B cent.        | 73           |
|         |          |          |       |              |             |      |         | NGC 4709 | GALXY | CEN  | 12 50.1       | -41 23        | 10.9 | 2.3 m       | 2 m         |             | Elliptical | pB,cS,R,gbM                     | 121          |
|         |          |          | x     |              |             |      |         | NGC 4710 | GALXY | COM  | 12 49.6       | +15 10        | 11   | 4.9 m       | 1.6 m       | 27          | Sa         | cB,pL,vmE28,sbMN                | 49           |
|         |          |          |       |              |             |      |         | NGC 4713 | GALXY | VIR  | 12 50.0       | +05 19        | 11.7 | 2.9 m       | 1.8 m       | 100         | SBcd       | pB,L,vIE,glbM                   | 73           |
|         |          | x        | x     | x            |             | 73   | x       | NGC 4725 | GALXY | COM  | 12 50.4       | +25 30        | 9.4  | 10.4 m      | 7.2 m       | 35          | SBab Ring  | vB,vL,E,vg,vsmbM,eBN            | 49           |
|         |          |          |       |              |             |      |         | NGC 4729 | GALXY | CEN  | 12 51.8       | -41 08        | 12.3 | 1.5 m       | 1.5 m       |             | Elliptical | neb,1 of 3,p & little s of 4744 | 121          |
|         |          |          |       |              |             |      |         | NGC 4731 | GALXY | VIR  | 12 51.0       | -06 24        | 11.5 | 6.3 m       | 2.6 m       | 85          | SBc/P      | vF,pL,E                         | 73           |
|         |          |          |       |              |             |      |         | NGC 4733 | GALXY | VIR  | 12 51.1       | +10 55        | 11.9 | 1.5 m       | 1.5 m       |             | Elliptical | cF,pL,IE,r,*12 p                | 73           |
| M 94    |          |          | *     |              |             |      |         | NGC 4736 | GALXY | CVN  | 12 50.9       | +41 07        | 8.2  | 12.3 m      | 10.8 m      | 105         | Sb Ring    | vB,L,iR,vsmbM,BN,r              | 25           |
|         |          |          | x     |              | x           |      |         | NGC 4742 | GALXY | VIR  | 12 51.8       | -10 27        | 11.3 | 2.3 m       | 1.3 m       | 75          | E3         | pB,vS,vbMN=*11,*10 sf           | 73           |
|         |          |          | x     |              |             |      |         | NGC 4747 | GALXY | COM  | 12 51.8       | +25 46        | 12.4 | 3.3 m       | 1.3 m       | 30          | SBcd       | F,pL,IE                         | 49           |
|         |          |          |       |              |             |      |         | NGC 4750 | GALXY | DRA  | 12 50.1       | +72 52        | 11.2 | 2.1 m       | 1.9 m       |             | Sap        | pB,L,R,vg,vsbM,vsBN             | 7            |
|         |          |          |       |              |             |      |         | NGC 4751 | GALXY | CEN  | 12 52.8       | -42 40        | 11.8 | 3 m         | 1.1 m       | 175         | E-SO       | B,pS,R,vg,vsmbM                 | 121          |

## Deep Sky Object List (141/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          | x     | x            |             |      |         | NGC 4753 | GALXY | VIR  | 12 52.4       | -01 12        | 9.9  | 5.1 m       | 2.6 m       | 80          | SO         | cB,L,vIE,vglbM               | 73           |
|         |          |          | x     | x            |             |      | x       | NGC 4754 | GALXY | VIR  | 12 52.3       | +11 19        | 10.6 | 4.4 m       | 2.4 m       | 23          | SBO        | B,pL,R,psbM,p of 2           | 73           |
|         | C 94     |          | !!    |              |             |      |         | NGC 4755 | OPNCL | CRU  | 12 53.6       | -60 21        | 4.2  | 10.0 m      |             |             | I 3 r      | !!Cl,vL,Ri,st vB (Kappa Cru) | 121          |
|         |          |          |       |              |             |      |         | NGC 4756 | GALXY | CRV  | 12 52.9       | -15 25        | 12.4 | 1.7 m       | 1.3 m       | 50          | E-SO       | vF,pS,r                      | 97           |
|         |          |          | x     |              |             |      |         | NGC 4760 | GALXY | VIR  | 12 53.1       | -10 30        | 11.4 | 2 m         | 1.8 m       | 10          | Elliptical | pB,R                         | 73           |
|         |          | x        | x     | x            |             | 84   | x       | NGC 4762 | GALXY | VIR  | 12 52.9       | +11 14        | 10.3 | 8.6 m       | 2 m         | 32          | SBO        | pB,vmE31,3 B * s,f of 2      | 73           |
|         |          |          |       |              |             |      |         | NGC 4767 | GALXY | CEN  | 12 53.9       | -39 43        | 11.5 | 2.6 m       | 1.2 m       | 130         | Elliptical | B,pS,IE,mbM                  | 121          |
|         |          |          |       |              |             |      |         | NGC 4771 | GALXY | VIR  | 12 53.3       | +01 16        | 12.3 | 3.8 m       | 0.9 m       | 133         | Scd        | F,pL,mE,*9 p 90deg           | 73           |
|         |          |          |       |              |             |      |         | NGC 4772 | GALXY | VIR  | 12 53.5       | +02 10        | 11   | 3.1 m       | 1.8 m       | 147         | Sa         | pF,pS,R,mbM                  | 73           |
|         |          |          |       |              |             |      |         | NGC 4775 | GALXY | VIR  | 12 53.8       | -06 37        | 11.1 | 2.2 m       | 2.1 m       |             | Scd        | F,cL,R,vglbM,r               | 73           |
|         |          |          |       |              |             |      |         | NGC 4778 | GALXY | VIR  | 12 53.1       | -09 12        | 12.5 | 1.7 m       | 1.1 m       | 100         | Sa         | vF,S,R,vlbM,f of Dneb        | 73           |
|         |          |          |       |              |             |      |         | NGC 4779 | GALXY | VIR  | 12 53.8       | +09 43        | 12.4 | 2.1 m       | 1.8 m       | 70          | SBbc       | vF,pL,R,r                    | 73           |
|         |          |          | x     | x            |             |      |         | NGC 4781 | GALXY | VIR  | 12 54.4       | -10 32        | 11.1 | 3.4 m       | 1.4 m       | 120         | SBcd       | cB,vL,mE                     | 73           |

Deep Sky Object List (142/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 4782 | GALXY | CRV  | 12 54.6       | -12 34        | 11.7 | 2.3 m       | 1.3 m       | 155         | EO    | pF,pS,R,mbM,p of Dneb  | 97           |
|         |          |          | x     |              |             |      |         | NGC 4783 | GALXY | CRV  | 12 54.6       | -12 34        | 11.5 | 2.3 m       | 1.3 m       | 105         | EO    | pF,pS,R,mbM,f of Dneb  | 97           |
|         |          |          |       |              |             |      |         | NGC 4785 | GALXY | CEN  | 12 53.5       | -48 45        | 12.4 | 2 m         | 1 m         | 81          | Sb    | vF,S,R,glbM            | 121          |
|         |          |          |       |              |             |      |         | NGC 4786 | GALXY | VIR  | 12 54.5       | -06 52        | 11.7 | 1.6 m       | 1.3 m       | 175         | E2    | pB,pS,mbM,r            | 73           |
|         |          |          |       |              |             |      |         | NGC 4789 | GALXY | COM  | 12 54.3       | +27 04        | 12.1 | 1.9 m       | 1.5 m       | 0           | SO    | F,R,*9 att 1' n        | 49           |
|         |          |          | x     |              |             |      |         | NGC 4790 | GALXY | VIR  | 12 54.9       | -10 15        | 12.1 | 1.5 m       | 0.9 m       | 85          | SBc   | pF,pS,iR               | 73           |
|         |          |          |       |              |             |      |         | NGC 4793 | GALXY | COM  | 12 54.7       | +28 56        | 11.6 | 2.9 m       | 1.5 m       | 50          | SBc   | pB,pS,IE,*8 nf 1'      | 49           |
|         |          |          |       |              |             |      |         | NGC 4795 | GALXY | VIR  | 12 55.0       | +08 04        | 12.1 | 1.6 m       | 1.5 m       | 115         | SBO-a | pB,pL,R,bM,r           | 73           |
|         |          |          |       | x            |             |      |         | NGC 4800 | GALXY | CVN  | 12 54.6       | +46 32        | 11.5 | 1.6 m       | 1.2 m       | 25          | Sb    | pB,cS,R,psbM,*14 p,vBN | 25           |
|         |          |          |       |              |             |      |         | NGC 4802 | GALXY | CRV  | 12 55.8       | -12 03        | 12   | 2.4 m       | 1.6 m       | 20          | SO    | vF,S,*10 att           | 97           |
|         |          |          |       |              |             |      |         | NGC 4808 | GALXY | VIR  | 12 55.8       | +04 18        | 11.7 | 2.4 m       | 1 m         | 127         | Sc    | pB,cL,E135,vsBN        | 73           |
|         |          |          |       |              |             |      |         | NGC 4814 | GALXY | UMA  | 12 55.4       | +58 21        | 12   | 3.3 m       | 2.4 m       | 135         | SB/P  | B,pS,vIE,vgbM          | 25           |
|         |          |          |       |              |             |      |         | NGC 4815 | OPNCL | MUS  | 12 58.0       | -64 58        | 8.6  | 3.0 m       |             |             | I 3 m | Cl,pL,pRi,iF,*10..18   | 139          |



Deep Sky Object List (143/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4818 | GALXY | VIR  | 12 56.8       | -08 32        | 11.1 | 3.4 m       | 1.3 m       | 177         | SBab       | pB,L,pmE0,gbM                 | 73           |
|         |          |          |       |              |             |      |         | NGC 4825 | GALXY | VIR  | 12 57.2       | -13 40        | 11.7 | 2 m         | 1.1 m       | 135         | E-SO       | pB,iF,bM                      | 97           |
| M 64    |          |          | !*    |              |             |      |         | NGC 4826 | GALXY | COM  | 12 56.7       | +21 41        | 8.5  | 10.3 m      | 5 m         | 115         | Sab        | !vB,vL,vmE120,bM,SB<br>N      | 49           |
|         |          |          |       |              |             |      |         | NGC 4830 | GALXY | VIR  | 12 57.5       | -19 42        | 12.1 | 1.8 m       | 1.2 m       | 157         | E-SO Bar   | F,L,* inv,*8 5' sf            | 97           |
|         |          |          |       |              |             |      |         | NGC 4831 | GALXY | HYA  | 12 57.6       | -27 18        | 12.4 | 1.7 m       | 0.9 m       | 3           | E-SO Bar   | F,S,R,gbM                     | 97           |
|         |          |          |       |              |             |      |         | NGC 4832 | GALXY | CEN  | 12 57.8       | -39 46        | 12.2 | 1.8 m       | 1.2 m       | 25          | SO         | pF,vS,R,sbM *17,*10 70<br>deg | 121          |
|         | C105     |          | x     |              |             |      |         | NGC 4833 | GLOCL | MUS  | 12 59.6       | -70 52        | 7.4  | 13.5 m      |             |             | VIII       | B,L,R,g,vsbM,st 12            | 139          |
|         |          |          |       |              |             |      |         | NGC 4835 | GALXY | CEN  | 12 58.1       | -46 16        | 11.6 | 4.3 m       | 0.8 m       | 150         | SBbc       | F,pL,mE,vgbM                  | 121          |
|         |          |          |       |              |             |      |         | NGC 4839 | GALXY | COM  | 12 57.4       | +27 30        | 12.1 | 4 m         | 1.9 m       | 65          | Elliptical | F,pL,R                        | 49           |
|         |          |          | x     | x            |             |      |         | NGC 4845 | GALXY | VIR  | 12 58.0       | +01 35        | 11.2 | 4.9 m       | 1.3 m       | 89          | Sab        | pF,pL,pmE,vgbM,* nf           | 73           |
|         |          |          |       |              |             |      |         | NGC 4852 | OPNCL | CEN  | 13 00.1       | -59 37        | 8.9  | 11.0 m      |             |             | II 2 p     | Cl,L,pRi,iR,st10...           | 120          |
|         |          |          | x     | x            |             |      |         | NGC 4856 | GALXY | VIR  | 12 59.4       | -15 03        | 10.5 | 3.9 m       | 1.4 m       | 37          | SBO-a      | B,R,psmbM,*13 np              | 97           |
|         |          |          |       |              |             |      |         | NGC 4861 | GALXY | CVN  | 12 59.0       | +34 51        | 12.3 | 3.3 m       | 1.9 m       | 15          | SB         | vF,pL,vmE30,bet 2 st          | 49           |

## Deep Sky Object List (144/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------------|--------------|
|         |          |          |       | x            |             |      | x       | NGC 4866 | GALXY | VIR  | 12 59.5       | +14 10        | 11.2 | 6.4 m       | 1.5 m       | 87          | Sa         | B,pL,mE90,sbMN,S* inv           | 49           |
|         |          |          |       |              |             |      |         | NGC 4868 | GALXY | CVN  | 12 59.2       | +37 19        | 12.2 | 1.5 m       | 1.4 m       |             | Sab        | pB,S,R,mbM                      | 25           |
|         |          |          | x     |              |             |      |         | NGC 4874 | GALXY | COM  | 12 59.6       | +27 58        | 11.7 | 2.4 m       | 2.4 m       |             | Elliptical | F,4869 & 4872 p                 | 49           |
|         |          |          |       |              | x           |      |         | NGC 4880 | GALXY | VIR  | 13 00.2       | +12 29        | 11.4 | 3.1 m       | 2.5 m       | 165         | SBO-a      | cF,pL,R,vglbM,r                 | 48           |
|         |          |          |       |              |             |      |         | NGC 4884 | GALXY | COM  | 13 00.1       | +27 59        | 12.5 | 2.8 m       | 2 m         | 80          | Elliptical | chief one of mult<br>neb,=4889? | 48           |
|         | C 35     |          | x     |              |             |      |         | NGC 4889 | GALXY | COM  | 13 00.1       | +27 59        | 11.5 | 2.8 m       | 2 m         | 80          | Elliptical | pB,pmE,bM,*7 n                  | 48           |
|         |          |          |       |              |             |      |         | NGC 4897 | GALXY | VIR  | 13 00.9       | -13 27        | 11.8 | 2.7 m       | 2.3 m       | 150         | SBbc       | F                               | 96           |
|         |          |          |       |              |             |      |         | NGC 4899 | GALXY | VIR  | 13 00.9       | -13 57        | 11.9 | 2.3 m       | 1.3 m       | 15          | SBc        | pF,eL                           | 96           |
|         |          |          |       | x            |             |      |         | NGC 4900 | GALXY | VIR  | 13 00.7       | +02 30        | 11.4 | 2.2 m       | 2.2 m       |             | SBc        | cB,cE,*10 att pos135            | 72           |
|         |          |          | x     |              | x           |      |         | NGC 4902 | GALXY | VIR  | 13 01.0       | -14 31        | 10.9 | 2.9 m       | 2.6 m       | 70          | SBb        | pB,pL,iR,st nr                  | 96           |
|         |          |          |       |              | x           |      |         | NGC 4904 | GALXY | VIR  | 13 01.0       | -00 02        | 12   | 2.2 m       | 1.5 m       | 25          | SBc        | pB,pS,R,bM,B narrow<br>bar      | 72           |
|         |          |          |       |              | x           |      |         | NGC 4914 | GALXY | CVN  | 13 00.7       | +37 19        | 11.6 | 3.5 m       | 2.1 m       | 155         | Elliptical | pB,cS,R,smbM,*17 np             | 24           |
|         |          |          |       |              | x           |      |         | NGC 4915 | GALXY | VIR  | 13 01.5       | -04 33        | 12.1 | 1.6 m       | 1.3 m       | 55          | Elliptical | pB,S,R,bM                       | 72           |

## Deep Sky Object List (145/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4921  | GALXY | COM  | 13 01.4       | +27 53        | 12.2 | 2.4 m       | 2.1 m       | 165         | SBab       | F,pL,3 of 4         | 48           |
|         |          |          |       |              | x           |      |         | NGC 4928  | GALXY | VIR  | 13 03.0       | -08 05        | 12.5 | 1.1 m       | 0.9 m       | 125         | Sbc        | F,pS,vIE,glbM       | 72           |
|         |          |          |       |              |             |      |         | NGC 4930  | GALXY | CEN  | 13 04.1       | -41 25        | 11.1 | 4.4 m       | 3.6 m       | 40          | SBbc Ring  | vF,R,tri 2 * 8,9,f  | 120          |
|         |          |          |       |              |             |      |         | NGC 4933A | GALXY | VIR  | 13 03.9       | -11 30        | 11.7 | 2 m         | 1.1 m       | 45          | Sa         | pB,pL,iR            | 72           |
|         |          |          |       |              |             |      |         | NGC 4936  | GALXY | CEN  | 13 04.3       | -30 32        | 10.8 | 3.2 m       | 2.6 m       |             | Elliptical | pB,S,R,bM,* f 6sec  | 96           |
|         |          |          |       |              | x           |      |         | NGC 4939  | GALXY | VIR  | 13 04.2       | -10 20        | 11.3 | 5.1 m       | 2.3 m       | 5           | Sbc        | pB,L,R,gmbM         | 72           |
|         |          |          |       |              | x           |      |         | NGC 4941  | GALXY | VIR  | 13 04.2       | -05 33        | 11.1 | 3.5 m       | 1.9 m       | 15          | SBab       | pF,L,E,gbMBN,r      | 72           |
|         | C 83     |          | x     |              |             |      |         | NGC 4945  | GALXY | CEN  | 13 05.4       | -49 28        | 8.6  | 19.8 m      | 4 m         | 43          | SBc        | B,vL,vmE39          | 120          |
|         |          |          |       |              |             |      |         | NGC 4945A | GALXY | CEN  | 13 06.6       | -49 42        | 12.5 | 2.5 m       | 1.6 m       | 55          | SB         |                     | 120          |
|         |          |          |       |              |             |      |         | NGC 4946  | GALXY | CEN  | 13 05.5       | -43 36        | 12.4 | 1.6 m       | 1.2 m       | 131         | Elliptical | B,pS,R,gpmbM,p of 2 | 120          |
|         |          |          |       |              |             |      |         | NGC 4947  | GALXY | CEN  | 13 05.3       | -35 20        | 11.8 | 2.4 m       | 1.2 m       | 10          | SBab       | F,pL,R,vglbM        | 96           |
|         |          |          |       |              |             |      |         | NGC 4951  | GALXY | VIR  | 13 05.1       | -06 30        | 11.9 | 3.3 m       | 1.2 m       | 90          | SBc        | F,pL,IE,r           | 72           |
|         |          |          |       |              |             |      |         | NGC 4952  | GALXY | COM  | 13 05.0       | +29 07        | 12.4 | 1.3 m       | 0.8 m       | 23          | Elliptical | F,S,R,psbM *11      | 48           |

Deep Sky Object List (146/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 4955 | GALXY | HYA  | 13 06.1       | -29 45        | 12.2 | 1.9 m       | 1.3 m       | 10          | Elliptical | F,cS,R,gbM           | 96           |
|         |          |          |       |              | x           |      |         | NGC 4956 | GALXY | CVN  | 13 05.0       | +35 11        | 12.4 | 1.5 m       | 1.5 m       |             | SO         | pB,cS,R,smbM         | 48           |
|         |          |          |       | x            |             |      |         | NGC 4958 | GALXY | VIR  | 13 05.8       | -08 01        | 10.7 | 3.9 m       | 1.4 m       | 15          | SBO        | vB,pS,E,bMBN         | 72           |
|         |          |          |       |              |             |      |         | NGC 4965 | GALXY | HYA  | 13 07.2       | -28 14        | 12.1 | 2.4 m       | 2 m         |             | SBcd       | vF,vL,cE,vgbM        | 96           |
|         |          |          |       |              |             |      |         | NGC 4970 | GALXY | HYA  | 13 07.6       | -24 01        | 12.2 | 1.8 m       | 1 m         | 137         | SO         | vF,pL,iF             | 96           |
|         |          |          |       |              |             |      |         | NGC 4976 | GALXY | CEN  | 13 08.6       | -49 30        | 10   | 5.1 m       | 2.6 m       | 161         | Elliptical | B,pL,R,gmbM          | 120          |
|         |          |          |       |              | x           |      |         | NGC 4981 | GALXY | VIR  | 13 08.8       | -06 47        | 11.3 | 2.8 m       | 1.9 m       | 150         | SBbc Ring  | B,pL,R,*10 sf 1'     | 72           |
|         |          |          |       |              | x           |      |         | NGC 4984 | GALXY | VIR  | 13 09.0       | -15 31        | 11.3 | 3 m         | 2.3 m       | 15          | SBO-a      | B,pL,R,psmbM         | 96           |
|         |          |          |       |              |             |      |         | NGC 4993 | GALXY | HYA  | 13 09.8       | -23 23        | 12.3 | 1.3 m       | 1.1 m       |             | E-SO Bar   | vF,vS                | 96           |
|         |          |          |       | x            |             |      |         | NGC 4995 | GALXY | VIR  | 13 09.7       | -07 50        | 11.1 | 2.4 m       | 1.7 m       | 92          | SBb        | pB,pL,R,vgpmbM,*8 np | 72           |
|         |          |          |       |              | x           |      |         | NGC 4999 | GALXY | VIR  | 13 09.6       | +01 40        | 11.8 | 2.3 m       | 1.9 m       | 35          | SBb        | cF,pL,R,lbM,er       | 72           |
|         | C 29     | x        | x     | x            |             | 66   | x       | NGC 5005 | GALXY | CVN  | 13 10.9       | +37 03        | 9.8  | 5.8 m       | 2.9 m       | 65          | SBbc       | vB,vL,vmE66,vsbMN    | 24           |
|         |          |          |       |              |             |      |         | NGC 5006 | GALXY | VIR  | 13 11.8       | -19 16        | 12.3 | 2 m         | 1.7 m       | 170         | SBO-a Ring | F* close p           | 96           |

Deep Sky Object List (147/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5011 | GALXY | CEN  | 13 12.9       | -43 06         | 11.4 | 2.5 m       | 2.1 m       | 154         | E1         | pB,cS,R,am 4*           | 120          |
|         |          |          |       |              | x           |      |         | NGC 5012 | GALXY | COM  | 13 11.6       | +22 55         | 12.2 | 2.9 m       | 1.7 m       | 10          | SBc Ring   | pF,cL,E17,bi-N,*9 f     | 48           |
|         |          |          |       |              | x           |      |         | NGC 5018 | GALXY | VIR  | 13 13.0       | -19 31         | 10.8 | 3.4 m       | 2.6 m       | 112         | Elliptical | cB,S,R,mbMpBN           | 96           |
|         |          |          |       |              | x           |      |         | NGC 5020 | GALXY | VIR  | 13 12.7       | +12 36         | 11.7 | 3.1 m       | 2.7 m       | 85          | SBbc Ring  | cF,cL,vIE,lbM           | 48           |
|         |          |          |       |              | x           |      |         | NGC 5023 | GALXY | CVN  | 13 12.2       | +44 02         | 12.3 | 5.8 m       | 0.8 m       | 28          | Sc         | pF,L,mE20,vlbM          | 24           |
| M 53    |          |          | x     |              |             |      |         | NGC 5024 | GLOCL | COM  | 13 12.9       | +18 10         | 7.7  | 14.4 m      |             |             | V          | !B,vC,iR,vvmbM,st 12... | 48           |
|         |          |          |       |              |             |      |         | NGC 5026 | GALXY | CEN  | 13 14.2       | -42 58         | 11.5 | 3.3 m       | 2.1 m       | 52          | SBa        | pB,pL,R,gbM,*7 nf       | 120          |
|         |          | x        | x     | x            |             | 67   | x       | NGC 5033 | GALXY | CVN  | 13 13.5       | +36 36         | 10.2 | 9.8 m       | 3.6 m       | 170         | Sc         | vB,pL,E167,smbM,vBN     | 48           |
|         |          |          |       |              | x           |      |         | NGC 5037 | GALXY | VIR  | 13 15.0       | -16 35         | 12.2 | 2 m         | 0.6 m       | 43          | Sa         | cF,pS,vIE,bM            | 96           |
|         |          |          |       |              |             |      |         | NGC 5042 | GALXY | HYA  | 13 15.5       | -23 59         | 11.8 | 4.2 m       | 2.2 m       | 22          | SBc        | F,L,R,vgvlbM,*9p        | 96           |
|         |          |          |       |              | x           |      |         | NGC 5044 | GALXY | VIR  | 13 15.4       | -16 23         | 10.8 | 2.6 m       | 2.6 m       |             | E0         | pB,pL,R,bM              | 96           |
|         |          |          | x     |              | x           |      |         | NGC 5053 | GLOCL | COM  | 13 16.5       | +17 42         | 9.8  | 8.9 m       |             |             | XI         | Cl,vF,pL,iR,vgbM,st 15  | 48           |
|         |          |          |       | x            |             |      |         | NGC 5054 | GALXY | VIR  | 13 17.0       | -16 38         | 10.9 | 5.1 m       | 2.8 m       | 155         | Sbc        | F,pS,iR                 | 96           |

Deep Sky Object List (148/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|--------------------------|--------------|
| M 63    |          |          | *     |              |             |      |         | NGC 5055 | GALXY | CVN  | 13 15.8       | +42 02        | 8.6  | 12.6 m      | 7.5 m       | 105         | Sbc     | vB,L,pME120,vsmbM,B<br>N | 24           |
|         |          |          |       |              | x           |      |         | NGC 5056 | GALXY | COM  | 13 16.2       | +30 57        | 13.1 | 1.8 m       | 1 m         | 0           | Sc      | cF,cS,R,sp of 2          | 48           |
|         |          |          |       |              | x           |      |         | NGC 5061 | GALXY | HYA  | 13 18.1       | -26 50        | 10.4 | 3.5 m       | 2.9 m       |             | E2      | vB,S,R,vsmbM,*1Of        | 96           |
|         |          |          |       |              |             |      |         | NGC 5062 | GALXY | CEN  | 13 18.4       | -35 28        | 12.2 | 2.3 m       | 0.7 m       | 130         | SO      | eF,vS,E,r                | 96           |
|         |          |          |       |              |             |      |         | NGC 5063 | GALXY | CEN  | 13 18.4       | -35 21        | 12.4 | 2.3 m       | 1.8 m       |             | Sa Ring | eF,vS,R,* nr             | 96           |
|         |          |          |       |              |             |      |         | NGC 5064 | GALXY | CEN  | 13 19.0       | -47 55        | 12.1 | 2.4 m       | 1.1 m       | 38          | Sb      | B,S,R,pslbM              | 120          |
|         |          |          |       |              | x           |      |         | NGC 5068 | GALXY | VIR  | 13 18.9       | -21 02        | 10   | 7.3 m       | 6.4 m       | 110         | SBc     | F,L,iR,bM                | 96           |
|         |          |          |       |              | x           |      |         | NGC 5077 | GALXY | VIR  | 13 19.5       | -12 39        | 11.4 | 1.9 m       | 1.6 m       | 10          | E3      | pB,S,vIE,sbM,2nd of 3    | 96           |
|         |          |          |       |              | x           |      |         | NGC 5078 | GALXY | HYA  | 13 19.8       | -27 25        | 11   | 19.5 m      | 5.8 m       | 148         | Sa      | pB,pS,cE,psbM,*7 8' f    | 96           |
|         |          |          |       |              |             |      |         | NGC 5079 | GALXY | VIR  | 13 19.6       | -12 42        | 12   | 1.5 m       | 0.8 m       | 35          | SBbc/P  | cF,pS,vIE,3rd of 3       | 96           |
|         |          |          |       |              | x           |      |         | NGC 5084 | GALXY | VIR  | 13 20.3       | -21 50        | 10.5 | 10.6 m      | 1.8 m       | 80          | SO      | cB,cS,vIE90              | 96           |
|         |          |          |       |              |             |      |         | NGC 5085 | GALXY | HYA  | 13 20.3       | -24 26        | 11.3 | 3.5 m       | 3 m         | 38          | Sc      | F,L,R,vglbM              | 96           |
|         |          |          |       |              | x           |      |         | NGC 5087 | GALXY | VIR  | 13 20.4       | -20 37        | 11.4 | 2.5 m       | 1.9 m       | 10          | E4      | cF,vS,iF                 | 96           |

## Deep Sky Object List (149/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5088 | GALXY | VIR  | 13 20.3       | -12 34        | 12.4 | 2.7 m       | 0.7 m       | 178         | Sbc        | pB,pS,r,E,bM         | 96           |
|         |          |          |       |              |             |      |         | NGC 5090 | GALXY | CEN  | 13 21.2       | -43 42        | 11.6 | 2.7 m       | 2.2 m       |             | E2         | pB,pL,R,3rd of 4     | 120          |
|         |          |          |       |              |             |      |         | NGC 5101 | GALXY | HYA  | 13 21.8       | -27 26        | 10.6 | 5.7 m       | 4.7 m       |             | SBO-a Ring | cB,pS,IE,psbM*       | 96           |
|         |          |          | x     |              |             |      |         | NGC 5102 | GALXY | CEN  | 13 22.0       | -36 38        | 9.6  | 8.6 m       | 2.7 m       | 48          | E-SO       | vB,pS,R,svmbM        | 96           |
|         |          |          |       |              | x           |      |         | NGC 5103 | GALXY | CVN  | 13 20.5       | +43 05        | 12.6 | 1.4 m       | 1 m         | 143         | Pec        | pB,cS,E              | 24           |
|         |          |          |       |              |             |      |         | NGC 5105 | GALXY | VIR  | 13 21.8       | -13 12        | 11.8 | 2 m         | 1.5 m       | 140         | SBc        | eF,pS,IE             | 96           |
|         |          |          |       |              |             |      |         | NGC 5112 | GALXY | CVN  | 13 21.9       | +38 44        | 12.1 | 4 m         | 2.9 m       | 130         | SBc        | F,L,iR,vglbM         | 24           |
|         |          |          |       |              |             |      |         | NGC 5114 | GALXY | CEN  | 13 24.0       | -32 21        | 12.4 | 1.8 m       | 1 m         | 80          | E-SO Bar   | F,IE,psbM,f of 2     | 96           |
|         |          |          |       |              |             |      |         | NGC 5121 | GALXY | CEN  | 13 24.8       | -37 41        | 11.5 | 1.9 m       | 1.5 m       | 36          | Sa         | cB,S,R,psmbM,r       | 120          |
|         |          |          |       |              |             |      |         | NGC 5124 | GALXY | CEN  | 13 24.8       | -30 19        | 12.1 | 2.2 m       | 0.7 m       | 9           | Elliptical | vF,S,vIE             | 96           |
|         |          |          |       |              |             |      |         | NGC 5125 | GALXY | VIR  | 13 24.0       | +09 43        | 12.4 | 1.7 m       | 1.3 m       | 170         | Sb         | pF,S,R,gbM           | 72           |
|         |          |          |       |              |             |      |         | NGC 5127 | GALXY | CVN  | 13 23.8       | +31 34        | 11.9 | 2.3 m       | 1.7 m       | 75          | E2p        | pB,pL,R,gmbM,**p     | 48           |
|         | C 77     | x        | !!!*  |              |             |      | x       | NGC 5128 | GALXY | CEN  | 13 25.5       | -43 01        | 6.8  | 27.6 m      | 20.5 m      | 35          | SO         | !!vB,vL,vmE122,bifid | 120          |

Deep Sky Object List (150/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5129 | GALXY | VIR  | 13 24.2       | +13 59        | 12.1 | 1.7 m       | 1.4 m       | 10          | Elliptical | pB,vS,R,gmbM,**f   | 48           |
|         |          |          |       |              | x           |      |         | NGC 5134 | GALXY | VIR  | 13 25.3       | -21 08        | 11.3 | 2.9 m       | 2 m         | 155         | SBb Ring   | F,pS,IE,vgbM       | 96           |
|         |          |          |       |              |             |      |         | NGC 5135 | GALXY | HYA  | 13 25.7       | -29 50        | 12.1 | 2.4 m       | 2.3 m       |             | SBab       | pB,S,E             | 96           |
|         |          |          |       |              |             |      |         | NGC 5138 | OPNCL | CEN  | 13 27.3       | -59 02        | 7.6  | 8.0 m       |             |             | II 2 p     | Cl,Ri,IC,st11      | 120          |
|         | C 80     | x        | !!!!* |              |             |      | x       | NGC 5139 | GLOCL | CEN  | 13 26.8       | -47 29        | 3.7  | 36.3 m      |             |             | VIII       | !!!eL,B,eRi,vvC    | 120          |
|         |          |          |       |              |             |      |         | NGC 5140 | GALXY | CEN  | 13 26.4       | -33 52        | 11.8 | 2.1 m       | 1.7 m       | 52          | SB0        | vF,S,R,glbM        | 96           |
|         |          |          |       |              |             |      |         | NGC 5145 | GALXY | CVN  | 13 25.2       | +43 16        | 12.3 | 2 m         | 1.8 m       | 90          | Sb         | pB,vS,vIE,glbM     | 24           |
|         |          |          |       |              |             |      |         | NGC 5147 | GALXY | VIR  | 13 26.3       | +02 06        | 11.8 | 1.9 m       | 1.6 m       | 120         | SBd        | pB,pL,vIE,vsmbM*12 | 72           |
|         |          |          |       |              |             |      |         | NGC 5152 | GALXY | HYA  | 13 27.9       | -29 37        | 12.5 | 2.1 m       | 0.7 m       | 117         | SBb        | vF,S,R,p of D neb  | 96           |
|         |          |          |       |              |             |      |         | NGC 5153 | GALXY | HYA  | 13 27.9       | -29 37        | 11.8 | 2 m         | 1.4 m       | 175         | Elliptical | pF,S,f pF Dneb     | 96           |
|         |          |          |       |              |             |      |         | NGC 5156 | GALXY | CEN  | 13 28.7       | -48 55        | 11.7 | 2.5 m       | 2 m         |             | SBab       | pB,cS,IE,glbM,r    | 120          |
|         |          |          |       |              |             |      |         | NGC 5161 | GALXY | CEN  | 13 29.2       | -33 11        | 11.2 | 5.6 m       | 2.3 m       | 77          | Sc         | pF,L,vmE,pgbM,rr   | 96           |
|         |          |          |       |              |             |      |         | NGC 5168 | OPNCL | CEN  | 13 31.1       | -60 56        | 9.1  | 4.0 m       |             |             | I 3 p      | Cl,vF,S,vRi,st15   | 120          |



## Deep Sky Object List (151/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5170 | GALXY | VIR  | 13 29.8       | -17 58        | 11.1 | 8.2 m       | 1 m         | 127         | Sc       | cF,L,mE129,pgbM         | 96           |
|         |          |          |       |              |             |      |         | NGC 5172 | GALXY | COM  | 13 29.3       | +17 03        | 11.9 | 3.4 m       | 1.8 m       | 103         | SBbc     | F,pL,R,gbM              | 48           |
|         |          |          |       |              |             |      |         | NGC 5173 | GALXY | CVN  | 13 28.4       | +46 36        | 12.1 | 1 m         | 1 m         |             | E0       | F,vS,R,stellar          | 24           |
|         |          |          |       |              |             |      |         | NGC 5182 | GALXY | HYA  | 13 30.7       | -28 09        | 12.4 | 1.9 m       | 1.3 m       | 5           | SBbc     | vF,pL,vIE,*7 nf 10'     | 96           |
|         |          |          |       |              |             |      |         | NGC 5188 | GALXY | CEN  | 13 31.5       | -34 48        | 12.1 | 3 m         | 1.1 m       | 104         | SBbc/P   | F,pL,vIE,vglbM          | 96           |
|         |          |          | x     |              |             |      |         | NGC 5189 | PLNNB | MUS  | 13 33.5       | -65 58        | 10.3 | 140 s       |             |             | 5        | B,pL,cE,bM,curved axis  | 139          |
|         |          |          |       |              |             |      |         | NGC 5193 | GALXY | CEN  | 13 31.9       | -33 14        | 11.6 | 1.9 m       | 1.8 m       |             | E2       | pB,S,R,g,psbM           | 96           |
| M 51    |          |          | !!!*  |              |             |      |         | NGC 5194 | GALXY | CVN  | 13 29.9       | +47 12        | 8.4  | 10.8 m      | 6.6 m       | 163         | Sbc      | !!!,Great spiral nebula | 24           |
|         |          |          | *     | x            |             |      |         | NGC 5195 | GALXY | CVN  | 13 30.0       | +47 16        | 9.6  | 5.9 m       | 4.6 m       | 79          | SBO-a    | B,pS,IE,vgbM,inv M51    | 24           |
|         |          |          |       |              |             |      |         | NGC 5198 | GALXY | CVN  | 13 30.2       | +46 40        | 11.8 | 2 m         | 1.7 m       |             | E2       | pF,pS,R,mbM             | 24           |
|         |          |          |       |              | x           |      |         | NGC 5204 | GALXY | UMA  | 13 29.6       | +58 25        | 11.3 | 5 m         | 3 m         | 5           | Sm       | pB,cL,iR,gmbM,r         | 24           |
|         |          |          |       |              |             |      |         | NGC 5205 | GALXY | UMA  | 13 30.1       | +62 31        | 12.2 | 3.1 m       | 1.8 m       | 10          | Sb       | vF,pS,R,bet 2 vf *      | 7            |
|         |          |          |       |              |             |      |         | NGC 5206 | GALXY | CEN  | 13 33.7       | -48 09        | 10.6 | 3.8 m       | 3.3 m       | 16          | E-SO Bar | F,pL,R,vgbM             | 120          |

## Deep Sky Object List (152/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5211  | GALXY | VIR  | 13 33.1       | -01 02        | 12.3 | 2.1 m       | 1.6 m       | 30          | SBab       | pB,S,R,psmbM          | 72           |
|         |          |          |       |              |             |      |         | NGC 5218  | GALXY | UMA  | 13 32.2       | +62 46        | 12.3 | 1.8 m       | 1.3 m       | 100         | SBb/P      | pB,pL,R,gbM           | 7            |
|         |          |          |       |              |             |      |         | NGC 5220  | GALXY | CEN  | 13 35.9       | -33 27        | 12.2 | 2.4 m       | 0.7 m       | 97          | Sa         | vF,S,R,*10f           | 96           |
|         |          |          |       |              |             |      |         | NGC 5230  | GALXY | VIR  | 13 35.5       | +13 40        | 12.1 | 2.1 m       | 1.9 m       |             | SBc        | F,L,E,vgbM,3rd of 3   | 48           |
| M 83    |          |          | !!*   |              |             |      |         | NGC 5236  | GALXY | HYA  | 13 37.0       | -29 52        | 7.5  | 13.1 m      | 12.2 m      |             | SBc        | vB,vL,E55,esBMN,spir  | 96           |
|         |          |          |       |              |             |      |         | NGC 5237  | GALXY | CEN  | 13 37.6       | -42 51        | 12.5 | 2 m         | 1.6 m       | 128         | Elliptical | F,pL,cE,vglbM         | 120          |
|         |          |          |       |              |             |      |         | NGC 5244  | GALXY | CEN  | 13 38.7       | -45 51        | 12.5 | 1.7 m       | 0.6 m       | 17          | Sb         | vF,S,R,vglbM,*13 att  | 120          |
|         |          |          |       |              |             |      |         | NGC 5247  | GALXY | VIR  | 13 38.0       | -17 53        | 10   | 5.4 m       | 4.9 m       | 20          | SBbc       | cF,vL,vg,psmbM,LN     | 96           |
|         | C 45     |          | x     | x            |             |      | x       | NGC 5248  | GALXY | BOO  | 13 37.5       | +08 53        | 10.3 | 5.9 m       | 4.5 m       | 110         | SBbc       | B,L,E150,psbMRN       | 72           |
|         |          |          | x     |              |             |      |         | NGC 5253  | GALXY | CEN  | 13 39.9       | -31 39        | 10.4 | 4.6 m       | 1.7 m       | 45          | S pec      | B,pL,E45,psmbM        | 96           |
|         |          |          |       |              |             |      |         | NGC 5264  | GALXY | HYA  | 13 41.6       | -29 55        | 12   | 2.6 m       | 1.5 m       | 65          | Ir+        | vF,pL,R,vlbM          | 96           |
|         |          |          |       |              |             |      |         | NGC 5266  | GALXY | CEN  | 13 43.0       | -48 10        | 11.1 | 3.3 m       | 2.3 m       | 19          | E-SO       | B,pL,vIE,vglbM,3st nr | 120          |
|         |          |          |       |              |             |      |         | NGC 5266A | GALXY | CEN  | 13 40.6       | -48 21        | 12   | 3.1 m       | 2.5 m       |             | SBc        |                       | 120          |

Deep Sky Object List (153/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------------|--------------|
| M 3     |          |          | !     |              |             |      |         | NGC 5272 | GLOCL | CVN  | 13 42.2       | +28 23        | 6.4  | 18.6 m      |             |             | VI       | !!eB,vL,vsmbM,st 11.. | 48           |
|         |          |          |       | x            |             |      |         | NGC 5273 | GALXY | CVN  | 13 42.1       | +35 39        | 11.6 | 2.7 m       | 2.2 m       | 10          | SO       | cB,pL,R,g,psmbM       | 48           |
|         |          |          |       |              |             |      |         | NGC 5281 | OPNCL | CEN  | 13 46.6       | -62 55        | 5.9  | 7 m         |             |             | I 1 p    | Cl,B,S,pC,iR,*10..12  | 139          |
|         |          |          |       |              |             |      |         | NGC 5284 | OPNCL | CEN  | 13 46.7       | -59 12        | 10   | 3 m         |             |             |          | Cl,L,vRi,st7...16     | 120          |
|         | C 84     |          |       |              |             |      |         | NGC 5286 | GLOCL | CEN  | 13 46.4       | -51 22        | 7.6  | 9.1 m       |             |             | V        | vB,pL,R,rrr,st 15     | 120          |
|         |          |          |       |              |             |      |         | NGC 5290 | GALXY | CVN  | 13 45.3       | +41 43        | 12.5 | 3.7 m       | 1 m         | 95          | Sbc      | cB,pL,E90,bMN         | 24           |
|         |          |          |       |              |             |      |         | NGC 5292 | GALXY | CEN  | 13 47.7       | -30 56        | 11.9 | 1.8 m       | 1.6 m       | 55          | Sab      | pF,S,R,2st nr         | 96           |
|         |          |          |       |              |             |      |         | NGC 5297 | GALXY | CVN  | 13 46.4       | +43 52        | 11.8 | 5.7 m       | 1 m         | 148         | SBc      | cB,L,pME142,gbM       | 24           |
|         |          |          |       |              |             |      |         | NGC 5300 | GALXY | VIR  | 13 48.3       | +03 57        | 11.4 | 3.8 m       | 2.4 m       | 150         | SBc Ring | vF,vL,IE,vgbM         | 72           |
|         |          |          |       |              |             |      |         | NGC 5302 | GALXY | CEN  | 13 48.8       | -30 31        | 12.1 | 1.7 m       | 1 m         | 153         | SBO-a    | F,S,R,gbM             | 96           |
|         |          |          |       |              |             |      |         | NGC 5306 | GALXY | VIR  | 13 49.2       | -07 13        | 12.1 | 1.4 m       | 1.1 m       | 135         | SO       | vF,vS,R,r             | 72           |
|         |          |          |       |              |             |      |         | NGC 5307 | PLNNB | CEN  | 13 51.1       | -51 12        | 12.1 | 15 s        | 10 s        |             | 3        | Pln or vf,eS,Dneb     | 120          |
|         |          |          |       |              | x           |      |         | NGC 5308 | GALXY | UMA  | 13 47.0       | +60 58        | 11.4 | 3.7 m       | 0.7 m       | 60          | SO       | B,pL,mE57,psbM,BN     | 24           |

## Deep Sky Object List (154/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5311 | GALXY | CVN  | 13 48.9       | +39 59        | 12.3 | 2.6 m       | 2.3 m       | 110         | Sa         | cF,cS,R,sbM,p of 2    | 24           |
|         |          |          |       |              |             |      |         | NGC 5313 | GALXY | CVN  | 13 49.7       | +39 59        | 12   | 1.7 m       | 1 m         | 40          | Sb         | pB,pS,vIE,glbM,f of 2 | 24           |
|         |          |          |       |              |             |      |         | NGC 5316 | OPNCL | CEN  | 13 54.0       | -61 52        | 6    | 14.0 m      |             |             | III 1 p    | Cl,pL,pC,st11         | 120          |
|         |          |          |       |              |             |      |         | NGC 5320 | GALXY | CVN  | 13 50.3       | +41 22        | 12.1 | 3.6 m       | 1.7 m       | 18          | SBc        | cF,pL,R,gbM           | 24           |
|         |          |          | x     | x            |             |      |         | NGC 5322 | GALXY | UMA  | 13 49.2       | +60 11        | 10.2 | 6 m         | 4.1 m       | 95          | E2         | vB,pL,iR,psmbM        | 24           |
|         |          |          |       |              |             |      |         | NGC 5324 | GALXY | VIR  | 13 52.1       | -06 04        | 11.7 | 2.3 m       | 2.1 m       | 170         | Sc         | cF,L,iR,bM            | 72           |
|         |          |          |       |              |             |      |         | NGC 5326 | GALXY | CVN  | 13 50.8       | +39 34        | 11.9 | 2.2 m       | 1.2 m       | 137         | Sab        | cF,S,vIE,sbM          | 24           |
|         |          |          |       |              |             |      |         | NGC 5328 | GALXY | HYA  | 13 52.9       | -28 29        | 11.6 | 1.8 m       | 1.2 m       | 87          | E2         | pB,S,R,slBM           | 96           |
|         |          |          |       |              |             |      |         | NGC 5329 | GALXY | VIR  | 13 52.2       | +02 20        | 12.4 | 1.3 m       | 1.3 m       |             | Elliptical | F,vS,R,psbM           | 72           |
|         |          |          |       |              |             |      |         | NGC 5333 | GALXY | CEN  | 13 54.4       | -48 31        | 11.9 | 1.9 m       | 1 m         | 52          | SBO        | vF,vS,R,*8f           | 120          |
|         |          |          |       |              |             |      |         | NGC 5334 | GALXY | VIR  | 13 52.9       | -01 07        | 11.3 | 4.1 m       | 3.3 m       | 15          | SBc        | cF,vL,R,lbM,r         | 72           |
|         |          |          |       |              |             |      |         | NGC 5337 | GALXY | CVN  | 13 52.4       | +39 41        | 12.5 | 1.7 m       | 0.8 m       | 20          | S pec      | vF,S,iR,*7p           | 24           |
|         |          |          |       |              |             |      |         | NGC 5338 | GALXY | VIR  | 13 53.4       | +05 12        | 12.4 | 2.5 m       | 1.4 m       | 97          | SBO        | vF,E,pF,4'f D*        | 72           |

## Deep Sky Object List (155/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5339 | GALXY | VIR  | 13 54.0       | -07 56        | 12   | 1.9 m       | 1.7 m       | 125         | SBa      | vF,pS,R               | 72           |
|         |          |          |       |              |             |      |         | NGC 5345 | GALXY | VIR  | 13 54.2       | -01 26        | 12.4 | 1.6 m       | 1.6 m       |             | Sa       | F,S,R,bM              | 72           |
|         |          |          | x     |              |             |      |         | NGC 5350 | GALXY | CVN  | 13 53.4       | +40 22        | 11.3 | 3.2 m       | 2.6 m       | 40          | SBbc     | cF,pL,bM,*7p,1st of 4 | 24           |
|         |          |          |       |              |             |      |         | NGC 5351 | GALXY | CVN  | 13 53.5       | +37 55        | 12.1 | 2.9 m       | 1.6 m       | 100         | SBb Ring | cF,L,IE90,vgbM        | 24           |
|         |          |          | x     |              |             |      |         | NGC 5353 | GALXY | CVN  | 13 53.4       | +40 17        | 11   | 2.8 m       | 1.9 m       | 145         | SO       | pB,S,R,2nd of 4       | 24           |
|         |          |          | x     |              |             |      |         | NGC 5354 | GALXY | CVN  | 13 53.4       | +40 18        | 11.4 | 2.2 m       | 2 m         |             | SO       | pF,S,R,3rd of 4       | 24           |
|         |          |          |       |              |             |      |         | NGC 5357 | GALXY | CEN  | 13 56.0       | -30 21        | 12   | 1.6 m       | 1.4 m       | 23          | E0       | pF,S,R,glbM,bet 2*10  | 96           |
|         |          |          |       |              |             |      |         | NGC 5362 | GALXY | CVN  | 13 54.9       | +41 19        | 12.3 | 2.2 m       | 1 m         | 88          | Sb       | pB,pL,E               | 24           |
|         |          |          | x     | x            |             |      |         | NGC 5363 | GALXY | VIR  | 13 56.1       | +05 15        | 10.1 | 4.6 m       | 3.1 m       | 135         | Sa       | B,pL,R,psbM,*8 nf     | 72           |
|         |          |          | x     | x            |             |      |         | NGC 5364 | GALXY | VIR  | 13 56.2       | +05 01        | 10.5 | 6.1 m       | 4.2 m       | 30          | SBc/P    | cF,L,R,gbM            | 72           |
|         |          |          |       |              |             |      |         | NGC 5365 | GALXY | CEN  | 13 57.8       | -43 56        | 11.4 | 3 m         | 1.8 m       | 4           | SBO Ring | pB,cS,R,pgbM,am st    | 120          |
|         |          |          | x     |              |             |      |         | NGC 5367 | BRTNB | CEN  | 13 57.7       | -39 59        | 99.9 | 4 m         | 3 m         |             | R        | vB,vL,vsmbM**         | 120          |
|         |          |          | x     |              | x           |      |         | NGC 5371 | GALXY | CVN  | 13 55.7       | +40 28        | 10.6 | 4.2 m       | 3.4 m       | 8           | SBbc     | pB,L,R,bMFN           | 24           |

## Deep Sky Object List (156/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|-------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5374 | GALXY | VIR  | 13 57.5       | +06 06        | 12.5  | 1.6 m       | 1.5 m       |             | SBbc  | cF,pL,R,vgbM,*11 np   | 72           |
|         |          |          |       |              |             |      |         | NGC 5375 | GALXY | CVN  | 13 56.9       | +29 10        | 11.5  | 3.3 m       | 2.8 m       | 80          | SBab  | pB,pL,R,lbM           | 48           |
|         |          |          |       |              |             |      |         | NGC 5376 | GALXY | UMA  | 13 55.3       | +59 30        | 12.1  | 2.1 m       | 1.3 m       | 70          | SBab  | cB,pL,vIE,vgmbM       | 24           |
|         |          |          | x     |              |             |      |         | NGC 5377 | GALXY | CVN  | 13 56.3       | +47 14        | 11.3  | 3.5 m       | 2 m         | 20          | SBa   | B,L,mE42,smbMN        | 24           |
|         |          |          |       |              |             |      |         | NGC 5378 | GALXY | CVN  | 13 56.8       | +37 48        | 12.5  | 2.7 m       | 2.2 m       | 90          | SBa   | pB,IE,vglbM           | 24           |
|         |          |          |       |              |             |      |         | NGC 5380 | GALXY | CVN  | 13 56.9       | +37 37        | 12.3  | 1.9 m       | 1.9 m       |             | Sa    | F,cS,R,smbM           | 24           |
|         |          |          | x     |              | x           |      |         | NGC 5383 | GALXY | CVN  | 13 57.1       | +41 51        | 11.4  | 2.6 m       | 2.2 m       | 85          | SBb   | cB,cL,R,gbM           | 24           |
|         |          |          |       |              |             |      |         | NGC 5389 | GALXY | UMA  | 13 56.1       | +59 44        | 12    | 3.6 m       | 1 m         | 3           | SBO-a | pB,pL,E,mbMN          | 24           |
|         |          |          | x     |              |             |      |         | NGC 5394 | GALXY | CVN  | 13 58.6       | +37 27        | 13    | 1.7 m       | 0.8 m       | 0           | SBb/P | cF,S,np of 2          | 24           |
|         |          |          | x     |              |             |      |         | NGC 5395 | GALXY | CVN  | 13 58.6       | +37 25        | 11.4  | 2.7 m       | 1.3 m       | 167         | Sbc   | cF,cL,E15,lbM,sf of 2 | 24           |
|         |          |          |       |              |             |      |         | NGC 5398 | GALXY | CEN  | 14 01.4       | -33 04        | 12.3  | 2.8 m       | 1.7 m       | 172         | SBdmp | pB,pL,R,vgbM          | 95           |
|         |          |          |       |              |             |      |         | NGC 5406 | GALXY | CVN  | 14 00.3       | +38 55        | 12.3  | 1.9 m       | 1.4 m       | 120         | SBbc  | F,pS,R,lbM            | 23           |
|         |          |          |       |              |             |      |         | NGC 5408 | PLNNB | CEN  | 14 03.4       | -41 23        | 12.2p | 114 s       | 60 s        | 70          | V     | eF,E bet 2vS*         | 119          |

## Deep Sky Object List (157/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5419 | GALXY | CEN  | 14 03.6       | -33 59        | 10.9 | 4.1 m       | 3.3 m       |             | E4     | pB,pL,R,gpmbM            | 95           |
|         |          |          |       |              |             |      |         | NGC 5422 | GALXY | UMA  | 14 00.7       | +55 10        | 11.8 | 3.5 m       | 0.6 m       | 152         | Sa     | pB,S,pmE45,vsmbMN        | 23           |
|         |          |          | x     |              | x           |      |         | NGC 5426 | GALXY | VIR  | 14 03.4       | -06 04        | 12.1 | 3 m         | 1.7 m       | 170         | Sc     | pF,cL,R,gmbM,sp of 2     | 71           |
|         |          |          | x     |              |             |      |         | NGC 5427 | GALXY | VIR  | 14 03.4       | -06 02        | 11.4 | 2.9 m       | 2.2 m       | 170         | SBc    | pF,cL,R,nf of 2          | 71           |
|         |          |          |       |              | x           |      |         | NGC 5430 | GALXY | UMA  | 14 00.8       | +59 20        | 11.9 | 2.3 m       | 1.3 m       | 0           | SBb    | pB,S,IE,mbM              | 23           |
|         |          |          |       |              | x           |      |         | NGC 5440 | GALXY | CVN  | 14 03.0       | +34 45        | 12.3 | 3.1 m       | 1.2 m       | 50          | Sa     | pF,cS,IE,bM,*11 sp       | 47           |
|         |          |          |       |              | x           |      |         | NGC 5443 | GALXY | UMA  | 14 02.2       | +55 49        | 12.3 | 2.7 m       | 1 m         | 34          | SBb    | pF,L,E                   | 23           |
|         |          |          |       |              | x           |      |         | NGC 5444 | GALXY | CVN  | 14 03.4       | +35 08        | 11.9 | 2.5 m       | 2 m         | 90          | E1     | pB,pL,IE,vsmbM           | 47           |
|         |          |          |       |              | x           |      |         | NGC 5445 | GALXY | CVN  | 14 03.5       | +35 01        | 13   | 1.5 m       | 0.7 m       | 27          | SO     | F,*13p                   | 47           |
|         |          |          |       |              | x           |      |         | NGC 5447 | GX+DN | UMA  | 14 02.5       | +54 17        | 99.9 |             |             |             | Pec    | pB,S,R,gmbM,conn<br>M101 | 23           |
|         |          |          |       |              | x           |      |         | NGC 5448 | GALXY | UMA  | 14 02.8       | +49 10        | 11   | 3.8 m       | 2 m         | 115         | SBa    | pB,cL,vmE90,smbMN        | 23           |
| M101    |          |          | !     |              |             |      |         | NGC 5457 | GALXY | UMA  | 14 03.2       | +54 21        | 7.9  | 28.5 m      | 28.3 m      |             | SBc    | pB,vL,iR,g,vsmbM,BSN     | 23           |
|         |          |          |       |              |             |      |         | NGC 5460 | OPNCL | CEN  | 14 07.5       | -48 21        | 5.6  | 25.0 m      |             |             | II 3 m | Cl,vL,vIC,st8...         | 119          |

Deep Sky Object List (158/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|----------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5462 | GX+DN | UMA  | 14 03.9       | +54 22        | 99.9 |             |             |             | Pec   | pB,pL,iR,gbM,conn<br>M101  | 23           |
|         |          |          | x     | x            |             | 86   |         | NGC 5466 | GLOCL | BOO  | 14 05.5       | +28 32        | 9.1  | 9.2 m       |             |             | XII   | Cl,L,vRi,vmC,st 11...      | 47           |
|         |          |          |       |              |             |      |         | NGC 5468 | GALXY | VIR  | 14 06.6       | -05 27        | 12.5 | 2.4 m       | 2.3 m       | 105         | SBc   | F,L,R,vgbM,*9 sf 4'        | 71           |
|         |          |          |       | x            |             |      |         | NGC 5473 | GALXY | UMA  | 14 04.7       | +54 54        | 11.4 | 2.2 m       | 1.7 m       | 160         | E2    | pB,S,R,gbM                 | 23           |
|         |          |          | x     | x            |             |      |         | NGC 5474 | GALXY | UMA  | 14 05.0       | +53 40        | 10.8 | 5 m         | 4.5 m       |             | Sc    | pB,L,bM,P w M101           | 23           |
|         |          |          |       |              | x           |      |         | NGC 5480 | GALXY | UMA  | 14 06.4       | +50 43        | 12.1 | 1.6 m       | 1 m         | 5           | Sc    | F,pS,vgbM,np of 2          | 23           |
|         |          |          |       |              | x           |      |         | NGC 5481 | GALXY | UMA  | 14 06.7       | +50 43        | 12.3 | 1.4 m       | 1.1 m       | 115         | E-SO  | F,vS,smbM,stell,sf of 2    | 23           |
|         |          |          |       |              |             |      |         | NGC 5483 | GALXY | CEN  | 14 10.4       | -43 20        | 11.2 | 3.9 m       | 3.6 m       | 25          | SBc   | pF,vL,R,vgbM               | 119          |
|         |          |          |       |              | x           |      |         | NGC 5485 | GALXY | UMA  | 14 07.2       | +55 00        | 11.4 | 2.8 m       | 2.1 m       | 170         | SO    | cB,R,vgbM,f of 2           | 23           |
|         |          |          |       |              |             |      |         | NGC 5488 | GALXY | CEN  | 14 08.0       | -33 19        | 11.9 | 3.4 m       | 1 m         | 22          | SBbc  | F,R,*8s nr                 | 95           |
|         |          |          |       |              |             |      |         | NGC 5489 | GALXY | CEN  | 14 12.0       | -46 05        | 12.2 | 1.5 m       | 1 m         | 129         | Sa    | vF,S,R,bM                  | 119          |
|         |          |          |       |              | x           |      |         | NGC 5490 | GALXY | BOO  | 14 10.0       | +17 33        | 12.1 | 2.5 m       | 2.3 m       | 5           | E2    | cF,cS,R,sbMF**             | 47           |
|         |          |          |       |              | x           |      |         | NGC 5493 | GALXY | VIR  | 14 11.5       | -05 03        | 11.4 | 1.7 m       | 1.5 m       | 124         | SO    | pB,vS,R,psmbM*,*18<br>invl | 71           |



Deep Sky Object List (159/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|---------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5494 | GALXY | CEN  | 14 12.4       | -30 39         | 11.9 | 2.3 m       | 2.1 m       |             | Sc         | pB,L,R,gbM,rr       | 95           |
|         |          |          |       |              |             |      |         | NGC 5496 | GALXY | VIR  | 14 11.6       | -01 10         | 12.1 | 4.7 m       | 0.9 m       | 172         | SBcd       | pB,vL,E ns          | 71           |
|         |          |          |       |              | x           |      |         | NGC 5506 | GALXY | VIR  | 14 13.2       | -03 12         | 11.9 | 2.7 m       | 0.8 m       | 91          | Sap        | pB,L,E20,lbM        | 71           |
|         |          |          |       |              | x           |      |         | NGC 5507 | GALXY | VIR  | 14 13.3       | -03 09         | 12.5 | 1.6 m       | 0.9 m       | 62          | SBO        | cF,S,R,stellar      | 71           |
|         |          |          |       |              |             |      |         | NGC 5516 | GALXY | CEN  | 14 15.9       | -48 07         | 12   | 1.8 m       | 1.3 m       | 169         | E-SO       | pF,S,R,psbM,S** nf  | 119          |
|         |          |          |       |              | x           |      |         | NGC 5520 | GALXY | BOO  | 14 12.4       | +50 21         | 12.4 | 2 m         | 1.1 m       | 66          | Sb         | F,S,IE,stellar      | 23           |
|         |          |          |       |              | x           |      |         | NGC 5523 | GALXY | BOO  | 14 14.9       | +25 19         | 12.1 | 4.7 m       | 1.3 m       | 99          | Sc         | F,pL,pmE90,*10 np   | 47           |
|         |          |          |       |              | x           |      |         | NGC 5529 | GALXY | BOO  | 14 15.6       | +36 14         | 11.9 | 6 m         | 0.7 m       | 115         | Sc         | cF,pL,vmE110,vgvmBM | 47           |
|         |          |          |       |              |             |      |         | NGC 5530 | GALXY | LUP  | 14 18.5       | -43 23         | 11.1 | 4.2 m       | 1.8 m       | 127         | SBbc       | vF,pmE,esvmbM*12    | 119          |
|         |          |          |       |              | x           |      |         | NGC 5533 | GALXY | BOO  | 14 16.1       | +35 21         | 11.8 | 3.1 m       | 1.9 m       | 30          | Sab        | pB,R,vsmbM,2or3*inv | 47           |
|         |          |          |       |              |             |      |         | NGC 5534 | GALXY | VIR  | 14 17.7       | -07 25         | 12.3 | 1.4 m       | 1 m         | 55          | SBab       | pF,st inv,*12 np    | 71           |
|         |          |          |       |              |             |      |         | NGC 5546 | GALXY | BOO  | 14 18.2       | +07 34         | 12.3 | 1.3 m       | 1.1 m       | 10          | Elliptical | pB,cS,gbM           | 71           |
|         |          |          |       |              | x           |      |         | NGC 5548 | GALXY | BOO  | 14 18.0       | +25 08         | 12.6 | 1.5 m       | 1.2 m       | 110         | Sa Ring    | cF,pS,R,vsvmbM*     | 47           |

Deep Sky Object List (160/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5556 | GALXY | HYA  | 14 20.6       | -29 15        | 11.8 | 4.1 m       | 3.3 m       | 148         | SBcd       | eF,L,s* inv                   | 95           |
|         |          |          |       | x            |             |      |         | NGC 5557 | GALXY | BOO  | 14 18.4       | +36 30        | 11   | 2.4 m       | 1.9 m       | 105         | E1         | cB,S,R,vsbM*                  | 47           |
|         |          |          |       |              | x           |      |         | NGC 5560 | GALXY | VIR  | 14 20.1       | +04 00        | 12.4 | 3.6 m       | 0.9 m       | 115         | SBb/P      | pF,cL,E,gbM                   | 71           |
|         |          |          |       | x            |             |      | x       | NGC 5566 | GALXY | VIR  | 14 20.3       | +03 56        | 10.6 | 6.6 m       | 2.3 m       | 35          | SBab Ring  | B,pL,R,psbM,r,*f1.5'          | 71           |
|         |          |          |       |              |             |      |         | NGC 5574 | GALXY | VIR  | 14 20.9       | +03 14        | 12.4 | 1.5 m       | 1.1 m       | 63          | SB0        | pF,pS,IE,p of 2               | 71           |
|         |          |          |       | x            |             |      |         | NGC 5576 | GALXY | VIR  | 14 21.1       | +03 16        | 11   | 3 m         | 2.3 m       | 95          | E2         | B,S,R,vsmbM,brightest<br>of 3 | 71           |
|         |          |          |       |              |             |      |         | NGC 5577 | GALXY | VIR  | 14 21.2       | +03 26        | 12.3 | 3.2 m       | 0.9 m       | 56          | Sbc Ring   | pF,pL,vmE53                   | 71           |
|         |          |          |       |              | x           |      |         | NGC 5582 | GALXY | BOO  | 14 20.7       | +39 42        | 11.6 | 2.8 m       | 1.7 m       | 25          | Elliptical | pB,pS,R,bMFN,* sp             | 23           |
|         |          |          |       |              |             |      |         | NGC 5584 | GALXY | VIR  | 14 22.4       | -00 23        | 11.4 | 3.4 m       | 2.7 m       | 140         | SBc        | F,L,mE,dif,glbM               | 71           |
|         |          |          | x     |              | x           |      |         | NGC 5585 | GALXY | UMA  | 14 19.8       | +56 44        | 10.7 | 5.8 m       | 3.6 m       | 30          | SBcd       | pF,L,iR,vgmbM,r               | 23           |
|         |          |          |       |              |             |      |         | NGC 5587 | GALXY | BOO  | 14 22.2       | +13 55        | 12.5 | 2.6 m       | 0.8 m       | 162         | Sa         | F,cS,vIE,*8 sf                | 47           |
|         |          |          |       |              | x           |      |         | NGC 5590 | GALXY | BOO  | 14 21.6       | +35 12        | 12.3 | 1.8 m       | 1.8 m       |             | SO         | cF,S,R,bM*,sf of 2            | 47           |
|         |          |          |       |              | x           |      |         | NGC 5595 | GALXY | LIB  | 14 24.2       | -16 43        | 12   | 2.4 m       | 1.3 m       | 125         | SBc        | F,pL,R,vgbM,p of 2            | 95           |

## Deep Sky Object List (161/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                   | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5597 | GALXY | LIB  | 14 24.5       | -16 46        | 12   | 2.1 m       | 1.9 m       | 60          | SBc Ring   | vF,L,vIE,vglbM,f of 2             | 95           |
|         |          |          |       |              | x           |      |         | NGC 5600 | GALXY | BOO  | 14 23.8       | +14 38        | 12.1 | 1.5 m       | 1.5 m       |             | Sc         | pB,pS,gbM                         | 47           |
|         |          |          |       |              | x           |      |         | NGC 5605 | GALXY | LIB  | 14 25.1       | -13 10        | 12.3 | 1.5 m       | 1.3 m       |             | SBc        | vF,pL,R,vgbM                      | 95           |
|         |          |          |       |              |             |      |         | NGC 5606 | OPNCL | CEN  | 14 27.8       | -59 38        | 7.7  | 3.0 m       |             |             | I 1 p      | Cl,S,pC,st L and S                | 119          |
|         |          |          |       |              |             |      |         | NGC 5612 | GALXY | APS  | 14 34.0       | -78 23        | 12.1 | 1.9 m       | 1.1 m       | 63          | Sab        | vF,E,gbM,r                        | 138          |
|         |          |          | x     |              |             |      |         | NGC 5614 | GALXY | BOO  | 14 24.1       | +34 52        | 11.7 | 2.4 m       | 2 m         | 160         | Sab        | pB,S,R,smbM                       | 47           |
|         |          |          | x     |              |             |      |         | NGC 5617 | OPNCL | CEN  | 14 29.7       | -60 43        | 6.3  | 10.0 m      |             |             | I 3 m      | Cl,L,pRi,pCM,st8...               | 119          |
|         |          |          |       |              |             |      |         | NGC 5623 | GALXY | BOO  | 14 27.1       | +33 15        | 12.5 | 1.6 m       | 1.1 m       | 17          | Elliptical | cF,S,R,vsmbM,r                    | 47           |
|         |          |          |       |              |             |      |         | NGC 5629 | GALXY | BOO  | 14 28.3       | +25 51        | 12.1 | 1.8 m       | 1.8 m       |             | SO         | pF,S,R,gbM                        | 47           |
|         |          |          |       | x            |             |      |         | NGC 5631 | GALXY | UMA  | 14 26.6       | +56 35        | 11.5 | 2 m         | 2 m         |             | SO         | B,S,R,psbMN                       | 23           |
|         |          |          |       |              |             |      |         | NGC 5633 | GALXY | BOO  | 14 27.5       | +46 09        | 12.4 | 2.1 m       | 1.1 m       | 10          | Sb         | cB,pS,R,pglbM                     | 23           |
|         |          |          |       | x            |             |      | x       | NGC 5634 | GLOCL | VIR  | 14 29.6       | -05 59        | 11   | 4.9 m       |             |             | IV         | vB,cL,R,gbM,rrr,st<br>19...,*8 sf | 71           |
|         |          |          |       |              |             |      |         | NGC 5635 | GALXY | BOO  | 14 28.5       | +27 25        | 12.5 | 2.3 m       | 1.1 m       | 65          | Sb         | F,S,E,sbM                         | 47           |

## Deep Sky Object List (162/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5638 | GALXY | VIR  | 14 29.7       | +03 14        | 11.2 | 2.3 m       | 2.1 m       | 150         | E1       | cB,pL,R,sf of 2     | 71           |
|         |          |          |       |              |             |      |         | NGC 5641 | GALXY | BOO  | 14 29.3       | +28 49        | 12.2 | 2.4 m       | 1.3 m       | 158         | SBab     | pB,pS,IE,mbM,r?     | 47           |
|         |          |          | x     |              |             |      |         | NGC 5643 | GALXY | LUP  | 14 32.7       | -44 11        | 10   | 4.7 m       | 4.2 m       |             | SBc      | pB,L,R,vglbM,st inv | 119          |
|         |          |          |       |              |             |      |         | NGC 5644 | GALXY | BOO  | 14 30.4       | +11 56        | 12.5 | 1.5 m       | 1.5 m       |             | SO       | pB,pS,R,gmbM        | 71           |
|         |          |          |       |              |             |      |         | NGC 5645 | GALXY | VIR  | 14 30.7       | +07 16        | 12.5 | 2.6 m       | 1.6 m       | 80          | SBcd     | cF,pL,iR,gbM        | 71           |
|         |          |          |       |              |             |      |         | NGC 5652 | GALXY | VIR  | 14 31.0       | +05 59        | 12.5 | 2 m         | 1.4 m       | 117         | Sbc      | pB,pL,vIE,bM        | 71           |
|         |          |          |       |              |             |      |         | NGC 5653 | GALXY | BOO  | 14 30.2       | +31 13        | 12.2 | 1.7 m       | 1.3 m       | 125         | Sb Ring  | pF,pS,R,bM          | 47           |
|         |          |          |       |              |             |      |         | NGC 5656 | GALXY | BOO  | 14 30.4       | +35 19        | 11.8 | 1.9 m       | 1.5 m       | 50          | Sab      | pF,pL,R,mbM,r       | 47           |
|         |          |          |       |              | x           |      |         | NGC 5660 | GALXY | BOO  | 14 29.8       | +49 37        | 11.9 | 2.7 m       | 2.6 m       | 90          | SBc      | pB,L,iR,vgbM        | 23           |
|         |          |          |       |              |             |      |         | NGC 5662 | OPNCL | CEN  | 14 35.6       | -56 37        | 5.5  | 29 m        |             |             | II 3 m   | Cl,L,pRi,IC,st9...  | 119          |
|         |          |          |       |              |             |      |         | NGC 5665 | GALXY | BOO  | 14 32.4       | +08 05        | 12   | 2.1 m       | 1.3 m       | 145         | SBc      | pB,pL,R,gbM,r       | 71           |
|         |          |          |       |              |             |      |         | NGC 5667 | GALXY | DRA  | 14 30.4       | +59 28        | 12.5 | 1.7 m       | 1.1 m       | 168         | SBc      | pB,pS,E0            | 23           |
|         |          |          |       |              | x           |      |         | NGC 5668 | GALXY | VIR  | 14 33.4       | +04 27        | 11.5 | 3.2 m       | 3 m         |             | Scd Ring | F,pS,vIE,*14 inv    | 71           |

## Deep Sky Object List (163/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5669 | GALXY | BOO  | 14 32.7       | +09 54        | 11.3 | 4.2 m       | 3.4 m       | 50          | SBc        | F,L,R,lbM,r             | 71           |
|         |          |          |       |              |             |      |         | NGC 5670 | GALXY | LUP  | 14 35.6       | -45 58        | 12   | 2.3 m       | 1 m         | 74          | SO         | vF,S,cE,bet 2*          | 119          |
|         |          |          |       |              |             |      |         | NGC 5673 | GALXY | BOO  | 14 31.5       | +49 57        | 12.1 | 2.4 m       | 0.6 m       | 136         | SBc        | F,S,cE,*15 np           | 23           |
|         |          |          |       | x            |             |      |         | NGC 5676 | GALXY | BOO  | 14 32.8       | +49 27        | 11.2 | 3.9 m       | 1.8 m       | 47          | Sbc        | B,L,E45,pgbM,r          | 23           |
|         |          |          |       |              |             |      |         | NGC 5678 | GALXY | DRA  | 14 32.1       | +57 55        | 11.3 | 3.3 m       | 1.4 m       | 5           | SBb        | B,L,IE0,vgmbM           | 23           |
|         |          |          |       |              | x           |      |         | NGC 5687 | GALXY | BOO  | 14 34.9       | +54 29        | 11.8 | 2.5 m       | 1.9 m       | 105         | Sa         | pF,S,iF,resolved,*10 f  | 23           |
|         |          |          |       |              |             |      |         | NGC 5688 | GALXY | LUP  | 14 39.6       | -45 01        | 11.9 | 3.8 m       | 2.4 m       | 85          | SBc        | F,S,vgbM,am st          | 119          |
|         |          |          |       | x            |             |      |         | NGC 5689 | GALXY | BOO  | 14 35.5       | +48 44        | 11.9 | 3.3 m       | 1 m         | 85          | SBO-a      | cB,pL,E87,psmbM         | 23           |
|         |          |          |       |              |             |      |         | NGC 5690 | GALXY | VIR  | 14 37.7       | +02 17        | 11.8 | 3.4 m       | 1 m         | 143         | Sc Ring    | vF,mE138,F* att sf      | 71           |
|         |          |          |       |              |             |      |         | NGC 5691 | GALXY | VIR  | 14 37.9       | -00 24        | 12.3 | 2 m         | 1.7 m       | 110         | SBap       | pB,pS,IE,gbM            | 71           |
|         | C 66     |          |       | x            |             |      |         | NGC 5694 | GLOCL | HYA  | 14 39.6       | -26 32        | 10.2 | 3.6 m       |             |             | VII        | cB,cS,R,psbM,r,* 9.5 sp | 95           |
|         |          |          |       |              |             |      |         | NGC 5701 | GALXY | VIR  | 14 39.2       | +05 22        | 10.9 | 4.7 m       | 4.6 m       |             | SBO-a Ring | cB,pS,R,mbM,*11p15"     | 71           |
|         |          |          |       |              |             |      |         | NGC 5707 | GALXY | BOO  | 14 37.5       | +51 34        | 12.5 | 2.5 m       | 0.5 m       | 35          | Sab        | B,pS,R                  | 23           |

## Deep Sky Object List (164/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5713 | GALXY | VIR  | 14 40.2       | -00 17        | 11.2 | 2.9 m       | 2.5 m       | 10          | SBbc       | cB,pL,R,psmbM,r          | 71           |
|         |          |          |       |              |             |      |         | NGC 5715 | OPNCL | CIR  | 14 43.5       | -57 35        | 9.8  | 6.0 m       |             |             | II 2 m     | Cl,L,pRi,CM,*11...13     | 119          |
|         |          |          |       |              |             |      |         | NGC 5719 | GALXY | VIR  | 14 40.9       | -00 19        | 12.2 | 3.2 m       | 1.2 m       | 107         | SBab/P     | pF,S,IE,bM               | 71           |
|         |          |          |       |              | x           |      |         | NGC 5728 | GALXY | LIB  | 14 42.4       | -17 15        | 11.4 | 3.2 m       | 1.9 m       | 20          | SBab       | pF,pL,pmE45,mbM,*10<br>s | 95           |
|         |          |          |       |              |             |      |         | NGC 5735 | GALXY | BOO  | 14 42.6       | +28 44        | 12.3 | 2.4 m       | 1.9 m       | 40          | SBbc Ring  | vF,L,iR,lbM              | 47           |
|         |          |          |       |              |             |      |         | NGC 5739 | GALXY | BOO  | 14 42.5       | +41 51        | 12.1 | 1.9 m       | 1.8 m       |             | SBO-a      | pB,S,R,smbM,r,* nr       | 23           |
|         |          |          | x     |              |             |      |         | NGC 5740 | GALXY | VIR  | 14 44.4       | +01 41        | 11.9 | 2.8 m       | 1.5 m       | 160         | SBb Ring   | pB,L,iR,gbM,r            | 71           |
|         |          | x        | x     | x            |             | 85   | x       | NGC 5746 | GALXY | VIR  | 14 44.9       | +01 57        | 10.3 | 6.9 m       | 1.2 m       | 170         | SBb        | B,L,vmE170,bM,BN         | 71           |
|         |          |          |       |              |             |      |         | NGC 5749 | OPNCL | LUP  | 14 48.9       | -54 30        | 8.8  | 10 m        |             |             | IV 1 p     | Cl,pL,pRi,IC,*10..11     | 119          |
|         |          |          |       |              | x           |      |         | NGC 5750 | GALXY | VIR  | 14 46.2       | -00 13        | 11.6 | 3.2 m       | 1.5 m       | 65          | SBO-a Ring | pF,pS,vIE,r              | 71           |
|         |          |          |       |              | x           |      |         | NGC 5756 | GALXY | LIB  | 14 47.6       | -14 51        | 12.3 | 2.3 m       | 0.9 m       | 62          | SBbc       | pB,pL,pmE,gmbM           | 95           |
|         |          |          |       |              |             |      |         | NGC 5757 | GALXY | LIB  | 14 47.8       | -19 05        | 11.9 | 2.1 m       | 1.7 m       | 160         | SBb        | vF,S,iR,lbM              | 95           |
|         |          |          |       |              |             |      |         | NGC 5761 | GALXY | LIB  | 14 49.1       | -20 23        | 12.4 | 1.3 m       | 1 m         | 75          | SO         | vF,S,R,gIbMN             | 95           |

Deep Sky Object List (165/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|-------------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5768 | GALXY | LIB  | 14 52.1       | -02 32        | 12.5 | 1.8 m       | 1.4 m       | 60          | Scp    | F,R,bMFN,S*s                        | 71           |
|         |          |          |       |              |             |      |         | NGC 5770 | GALXY | VIR  | 14 53.2       | +03 58        | 12.3 | 1.7 m       | 1.3 m       | 120         | SBO    | cF,S,vIE,bM,bi-N                    | 71           |
|         |          |          |       |              |             |      |         | NGC 5774 | GALXY | VIR  | 14 53.7       | +03 35        | 12.1 | 3 m         | 2.3 m       | 145         | SBcd   | pF,pL,R,np of 2                     | 71           |
|         |          |          |       |              | x           |      |         | NGC 5775 | GALXY | VIR  | 14 54.0       | +03 33        | 11.4 | 4 m         | 1.1 m       | 146         | SBc    | F,pS,vmE148,gvlbM                   | 71           |
|         |          |          |       |              |             |      |         | NGC 5784 | GALXY | BOO  | 14 54.3       | +42 33        | 12.4 | 1.9 m       | 1.8 m       |             | SO     | pB,S,R,smbM,stellar                 | 23           |
|         |          |          |       |              | x           |      |         | NGC 5791 | GALXY | LIB  | 14 58.8       | -19 16        | 11.7 | 2.5 m       | 1.3 m       | 163         | Sa     | pF,S,R,stellar                      | 95           |
|         |          |          |       |              |             |      |         | NGC 5792 | GALXY | LIB  | 14 58.4       | -01 05        | 11.3 | 6.8 m       | 1.7 m       | 84          | SBb    | pB,pL,R,mbM,*8-9 np 1'              | 71           |
|         |          |          |       |              |             |      |         | NGC 5796 | GALXY | LIB  | 14 59.4       | -16 37        | 11.6 | 2.8 m       | 1.8 m       | 95          | E0     | F,pS*in centre                      | 95           |
|         |          |          |       |              | x           |      |         | NGC 5806 | GALXY | VIR  | 15 00.0       | +01 53        | 11.7 | 3.2 m       | 1.6 m       | 170         | SBb    | cB,cL,E165,sbMN                     | 70           |
|         |          |          |       |              | x           |      |         | NGC 5812 | GALXY | LIB  | 15 00.9       | -07 27        | 11.2 | 2.3 m       | 2 m         | 130         | E1     | cB,S,R,svmbM                        | 70           |
|         |          |          |       |              | x           |      |         | NGC 5813 | GALXY | VIR  | 15 01.2       | +01 42        | 10.5 | 4 m         | 2.8 m       | 145         | E1     | B,pS,R,psmbM                        | 70           |
|         |          |          |       |              |             |      |         | NGC 5820 | GALXY | BOO  | 14 58.7       | +53 53        | 12.4 | 2.2 m       | 2 m         |             | SO     | B,E90,sbM,B<br>D*f8',brightest of 3 | 23           |
|         |          |          |       |              |             |      |         | NGC 5822 | OPNCL | LUP  | 15 04.4       | -54 24        | 6.5  | 40.0 m      |             |             | II 1 r | Cl,vL,Ri,IC,st9...12                | 118          |

## Deep Sky Object List (166/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|----------------------------------|--------------|
|         | C 88     |          | x     |              |             |      |         | NGC 5823 | OPNCL | CIR  | 15 05.5       | -55 36        | 7.9  | 10.0 m      |             |             | III 2 m | Cl,cL,Ri,ICM,*13..14             | 118          |
|         |          |          | x     |              |             |      |         | NGC 5824 | GLOCL | LUP  | 15 04.0       | -33 04        | 9    | 6.2 m       |             |             | I       | pB,S,Stell Nuc                   | 94           |
|         |          |          |       |              | x           |      |         | NGC 5831 | GALXY | VIR  | 15 04.1       | +01 13        | 11.5 | 2.1 m       | 1.9 m       | 55          | Ep      | pB,S,mbM                         | 70           |
|         |          |          |       |              |             |      |         | NGC 5832 | GALXY | UMI  | 14 57.8       | +71 41        | 12.1 | 3.6 m       | 2.2 m       | 45          | SBb     | pB,cL,iR,bp,r                    | 6            |
|         |          |          |       |              |             |      |         | NGC 5833 | GALXY | APS  | 15 11.9       | -72 52        | 12   | 3.1 m       | 2.3 m       | 128         | Sbc     | F,cS,IE,glbM,am st               | 138          |
|         |          |          |       |              | x           |      |         | NGC 5838 | GALXY | VIR  | 15 05.4       | +02 06        | 10.9 | 3.7 m       | 1.6 m       | 43          | Sa      | pB,pS                            | 70           |
|         |          |          |       |              |             |      |         | NGC 5843 | GALXY | LUP  | 15 07.5       | -36 20        | 12.3 | 1.9 m       | 1.1 m       | 70          | SBb     | vF,S,IE,vlbM,r                   | 94           |
|         |          |          |       |              |             |      |         | NGC 5844 | PLNNB | TRA  | 15 10.7       | -64 40        | 12   | 60 s        |             |             |         | pB,pL,R,vgvlbM                   | 138          |
|         |          |          |       |              |             |      |         | NGC 5845 | GALXY | VIR  | 15 06.0       | +01 38        | 12.5 | 0.7 m       | 0.5 m       | 150         | E3      | vF,R                             | 70           |
|         |          |          | x     | x            |             |      |         | NGC 5846 | GALXY | VIR  | 15 06.5       | +01 36        | 10   | 4 m         | 3.7 m       |             | E0      | vB,pL,R,psbMN,F* inv<br>S,n of 2 | 70           |
|         |          |          | x     |              | x           |      |         | NGC 5850 | GALXY | VIR  | 15 07.1       | +01 33        | 10.8 | 4.5 m       | 3.9 m       | 140         | SBab    | cF,S,IE,psbM                     | 70           |
|         |          |          |       |              | x           |      |         | NGC 5854 | GALXY | VIR  | 15 07.8       | +02 34        | 11.9 | 2.7 m       | 0.8 m       | 55          | SBO-a   | pB,S,vIE,lbM,am st               | 70           |
|         |          |          |       |              |             |      |         | NGC 5859 | GALXY | BOO  | 15 07.6       | +19 35        | 12.4 | 3 m         | 0.8 m       | 136         | SBbc    | pF,pS,E,f of Dneb                | 46           |



## Deep Sky Object List (167/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5861 | GALXY | LIB  | 15 09.3       | -11 19        | 11.6 | 3 m         | 1.7 m       | 150         | SBc Ring | F,L,E,r               | 70           |
|         |          |          |       |              | x           |      |         | NGC 5864 | GALXY | VIR  | 15 09.6       | +03 03        | 11.8 | 2.5 m       | 0.9 m       | 68          | SBO      | pF,cS,iIE,gbM,*14f    | 70           |
|         |          |          | x     | x            |             |      |         | NGC 5866 | GALXY | DRA  | 15 06.5       | +55 46        | 9.9  | 6.5 m       | 3.1 m       | 128         | Sa       | vB,cL,pME146,gbM      | 22           |
|         |          |          |       |              |             |      |         | NGC 5869 | GALXY | VIR  | 15 09.8       | +00 28        | 11.9 | 2.3 m       | 1.6 m       | 125         | SO       | pF,S,E,psbM           | 70           |
|         |          |          |       |              |             |      |         | NGC 5873 | PLNNB | LUP  | 15 12.8       | -38 08        | 12   | 3 s         |             |             | 2        | stellar=9.5mag        | 118          |
|         |          |          |       |              |             |      |         | NGC 5874 | GALXY | BOO  | 15 07.9       | +54 45        | 12.4 | 2.3 m       | 1.6 m       | 53          | SBbc     | vF,pL,R,in tri of 3B* | 22           |
|         |          |          |       |              |             |      |         | NGC 5875 | GALXY | BOO  | 15 09.2       | +52 32        | 12.4 | 2.3 m       | 1.2 m       | 145         | Sb       | pB,pL,IE              | 22           |
|         |          |          |       |              | x           |      |         | NGC 5878 | GALXY | LIB  | 15 13.8       | -14 16        | 11.5 | 3.2 m       | 1.4 m       | 90          | Sb       | pB,pL,pmE0,psmbM      | 94           |
|         |          |          |       |              | x           |      |         | NGC 5879 | GALXY | DRA  | 15 09.8       | +57 00        | 11.6 | 3.9 m       | 1.4 m       | 8           | Sbc      | cB,S,E,mbMRN,r        | 22           |
|         |          |          |       |              |             |      |         | NGC 5882 | PLNNB | LUP  | 15 16.8       | -45 39        | 10.5 | 7 s         |             |             |          | vS,R,quite sharp      | 118          |
|         |          |          |       |              |             |      |         | NGC 5885 | GALXY | LIB  | 15 15.1       | -10 05        | 11.8 | 3.9 m       | 3.1 m       | 65          | SB Ring  | F,cL,R,vgbM           | 70           |
|         |          |          |       |              |             |      |         | NGC 5892 | GALXY | LIB  | 15 13.8       | -15 28        | 11.7 | 3.6 m       | 2.9 m       | 105         | SBcd     | eF,L,gbM              | 94           |
|         |          |          | x     | x            |             |      | x       | NGC 5897 | GLOCL | LIB  | 15 17.4       | -21 01        | 8.6  | 8.7 m       |             |             | XI       | pF,L,viR,vgbM,rrr     | 94           |

Deep Sky Object List (168/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5898 | GALXY | LIB  | 15 18.2       | -24 06        | 11.4 | 2.6 m       | 2.3 m       |             | E1p      | F,S,R,gbM             | 94           |
|         |          |          |       |              | x           |      |         | NGC 5899 | GALXY | BOO  | 15 15.1       | +42 03        | 11.7 | 3.3 m       | 1.4 m       | 18          | SBc      | cB,pL,pmE,smbMN       | 22           |
|         |          |          |       |              |             |      |         | NGC 5903 | GALXY | LIB  | 15 18.6       | -24 04        | 11.2 | 3.2 m       | 2.3 m       | 168         | E1       | cF,S,R,gpmbM          | 94           |
| M 5     |          |          | !     |              |             |      |         | NGC 5904 | GLOCL | SER  | 15 18.6       | +02 05        | 5.8  | 19.9 m      |             |             | V        | !! ,vB,L,eCM,eRi      | 70           |
|         |          |          | x     |              |             |      |         | NGC 5905 | GALXY | DRA  | 15 15.4       | +55 31        | 11.7 | 3.8 m       | 2.3 m       | 135         | SBb      | pF,pS,iR              | 22           |
|         |          | x        | x     | x            |             | 87   | x       | NGC 5907 | GALXY | DRA  | 15 15.9       | +56 20        | 10.3 | 11.8 m      | 1.3 m       | 155         | Sc       | cB,vL,vmE155,vgbMN    | 22           |
|         |          |          | x     |              |             |      |         | NGC 5908 | GALXY | DRA  | 15 16.7       | +55 25        | 11.8 | 3.3 m       | 1.4 m       | 154         | Sb       | pF,pS,R               | 22           |
|         |          |          |       |              |             |      |         | NGC 5915 | GALXY | LIB  | 15 21.6       | -13 06        | 12.3 | 1.6 m       | 1.1 m       | 35          | SBab     | B,S,R,gbM,p of 2      | 94           |
|         |          |          |       |              |             |      |         | NGC 5921 | GALXY | SER  | 15 21.9       | +05 04        | 10.8 | 4.8 m       | 4 m         | 130         | SBbc     | cB,cL,iR,vsbM*12,am * | 70           |
|         |          |          |       |              |             |      |         | NGC 5925 | OPNCL | NOR  | 15 27.4       | -54 32        | 8.4  | 20 m        |             |             | III 1 m  | Cl,vL,vRi,iC,*11..14  | 118          |
|         |          |          |       |              |             |      |         | NGC 5927 | GLOCL | LUP  | 15 28.0       | -50 40        | 8.3  | 12.0 m      |             |             | VIII     | cB,L,R,vgbM,rrr,st 15 | 118          |
|         |          |          |       |              |             |      |         | NGC 5928 | GALXY | SER  | 15 26.0       | +18 04        | 12.2 | 2.2 m       | 1.6 m       | 105         | SO       | pB,cS,R,psbM,*7n      | 46           |
|         |          |          |       |              |             |      |         | NGC 5936 | GALXY | SER  | 15 30.0       | +12 59        | 12.5 | 1.3 m       | 1.3 m       |             | SBb Ring | F,pL,iR,vgbM,r        | 46           |

## Deep Sky Object List (169/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 5937 | GALXY | SER  | 15 30.8       | -02 50        | 12.3 | 1.9 m       | 1.1 m       | 20          | Sb         | pB,pS,R,vgbM,3st f      | 70           |
|         |          |          |       |              |             |      |         | NGC 5938 | GALXY | TRA  | 15 36.4       | -66 52        | 11.7 | 2.8 m       | 2.5 m       | 177         | SBbc       | F,S,am st               | 138          |
|         |          |          |       |              |             |      |         | NGC 5946 | GLOCL | NOR  | 15 35.5       | -50 40        | 9.6  | 7.1 m       |             |             | IX         | cB,pL,R,vglbM,rrr,st 16 | 118          |
|         |          |          |       |              |             |      |         | NGC 5949 | GALXY | DRA  | 15 28.0       | +64 46        | 12   | 2.2 m       | 1 m         | 147         | Sbc        | F,S,IE45,vglbM          | 6            |
|         |          |          |       |              |             |      |         | NGC 5956 | GALXY | SER  | 15 35.0       | +11 45        | 12.3 | 1.6 m       | 1.6 m       |             | Sc         | F,S,R,*16 close f       | 70           |
|         |          |          |       |              |             |      |         | NGC 5957 | GALXY | SER  | 15 35.4       | +12 03        | 11.7 | 3.1 m       | 3 m         |             | SBb        | pB,pL,com,lbM           | 46           |
|         |          |          | x     |              |             |      |         | NGC 5962 | GALXY | SER  | 15 36.5       | +16 36        | 11.3 | 3 m         | 2.2 m       | 110         | Sc         | pF,pL,iE,gbM            | 46           |
|         |          |          |       |              |             |      |         | NGC 5963 | GALXY | DRA  | 15 33.5       | +56 34        | 12.5 | 3.3 m       | 2.6 m       | 55          | Sc         | pF,pS,iF                | 22           |
|         |          |          |       |              |             |      |         | NGC 5964 | GALXY | SER  | 15 37.6       | +05 58        | 12   | 4.1 m       | 3.3 m       | 145         | SBcd       | eF,vL,R,vgbM,r          | 70           |
|         |          |          |       |              |             |      |         | NGC 5965 | GALXY | DRA  | 15 34.0       | +56 41        | 11.7 | 4.7 m       | 0.7 m       | 53          | Sb         | cF,cL,IE                | 22           |
|         |          |          |       |              |             |      |         | NGC 5966 | GALXY | BOO  | 15 35.9       | +39 46        | 12.2 | 1.8 m       | 1.1 m       | 90          | Elliptical | vF,S,R,gbM,2st 8'f      | 22           |
|         |          |          |       |              |             |      |         | NGC 5967 | GALXY | APS  | 15 48.3       | -75 40        | 12   | 2.7 m       | 1.7 m       | 90          | SBc        | F,pL,R,vgbM             | 138          |
|         |          |          |       |              |             |      |         | NGC 5968 | GALXY | LUP  | 15 40.0       | -30 33        | 12.2 | 2.1 m       | 1.9 m       |             | SBab       | vF,L,R,gbM,r            | 94           |

## Deep Sky Object List (170/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|--------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 5970 | GALXY | SER  | 15 38.5       | +12 11        | 11.5 | 3 m         | 2 m         | 88          | SBc      | pF,pL,R,rr               | 46           |
|         |          |          |       | x            |             |      |         | NGC 5982 | GALXY | DRA  | 15 38.7       | +59 21        | 11.1 | 3 m         | 2.1 m       | 110         | E3p      | cB,S,R,psbM,r            | 22           |
|         |          |          |       |              |             |      |         | NGC 5984 | GALXY | SER  | 15 42.9       | +14 14        | 12.5 | 2.9 m       | 0.7 m       | 144         | SBcd     | pB,S,E135,bM             | 46           |
|         |          |          | x     |              | x           |      |         | NGC 5985 | GALXY | DRA  | 15 39.6       | +59 20        | 11.1 | 5.4 m       | 2.7 m       | 13          | SBb Ring | pB,cL,IE,r               | 22           |
|         |          |          | x     |              |             |      | x       | NGC 5986 | GLOCL | LUP  | 15 46.1       | -37 47        | 7.1  | 9.8 m       |             |             | VII      | !,vB,L,R,vgbM,st 13...15 | 118          |
|         |          |          |       |              |             |      |         | NGC 5987 | GALXY | DRA  | 15 39.9       | +58 05        | 11.7 | 4.2 m       | 1.3 m       | 165         | Sb       | pF,cS                    | 22           |
|         |          |          |       |              |             |      |         | NGC 5990 | GALXY | SER  | 15 46.3       | +02 25        | 12.4 | 1.6 m       | 0.9 m       | 115         | Sa       | vF,vS,R,gbM              | 70           |
|         |          |          |       |              |             |      |         | NGC 5999 | OPNCL | NOR  | 15 52.1       | -56 28        | 9    | 3 m         |             |             | I 3 m    | Cl,L,pRi,st12...14       | 118          |
|         |          |          |       |              |             |      |         | NGC 6000 | GALXY | SCO  | 15 49.8       | -29 23        | 12.2 | 1.9 m       | 1.6 m       | 154         | SBbc     | vF,S,R,sbM               | 94           |
|         |          |          |       |              |             |      |         | NGC 6004 | GALXY | SER  | 15 50.4       | +18 56        | 12.3 | 1.8 m       | 1.7 m       | 105         | SBc      | vF,pL,IE,lbM             | 46           |
|         |          |          |       |              |             |      |         | NGC 6012 | GALXY | SER  | 15 54.2       | +14 36        | 12   | 2.1 m       | 1.5 m       | 168         | SBab     | F,bet 2B st              | 46           |
|         |          |          |       |              |             |      |         | NGC 6014 | GALXY | SER  | 15 56.0       | +05 56        | 12.2 | 1.7 m       | 1.6 m       |             | SO       | pB,pL,E                  | 70           |
|         |          |          |       |              | x           |      |         | NGC 6015 | GALXY | DRA  | 15 51.4       | +62 18        | 11.1 | 5.4 m       | 2.1 m       | 28          | Sc       | B,mE                     | 6            |

## Deep Sky Object List (171/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|------------------------|--------------|
|         | C 95     |          | x     |              |             |      |         | NGC 6025 | OPNCL | TRA  | 16 03.3       | -60 26        | 5.1  | 12.0 m      |             |             | II 2 p | Cl,B,vL,pRi,IC,*7...   | 117          |
|         |          |          |       |              |             |      |         | NGC 6026 | PLNNB | LUP  | 16 01.4       | -34 33        | 12.5 | 54 s        | 36 s        |             | 4      | F,S,R,gpmbM,tri* np    | 93           |
|         |          |          | x     |              |             |      |         | NGC 6027 | GALXY | SER  | 15 59.2       | +20 46        | 14.3 | 1.9 m       | 1 m         |             | Sp     | eF,vF*inv,2vF st nr    | 46           |
|         |          |          |       |              |             |      |         | NGC 6031 | OPNCL | NOR  | 16 07.6       | -54 01        | 8.5  | 2.0 m       |             |             | I 2 p  | Cl,S,mC,st11...14      | 117          |
|         |          |          |       |              |             |      |         | NGC 6048 | GALXY | UMI  | 15 57.5       | +70 41        | 12.3 | 2.2 m       | 1.7 m       | 140         | E2     | F,R,bM                 | 6            |
|         |          |          |       |              | x           |      |         | NGC 6058 | PLNNB | HER  | 16 04.4       | +40 41        | 13   | 25 s        | 20 s        |             | 3(2)   | pF,vS,R,stellar        | 21           |
|         | C 89     |          | x     |              |             |      |         | NGC 6067 | OPNCL | NOR  | 16 13.2       | -54 13        | 5.6  | 13.0 m      |             |             | I 2 r  | Cl,vB,vL,vRi,IC,*10... | 117          |
|         |          |          |       |              | x           |      |         | NGC 6070 | GALXY | SER  | 16 10.0       | +00 43        | 11.8 | 3.6 m       | 1.8 m       | 62          | Sc     | F,L,pmE,vgbM,r         | 69           |
|         |          |          |       |              |             |      |         | NGC 6087 | OPNCL | NOR  | 16 18.8       | -57 56        | 5.4  | 12.0 m      |             |             | I 2 p  | Cl,B,L,IC,st7...10     | 117          |
| M 80    |          |          | x     |              |             |      |         | NGC 6093 | GLOCL | SCO  | 16 17.0       | -22 59        | 7.2  | 5.1 m       |             |             | II     | vB,L,vmbM,rrr,st 14... | 93           |
|         | C107     |          | x     |              |             |      |         | NGC 6101 | GLOCL | APS  | 16 25.8       | -72 12        | 9.3  | 10.7 m      |             |             | X      | pF,L,iR,vgbM,*14       | 137          |
|         |          |          |       |              | x           |      |         | NGC 6106 | GALXY | HER  | 16 18.8       | +07 25        | 12.2 | 2.4 m       | 1.3 m       | 140         | Sc     | F,pL,IE,vgbM,r         | 69           |
|         |          |          |       | x            |             |      |         | NGC 6118 | GALXY | SER  | 16 21.8       | -02 17        | 11.7 | 4.7 m       | 1.9 m       | 58          | Sc     | vF,cL,cE45,r           | 69           |

Deep Sky Object List (172/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
| M 4     |          |          | !     |              |             |      |         | NGC 6121 | GLOCL | SCO  | 16 23.6       | -26 32        | 5.9  | 26.3 m      |             |             | IX         | Cl,8 or 10 B* in line,rrr | 93           |
|         | C 75     |          | x     |              |             |      | x       | NGC 6124 | OPNCL | SCO  | 16 25.3       | -40 39        | 5.8  | 29.0 m      |             |             | II 3 m     | Cl,B,L,pRi,ICM,*9..11     | 117          |
|         |          |          |       |              |             |      |         | NGC 6127 | GALXY | DRA  | 16 19.2       | +57 59        | 12   | 1.4 m       | 1.4 m       |             | Elliptical | pF,vS,R                   | 21           |
|         |          |          |       |              |             |      |         | NGC 6134 | OPNCL | NOR  | 16 27.8       | -49 09        | 7.2  | 7.0 m       |             |             | II 3 m     | Cl,cL,pRi,ICM,st13..      | 117          |
|         |          |          |       |              |             |      |         | NGC 6139 | GLOCL | SCO  | 16 27.7       | -38 51        | 9.2  | 5.5 m       |             |             | II         | B,pL,R,psbM,rr            | 117          |
|         |          |          |       |              |             |      |         | NGC 6140 | GALXY | DRA  | 16 21.0       | +65 23        | 11.3 | 6.3 m       | 4.6 m       | 95          | SBc/P      | cF,pL,iR                  | 5            |
|         |          |          | x     | x            |             |      | x       | NGC 6144 | GLOCL | SCO  | 16 27.2       | -26 01        | 9.1  | 6.2 m       |             |             | XI         | Cl,cL,mC,gbM,rrr          | 93           |
|         |          |          |       |              |             |      |         | NGC 6146 | GALXY | HER  | 16 25.2       | +40 54        | 12.5 | 1.3 m       | 1 m         | 75          | Elliptical | cF,vS,R,bM                | 21           |
|         |          |          | x     |              |             |      |         | NGC 6152 | OPNCL | NOR  | 16 32.8       | -52 39        | 8.1  | 25 m        |             |             | II 2 m     | Cl,L,IC,st L              | 117          |
|         |          |          | x     |              |             |      |         | NGC 6153 | PLNNB | SCO  | 16 31.5       | -40 15        | 11.5 | 25 s        |             |             | 4          | Planetary,stellar         | 117          |
|         |          |          |       |              | x           |      |         | NGC 6155 | GALXY | HER  | 16 26.1       | +48 22        | 12.2 | 1.3 m       | 0.9 m       | 145         | Sc         | F,pS,iF,gbM               | 21           |
|         |          |          |       |              |             |      |         | NGC 6156 | GALXY | TRA  | 16 34.9       | -60 37        | 11.6 | 1.6 m       | 1.4 m       |             | SBc        | pF,pL,vIE,gbM             | 117          |
|         |          |          |       |              | x           |      |         | NGC 6166 | GALXY | HER  | 16 28.6       | +39 33        | 11.8 | 2.2 m       | 1.7 m       | 35          | E2p        | pF,S,vIE,vgmbM            | 21           |

Deep Sky Object List (173/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6167 | OPNCL | NOR  | 16 34.6       | -49 46        | 6.7  | 8.0 m       |             |             | II 3 m   | Cl,L,IC,iF             | 117          |
|         |          |          |       |              |             |      |         | NGC 6169 | OPNCL | NOR  | 16 34.1       | -44 03        | 6.6  | 12 m        |             |             |          | Cl,Mu Normae inv       | 117          |
| M107    |          |          | x     | x            |             |      |         | NGC 6171 | GLOCL | OPH  | 16 32.5       | -13 03        | 8.1  | 3.3 m       |             |             | X        | L,vRi,vmC,R,rrr        | 93           |
|         |          |          |       |              |             |      |         | NGC 6173 | GALXY | HER  | 16 29.8       | +40 49        | 12.1 | 1.9 m       | 1.4 m       | 140         | E3       | cF,vS,R,bM             | 21           |
|         |          |          |       |              |             |      |         | NGC 6178 | OPNCL | SCO  | 16 35.8       | -45 39        | 7.2  | 4.0 m       |             |             | I 3 p    | Cl,B,S,st pL           | 117          |
|         |          |          |       |              | x           |      |         | NGC 6181 | GALXY | HER  | 16 32.3       | +19 50        | 11.9 | 2.5 m       | 1.1 m       | 175         | SBc      | pB,pL,vIE,pgmbM        | 45           |
|         |          |          | x     |              |             |      |         | NGC 6188 | BRTNB | ARA  | 16 40.1       | -48 40        | 99.9 | 20 m        | 12 m        |             | E+R      | F,vL,vIE,B* inv        | 117          |
|         |          |          | x     |              |             |      |         | NGC 6192 | OPNCL | SCO  | 16 40.4       | -43 22        | 8.5  | 9 m         |             |             | I 2 p    | Cl,pL,pRi,iR,st11..14  | 117          |
|         | C 82     |          | x     |              |             |      |         | NGC 6193 | OPNCL | ARA  | 16 41.3       | -48 46        | 5.2  | 15.0 m      |             |             | II 3 p n | Cl,vL,IRi,IC,F neb inv | 117          |
|         |          |          |       |              |             |      |         | NGC 6200 | OPNCL | ARA  | 16 44.1       | -47 28        | 7.4  | 12.0 m      |             |             | III 2 m  | Cl,in Milky Way        | 117          |
|         |          |          |       |              |             |      |         | NGC 6204 | OPNCL | ARA  | 16 46.2       | -47 01        | 8.2  | 5.0 m       |             |             | I 2 p    | Cl,pRi,eICM,st11..12   | 117          |
| M 13    |          |          | !!!*  |              |             |      |         | NGC 6205 | GLOCL | HER  | 16 41.7       | +36 28        | 5.9  | 23.2 m      |             |             | V        | !!eB,vRi,vgeCM,*11...  | 45           |
|         |          | x        | x     | x            |             |      |         | NGC 6207 | GALXY | HER  | 16 43.1       | +36 50        | 11.6 | 3 m         | 1.2 m       | 15          | Sc       | pB,pL,E45,vgmbM        | 45           |

## Deep Sky Object List (174/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6208 | OPNCL | ARA  | 16 49.5       | -53 44        | 7.2  | 18 m        |             |             | II 1 m    | Cl,L,Ri,ICM,st9...12  | 117          |
|         |          | x        | x     |              |             | 90   | x       | NGC 6210 | PLNNB | HER  | 16 44.5       | +23 48        | 9.7  | 20 s        | 13 s        |             | 2(3b)     | vB,vS,R,disc          | 45           |
|         |          |          |       |              |             |      |         | NGC 6215 | GALXY | ARA  | 16 51.1       | -59 00        | 11.5 | 2.2 m       | 2 m         | 78          | Sc        | pF,R,vglbM,*4p79s     | 117          |
|         |          |          |       | x            |             |      |         | NGC 6217 | GALXY | UMI  | 16 32.6       | +78 12        | 11.2 | 3.3 m       | 3.2 m       |             | SBbc Ring | B,cL,IE,sIBM          | 5            |
| M 12    |          |          | x     |              |             |      |         | NGC 6218 | GLOCL | OPH  | 16 47.2       | -01 57        | 6.6  | 14.5 m      |             |             | IX        | vB,vL,iR,gmbM         | 69           |
|         |          |          |       |              |             |      |         | NGC 6221 | GALXY | ARA  | 16 52.8       | -59 13        | 9.9  | 3.9 m       | 2.7 m       | 5           | SBc       | pB,cL,R,glbM,rr       | 117          |
|         |          |          |       |              |             |      |         | NGC 6222 | OPNCL | SCO  | 16 49.4       | -44 44        | 10   | 4 m         |             |             |           | Cl,vL,vRi,lbM,*12..13 | 117          |
|         |          |          |       |              |             |      |         | NGC 6223 | GALXY | DRA  | 16 43.1       | +61 35        | 11.9 | 3.5 m       | 2.6 m       | 88          | E-SO      | F,S,R,mbM             | 21           |
|         |          |          | x     | x            |             |      |         | NGC 6229 | GLOCL | HER  | 16 47.0       | +47 32        | 9.4  | 3.8 m       |             |             | IV        | vB,L,R,disc,r         | 21           |
|         | C 76     |          | x     |              |             |      | x       | NGC 6231 | OPNCL | SCO  | 16 54.2       | -41 49        | 2.6  | 15.0 m      |             |             | I 3 p n   | Cl,B,cL,pRi,st10..13  | 117          |
|         |          |          |       |              |             |      |         | NGC 6232 | GALXY | DRA  | 16 43.3       | +70 38        | 12.5 | 1.6 m       | 1.6 m       |             | SBa       | pF,pL,IE              | 5            |
|         |          |          |       | x            |             |      |         | NGC 6235 | GLOCL | OPH  | 16 53.4       | -22 11        | 10.2 | 1.9 m       |             |             | X         | pB,cL,iR,rrr,*14..16  | 93           |
|         |          |          |       |              |             |      |         | NGC 6236 | GALXY | DRA  | 16 44.6       | +70 47        | 11.9 | 2.9 m       | 1.6 m       | 15          | SBc       | F,pL                  | 5            |



## Deep Sky Object List (175/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 6239 | GALXY | HER  | 16 50.1       | +42 44        | 12.4  | 2.4 m       | 1.1 m       | 118         | SBb        | vF,E,bi-N,np sf      | 21           |
|         |          |          |       |              |             |      |         | NGC 6242 | OPNCL | SCO  | 16 55.6       | -39 28        | 6.4   | 9.0 m       |             |             | I 3 m      | Cl,B,L,Ri,st8...11   | 117          |
|         |          |          |       |              |             |      |         | NGC 6249 | OPNCL | SCO  | 16 57.7       | -44 49        | 8.2   | 6.0 m       |             |             | II 1 p     | Cl,pRi,vIC,iF,st L&S | 117          |
|         |          |          |       |              |             |      |         | NGC 6250 | OPNCL | ARA  | 16 57.9       | -45 56        | 5.9   | 10 m        |             |             | IV 3 p     | Cl,L,IRi,IC,*8...12  | 117          |
| M 10    |          |          | x     |              |             |      |         | NGC 6254 | GLOCL | OPH  | 16 57.1       | -04 06        | 6.6   | 12.2 m      |             |             | VII        | B,vL,R,gvmBM,rrr     | 69           |
|         |          |          |       |              |             |      |         | NGC 6256 | GLOCL | SCO  | 16 59.5       | -37 07        | 11.3p | 2.5 m       | 2.5 m       |             |            | vF,vL,iR,vgbM        | 117          |
|         |          |          | x     |              |             |      |         | NGC 6259 | OPNCL | SCO  | 17 00.8       | -44 39        | 8     | 10.0 m      |             |             | III 2 m    | Cl,B,vL,vRi,st11...  | 116          |
| M 62    |          |          | x     |              |             |      |         | NGC 6266 | GLOCL | OPH  | 17 01.2       | -30 07        | 6.6   | 14.1 m      |             |             | IV         | vB,L,gmbM,rrr        | 92           |
|         |          |          |       |              |             |      |         | NGC 6268 | OPNCL | SCO  | 17 02.2       | -39 44        | 9.5   | 6.0 m       |             |             | II 2 p     | Cl,B,pL,cRi,st10...  | 116          |
|         |          |          |       |              |             |      |         | NGC 6269 | GALXY | HER  | 16 58.0       | +27 51        | 12.2  | 2 m         | 1.6 m       | 80          | Elliptical | F,S,R                | 45           |
| M 19    |          |          | x     |              |             |      |         | NGC 6273 | GLOCL | OPH  | 17 02.6       | -26 16        | 7.2   | 5.3 m       |             |             | VIII       | vB,L,R,vCM,rrr       | 92           |
|         |          |          |       |              |             |      |         | NGC 6278 | GALXY | HER  | 17 00.8       | +23 01        | 12.4  | 2.1 m       | 1.2 m       | 130         | SO         | vF,stellar           | 44           |
|         |          |          |       |              |             |      |         | NGC 6281 | OPNCL | SCO  | 17 04.7       | -37 59        | 5.4   | 200 m       | 150 m       |             | II 2 p n   | Cl,L,pRi,IC,st9...11 | 116          |

Deep Sky Object List (176/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|---------|-----------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 6284 | GLOCL | OPH  | 17 04.5       | -24 46         | 9    | 2.7 m       |             |             | IX      | B,L,R,CM,st16...      | 92           |
|         |          |          |       | x            |             |      |         | NGC 6287 | GLOCL | OPH  | 17 05.2       | -22 42         | 9.2  | 2.7 m       |             |             | VII     | cB,L,R,gpmCM,rrr      | 92           |
|         |          |          |       | x            |             |      |         | NGC 6293 | GLOCL | OPH  | 17 10.2       | -26 35         | 8.2  | 3.5 m       |             |             | IV      | vB,L,R,psbM,st16      | 92           |
|         |          |          |       |              |             |      |         | NGC 6300 | GALXY | ARA  | 17 17.0       | -62 49         | 10.2 | 4.7 m       | 2.9 m       | 118         | SBb     | F,vL,vIE,am st,2* inv | 137          |
|         | C 69     |          | x     |              |             |      | x       | NGC 6302 | PLNNB | SCO  | 17 13.7       | -37 06         | 12.8 | 72 s        | 30 s        |             | 6       | pB,E pf               | 116          |
|         |          |          |       | x            |             |      |         | NGC 6304 | GLOCL | OPH  | 17 14.5       | -29 28         | 8.4  | 3.8 m       |             |             | VI      | B,cL,R,lbM,rrr        | 92           |
|         |          |          |       |              |             |      |         | NGC 6309 | PLNNB | OPH  | 17 14.1       | -12 55         | 11.6 | 20 s        | 10 s        |             | 3b(6)   | B,S,bet 2*v nr        | 92           |
|         |          |          |       | x            |             |      |         | NGC 6316 | GLOCL | OPH  | 17 16.6       | -28 08         | 9    | 4.9 m       |             |             | III     | cB,pS,R,gvmBM         | 92           |
|         |          |          | x     |              |             |      |         | NGC 6318 | OPNCL | SCO  | 17 16.2       | -39 26         | 11.8 | 4.0 m       |             |             | III 2 p | Cl,pL,Ri,R,gbM,*12..  | 116          |
|         |          |          |       |              |             |      |         | NGC 6322 | OPNCL | SCO  | 17 18.4       | -42 56         | 6    | 10.0 m      |             |             | I 2 p   | Cl,vL,pRi,IC          | 116          |
|         |          |          |       |              |             |      |         | NGC 6325 | GLOCL | OPH  | 17 18.0       | -23 46         | 10.7 | 1.6 m       |             |             | IV      | pF,L,R,rr             | 92           |
|         |          |          |       |              |             |      |         | NGC 6326 | PLNNB | ARA  | 17 20.8       | -51 45         | 12   | 15 s        | 10 s        |             | 3b      | pB,vS,R               | 116          |
|         |          |          |       |              |             |      |         | NGC 6328 | GALXY | ARA  | 17 23.7       | -65 01         | 12.3 | 2.5 m       | 1.4 m       | 157         | SBab    | vF,vS,vIE,glbM        | 137          |

Deep Sky Object List (177/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|-----------------------|--------------|
| M 9     |          |          | x     |              |             |      |         | NGC 6333 | GLOCL | OPH  | 17 19.2       | -18 31        | 7.9  | 5.5 m       |             |             | VIII  | B,L,R,eCM,rrr         | 92           |
|         |          |          | x     |              |             |      |         | NGC 6334 | BRTNB | SCO  | 17 20.8       | -36 06        | 99.9 | 120 m       | 110 m       |             | E     | cF,vL,ICF,vglBf,*8inv | 92           |
|         |          |          | x     |              |             |      |         | NGC 6337 | PLNNB | SCO  | 17 22.3       | -38 29        | 12.3 | 38 s        | 28 s        |             | 4     | ring neb,eF,S,am st   | 116          |
|         |          |          |       |              |             |      |         | NGC 6338 | GALXY | DRA  | 17 15.4       | +57 25        | 12.3 | 1.5 m       | 1 m         | 15          | SO    | F,S,R,vglbM           | 20           |
|         |          |          |       |              | x           |      |         | NGC 6340 | GALXY | DRA  | 17 10.4       | +72 18        | 11   | 3 m         | 2.8 m       | 120         | Sa    | cF,pL,R,vgmbM         | 5            |
| M 92    |          |          | !     |              |             |      |         | NGC 6341 | GLOCL | HER  | 17 17.1       | +43 08        | 6.5  | 11.2 m      |             |             | IV    | vB,vL,eCM,st 12...    | 20           |
|         |          |          |       | x            |             |      |         | NGC 6342 | GLOCL | OPH  | 17 21.2       | -19 35        | 9.9  | 3.0 m       |             |             | IV    | cB,pS,IE,eR           | 92           |
|         | C 81     |          | x     |              |             |      |         | NGC 6352 | GLOCL | ARA  | 17 25.5       | -48 25        | 10.7 | 7.1 m       |             |             | XI    | pF,L                  | 116          |
|         |          |          |       | x            |             |      |         | NGC 6355 | GLOCL | OPH  | 17 24.0       | -26 21        | 9.6  | 6.1 m       |             |             |       | cF,L,R,gbM,rrr        | 92           |
|         |          |          |       | x            |             |      | x       | NGC 6356 | GLOCL | OPH  | 17 23.6       | -17 49        | 8.4  | 3.5 m       |             |             | II    | vB,cL,vgvmBM,rrr      | 92           |
|         |          |          | x     |              |             |      |         | NGC 6357 | BRTNB | SCO  | 17 24.7       | -34 12        | 99.9 | 50 m        | 40 m        |             | E+*   | F,L,E,vglbM,D* inv    | 92           |
|         |          |          | x     |              |             |      |         | NGC 6362 | GLOCL | ARA  | 17 31.9       | -67 03        | 8.3  | 10.7 m      |             |             | X     | B,L,vgmbM,rrr         | 137          |
|         |          |          |       |              |             |      |         | NGC 6366 | GLOCL | OPH  | 17 27.7       | -05 05        | 10   | 5.8 m       |             |             | XI    | F,L,vlbM              | 68           |

Deep Sky Object List (178/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6368 | GALXY | OPH  | 17 27.2       | +11 33        | 12.3 | 3.8 m       | 1 m         | 42          | Sb       | F,S,E                | 68           |
|         |          | x        |       | x            |             | 91   |         | NGC 6369 | PLNNB | OPH  | 17 29.3       | -23 46        | 11   | 30 s        | 29 s        |             | 4(2)     | Annular,pB,S,R       | 92           |
|         |          |          |       |              |             |      |         | NGC 6383 | OPNCL | SCO  | 17 34.7       | -32 35        | 5.5  | 20 m        |             |             | IV 3 p n | Cl,st13,*6,7 in mag  | 92           |
|         |          |          | x     |              |             |      |         | NGC 6384 | GALXY | OPH  | 17 32.4       | +07 04        | 10.4 | 5.8 m       | 3.8 m       | 30          | SBbc     | pB,S,vIE             | 68           |
|         |          |          | x     |              |             |      | x       | NGC 6388 | GLOCL | SCO  | 17 36.3       | -44 44        | 6.9  | 8.7 m       |             |             | III      | vB,L,R,pg,psvmbM     | 116          |
|         |          |          |       |              |             |      |         | NGC 6389 | GALXY | HER  | 17 32.7       | +16 24        | 12.1 | 2.8 m       | 1.9 m       | 130         | Sbc      | F,S,iF,eR            | 44           |
|         |          |          |       |              |             |      |         | NGC 6392 | GALXY | APS  | 17 43.5       | -69 47        | 12.5 | 1.3 m       | 1.3 m       |             | Sab      | cF,S,R,glbM,*13 sp   | 137          |
|         |          |          |       |              |             |      |         | NGC 6395 | GALXY | DRA  | 17 26.5       | +71 06        | 12.3 | 2.4 m       | 0.7 m       | 15          | Scp      | vF,pL,IE,D*n         | 5            |
|         |          |          |       |              |             |      |         | NGC 6396 | OPNCL | SCO  | 17 37.6       | -35 02        | 8.5  | 3.0 m       |             |             | II 3 p   | Cl,pL,IRi,IC         | 92           |
|         | C 86     |          | x     |              |             |      |         | NGC 6397 | GLOCL | ARA  | 17 40.7       | -53 40        | 5.7  | 25.7 m      |             |             | IX       | B,vL,Ri,st 10..      | 116          |
|         |          |          |       |              |             |      |         | NGC 6398 | GALXY | PAV  | 17 42.7       | -61 42        | 12.5 | 2 m         | 1.7 m       | 6           | SB Ring  | eF,S,R,p of 2        | 116          |
|         |          |          |       |              |             |      |         | NGC 6400 | OPNCL | SCO  | 17 40.2       | -36 57        | 8.8  | 12 m        |             |             | II 2 m   | Cl,pL,pRi,iR,*9...10 | 92           |
|         |          |          |       | x            |             |      |         | NGC 6401 | GLOCL | OPH  | 17 38.6       | -23 55        | 9.5  | 1 m         |             |             | IX       | pB,pL,R,*12F inv     | 92           |

## Deep Sky Object List (179/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
| M 14    |          |          | x     |              |             |      |         | NGC 6402  | GLOCL | OPH  | 17 37.6       | -03 15        | 7.6  | 6.7 m       |             |             | VIII       | B,vL,R,eRi,vgmbM     | 68           |
| M 6     |          |          | x     |              |             |      |         | NGC 6405  | OPNCL | SCO  | 17 40.3       | -32 15        | 4.2  | 20 m        |             |             | III 2 p    | Cl,L,iR,IC,st7,10... | 92           |
|         |          |          |       |              |             |      |         | NGC 6407  | GALXY | PAV  | 17 45.0       | -60 44        | 12.5 | 2.1 m       | 1.6 m       | 60          | SO         | eF,S,R,3* nr         | 116          |
|         |          |          |       |              |             |      |         | NGC 6411  | GALXY | DRA  | 17 35.5       | +60 49        | 11.9 | 2.3 m       | 1.8 m       | 70          | Elliptical | vS,gbM               | 20           |
|         |          |          |       |              |             |      |         | NGC 6412  | GALXY | DRA  | 17 29.6       | +75 42        | 11.8 | 2.5 m       | 2.4 m       | 0           | SBc        | cL,R,vgbM,rr         | 5            |
|         |          |          |       |              |             |      |         | NGC 6416  | OPNCL | SCO  | 17 44.3       | -32 22        | 5.7  | 14 m        |             |             | IV 1 p     | Cl,vL,Ri,IC          | 92           |
|         |          |          |       |              |             |      |         | NGC 6425  | OPNCL | SCO  | 17 47.0       | -31 32        | 7.2  | 10 m        |             |             | I 1 p      | Cl,pS,IRi,IC,*10..12 | 92           |
|         |          |          |       | x            |             |      |         | NGC 6426  | GLOCL | OPH  | 17 44.9       | +03 10        | 11.2 | 3.2 m       |             |             | IX         | vF,cL,E,vlbM         | 68           |
|         |          |          |       |              |             |      |         | NGC 6434  | GALXY | DRA  | 17 36.8       | +72 05        | 12.4 | 2.3 m       | 1 m         | 100         | SBbc       | vF,vS,R,stellar,*8s  | 5            |
|         |          |          |       |              |             |      |         | NGC 6438  | GALXY | OCT  | 18 22.3       | -85 24        | 11.1 | 1.6 m       | 1.4 m       |             | SO         | pB,R,vgbM            | 146          |
|         |          |          |       |              |             |      |         | NGC 6438A | GALXY | OCT  | 18 22.6       | -85 24        | 12.1 | 2.8 m       | 1.1 m       | 20          | Ring       |                      | 146          |
|         |          |          |       | x            |             |      |         | NGC 6440  | GLOCL | SGR  | 17 48.9       | -20 22        | 9.7  | 1.7 m       |             |             | V          | pB,pL,R,bM           | 92           |
|         |          |          | x     |              |             |      | x       | NGC 6441  | GLOCL | SCO  | 17 50.2       | -37 03        | 7.4  | 7.8 m       |             |             | III        | vB,pL,R,vgmbM        | 116          |

Deep Sky Object List (180/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------|--------------|
|         |          | x        |       | x            |             | 102  | x       | NGC 6445 | PLNNB | SGR  | 17 49.3       | -20 01        | 13   | 35 s        | 30 s        |             | 3b(3)      | pB,pS,R,gbM,r,*15 np | 92           |
|         |          |          |       | x            |             |      |         | NGC 6451 | OPNCL | SCO  | 17 50.7       | -30 13        | 8.2  | 8.0 m       |             |             | II 1 p n   | Cl,pL,pRi,bifid,st12 | 92           |
|         |          |          |       |              |             |      |         | NGC 6453 | GLOCL | SCO  | 17 50.9       | -34 36        | 9.9  | 3.5 m       |             |             | IV         | Cl,iR,pmbM,r         | 92           |
|         |          |          |       |              |             |      |         | NGC 6467 | GALXY | HER  | 17 50.7       | +17 32        | 12.5 | 2.6 m       | 1.7 m       | 77          | S pec      | vF,vS,IE             | 44           |
|         |          |          |       |              |             |      |         | NGC 6469 | OPNCL | SGR  | 17 53.2       | -22 17        | 8.2  | 12.0 m      |             |             | III 2 p    | Cl,pRi,in Milky Way  | 92           |
| M 7     |          |          | !     |              |             |      |         | NGC 6475 | OPNCL | SCO  | 17 53.9       | -34 48        | 3.3  | 80.0 m      |             |             | II 2 r     | Cl,vB,pRi,IC,*7...12 | 92           |
|         |          |          |       |              |             |      |         | NGC 6482 | GALXY | HER  | 17 51.8       | +23 04        | 11.4 | 2.1 m       | 1.8 m       | 70          | E3p        | vF,S,R,vsvmbM,vSRN   | 44           |
|         |          |          |       |              |             |      |         | NGC 6483 | GALXY | PAV  | 17 59.5       | -63 40        | 11.9 | 1.6 m       | 0.9 m       | 122         | Elliptical | F,S,E,bM,bet 2*10    | 137          |
|         |          |          |       |              |             |      |         | NGC 6484 | GALXY | HER  | 17 51.8       | +24 29        | 12.3 | 1.9 m       | 1.8 m       |             | Sb         | eF,vS,R,mbM          | 44           |
|         |          |          |       |              |             |      |         | NGC 6487 | GALXY | HER  | 17 52.7       | +29 50        | 11.9 | 1.9 m       | 1.7 m       |             | Elliptical | F,S,R,gbM            | 44           |
|         |          |          |       |              |             |      |         | NGC 6492 | GALXY | PAV  | 18 02.8       | -66 26        | 11.5 | 2.5 m       | 1.2 m       | 75          | Sbc        | pF,S,pmE90,*12 att f | 136          |
| M 23    |          |          | S!    |              |             |      |         | NGC 6494 | OPNCL | SGR  | 17 57.1       | -18 59        | 5.5  | 27.0 m      |             |             | III 1 m    | Cl,B,vL,pRi,IC,*10.. | 92           |
|         |          |          |       |              |             |      |         | NGC 6495 | GALXY | HER  | 17 54.8       | +18 20        | 12.2 | 2 m         | 1.8 m       |             | Elliptical | F,S,R                | 44           |

## Deep Sky Object List (181/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6496 | GLOCL | SCO  | 17 59.0       | -44 16        | 9.2  | 6.9 m       |             |             | XII     | neb+Cl,pL,mE,gvlbM   | 116          |
|         |          |          |       |              |             |      |         | NGC 6500 | GALXY | HER  | 17 56.0       | +18 20        | 12.1 | 2.2 m       | 1.6 m       | 50          | Sab     | vF,vS,sp of 2        | 44           |
|         |          |          |       |              |             |      |         | NGC 6501 | GALXY | HER  | 17 56.1       | +18 22        | 12   | 1.8 m       | 1.6 m       |             | Sa      | vF,vS,nf of 2        | 44           |
|         |          | x        |       |              |             | 88   | x       | NGC 6503 | GALXY | DRA  | 17 49.5       | +70 09        | 10.2 | 7 m         | 2.5 m       | 123         | Sc      | pF,L,mE,*9f4'        | 5            |
|         |          |          |       |              |             |      |         | NGC 6504 | GALXY | HER  | 17 56.1       | +33 12        | 12.5 | 2.2 m       | 0.5 m       | 94          | S pec   | F,vmE,sbM            | 44           |
|         |          |          |       |              | x           |      |         | NGC 6507 | OPNCL | SGR  | 17 59.8       | -17 27        | 9.6  | 7.0 m       |             |             | IV 2 p  | Cl,pS,Iri,IC         | 92           |
|         |          |          |       |              |             |      |         | NGC 6509 | GALXY | OPH  | 17 59.4       | +06 17        | 12.5 | 1.6 m       | 1.2 m       | 105         | SBcd    | vF,pL,irrR,lbM       | 68           |
| M 20    |          |          | !!!*  | x            |             |      |         | NGC 6514 | CL+NB | SGR  | 18 02.7       | -22 58        | 6.3  | 28.0 m      |             |             | E+*     | vB,vL,Trifid,D* inv  | 91           |
|         |          |          |       | x            |             |      |         | NGC 6517 | GLOCL | OPH  | 18 01.8       | -08 58        | 10.3 | 1 m         |             |             | IV      | pB,pL,R,rr           | 67           |
|         |          | x        | x     | x            |             | 103  | x       | NGC 6520 | OPNCL | SGR  | 18 03.4       | -27 53        | 7.6  | 6.0 m       |             |             | I 2 m n | Cl,pS,Ri,IC,st9...13 | 91           |
|         |          |          |       | x            |             |      | x       | NGC 6522 | GLOCL | SGR  | 18 03.6       | -30 02        | 8.6  | 5.6 m       |             |             | VI      | B,pL,R,gvmBM,rrr     | 91           |
| M 8     |          |          | !!!*  |              |             |      |         | NGC 6523 | CL+NB | SGR  | 18 03.7       | -24 23        | 5    | 45 m        | 30 m        |             | E       | !!!,vB,eL,eif,w L Cl | 91           |
|         |          |          |       |              | x           |      |         | NGC 6526 | BRTNB | SGR  | 18 04.1       | -24 27        | 99.9 | 40 m        |             |             | E+*     | F,L,cE               | 91           |

## Deep Sky Object List (182/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|--------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 6528 | GLOCL | SGR  | 18 04.8       | -30 03        | 9.5  | 3.7 m       |             |             | V        | pF,cS,R,gbM,rrr    | 91           |
|         |          |          | *     |              |             |      |         | NGC 6530 | OPNCL | SGR  | 18 04.5       | -24 21        | 4.6  | 15.0 m      |             |             | II 2 m n | Cl,B,L,pRi,f M8    | 91           |
| M 21    |          |          | x     |              |             |      |         | NGC 6531 | OPNCL | SGR  | 18 04.2       | -22 29        | 5.9  | 13.0 m      |             |             | I 3 m    | Cl,pRi,IC,st9...12 | 91           |
|         |          |          |       |              |             |      |         | NGC 6535 | GLOCL | SER  | 18 03.8       | -00 18        | 10.6 | 1.3 m       |             |             | XI       | pF,vS,vS neb *p    | 67           |
|         |          |          |       |              |             |      |         | NGC 6537 | PLNNB | SGR  | 18 05.2       | -19 51        | 12   | 5 s         |             |             | 2a(6)    | B,S,stellar        | 91           |
|         |          |          |       |              |             |      |         | NGC 6539 | GLOCL | SER  | 18 04.8       | -07 35        | 9.6  | 2.5 m       |             |             | X        | vS,F               | 67           |
|         |          |          |       | x            |             |      |         | NGC 6540 | GLOCL | SGR  | 18 06.1       | -27 46        | 14.6 | 0.8 m       |             |             | XI       | pF,S,IE,er or Cl   | 91           |
|         | C 78     |          |       |              |             |      | x       | NGC 6541 | GLOCL | CRA  | 18 08.0       | -43 42        | 6.6  | 13.1 m      |             |             | III      | B,R,eC,gbM,rrr     | 115          |
|         | C 6      | x        | x     | x            |             | 89   | x       | NGC 6543 | PLNNB | DRA  | 17 58.6       | +66 38        | 8.3  | 22 s        | 16 s        |             | 3a(2)    | vB,pS,sbMvSN       | 5            |
|         |          |          |       | x            |             |      |         | NGC 6544 | GLOCL | SGR  | 18 07.3       | -25 00        | 8.3  | 8.4 m       |             |             | IX       | cF,pL,iR,r         | 91           |
|         |          |          |       |              |             |      |         | NGC 6546 | OPNCL | SGR  | 18 07.4       | -23 18        | 8    | 13.0 m      |             |             | III 2 m  | Cl,vL,vRi          | 91           |
|         |          |          |       |              | x           |      |         | NGC 6548 | GALXY | HER  | 18 06.0       | +18 35        | 11.7 | 2.9 m       | 2.8 m       |             | SBO      | cF,S,IE,r          | 43           |
|         |          |          |       | x            |             |      | x       | NGC 6553 | GLOCL | SGR  | 18 09.3       | -25 54        | 8.3  | 3.2 m       |             |             | XI       | F,L,IE,vglbM,rr    | 91           |



## Deep Sky Object List (183/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6555 | GALXY | HER  | 18 07.8       | +17 36        | 12.4 | 2.1 m       | 1.7 m       | 110         | SBc       | F,L,R,vglbM          | 43           |
|         |          |          |       |              |             |      |         | NGC 6558 | GLOCL | SGR  | 18 10.3       | -31 46        | 9.3  | 3.7 m       |             |             |           | pB,pL,R,glbM,rrr     | 91           |
|         |          |          |       |              |             |      |         | NGC 6567 | PLNNB | SGR  | 18 13.8       | -19 05        | 11.5 | 11 s        | 7 s         |             | 2a(3)     | stell,11m,in a Cl    | 91           |
|         |          |          |       | x            |             |      |         | NGC 6568 | OPNCL | SGR  | 18 12.8       | -21 35        | 8.6  | 13.0 m      |             |             | III 1 m   | Cl,vL,IC             | 91           |
|         |          |          | x     | x            |             |      |         | NGC 6569 | GLOCL | SGR  | 18 13.6       | -31 50        | 8.7  | 5.8 m       |             |             | VIII      | cB,L,R,rrr,*15..     | 91           |
|         |          | x        |       |              |             | 92   | x       | NGC 6572 | PLNNB | OPH  | 18 12.1       | +06 51        | 8    | 15 s        | 12 s        |             | 2a        | vB,vS,R,I hazy       | 67           |
|         |          |          |       |              |             |      |         | NGC 6574 | GALXY | HER  | 18 11.9       | +14 59        | 12   | 1.5 m       | 1.1 m       | 160         | SBbc      | pB,S,R               | 43           |
|         |          |          |       | x            |             |      |         | NGC 6583 | OPNCL | SGR  | 18 15.8       | -22 08        | 10   | 2.8 m       |             |             | II 1 m    | Cl,pRi,pC,cE,st13... | 91           |
|         |          |          | x     |              |             |      |         | NGC 6584 | GLOCL | TEL  | 18 18.6       | -52 13        | 9.2  | 7.9 m       |             |             | VIII      | cB,cL,R,gmbM,rrr     | 115          |
|         |          |          |       |              |             |      |         | NGC 6595 | OPNCL | SGR  | 18 17.1       | -19 52        | 7    | 11.0 m      |             |             |           | F,pL,cE,** inv       | 91           |
|         |          |          |       |              | x           |      |         | NGC 6596 | OPNCL | SGR  | 18 17.5       | -16 40        | 99.9 | 10 m        |             |             | III 2 m n | Cl,IC                | 91           |
|         |          |          | x     |              |             |      |         | NGC 6603 | OPNCL | SGR  | 18 18.4       | -18 24        | 11.1 | 5.0 m       |             |             | I 1 r n   | Cl,vRi,vmC,R         | 91           |
|         |          |          |       |              | x           |      |         | NGC 6604 | OPNCL | SER  | 18 18.1       | -12 14        | 6.5  | 2.0 m       |             |             | I 3 p n   | Cl,IRi,IC            | 91           |

## Deep Sky Object List (184/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6605 | OPNCL | SER  | 18 18.4       | -14 57        | 6    |             |             |             |            | Cl,IRi,IC,st10...12          | 91           |
| M 16    |          |          | *     |              |             |      |         | NGC 6611 | CL+NB | SER  | 18 18.8       | -13 47        | 6    | 7 m         |             |             | II 3 m n:a | L,B,scattered Cl,neb<br>invl | 91           |
| M 18    |          |          | x     |              |             |      |         | NGC 6613 | OPNCL | SGR  | 18 19.9       | -17 08        | 6.9  | 9.0 m       |             |             | II 3 p n   | Cl,P,vIC                     | 91           |
| M 17    |          |          | !!!*  |              |             |      |         | NGC 6618 | CL+NB | SGR  | 18 20.8       | -16 11        | 6    | 11.0 m      |             |             | III 3 m n: | !!!,B,eL,eIF,2 hooked        | 91           |
|         |          |          | x     | x            |             |      | x       | NGC 6624 | GLOCL | SGR  | 18 23.7       | -30 22        | 8.3  | 5.9 m       |             |             | VI         | vB,pL,R,rrr,st16..           | 91           |
|         |          |          |       |              |             |      |         | NGC 6625 | OPNCL | SCT  | 18 23.2       | -12 03        | 9    | 39 m        |             |             |            | Cl,IC,IRi,st11...12          | 91           |
| M 28    |          |          | x     |              |             |      |         | NGC 6626 | GLOCL | SGR  | 18 24.5       | -24 52        | 6.9  | 15 m        |             |             | IV         | vB,L,R,geCM,rrr              | 91           |
|         |          |          | x     | x            |             |      |         | NGC 6629 | PLNNB | SGR  | 18 25.7       | -23 12        | 10.5 | 16 s        | 14 s        |             | 2a         | pB,eeS,R                     | 91           |
|         |          |          |       |              |             |      |         | NGC 6632 | GALXY | HER  | 18 25.1       | +27 32        | 12.1 | 3 m         | 1.4 m       | 155         | Sbc        | F,S,R,gbM                    | 43           |
|         |          | x        |       | x            |             | 93   | x       | NGC 6633 | OPNCL | OPH  | 18 27.3       | +06 31        | 4.6  | 27.0 m      |             |             | III 2 m    | Cl,IC,st L                   | 67           |
| M 69    |          |          | x     |              |             |      |         | NGC 6637 | GLOCL | SGR  | 18 31.4       | -32 21        | 7.7  | 7.1 m       |             |             | V          | B,L,R,rrr,*14..16            | 91           |
|         |          |          | x     | x            |             |      |         | NGC 6638 | GLOCL | SGR  | 18 30.9       | -25 30        | 9.2  | 2.2 m       |             |             | VI         | B,S,R,rr                     | 91           |
|         |          |          | x     | x            |             |      |         | NGC 6642 | GLOCL | SGR  | 18 31.9       | -23 29        | 8.8  | 0.8 m       |             |             | IV         | pB,pL,iR,gpmbM               | 91           |

## Deep Sky Object List (185/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 6643 | GALXY | DRA  | 18 19.8       | +74 34         | 11.1 | 3.7 m       | 1.8 m       | 38          | Sc         | pB,pL,E50,2st p        | 4            |
|         |          |          |       |              |             |      |         | NGC 6644 | PLNNB | SGR  | 18 32.6       | -25 08         | 12.2 | 3 s         |             |             | 2          | Planetary,stellar      | 91           |
|         |          |          | x     | x            |             |      | x       | NGC 6645 | OPNCL | SGR  | 18 32.6       | -16 53         | 8.5  | 10.0 m      |             |             | III 1 m    | Cl,pL,vRi,pC,st11..15  | 91           |
|         |          |          |       |              |             |      |         | NGC 6647 | OPNCL | SGR  | 18 31.5       | -17 21         | 8    |             |             |             |            | Cl,L,Ri,IC,st vS       | 91           |
|         |          |          | x     |              |             |      |         | NGC 6649 | OPNCL | SCT  | 18 33.5       | -10 24         | 8.9  | 6.0 m       |             |             | II 2 m     | Cl,P,IC,pS,*9,10,12    | 67           |
|         |          |          | x     |              |             |      | x       | NGC 6652 | GLOCL | SGR  | 18 35.8       | -32 59         | 8.9  | 3.5 m       |             |             | VI         | B,S,IE,rrr,st15        | 91           |
|         |          |          |       |              |             |      |         | NGC 6654 | GALXY | DRA  | 18 24.1       | +73 11         | 12   | 2.6 m       | 2.1 m       | 10          | SBO-a Ring | *12,13 in np B,pL neby | 4            |
| M 22    |          |          | !!    |              |             |      |         | NGC 6656 | GLOCL | SGR  | 18 36.4       | -23 54         | 5.1  | 24.0 m      |             |             | VII        | vB,vL,R,vRi,vmC        | 91           |
|         |          |          |       |              |             |      |         | NGC 6661 | GALXY | HER  | 18 34.6       | +22 55         | 12.1 | 1.8 m       | 1.1 m       | 145         | Sa         | F,vS,R,gbM             | 43           |
|         |          |          | x     | x            |             |      |         | NGC 6664 | OPNCL | SCT  | 18 36.6       | -07 49         | 7.8  | 16 m        |             |             | III 2 m    | Cl,L,pRi,vIC           | 67           |
|         |          |          |       |              |             |      |         | NGC 6673 | GALXY | PAV  | 18 45.1       | -62 18         | 11.6 | 2.2 m       | 1 m         | 26          | Elliptical | pF,S,R,psbM,r          | 136          |
|         |          |          |       |              |             |      |         | NGC 6674 | GALXY | HER  | 18 38.6       | +25 22         | 12.2 | 4.2 m       | 2.1 m       | 143         | SBb        | F,pS,iR,bM             | 43           |
|         |          |          |       |              |             |      |         | NGC 6675 | GALXY | LYR  | 18 37.4       | +40 03         | 12.4 | 1.8 m       | 1.3 m       | 130         | Sbc        | vF,E,45"               | 19           |

## Deep Sky Object List (186/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|-------------------------|--------------|
| M 70    |          |          | x     |              |             |      |         | NGC 6681 | GLOCL | SGR  | 18 43.2       | -32 18        | 8.1  | 7.8 m       |             |             | V       | B,pL,R,gbM              | 91           |
|         |          |          |       |              |             |      |         | NGC 6683 | OPNCL | SCT  | 18 42.2       | -06 17        | 9.4  | 11.0 m      |             |             | I 2 p n | Cl,vRi,vIC,in Milky Way | 67           |
|         |          |          |       |              |             |      |         | NGC 6684 | GALXY | PAV  | 18 49.0       | -65 10        | 10.4 | 4.1 m       | 2.6 m       | 35          | SBO     | vB,pL,R,vg,psvmbM       | 136          |
|         |          |          |       |              |             |      |         | NGC 6690 | GALXY | DRA  | 18 34.8       | +70 31        | 12.5 | 4 m         | 1.3 m       | 171         | SBcd    | pF,L,R,bet 2*           | 4            |
| M 26    |          |          | x     |              |             |      |         | NGC 6694 | OPNCL | SCT  | 18 45.2       | -09 24        | 8    | 15.0 m      |             |             | I 1 m   | Cl,cL,pRi,pC,st12..15   | 67           |
|         |          |          |       |              |             |      |         | NGC 6699 | GALXY | PAV  | 18 52.0       | -57 19        | 12   | 1.5 m       | 1.5 m       |             | SBbc    | pF,pS,IE90,pslbM        | 115          |
|         |          |          |       |              |             |      |         | NGC 6701 | GALXY | DRA  | 18 43.2       | +60 39        | 12.1 | 1.5 m       | 1.3 m       | 25          | SBa     | pB,pS,mE,F* close f     | 19           |
|         |          |          |       |              |             |      |         | NGC 6702 | GALXY | LYR  | 18 47.0       | +45 42        | 12.2 | 1.9 m       | 1.5 m       | 65          | E3      | pF,S,IE                 | 19           |
|         |          |          |       |              |             |      |         | NGC 6703 | GALXY | LYR  | 18 47.3       | +45 33        | 11.3 | 2.7 m       | 2.5 m       |             | SO      | B,S,R,mbM               | 19           |
|         |          |          |       |              |             |      |         | NGC 6704 | OPNCL | SCT  | 18 50.9       | -05 12        | 9.2  | 6.0 m       |             |             | I 3 m   | Cl,B,60st13             | 67           |
| M 11    |          |          | !!*   |              |             |      |         | NGC 6705 | OPNCL | SCT  | 18 51.1       | -06 16        | 5.8  | 14.0 m      |             |             | I 2 r   | !!Cl,vB,L,iR,Ri,*9..    | 67           |
|         |          |          | x     |              |             |      |         | NGC 6709 | OPNCL | AQL  | 18 51.5       | +10 21        | 6.7  | 13.0 m      |             |             | III 2 m | Cl,pRi,IC,iF            | 67           |
|         |          | x        | x     | x            |             | 94   |         | NGC 6712 | GLOCL | SCT  | 18 53.1       | -08 42        | 8.2  | 4.3 m       |             |             | IX      | pB,vL,irr,rrr           | 67           |

## Deep Sky Object List (187/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object      | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------|--------------|
| M 54    |          |          | x     |              |             |      |         | NGC 6715    | GLOCL | SGR  | 18 55.1       | -30 29        | 7.7  | 9.1 m       |             |             | III        | vB,L,R,g,smbM       | 91           |
|         |          |          |       |              |             |      |         | NGC 6716    | OPNCL | SGR  | 18 54.6       | -19 54        | 7.5  | 7.0 m       |             |             | IV 1 p     | Cl,pRi,st9...13     | 91           |
|         |          |          |       |              | x           |      |         | NGC 6717    | GLOCL | SGR  | 18 55.1       | -22 42        | 9.3  | 3.9 m       |             |             | VIII       | F,S,rr,Cl+neb       | 91           |
| M 57    |          |          | !!*   |              |             |      |         | NGC 6720    | PLNNB | LYR  | 18 53.6       | +33 02        | 9.4  | 86 s        | 62 s        |             | 4(3)       | Ring neb,B,pL,cE    | 43           |
|         |          |          |       |              |             |      |         | NGC 6721    | GALXY | PAV  | 19 00.8       | -57 46        | 12   | 1.6 m       | 1.4 m       | 155         | E0         | pF,cS,R,vmbM        | 114          |
|         |          |          | x     |              |             |      | x       | NGC 6723    | GLOCL | SGR  | 18 59.6       | -36 38        | 7.3  | 11.0 m      |             |             | VII        | vL,vIE,vgbM,rrr     | 91           |
|         |          |          |       |              |             |      |         | NGC 6725    | GALXY | TEL  | 19 01.9       | -53 52        | 12.2 | 2.2 m       | 0.5 m       | 40          | SO         | eF,pL,R             | 114          |
|         |          |          | x     |              |             |      | x       | NGC 6726 -7 | BRTNB | CRA  | 19 01.7       | -36 53        | 99.9 | 2 m         | 2 m         |             | E          | *6,7 in F,pL neb    | 90           |
|         | C 68     |          | x     |              |             |      |         | NGC 6729    | BRTNB | CRA  | 19 01.9       | -36 57        | 99.9 | 1.3 m       |             |             | E+R        | Var*(11...) w neb   | 90           |
|         |          |          |       |              |             |      |         | NGC 6730    | GALXY | PAV  | 19 07.6       | -68 55        | 12.3 | 1.8 m       | 1.5 m       |             | Elliptical | vF,S,R,pmbM,*7,8 nf | 136          |
|         |          |          |       |              |             |      |         | NGC 6738    | OPNCL | AQL  | 19 01.4       | +11 36        | 8.3  | 15.0 m      |             |             | IV 2 p     | Cl,P,IC             | 66           |
|         |          |          |       |              |             |      |         | NGC 6741    | PLNNB | AQL  | 19 02.6       | -00 27        | 12   | 9 s         | 7 s         |             | 4          | Planetary,stellar   | 66           |
|         | C101     |          | x     |              |             |      |         | NGC 6744    | GALXY | PAV  | 19 09.8       | -63 51        | 8.3  | 20.2 m      | 13.2 m      | 15          | SBbc       | cB,cL,R,vg,svmbM,r  | 136          |

## Deep Sky Object List (188/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6749 | GLOCL | AQL  | 19 05.3       | +01 54        | 11.1 | 6.3 m       |             |             |        | L,IC,st L&S           | 66           |
|         |          |          |       |              |             |      |         | NGC 6751 | PLNNB | AQL  | 19 05.9       | -06 00        | 12   | 20 s        |             |             | 3      | pB,S                  | 66           |
|         | C 93     |          | x     |              |             |      |         | NGC 6752 | GLOCL | PAV  | 19 10.9       | -59 59        | 5.4  | 20.4 m      |             |             | VI     | B,vL,iR,st11..16      | 114          |
|         |          |          |       |              |             |      |         | NGC 6753 | GALXY | PAV  | 19 11.4       | -57 03        | 11.1 | 2.4 m       | 2.1 m       | 30          | Sb     | pB,pL,R,gbM           | 114          |
|         |          |          |       |              |             |      |         | NGC 6754 | GALXY | TEL  | 19 11.4       | -50 39        | 12.1 | 1.8 m       | 0.9 m       | 80          | SBb    | pF,pL,mE63,vglbM      | 114          |
|         |          |          |       | x            |             |      |         | NGC 6755 | OPNCL | AQL  | 19 07.8       | +04 16        | 7.5  | 15.0 m      |             |             | IV 2 m | Cl,vL,vRi,pC,*12...14 | 66           |
|         |          |          |       | x            |             |      |         | NGC 6756 | OPNCL | AQL  | 19 08.7       | +04 42        | 10.6 | 4.0 m       |             |             | I 2 m  | Cl,S,Ri,IC,*11...12   | 66           |
|         |          |          |       |              |             |      |         | NGC 6758 | GALXY | TEL  | 19 13.9       | -56 19        | 11.6 | 2.3 m       | 1.7 m       | 121         | E1     | pB,S,R                | 114          |
|         |          |          |       |              |             |      |         | NGC 6760 | GLOCL | AQL  | 19 11.2       | +01 02        | 9.1  | 2.4 m       |             |             | IX     | pB,pL,vglbM (Auw. 44) | 66           |
|         |          |          |       |              |             |      |         | NGC 6764 | GALXY | CYG  | 19 08.3       | +50 56        | 11.9 | 2.2 m       | 1.2 m       | 62          | SBbc   | pF,pL,mE,sev vF * inv | 18           |
|         |          |          |       |              |             |      |         | NGC 6769 | GALXY | PAV  | 19 18.4       | -60 30        | 11.8 | 2.2 m       | 1.5 m       | 123         | SBb/P  | vF,S,R,lbM,1st of 3   | 114          |
|         |          |          |       |              |             |      |         | NGC 6770 | GALXY | PAV  | 19 18.6       | -60 30        | 11.9 | 2.2 m       | 1.6 m       | 20          | SBb/P  | eF,vS,2nd of 3        | 114          |
|         |          |          |       |              |             |      |         | NGC 6771 | GALXY | PAV  | 19 18.7       | -60 33        | 12.5 | 2.3 m       | 0.5 m       | 118         | SBO-a  | eF,S,3rd of 3         | 114          |

## Deep Sky Object List (189/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description      | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|----------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 6772 | PLNNB | AQL  | 19 14.6       | -02 42        | 14   | 75 s        | 55 s        |             | 3b(2)    | vF,L,R,vvIBM,r       | 66           |
|         |          |          |       |              |             |      |         | NGC 6776 | GALXY | PAV  | 19 25.3       | -63 52        | 12.1 | 1.6 m       | 1.4 m       | 15          | E2       | pB,S,R,pgbM          | 136          |
| M 56    |          |          | x     |              |             |      |         | NGC 6779 | GLOCL | LYR  | 19 16.6       | +30 11        | 8.3  | 5 m         |             |             | X        | B,L,iR,gvmCM,rrr     | 42           |
|         |          | x        | x     | x            |             | 95   | x       | NGC 6781 | PLNNB | AQL  | 19 18.5       | +06 32        | 11.8 | 111 s       | 109 s       |             | 3b(3)    | F,L,R,vsbM disc      | 66           |
|         |          |          |       |              |             |      |         | NGC 6782 | GALXY | PAV  | 19 24.0       | -59 55        | 11.8 | 2.2 m       | 1.6 m       | 45          | Sba Ring | cF,cS,R,lbM,*9s      | 114          |
|         |          |          |       |              |             |      |         | NGC 6790 | PLNNB | AQL  | 19 23.0       | +01 31        | 11.4 | 2 s         |             |             | 2        | B,eS,stell=9.5m      | 66           |
|         |          |          | x     |              |             |      |         | NGC 6791 | OPNCL | LYR  | 19 20.7       | +37 51        | 9.5  | 16 m        |             |             | II 3 r   | vF,L,vRi,*F          | 18           |
|         |          |          |       |              |             |      |         | NGC 6792 | GALXY | LYR  | 19 21.0       | +43 08        | 12.1 | 2.2 m       | 1.3 m       | 25          | SBb      | F,E26,glbM,*9.5 sf   | 18           |
|         |          |          |       |              | x           |      |         | NGC 6793 | OPNCL | VUL  | 19 23.2       | +22 11        | 99.9 | 6 m         |             |             | IV 2 p   | Cl,P,IC              | 42           |
|         |          |          |       |              | x           |      |         | NGC 6800 | OPNCL | VUL  | 19 27.1       | +25 08        | 99.9 | 5 m         |             |             | III 2 p  | Cl,vL,pRi,vIC,st10.. | 42           |
|         |          |          |       | x            |             | 105  | x       | NGC 6802 | OPNCL | VUL  | 19 30.6       | +20 16        | 8.8  | 3.2 m       |             |             | III 1 m  | Cl,L,vC,E0,st14...18 | 42           |
|         |          |          |       |              |             |      |         | NGC 6803 | PLNNB | AQL  | 19 31.3       | +10 03        | 11   | 4 s         |             |             | 2a       | stellar              | 66           |
|         |          |          |       |              | x           |      |         | NGC 6804 | PLNNB | AQL  | 19 31.6       | +09 14        | 12.4 | 63 s        | 50 s        |             | 4(2)     | cB,S,iR,rrr          | 66           |

## Deep Sky Object List (190/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-----------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6808 | GALXY | PAV  | 19 43.9       | -70 38        | 12.5 | 1.6 m       | 0.9 m       | 40          | Sa        | pB,E,bi-N,*8f         | 136          |
| M 55    |          |          | x     |              |             |      |         | NGC 6809 | GLOCL | SGR  | 19 40.0       | -30 58        | 7    | 19.0 m      |             |             | XI        | pB,L,R,vRi,vgbM       | 90           |
|         |          |          |       |              |             |      |         | NGC 6810 | GALXY | PAV  | 19 43.6       | -58 39        | 11.4 | 3.1 m       | 0.9 m       | 176         | Sab       | PS,R,vgbM             | 114          |
|         |          |          | x     |              |             |      |         | NGC 6811 | OPNCL | CYG  | 19 38.2       | +46 34        | 6.8  | 13.0 m      |             |             | IV 3 p    | Cl,L,pRi,IC,st11..14  | 18           |
|         |          |          | x     |              | x           |      |         | NGC 6814 | GALXY | AQL  | 19 42.7       | -10 20        | 11.2 | 3.5 m       | 3.5 m       |             | SBbc Ring | pF,pL,R,bM,r          | 66           |
|         |          | x        | x     | x            |             | 104  | x       | NGC 6818 | PLNNB | SGR  | 19 44.0       | -14 09        | 10   | 22 s        | 15 s        |             | 4         | B,vS,R                | 90           |
|         |          | x        | x     |              |             | 96   |         | NGC 6819 | OPNCL | CYG  | 19 41.3       | +40 11        | 7.3  | 5.0 m       |             |             | I 1 r     | Cl,vL,vRi,*11...15    | 18           |
|         |          |          | x     |              |             |      |         | NGC 6820 | CL+NB | VUL  | 19 43.1       | +23 17        | 15   | 40 m        | 30 m        |             | E         | F,L,Irr               | 42           |
|         | C 57     |          | x     |              |             |      | x       | NGC 6822 | GALXY | SGR  | 19 44.9       | -14 48        | 8.8  | 15.4 m      | 14.2 m      | 5           | Ir+       | vF,L,E,Dif            | 90           |
|         |          |          | S     | x            |             |      |         | NGC 6823 | OPNCL | VUL  | 19 43.2       | +23 18        | 7.1  | 12.0 m      |             |             | I 3 p n   | Cl,cRi,E,st11...12    | 42           |
|         |          |          |       |              | x           |      |         | NGC 6824 | GALXY | CYG  | 19 43.7       | +56 07        | 12.2 | 1.9 m       | 1.4 m       | 60          | Sab       | pB,iF,bM              | 18           |
|         | C 15     | x        | x     | x            |             | 97   | x       | NGC 6826 | PLNNB | CYG  | 19 44.8       | +50 32        | 8.8  | 27 s        | 24 s        |             | 3a(2)     | Planetary,B,pL,R,*11m | 18           |
|         |          |          |       | x            |             |      |         | NGC 6830 | OPNCL | VUL  | 19 51.0       | +23 06        | 7.9  | 12.0 m      |             |             | II 2 p    | Cl,L,pRi,pC,*11...12  | 42           |



## Deep Sky Object List (191/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|----------|------------------------------|--------------|
|         |          |          | x     | x            |             |      |         | NGC 6834 | OPNCL | CYG  | 19 52.2       | +29 24        | 7.8   | 5.0 m       |             |             | II 2 m   | Cl,P,IC,*11...12             | 42           |
|         |          |          |       |              |             |      |         | NGC 6835 | GALXY | SGR  | 19 54.5       | -12 34        | 12.5  | 2.4 m       | 0.7 m       | 70          | SBa      | F,pL,mE                      | 90           |
| M 71    |          |          | x     |              |             |      |         | NGC 6838 | GLOCL | SGE  | 19 53.8       | +18 47        | 8.3   | 6.1 m       |             |             |          | Cl,vL,vRi,pmC,*11...16       | 42           |
|         |          |          | x     |              |             |      |         | NGC 6842 | PLNNB | VUL  | 19 55.0       | +29 17        | 13.1  | 52.8 s      | 48 s        |             | 3b       | F,pL,vIE                     | 42           |
|         |          |          |       |              |             |      |         | NGC 6848 | GALXY | TEL  | 20 02.8       | -56 05        | 12.5  | 2.4 m       | 1 m         | 157         | Sa       | cF,cL,R,vglbM,2st f          | 113          |
|         |          |          |       |              |             |      |         | NGC 6849 | GALXY | SGR  | 20 06.3       | -40 12        | 12.1  | 1.9 m       | 1.1 m       | 18          | E-SO Bar | pB,S,R,vS* np                | 113          |
|         |          |          |       |              |             |      |         | NGC 6850 | GALXY | TEL  | 20 03.5       | -54 51        | 12.5  | 2.1 m       | 1.1 m       | 153         | SBO-a    | vF,S,R,bM                    | 113          |
|         |          |          |       |              |             |      |         | NGC 6851 | GALXY | TEL  | 20 03.6       | -48 17        | 11.8  | 2 m         | 1.5 m       | 160         | E4       | pF,S,vIE,psbM                | 113          |
|         |          |          |       |              |             |      |         | NGC 6852 | PLNNB | AQL  | 20 00.7       | +01 44        | 11.4p | 28 s        |             |             | 4        | F neb,am st                  | 65           |
| M 27    |          |          | !!*   |              |             |      |         | NGC 6853 | PLNNB | VUL  | 19 59.6       | +22 43        | 7.3   | 480 s       | 340 s       |             | 3(2)     | !!vB,vL,bi-N,IE,Dumbbell Neb | 42           |
|         |          |          |       |              |             |      |         | NGC 6854 | GALXY | TEL  | 20 05.6       | -54 23        | 12.2  | 2 m         | 1.3 m       | 166         | E2       | F,S,vIE,glbM                 | 113          |
|         |          |          |       |              | x           |      |         | NGC 6857 | BRTNB | CYG  | 20 02.8       | +33 31        | 11.4  | 0.8 m       |             |             | E        | F,am Milky Way st            | 41           |
|         |          |          |       |              |             |      |         | NGC 6861 | GALXY | TEL  | 20 07.3       | -48 22        | 11.1  | 3 m         | 2 m         | 140         | E-SO Bar | B,S,cE,gpmbM                 | 113          |

## Deep Sky Object List (192/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 6861D | GALXY | TEL  | 20 08.3       | -48 13        | 12.4 | 2.1 m       | 0.7 m       | 154         | E-SO     |                        | 113          |
| M 75    |          |          | x     |              |             |      |         | NGC 6864  | GLOCL | SGR  | 20 06.1       | -21 55        | 8.6  | 6.0 m       |             |             | I        | B,pL,R,vmbMBN,rr       | 89           |
|         |          |          | x     | x            |             |      |         | NGC 6866  | OPNCL | CYG  | 20 03.9       | +44 10        | 7.6  | 7.0 m       |             |             | II 2 m   | Cl,L,vRi,cC            | 17           |
|         |          |          |       |              |             |      |         | NGC 6868  | GALXY | TEL  | 20 09.9       | -48 23        | 10.6 | 3.6 m       | 2.8 m       | 86          | E2       | vB,S,R,pgymbM          | 113          |
|         |          |          |       |              |             |      |         | NGC 6869  | GALXY | DRA  | 20 00.7       | +66 14        | 12   | 1.6 m       | 1.3 m       |             | SO       | pB,pS,R                | 3            |
|         |          |          |       |              |             |      |         | NGC 6870  | GALXY | TEL  | 20 10.2       | -48 17        | 12.3 | 2.6 m       | 1.3 m       | 85          | Sab      | cF,cS,E90,gbM          | 113          |
|         |          |          |       |              |             |      |         | NGC 6871  | OPNCL | CYG  | 20 05.9       | +35 47        | 5.2  | 20.0 m      |             |             | IV 3 p n | Cl,st L&S,D* inv       | 41           |
|         |          |          |       |              |             |      |         | NGC 6872  | GALXY | PAV  | 20 17.0       | -70 46        | 11.8 | 6.3 m       | 2.2 m       | 66          | SBb/P    | F,pS,IE,gbM,1st of 4   | 135          |
|         |          |          |       |              |             |      |         | NGC 6875  | GALXY | TEL  | 20 13.2       | -46 10        | 12.1 | 2.4 m       | 1.4 m       | 22          | E6       | F,vS,R,vgmbM,*7 nf     | 113          |
|         |          |          |       |              |             |      |         | NGC 6876  | GALXY | PAV  | 20 18.3       | -70 52        | 11.1 | 3 m         | 2.6 m       | 80          | E3       | pB,S,R,eS* sf,2nd of 4 | 135          |
|         |          |          |       |              |             |      |         | NGC 6877  | GALXY | PAV  | 20 18.6       | -70 51        | 12.2 | 2 m         | 1 m         | 169         | E6       | vF,vS,R,3rd of 4       | 135          |
|         |          |          |       |              |             |      |         | NGC 6879  | PLNNB | SGE  | 20 10.4       | +16 55        | 11   | 4.7 s       | 4.1 s       |             | 2a       | stellar=10m            | 41           |
|         |          |          |       |              |             |      |         | NGC 6880  | GALXY | PAV  | 20 19.5       | -70 52        | 12.2 | 2.1 m       | 1.3 m       | 35          | SBO-a    | F,S,R,r,vS* att,4 of 4 | 135          |

Deep Sky Object List (193/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|----------|-----------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 6882 | ASTER | VUL  | 20 11.9       | +26 40        | 8.1   | 18.0 m      |             |             | II 2 p   | Cl,P,IC               | 41           |
|         |          |          |       |              |             |      |         | NGC 6883 | OPNCL | CYG  | 20 11.3       | +35 51        | 8     | 15.0 m      |             |             | I 3 p n  | Cl,pRi,** inv         | 41           |
|         |          |          | x     |              |             |      |         | NGC 6884 | PLNNB | CYG  | 20 10.4       | +46 28        | 12.6  | 5.6 s       | 5.0 s       |             | 2b       | stellar               | 17           |
|         | C 37     |          |       | x            |             |      |         | NGC 6885 | OPNCL | VUL  | 20 11.9       | +26 29        | 8.1   | 7.0 m       |             |             | III 2 p  | Cl,vB,vL,Ri,IC,*6..11 | 41           |
|         |          |          |       |              |             |      |         | NGC 6886 | PLNNB | SGE  | 20 12.7       | +19 59        | 12.5  | 4 s         |             |             | 2(3)     | stellar=10m           | 41           |
|         |          |          |       |              |             |      |         | NGC 6887 | GALXY | TEL  | 20 17.3       | -52 48        | 12.1  | 3.2 m       | 1.3 m       | 102         | Sbc      | pF,cL,pmE,glbM        | 113          |
|         | C 27     |          | *     |              | x           | 98   | x       | NGC 6888 | BRTNB | CYG  | 20 12.8       | +38 19        | 10.0p | 20 m        | 10 m        |             | E        | F,vL,vmE,** att       | 17           |
|         |          |          |       |              |             |      |         | NGC 6890 | GALXY | SGR  | 20 18.3       | -44 48        | 12.3  | 1.6 m       | 1.3 m       | 152         | SBb      | pF,S,R,vglbM          | 113          |
|         |          |          | x     |              |             |      |         | NGC 6891 | PLNNB | DEL  | 20 15.1       | +12 42        | 10.5  | 15.5 s      | 7 s         |             | 2a(2b)   | stellar=9.5m          | 41           |
|         |          |          |       |              |             |      |         | NGC 6893 | GALXY | TEL  | 20 20.8       | -48 14        | 11.8  | 2.6 m       | 1.7 m       | 10          | SBO Ring | pF,S,R,svbM*12        | 113          |
|         |          |          |       |              | x           |      |         | NGC 6894 | PLNNB | CYG  | 20 16.4       | +30 34        | 14.4  | 44 s        | 39 s        |             | 4(2)     | ring neb,F,S,vvIE     | 41           |
|         |          |          |       |              |             |      |         | NGC 6902 | GALXY | SGR  | 20 24.5       | -43 39        | 10.9  | 6.1 m       | 4.1 m       | 153         | SBa      | F,cS,R,bM             | 113          |
|         |          |          |       |              |             |      |         | NGC 6903 | GALXY | CAP  | 20 23.7       | -19 20        | 11.9  | 2.6 m       | 2.4 m       |             | E-SO Bar | Cl,E,bM*17,*10 att N  | 89           |

## Deep Sky Object List (194/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|-----------------------|--------------|
|         |          |          |       | x            |             |      |         | NGC 6905 | PLNNB | DEL  | 20 22.4       | +20 06        | 12   | 44 s        | 38 s        |             | 3(3)      | B,pS,R,4S* nr         | 41           |
|         |          |          |       |              |             |      |         | NGC 6906 | GALXY | AQL  | 20 23.6       | +06 27        | 12.3 | 1.6 m       | 0.8 m       | 36          | SBbc      | pF,pL,R               | 65           |
|         |          |          | x     |              | x           |      |         | NGC 6907 | GALXY | CAP  | 20 25.1       | -24 49        | 11.2 | 3.4 m       | 2.6 m       | 46          | SBbc      | cF,cL,vIE,vglbM,3st p | 89           |
|         |          |          |       |              |             |      |         | NGC 6909 | GALXY | TEL  | 20 27.6       | -47 02        | 11.7 | 2.2 m       | 1.1 m       | 68          | E6        | pB,pL,gbM,2*10 nr     | 113          |
|         |          |          | S     | x            |             |      |         | NGC 6910 | OPNCL | CYG  | 20 23.2       | +40 47        | 7.4  | 8 m         |             |             | I 2 p n   | Cl,pB,pS,P,pC,*20.12  | 17           |
| M 29    |          |          | x     |              |             |      |         | NGC 6913 | OPNCL | CYG  | 20 23.9       | +38 32        | 6.6  | 7.0 m       |             |             | III 3 p n | Cl,P,IC,st L&S        | 17           |
|         |          |          |       |              |             |      |         | NGC 6920 | GALXY | OCT  | 20 44.0       | -80 00        | 12.5 | 1.8 m       | 1.5 m       |             | SO        | pB,cS,R,psmbM         | 135          |
|         |          |          |       |              |             |      |         | NGC 6923 | GALXY | MIC  | 20 31.7       | -30 50        | 11.9 | 2.6 m       | 1.3 m       | 78          | SBb Ring  | pF,cS,R,gbM,bet 2st   | 89           |
|         |          |          |       |              |             |      |         | NGC 6925 | GALXY | MIC  | 20 34.3       | -31 59        | 11.3 | 4.4 m       | 1.1 m       | 5           | Sbc       | cB,L,mE6,pslbM        | 89           |
|         |          |          |       |              |             |      |         | NGC 6926 | GALXY | AQL  | 20 33.1       | -02 02        | 12.4 | 2 m         | 1.4 m       | 0           | SBc/P     | vF,pL,E176,p of 2     | 65           |
|         |          |          |       |              |             |      |         | NGC 6928 | GALXY | DEL  | 20 32.8       | +09 56        | 12.2 | 2.1 m       | 0.6 m       | 106         | SBab      | pB,pL,mE              | 65           |
|         | C 47     |          | x     | x            |             |      | x       | NGC 6934 | GLOCL | DEL  | 20 34.2       | +07 24        | 8.9  | 2 m         |             |             | VIII      | B,L,R,rrr,*16...      | 65           |
|         |          |          |       |              |             |      |         | NGC 6935 | GALXY | IND  | 20 38.3       | -52 07        | 12   | 2.1 m       | 1.8 m       |             | SBa       | pB,cL,R,glbM,r,p of 2 | 113          |

## Deep Sky Object List (195/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-----------------------------|--------------|
|         |          | x        | x     | x            |             | 107  | x       | NGC 6939 | OPNCL | CEP  | 20 31.5       | +60 40        | 7.8  | 8.0 m       |             |             | I 1 m      | Cl,pL,eRi,pCM,*11..16       | 17           |
|         |          | x        | x     | x            |             | 106  | x       | NGC 6940 | OPNCL | VUL  | 20 34.4       | +28 17        | 6.3  | 31 m        |             |             | III 2 m    | Cl,vB,vL,vRi,cC             | 41           |
|         |          |          |       |              |             |      |         | NGC 6942 | GALXY | IND  | 20 40.6       | -54 18        | 11.8 | 2.1 m       | 1.6 m       | 150         | SBO-a      | pB,pL,R,pslbM               | 113          |
|         |          |          |       |              |             |      |         | NGC 6943 | GALXY | PAV  | 20 44.6       | -68 45        | 11.4 | 4 m         | 2.2 m       | 130         | SBc        | pF,L,mE,vglbM vS*           | 135          |
|         | C 12     | x        | !*    | x            |             | 108  | x       | NGC 6946 | GALXY | CEP  | 20 34.9       | +60 09        | 8.8  | 11.2 m      | 9.8 m       |             | SBc        | vF,vL,vg,vsbM,rr            | 17           |
|         |          |          | x     |              |             |      |         | NGC 6951 | GALXY | CEP  | 20 37.2       | +66 06        | 10.6 | 3.9 m       | 3.5 m       | 170         | SBbc       | pB,pL,IE                    | 3            |
|         |          |          |       |              |             |      |         | NGC 6956 | GALXY | DEL  | 20 43.9       | +12 31        | 12.3 | 2 m         | 1.9 m       |             | SBb        | vF,S,stell,** att           | 41           |
|         |          |          |       |              |             |      |         | NGC 6958 | GALXY | MIC  | 20 48.7       | -38 00        | 11.4 | 2.1 m       | 1.6 m       | 107         | E1         | B,cS,R,pgmbM,4*p            | 113          |
|         | C 34     | x        | !!*   |              | x           |      | x       | NGC 6960 | SNREM | CYG  | 20 45.7       | +30 43        | 7    | 210 m       | 160 m       |             |            | pB,cL,eIF,Kappa Cyg<br>invl | 41           |
|         |          |          |       |              |             |      |         | NGC 6962 | GALXY | AQR  | 20 47.3       | +00 19        | 12.1 | 2.9 m       | 2.2 m       | 75          | SBab       | cF,S,R,bM                   | 65           |
| M 72    |          |          | x     |              |             |      |         | NGC 6981 | GLOCL | AQR  | 20 53.5       | -12 32        | 9.4  | 5.9 m       |             |             | IX         | pB,pL,R,gmCM,rrr            | 89           |
|         |          |          |       |              |             |      |         | NGC 6987 | GALXY | IND  | 20 58.2       | -48 38        | 12.4 | 1.4 m       | 1.2 m       |             | Elliptical | pF,S,vIE,gpmbM,B*p1'        | 113          |
|         |          |          |       |              |             | 99   |         | NGC 6990 | GALXY | IND  | 21 00.0       | -55 34        | 14   | 1.2 m       | 0.5 m       | 178         | Sa         | eeF,vS,vmE0,*13 att n       | 112          |

Deep Sky Object List (196/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description       | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|-------|-------------|-------------|-------------|------------|-----------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 6991 | OPNCL | CYG  | 20 56.6       | +47 25        | 99.9  | 5 m         |             |             |            | Cl,L,P,vIC            | 17           |
|         | C 33     | x        | !!*   |              | x           | 99   | x       | NGC 6992 | SNREM | CYG  | 20 56.4       | +31 43        | 7     | 60 m        | 8 m         |             | R          | eF,eL,eE,eif,Bifid    | 41           |
| M 73    |          |          | x     |              |             |      |         | NGC 6994 | OPNCL | AQR  | 20 59.0       | -12 38        | 8.9   | 2.8 m       |             |             | IV 1 p :b  | Cl,eP,vIC,No neb      | 89           |
|         |          |          |       |              |             | 99   |         | NGC 6995 | SNREM | CYG  | 20 57.1       | +31 13        | 7     | 12 m        |             |             | R          | F,eL,neb&st in groups | 41           |
|         |          |          |       |              |             |      |         | NGC 6996 | OPNCL | CYG  | 20 56.5       | +45 29        | 10    | 7.0 m       |             |             | III 2 p n  | Cl,P,IC               | 17           |
|         |          |          | x     |              | x           |      |         | NGC 6997 | OPNCL | CYG  | 20 56.8       | +44 39        | 10.0p | 7 m         |             |             |            | Cl,P,IC,st L          | 17           |
|         | C 20     | x        | !*    | x            |             | 100  | x       | NGC 7000 | BRTNB | CYG  | 21 01.8       | +44 12        | 4     | 120 m       | 30 m        |             | E          | F,eeL,dif nebulosity  | 16           |
|         |          |          |       |              |             |      |         | NGC 7002 | GALXY | IND  | 21 03.8       | -49 02        | 12.4  | 1.5 m       | 1.2 m       | 3           | Elliptical | cF,cS,R,bM            | 112          |
|         | C 42     |          | x     | x            |             |      |         | NGC 7006 | GLOCL | DEL  | 21 01.5       | +16 11        | 10.6  | 2.8 m       |             |             | I          | B,pL,R,gbM            | 40           |
|         |          |          |       |              |             |      |         | NGC 7007 | GALXY | IND  | 21 05.5       | -52 33        | 12    | 2 m         | 1.2 m       | 2           | E-SO       | pB,S,R,psbM,am st     | 112          |
|         |          |          | x     | x            |             |      | x       | NGC 7008 | PLNNB | CYG  | 21 00.5       | +54 33        | 12    | 86 s        | 69 s        |             | 3          | cB,L,E45,r,** att     | 16           |
|         | C 55     | x        | x     | x            |             | 1    | x       | NGC 7009 | PLNNB | AQR  | 21 04.2       | -11 22        | 8.3   | 28 s        | 23 s        |             | 4(6)       | !!! vB,S,elliptic     | 64           |
|         |          |          |       |              |             |      |         | NGC 7013 | GALXY | CYG  | 21 03.6       | +29 54        | 11.3  | 4.5 m       | 1.4 m       | 157         | Sa         | pB,cS,R,psbM,pB* np   | 40           |

Deep Sky Object List (197/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7014 | GALXY | IND  | 21 07.9       | -47 11        | 12.4 | 1.7 m       | 1.4 m       | 130         | Elliptical | pF,S,R,bM,2*12n               | 112          |
|         |          |          |       |              |             |      |         | NGC 7015 | GALXY | EQU  | 21 05.6       | +11 25        | 12.5 | 1.8 m       | 1.6 m       |             | Sbc        | vF,pS,glbM                    | 64           |
|         |          |          |       |              |             |      |         | NGC 7020 | GALXY | PAV  | 21 11.3       | -64 02        | 11.8 | 3.5 m       | 1.6 m       | 165         | SBO-a Ring | pB,cS,IE,pgbM                 | 135          |
|         | C 4      |          | x     |              | x           |      |         | NGC 7023 | CL+NB | CEP  | 21 00.5       | +68 10        | 7.1  | 5.0 m       |             |             | E+*        | *7 in eF,eL,neby              | 3            |
|         |          |          | x     |              |             |      |         | NGC 7026 | PLNNB | CYG  | 21 06.3       | +47 51        | 12   | 25 s        | 9 s         |             | 3a         | pB,biN                        | 16           |
|         |          | x        | x     |              |             | 101  |         | NGC 7027 | PLNNB | CYG  | 21 07.0       | +42 14        | 9.6  | 18 s        | 11 s        |             | 3a         | eB,S                          | 16           |
|         |          |          |       |              |             |      |         | NGC 7029 | GALXY | IND  | 21 11.9       | -49 17        | 11.5 | 2.5 m       | 1.4 m       | 71          | Elliptical | B,cS,R,pgmbM                  | 112          |
|         |          |          | S     |              | x           |      |         | NGC 7031 | OPNCL | CYG  | 21 07.3       | +50 50        | 9.1  | 5.0 m       |             |             | IV 1 p     | Cl of triple st,IC            | 16           |
|         |          |          |       |              |             |      |         | NGC 7038 | GALXY | IND  | 21 15.1       | -47 13        | 11.9 | 3.1 m       | 1.4 m       | 127         | SBc        | pB,pL,IE,gbM                  | 112          |
|         |          |          |       |              |             |      |         | NGC 7039 | OPNCL | CYG  | 21 11.2       | +45 39        | 7.6  | 25.0 m      |             |             | III 2 p    | Cl,vL,pRi,E,st 10...          | 16           |
|         |          |          |       |              |             |      |         | NGC 7041 | GALXY | IND  | 21 16.5       | -48 22        | 11.2 | 3.6 m       | 1.5 m       | 85          | E-SO       | B,cS,cE,psmbM,*10f            | 112          |
|         |          |          |       |              | x           |      |         | NGC 7042 | GALXY | PEG  | 21 13.8       | +13 34        | 12   | 2 m         | 1.8 m       | 140         | Sb         | vF,S,R                        | 40           |
|         |          |          |       | x            |             |      |         | NGC 7044 | OPNCL | CYG  | 21 12.9       | +42 29        | 12   | 6 m         |             |             | II 2 R     | Cl,vF,pL,vRi,vC,st<br>15...18 | 16           |

## Deep Sky Object List (198/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          | x     |              |             |      |         | NGC 7048  | PLNNB | CYG  | 21 14.3       | +46 17        | 11   | 60 s        | 50 s        |             | 3b         | pF,pL,dif,iR,vlbM             | 16           |
|         |          |          |       |              |             |      |         | NGC 7049  | GALXY | IND  | 21 19.0       | -48 34        | 10.7 | 4.5 m       | 3 m         | 57          | SO         | vB,pS,E,mbM                   | 112          |
|         |          |          |       |              |             |      |         | NGC 7052  | GALXY | VUL  | 21 18.6       | +26 27        | 12.4 | 2.5 m       | 1.5 m       | 64          | Elliptical | F,S,vIE,r                     | 40           |
|         |          |          |       |              |             |      |         | NGC 7059  | GALXY | PAV  | 21 27.4       | -60 01        | 11.9 | 3.3 m       | 1.7 m       | 98          | SBc        | B,pL,IC,gpmbM                 | 112          |
|         |          |          |       | x            |             |      |         | NGC 7062  | OPNCL | CYG  | 21 23.5       | +46 23        | 8.3  | 7.0 m       |             |             | III 1 p    | Cl,pS,pRi,pC,st13...          | 16           |
|         |          |          |       |              |             |      |         | NGC 7063  | OPNCL | CYG  | 21 24.4       | +36 30        | 7    | 8.0 m       |             |             | III 2 p    | Cl,P,st10...                  | 40           |
|         |          |          |       |              |             |      |         | NGC 7064  | GALXY | IND  | 21 29.1       | -52 46        | 12.5 | 3.8 m       | 0.7 m       | 91          | SBc        | eF,pL,vmE91,*s                | 112          |
|         |          |          |       |              | x           |      |         | NGC 7067  | OPNCL | CYG  | 21 24.2       | +48 01        | 9.7  | 3.0 m       |             |             | II 2 p     | Cl,P,(neb)                    | 16           |
|         |          |          |       |              |             |      |         | NGC 7070  | GALXY | GRU  | 21 30.4       | -43 05        | 12.3 | 2.4 m       | 1.9 m       |             | SBc        | F,cL,IE,gvlbM,p of 2          | 112          |
|         |          |          |       |              |             |      |         | NGC 7070A | GALXY | GRU  | 21 31.8       | -42 51        | 12.3 | 2.1 m       | 1.9 m       | 167         | Sa         |                               | 112          |
| M 15    |          |          | !!*   |              |             |      |         | NGC 7078  | GLOCL | PEG  | 21 30.0       | +12 10        | 6.4  | 12.3 m      |             |             | IV         | !,vB,vL,iR,vsmbM,rrr,st<br>vS | 40           |
|         |          |          |       |              |             |      |         | NGC 7079  | GALXY | GRU  | 21 32.6       | -44 04        | 11.6 | 2 m         | 1.2 m       | 82          | SBO        | B,R,cS,psbM                   | 112          |
|         |          |          |       |              |             |      |         | NGC 7080  | GALXY | VUL  | 21 30.0       | +26 43        | 12.3 | 1.8 m       | 1.7 m       |             | SBb        | vF,S,vIE                      | 40           |



Deep Sky Object List (199/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7082 | OPNCL | CYG  | 21 29.4       | +47 05        | 7.2  | 25.0 m      |             |             | IV 2 p     | Cl,L,cRi,IC,st10..13         | 16           |
|         |          |          |       |              |             |      |         | NGC 7083 | GALXY | IND  | 21 35.7       | -63 54        | 11.2 | 3.6 m       | 2.1 m       | 5           | Sbc        | pF,cL,vIE,vgpmbM,r           | 135          |
|         |          |          | x     | x            |             |      |         | NGC 7086 | OPNCL | CYG  | 21 30.5       | +51 36        | 8.4  | 9.0 m       |             |             | II 2 m     | Cl,cL,vRi,pC,*11..16         | 16           |
| M 2     |          |          | *     |              |             |      |         | NGC 7089 | GLOCL | AQR  | 21 33.5       | -00 49        | 6.5  | 11.7 m      |             |             | II         | !!B,vL,gpmbM,rrr,st eS       | 64           |
|         |          |          |       |              |             |      |         | NGC 7090 | GALXY | IND  | 21 36.5       | -54 33        | 10.7 | 7.3 m       | 1.2 m       | 127         | SBc        | pB,pL,vmE127,g,pslbM         | 112          |
| M 39    |          |          | x     |              |             |      |         | NGC 7092 | OPNCL | CYG  | 21 32.2       | +48 26        | 4.6  | 32 m        |             |             | III 2 p    | Cl,vL,P,vIC,*7...10          | 16           |
|         |          |          |       |              |             |      |         | NGC 7095 | GALXY | OCT  | 21 52.4       | -81 32        | 11.5 | 4 m         | 3.3 m       |             | Sc         | F,pL,R,vglbM,*13 inv         | 135          |
|         |          |          |       |              |             |      |         | NGC 7096 | GALXY | IND  | 21 41.3       | -63 55        | 11.9 | 1.8 m       | 1.6 m       | 130         | Sa         | vF,S,R,vS** nf               | 135          |
|         |          |          |       |              |             |      |         | NGC 7097 | GALXY | GRU  | 21 40.2       | -42 32        | 11.7 | 1.8 m       | 1.2 m       | 20          | Elliptical | B,S,vIE,mbM                  | 112          |
|         |          |          |       |              |             |      |         | NGC 7098 | GALXY | OCT  | 21 44.3       | -75 07        | 11.3 | 4 m         | 2.6 m       | 74          | SB Ring    | pF,R,g,psmbM,am st           | 135          |
| M 30    |          |          | x     |              |             |      |         | NGC 7099 | GLOCL | CAP  | 21 40.4       | -23 11        | 7.5  | 8.9 m       |             |             | V          | !,B,L,IE,gpmbM,st<br>12...16 | 88           |
|         |          |          |       |              |             |      |         | NGC 7124 | GALXY | IND  | 21 48.1       | -50 34        | 12.3 | 2.8 m       | 1.1 m       | 143         | SBbc       | pB,L,pmE,vgbM                | 112          |
|         |          |          |       |              |             |      |         | NGC 7125 | GALXY | IND  | 21 49.3       | -60 43        | 12.4 | 3 m         | 2.1 m       | 110         | SBc        | eF,pL,R,sp of 2              | 112          |

Deep Sky Object List (200/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7126 | GALXY | IND  | 21 49.3       | -60 37         | 12.2 | 2.8 m       | 1.3 m       | 80          | Sc         | pB,pS,IE,gbM,nf of 2          | 112          |
|         |          |          |       | x            |             |      |         | NGC 7128 | OPNCL | CYG  | 21 44.0       | +53 43         | 9.7  | 3.1 m       |             |             | II 3 m     | Cl,S,pRi,has a ruby *9.5      | 16           |
|         |          | x        |       |              | x           | 109  | x       | NGC 7129 | CL+NB | CEP  | 21 43.0       | +66 07         | 11.5 | 2.7 m       |             |             | IV 2 p n:b | !,cF,pL,gbM***                | 3            |
|         |          |          |       |              |             |      |         | NGC 7130 | GALXY | PSA  | 21 48.3       | -34 57         | 12.1 | 1.6 m       | 1.5 m       |             | Sa         | pB,S,R,glbM                   | 88           |
|         |          |          |       |              |             |      |         | NGC 7135 | GALXY | PSA  | 21 49.8       | -34 53         | 11.7 | 2.9 m       | 2 m         | 47          | E-SO       | pB,pL,R,vgbM,*14 att p        | 88           |
|         |          |          |       |              |             |      |         | NGC 7137 | GALXY | PEG  | 21 48.2       | +22 10         | 12.4 | 1.6 m       | 1.4 m       |             | SBc        | F,pS,R,vglbM,r                | 40           |
|         |          |          |       |              | x           |      |         | NGC 7139 | PLNNB | CEP  | 21 46.1       | +63 48         | 13.5 | 86 s        | 70 s        |             | 3b         | vF,cS,R,r                     | 3            |
|         |          |          |       |              |             |      |         | NGC 7141 | GALXY | IND  | 21 52.3       | -55 34         | 11.5 | 4.1 m       | 3 m         | 18          | SBbc       | F,L,R,gpsmbM,(=7140)          | 112          |
|         |          |          |       | x            |             |      |         | NGC 7142 | OPNCL | CEP  | 21 45.2       | +65 46         | 9.3  | 4.3 m       |             |             | II 2 r     | Cl,cL,cRi,pC,*11..14          | 3            |
|         |          |          |       |              |             |      |         | NGC 7144 | GALXY | GRU  | 21 52.7       | -48 15         | 10.8 | 3.7 m       | 3.6 m       |             | Elliptical | vB,pS,R,mbMN                  | 112          |
|         |          |          |       |              |             |      |         | NGC 7145 | GALXY | GRU  | 21 53.3       | -47 53         | 11.1 | 2.5 m       | 2.3 m       |             | Elliptical | B,S,R,in triangle of st<br>13 | 112          |
|         |          |          |       |              |             |      |         | NGC 7154 | GALXY | PSA  | 21 55.4       | -34 49         | 12.4 | 2.2 m       | 1.8 m       | 102         | SB         | B,pL,iR,glbM,r                | 88           |
|         |          |          |       |              |             |      |         | NGC 7155 | GALXY | IND  | 21 56.2       | -49 31         | 12.2 | 2.3 m       | 2 m         | 4           | SBO        | pB,S,IE,mbM                   | 112          |

Deep Sky Object List (201/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description           | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|---------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7156 | GALXY | PEG  | 21 54.6       | +02 57        | 12.5 | 1.7 m       | 1.4 m       | 105         | SBc        | F,pL,R,bM,r               | 64           |
|         |          |          |       | x            |             |      |         | NGC 7160 | OPNCL | CEP  | 21 53.7       | +62 36        | 6.1  | 7.0 m       |             |             | II 3 p     | Cl,P,vIC                  | 3            |
|         |          |          |       |              |             |      |         | NGC 7166 | GALXY | GRU  | 22 00.5       | -43 23        | 11.9 | 2.4 m       | 0.9 m       | 14          | E-SO       | cB,S,vIE,smbMN            | 111          |
|         |          |          |       |              |             |      |         | NGC 7167 | GALXY | AQR  | 22 00.5       | -24 38        | 12.5 | 1.7 m       | 1.3 m       | 135         | SBc        | F,pS,R,vglbM,*10 f        | 87           |
|         |          |          |       |              |             |      |         | NGC 7168 | GALXY | IND  | 22 02.1       | -51 45        | 11.9 | 1.9 m       | 1.4 m       | 68          | Elliptical | pB,S,R,psbM               | 111          |
|         |          |          |       |              | x           |      |         | NGC 7171 | GALXY | AQR  | 22 01.0       | -13 16        | 12.2 | 2.3 m       | 1.3 m       | 120         | SBb        | vF,cL,E124,vgbM           | 87           |
|         |          |          |       |              |             |      |         | NGC 7172 | GALXY | PSA  | 22 02.0       | -31 52        | 11.9 | 2.4 m       | 1.3 m       | 100         | Sa         | pB,pL,IE,gbM,1st of 4     | 87           |
|         |          |          |       |              |             |      |         | NGC 7173 | GALXY | PSA  | 22 02.1       | -31 58        | 12   | 1.9 m       | 1.4 m       | 143         | Elliptical | cB,cS,R,sbM*,2nd of 4     | 87           |
|         |          |          |       |              |             |      |         | NGC 7176 | GALXY | PSA  | 22 02.1       | -31 59        | 11.3 | 2.1 m       | 1.7 m       |             | Elliptical | B,pL,R,f of Dneb,4th of 4 | 87           |
|         |          |          |       |              | x           |      |         | NGC 7177 | GALXY | PEG  | 22 00.7       | +17 44        | 11.2 | 3.2 m       | 2.1 m       | 90          | SBb        | pB,pS,R,bMN,r,* sp        | 39           |
|         |          |          |       |              |             |      |         | NGC 7183 | GALXY | AQR  | 22 02.4       | -18 55        | 11.9 | 3.8 m       | 1.1 m       | 77          | Sa         | vF,pL,E90,lbM             | 87           |
|         |          |          |       |              | x           |      |         | NGC 7184 | GALXY | AQR  | 22 02.7       | -20 49        | 10.9 | 5.9 m       | 1.3 m       | 62          | SBc Ring   | pB,pL,mE64,bet 3*,er      | 87           |
|         |          |          |       |              |             |      |         | NGC 7187 | GALXY | PSA  | 22 02.7       | -32 48        | 12.5 | 1.3 m       | 1.2 m       |             | Sa Ring    | pF,pS,R,lbM               | 87           |

Deep Sky Object List (202/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description        | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7192 | GALXY | IND  | 22 06.8       | -64 19        | 11.2 | 1.9 m       | 1.8 m       |             | Elliptical | pB,S,R,pmbM            | 134          |
|         |          |          |       |              |             |      |         | NGC 7196 | GALXY | IND  | 22 05.9       | -50 07        | 11.5 | 2.5 m       | 1.9 m       | 53          | Elliptical | cB,S,R,am st           | 111          |
|         |          |          |       |              |             |      |         | NGC 7205 | GALXY | IND  | 22 08.6       | -57 27        | 10.9 | 4 m         | 2 m         | 73          | Sbc        | pB,L,cE,gpslbM         | 111          |
|         |          | x        |       | x            |             |      | x       | NGC 7209 | OPNCL | LAC  | 22 05.1       | +46 29        | 7.7  | 25.0 m      |             |             | III 1 p    | Cl,L,cRi,pC,st9...12   | 15           |
|         |          |          |       |              |             |      |         | NGC 7213 | GALXY | GRU  | 22 09.3       | -47 10        | 10.1 | 3.7 m       | 3.4 m       |             | Sa         | vB,pS,R,gbM            | 111          |
|         |          |          | x     | x            |             |      |         | NGC 7217 | GALXY | PEG  | 22 07.9       | +31 22        | 10.1 | 4 m         | 3.4 m       | 95          | Sb         | B,pL,gbM,er            | 39           |
|         |          |          |       |              | x           |      |         | NGC 7218 | GALXY | AQR  | 22 10.2       | -16 40        | 12   | 2.6 m       | 1.1 m       | 20          | SBc        | pB,IE,r                | 87           |
|         |          |          |       |              |             |      |         | NGC 7219 | GALXY | TUC  | 22 13.1       | -64 51        | 12.5 | 1.7 m       | 1 m         | 27          | SBa        | pB,S,R,2st nr          | 134          |
|         |          |          |       |              |             |      |         | NGC 7221 | GALXY | PSA  | 22 11.3       | -30 34        | 12.1 | 2 m         | 1.6 m       | 10          | SBbc       | F,S,R,gbM,r,2 vS st nr | 87           |
|         |          |          |       |              |             |      |         | NGC 7223 | GALXY | LAC  | 22 10.2       | +41 01        | 12.2 | 1.7 m       | 1.2 m       | 110         | SBc        | eF,pS,IE,r,am 3st      | 15           |
|         |          |          |       |              |             |      |         | NGC 7225 | GALXY | PSA  | 22 13.1       | -26 09        | 12.2 | 2 m         | 1 m         | 147         | Sa Ring    | pF,S,IE,bM             | 87           |
|         |          |          |       |              |             |      |         | NGC 7226 | OPNCL | CEP  | 22 10.5       | +55 25        | 9.6  | 1.8 m       |             |             | I 1 p      | pB,L,in cluster        | 15           |
|         |          |          |       |              |             |      |         | NGC 7229 | GALXY | PSA  | 22 14.1       | -29 23        | 12.5 | 1.8 m       | 1.5 m       |             | SBc        | F,pL,R,vglbM           | 87           |

Deep Sky Object List (203/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|-----------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7232 | GALXY | GRU  | 22 15.6       | -45 51        | 12   | 2.6 m       | 1 m         | 99          | SBa     | pB,S,pmE,psbM,p of 2        | 111          |
|         |          |          |       |              |             |      |         | NGC 7233 | GALXY | GRU  | 22 15.8       | -45 51        | 12.5 | 1.7 m       | 1.3 m       | 133         | SBO-a   | F,vS,R,*8 f,f of 2          | 111          |
|         |          |          | S     |              |             |      |         | NGC 7235 | OPNCL | CEP  | 22 12.6       | +57 17        | 7.7  | 4.0 m       |             |             | III 2 p | Cl,pC,has a ruby *10        | 15           |
|         | C 16     | x        | x     | x            |             |      | x       | NGC 7243 | OPNCL | LAC  | 22 15.1       | +49 54        | 6.4  | 21.0 m      |             |             | IV 2 p  | Cl,L,P,IC,st vL             | 15           |
|         |          |          |       |              | x           |      |         | NGC 7245 | OPNCL | LAC  | 22 15.3       | +54 20        | 9.2  | 5.0 m       |             |             | II 1 p  | Cl,C,st eS                  | 15           |
|         |          |          |       |              |             |      |         | NGC 7248 | GALXY | LAC  | 22 16.9       | +40 30        | 12.4 | 1.8 m       | 0.9 m       | 133         | SO      | vF,vS,mbM                   | 15           |
|         |          |          |       |              |             |      |         | NGC 7252 | GALXY | AQR  | 22 20.7       | -24 41        | 12.1 | 2.1 m       | 1.7 m       |             | SBO     | F,S,R,er                    | 87           |
|         |          |          |       |              |             |      |         | NGC 7261 | OPNCL | CEP  | 22 20.4       | +58 05        | 8.4  | 6.0 m       |             |             | III 1 p | Cl,L,pRi,IC                 | 15           |
|         |          |          |       |              |             |      |         | NGC 7265 | GALXY | LAC  | 22 22.5       | +36 13        | 12.2 | 2.4 m       | 1.9 m       | 170         | E-SO    | F,vS,R,mbM                  | 39           |
|         |          |          |       |              |             |      |         | NGC 7267 | GALXY | PSA  | 22 24.4       | -33 42        | 12.2 | 1.6 m       | 1.4 m       | 6           | SBa     | cB,pS,vIE,glbM,B*** sp      | 87           |
|         |          |          |       |              |             |      |         | NGC 7280 | GALXY | PEG  | 22 26.5       | +16 09        | 12.1 | 2.1 m       | 1.5 m       | 78          | SBO-a   | F,cS,R,gbM S*,3st n,nf      | 39           |
|         |          |          |       |              |             |      |         | NGC 7284 | GALXY | AQR  | 22 28.6       | -24 51        | 11.9 | 2.3 m       | 1.6 m       | 133         | SBO     | cF,cS,IE,r,D* inv           | 87           |
|         |          |          |       |              |             |      |         | NGC 7285 | GALXY | AQR  | 22 28.6       | -24 50        | 11.9 | 2.4 m       | 1.5 m       | 10          | SBa     | neb * 1' dist from NGC 7284 | 87           |

## Deep Sky Object List (204/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7286 | GALXY | PEG  | 22 27.8       | +29 06        | 12.5 | 1.6 m       | 0.7 m       | 98          | Sa         | vF,S,R,am st     | 39           |
|         |          |          |       |              |             |      |         | NGC 7292 | GALXY | PEG  | 22 28.4       | +30 18        | 12.5 | 2.1 m       | 1.6 m       | 125         | Ir Bar     | eF,S,oval,F* inv | 39           |
|         | C 63     | x        | !!*   |              |             | 2    | x       | NGC 7293 | PLNNB | AQR  | 22 29.6       | -20 50        | 6.3  | 960 s       | 720 s       |             | 4(3)       | !,pF,vL,E or biN | 87           |
|         |          |          |       |              |             |      |         | NGC 7294 | GALXY | PSA  | 22 32.1       | -25 24        | 12.5 | 2 m         | 1.2 m       | 47          | SBO        | vF,vS,R          | 87           |
|         |          |          |       | x            |             |      |         | NGC 7296 | OPNCL | LAC  | 22 28.2       | +52 17        | 9.7  | 4.0 m       |             |             | III 2 p    | Cl,iR,IC,st vS   | 15           |
|         |          |          |       |              |             |      |         | NGC 7302 | GALXY | AQR  | 22 32.4       | -14 07        | 12.3 | 2.1 m       | 1.2 m       | 97          | E-SO       | F,pS,R,vsbMSN    | 87           |
|         |          |          |       |              |             |      |         | NGC 7309 | GALXY | AQR  | 22 34.4       | -10 21        | 12.5 | 2 m         | 2 m         |             | SBc        | vF,pL,R,glbM,r   | 63           |
|         |          |          |       |              |             |      |         | NGC 7311 | GALXY | PEG  | 22 34.1       | +05 34        | 12.5 | 1.6 m       | 0.8 m       | 10          | Sab        | pF,S,R,psbM,r    | 63           |
|         |          |          |       |              |             |      |         | NGC 7314 | GALXY | PSA  | 22 35.8       | -26 03        | 11   | 4.6 m       | 2 m         | 3           | SBbc       | cF,L,mE0,vlbM    | 87           |
|         |          |          |       |              |             |      |         | NGC 7315 | GALXY | PEG  | 22 35.5       | +34 48        | 12.5 | 1.6 m       | 1.6 m       |             | SO         | vF,eS,R,bM       | 39           |
|         |          |          |       |              |             |      |         | NGC 7329 | GALXY | TUC  | 22 40.4       | -66 29        | 11.3 | 3.7 m       | 2.7 m       | 107         | SBbc Ring  | pB,pS,mE90       | 134          |
|         |          |          |       |              |             |      |         | NGC 7330 | GALXY | LAC  | 22 36.9       | +38 33        | 12.2 | 1.8 m       | 1.7 m       |             | Elliptical | pB,S,IE,bM       | 15           |
|         | C 30     | x        | *     | x            |             | 3    | x       | NGC 7331 | GALXY | PEG  | 22 37.1       | +34 25        | 9.5  | 10.2 m      | 4.2 m       | 171         | SBc        | B,pL,pmE163,smbM | 39           |

Deep Sky Object List (205/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|----------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7332 | GALXY | PEG  | 22 37.4       | +23 48        | 11.1 | 3.8 m       | 1.1 m       | 155         | SO         | cB,S,mE156,smbMN,p<br>of 2 | 39           |
|         |          |          |       |              |             |      |         | NGC 7339 | GALXY | PEG  | 22 37.8       | +23 47        | 12.2 | 2.8 m       | 0.7 m       | 93          | SBbc       | F,pS,mE89,vglbM,f of 2     | 39           |
|         |          |          |       |              |             |      |         | NGC 7341 | GALXY | AQR  | 22 39.1       | -22 40        | 12.4 | 2.4 m       | 1 m         | 94          | SBab Ring  | pF,pS,E,lbM                | 87           |
|         |          |          |       |              | x           |      |         | NGC 7354 | PLNNB | CEP  | 22 40.3       | +61 17        | 12.9 | 22 s        | 18 s        |             | 4(3b)      | B,S,R,pgvlbM               | 15           |
|         |          |          |       |              |             |      |         | NGC 7359 | GALXY | AQR  | 22 44.8       | -23 41        | 12.5 | 2.4 m       | 0.6 m       | 55          | SO         | pF,vS,pmE,bMN              | 87           |
|         |          |          |       |              |             |      |         | NGC 7361 | GALXY | PSA  | 22 42.3       | -30 03        | 12.3 | 3.9 m       | 1 m         | 4           | Sc         | F,pL,vmE0,vgvlbM           | 87           |
|         |          |          |       |              |             |      |         | NGC 7368 | GALXY | GRU  | 22 45.5       | -39 21        | 12.4 | 2.9 m       | 0.6 m       | 130         | SBb        | F,cS,IE,glbM               | 111          |
|         |          |          |       |              |             |      |         | NGC 7371 | GALXY | AQR  | 22 46.1       | -11 00        | 11.5 | 1.7 m       | 1.7 m       |             | SBO-a      | vF,pL,R,lbM                | 63           |
|         |          |          |       |              | x           |      |         | NGC 7377 | GALXY | AQR  | 22 47.8       | -22 19        | 11.1 | 4.1 m       | 3.4 m       | 101         | SBO-a      | pB,S,vIE,vgmbM,*12p        | 87           |
|         |          |          |       | x            |             |      | x       | NGC 7380 | OPNCL | CEP  | 22 47.3       | +58 08        | 7.2  | 12.0 m      |             |             | III 3 p n  | Cl,pL,pRi,IC,*9...13       | 15           |
|         |          |          |       |              |             |      |         | NGC 7385 | GALXY | PEG  | 22 49.9       | +11 36        | 12   | 1.3 m       | 1.1 m       |             | Elliptical | cF,S,R,glbM,*11 np         | 63           |
|         |          |          |       |              |             |      |         | NGC 7386 | GALXY | PEG  | 22 50.0       | +11 42        | 12.3 | 1.8 m       | 1.5 m       | 150         | SO         | cF,S,R,pgbM,f of 2         | 63           |
|         |          |          |       |              |             |      |         | NGC 7391 | GALXY | AQR  | 22 50.6       | -01 33        | 12   | 1.7 m       | 1.5 m       | 70          | Elliptical | cF,cS,R,sbM *13,*np        | 63           |

Deep Sky Object List (206/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7392 | GALXY | AQR  | 22 51.8       | -20 37        | 11.9 | 2.2 m       | 1.4 m       | 123         | SBbc       | pB,pS,IE120,mbM              | 87           |
|         |          |          | x     |              |             |      |         | NGC 7410 | GALXY | GRU  | 22 55.0       | -39 40        | 10.3 | 5.5 m       | 1.5 m       | 45          | SBa        | cB,L,vmE43,mbM               | 111          |
|         |          |          |       |              |             |      |         | NGC 7412 | GALXY | GRU  | 22 55.8       | -42 39        | 11.4 | 3.8 m       | 2.8 m       | 65          | SBb        | eF,vL,*7 nf                  | 111          |
|         |          |          |       |              |             |      |         | NGC 7416 | GALXY | AQR  | 22 55.7       | -05 30        | 12.4 | 3.2 m       | 0.7 m       | 115         | SBb        | F,pL,pmE,vgbM                | 63           |
|         |          |          |       |              |             |      |         | NGC 7417 | GALXY | TUC  | 22 57.8       | -65 02        | 12.3 | 1.9 m       | 1.3 m       | 2           | SBab Ring  | pB,cS,R,gpmbM                | 134          |
|         |          |          | x     |              |             |      |         | NGC 7418 | GALXY | GRU  | 22 56.6       | -37 02        | 10.9 | 3.8 m       | 2.7 m       | 139         | SBc        | cB,vL,vIE,vglbM              | 111          |
|         |          |          |       |              | x           |      |         | NGC 7419 | OPNCL | CEP  | 22 54.3       | +60 50        | 13   | 2.0 m       |             |             | II 3 r     | Cl,pRi,cC                    | 15           |
|         |          |          |       |              |             |      |         | NGC 7421 | GALXY | GRU  | 22 56.9       | -37 21        | 11.9 | 2 m         | 1.9 m       |             | SBab       | cB,L,vIE,gpmbM,rr            | 111          |
|         |          |          |       |              |             |      |         | NGC 7424 | GALXY | GRU  | 22 57.3       | -41 04        | 10.5 | 10 m        | 8.2 m       |             | SBc        | F,cL,vIE,vgmbM               | 111          |
|         |          |          |       |              |             |      |         | NGC 7426 | GALXY | LAC  | 22 56.1       | +36 22        | 12.3 | 1.7 m       | 1.4 m       | 72          | Elliptical | vF,cS,R,stellar,D* p         | 39           |
|         |          |          |       |              |             |      |         | NGC 7428 | GALXY | PSC  | 22 57.3       | -01 03        | 12.5 | 2.4 m       | 1.4 m       | 160         | SBa        | F,vS,R,bM                    | 63           |
|         |          |          |       | x            |             |      |         | NGC 7448 | GALXY | PEG  | 23 00.1       | +15 59        | 11.7 | 2.6 m       | 1.2 m       | 170         | Sbc        | pB,L,E173,vgbM,*11 f<br>2.5' | 38           |
|         |          |          |       |              |             |      |         | NGC 7454 | GALXY | PEG  | 23 01.1       | +16 23        | 11.8 | 2.2 m       | 1.6 m       | 150         | Elliptical | F,cS,IE,lbM,*11 p 1'         | 38           |



Deep Sky Object List (207/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7456 | GALXY | GRU  | 23 02.2       | -39 34        | 11.8 | 5.1 m       | 1.8 m       | 23          | Sc         | vF,L,mE34,vglbM          | 110          |
|         |          |          |       |              | x           |      |         | NGC 7457 | GALXY | PEG  | 23 01.0       | +30 09        | 11.2 | 4 m         | 2.3 m       | 130         | E-SO       | cB,cL,IE,gmbM,r,2 S st n | 38           |
|         |          |          |       |              |             |      |         | NGC 7458 | GALXY | PSC  | 23 01.5       | +01 45        | 12.5 | 1.4 m       | 1.2 m       | 15          | Elliptical | cF,cS,psbM               | 62           |
|         |          |          |       |              |             |      |         | NGC 7462 | GALXY | GRU  | 23 02.8       | -40 50        | 11.7 | 4.3 m       | 0.8 m       | 75          | SBbc       | cF,pS,vmE5,*11 np        | 110          |
|         |          |          |       |              | x           |      |         | NGC 7463 | GALXY | PEG  | 23 01.9       | +15 59        | 13.2 | 3 m         | 0.6 m       | 90          | SBb/P      | vF,S,IE,p of 2           | 38           |
|         |          |          |       |              | x           |      |         | NGC 7465 | GALXY | PEG  | 23 02.0       | +15 58        | 12.6 | 1.2 m       | 0.8 m       | 165         | SBO        | vF,vS,f of 2             | 38           |
|         |          |          |       |              |             |      |         | NGC 7469 | GALXY | PEG  | 23 03.3       | +08 52        | 12.3 | 1.4 m       | 1 m         | 125         | SBa        | vF,vS,vsmB *12           | 62           |
|         | C 44     |          | x     | x            |             |      | x       | NGC 7479 | GALXY | PEG  | 23 04.9       | +12 19        | 10.9 | 4 m         | 3.1 m       | 25          | SBbc       | pB,cL,mE12,bet 2 st      | 38           |
|         |          |          |       |              |             |      |         | NGC 7484 | GALXY | SCL  | 23 07.1       | -36 16        | 11.8 | 1.8 m       | 1.7 m       |             | Elliptical | pB,S,R,lbM,*8-9 att s    | 86           |
|         |          |          |       |              |             |      |         | NGC 7490 | GALXY | PEG  | 23 07.4       | +32 23        | 12.3 | 2.7 m       | 2.6 m       |             | Sbc        | vF,vS,iR,lbM             | 38           |
|         |          |          |       |              |             |      |         | NGC 7492 | GLOCL | AQR  | 23 08.4       | -15 37        | 11.5 | 4.3 m       |             |             | XII        | eF,L,bet 2D st           | 86           |
|         |          |          |       |              |             |      |         | NGC 7496 | GALXY | GRU  | 23 09.8       | -43 26        | 11.1 | 3.3 m       | 3.1 m       |             | SBb        | pB,cL,IE,vgbM *13        | 110          |
|         |          |          |       |              |             |      |         | NGC 7497 | GALXY | PEG  | 23 09.1       | +18 11        | 12.2 | 4.4 m       | 1.7 m       | 48          | SBc        | vF,L,pmE,lbM             | 38           |

Deep Sky Object List (208/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7507 | GALXY | SCL  | 23 12.1       | -28 32        | 10.4 | 2.8 m       | 2.7 m       |             | Elliptical | pB,cS,R,psvmbM,*10<br>np | 86           |
|         |          |          | x     | x            |             |      | x       | NGC 7510 | OPNCL | CEP  | 23 11.5       | +60 34        | 7.9  | 4.0 m       |             |             | II 2 m n   | Cl,pRi,pC,fan-sh,*pB     | 14           |
|         |          |          |       |              |             |      |         | NGC 7513 | GALXY | SCL  | 23 13.2       | -28 22        | 11.4 | 3.2 m       | 2.1 m       | 108         | SBb/P      | vF,pL,E,gbM              | 86           |
|         |          |          |       |              |             |      |         | NGC 7514 | GALXY | PEG  | 23 12.4       | +34 53        | 12.5 | 1.4 m       | 0.9 m       | 132         | Sbc        | eF,pL,iR                 | 38           |
|         |          |          |       |              |             |      |         | NGC 7515 | GALXY | PEG  | 23 12.8       | +12 41        | 12.4 | 1.7 m       | 1.6 m       | 15          | Sc         | F,cS,R,vglbM,r           | 38           |
|         |          |          |       |              |             |      |         | NGC 7531 | GALXY | GRU  | 23 14.8       | -43 36        | 11.3 | 4.5 m       | 1.7 m       | 15          | Sbc        | pB,S,IE,pgbM             | 110          |
|         |          |          |       |              |             |      |         | NGC 7538 | BRTNB | CEP  | 23 14.1       | +61 29        | 99.9 | 8 m         | 7 m         |             | E          | vF,L,2pB* inv            | 14           |
|         |          |          |       |              |             |      |         | NGC 7539 | GALXY | PEG  | 23 14.5       | +23 41        | 12.5 | 1.5 m       | 1.2 m       | 165         | SO         | F,S,R,psbM               | 38           |
|         |          |          |       |              | x           |      |         | NGC 7541 | GALXY | PSC  | 23 14.7       | +04 32        | 11.7 | 3.5 m       | 1.2 m       | 102         | SBc        | B,L,mE97,mbM,nf of 2     | 62           |
|         |          |          |       |              |             |      |         | NGC 7550 | GALXY | PEG  | 23 15.3       | +18 58        | 12.2 | 1.4 m       | 1.2 m       |             | E-SO       | cF,S,R                   | 38           |
|         |          |          |       |              |             |      |         | NGC 7552 | GALXY | GRU  | 23 16.2       | -42 35        | 10.6 | 3.4 m       | 3 m         | 1           | SBab       | B,S,mE90,vsbM *13        | 110          |
|         |          |          |       |              | x           |      |         | NGC 7562 | GALXY | PSC  | 23 16.0       | +06 41        | 11.6 | 2.2 m       | 1.7 m       | 83          | Elliptical | cB,pS,iR,psbM            | 62           |
|         |          |          | x     |              |             |      |         | NGC 7582 | GALXY | GRU  | 23 18.4       | -42 22        | 10.6 | 5 m         | 2.3 m       | 157         | SBab       | pB,L,pmE,gbM             | 110          |

## Deep Sky Object List (209/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|----------------|-------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7585 | GALXY | AQR  | 23 18.0       | -04 39         | 11.4  | 3.1 m       | 2.7 m       | 60          | Sa         | pB,pS,iR,gbM                  | 62           |
|         |          |          | x     |              |             |      |         | NGC 7590 | GALXY | GRU  | 23 18.9       | -42 14         | 11.5  | 2.6 m       | 1 m         | 36          | Sbc        | pB,pL,pmE,gbM,p of 2          | 110          |
|         |          |          | x     |              |             |      |         | NGC 7599 | GALXY | GRU  | 23 19.3       | -42 16         | 11.5  | 4.4 m       | 1.4 m       | 57          | SBc        | F,pL,pmE,gbM,f of 2           | 110          |
|         |          |          |       |              | x           |      |         | NGC 7600 | GALXY | AQR  | 23 18.9       | -07 35         | 11.9  | 3.1 m       | 1.6 m       | 111         | E-SO       | cF,S,R,psmbM                  | 62           |
|         |          |          |       | x            |             |      | x       | NGC 7606 | GALXY | AQR  | 23 19.1       | -08 29         | 10.8  | 4.2 m       | 2.3 m       | 145         | Sbc        | pF,cL,pmE0                    | 62           |
|         |          |          |       |              |             |      |         | NGC 7611 | GALXY | PSC  | 23 19.6       | +08 04         | 12.5  | 1.5 m       | 0.7 m       | 139         | SBO-a      | F,S,R,triangle w 2 st 19<br>n | 62           |
|         |          |          | x     |              | x           |      |         | NGC 7619 | GALXY | PEG  | 23 20.2       | +08 12         | 11.1  | 2.8 m       | 2.5 m       | 30          | Elliptical | cB,pS,R,psbM                  | 62           |
|         |          |          |       |              | x           |      |         | NGC 7623 | GALXY | PEG  | 23 20.5       | +08 24         | 12.9  | 1.3 m       | 0.9 m       | 175         | SO         | F,vS,R,psbM                   | 62           |
|         |          |          |       |              |             |      |         | NGC 7625 | GALXY | PEG  | 23 20.5       | +17 14         | 12.1  | 1.6 m       | 1.6 m       |             | Sa         | pB,cS,R,smbM                  | 38           |
|         |          |          | x     |              | x           |      |         | NGC 7626 | GALXY | PEG  | 23 20.7       | +08 13         | 11.1  | 3 m         | 2.7 m       |             | E2         | cB,pS,R,psbM                  | 62           |
|         |          |          |       |              |             |      |         | NGC 7632 | GALXY | GRU  | 23 22.0       | -42 29         | 12.1  | 2.4 m       | 1.2 m       | 92          | SBO Ring   | F,S,R,lbM                     | 110          |
|         | C 11     |          | x     |              | x           | 4    |         | NGC 7635 | BRTNB | CAS  | 23 20.2       | +61 11         | 11.0p | 15 m        | 8 m         |             | E          | vF,*8 inv l excentric         | 14           |
|         |          |          |       |              |             |      |         | NGC 7637 | GALXY | OCT  | 23 26.5       | -81 55         | 12.5  | 2.1 m       | 1.9 m       |             | Sc         | vF,pL,R,vlbM,* nr             | 134          |

Deep Sky Object List (210/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--|--------------|
|         |          |          |       |              | x           |      |         | NGC 7640  | GALXY | AND  | 23 22.1       | +40 51        | 11.3 | 10 m        | 1.9 m       | 167         | SBbc       | cF,L,mE164,vlbM,r                            | 14           |
| M 52    |          |          | x     |              |             |      |         | NGC 7654  | OPNCL | CAS  | 23 24.2       | +61 35        | 6.9  | 13.0 m      |             |             | I 2 r      | L,Ri,mCM,*9..13                              | 14           |
|         | C 22     | x        | *     | x            |             | 11   | x       | NGC 7662  | PLNNB | AND  | 23 25.9       | +42 32        | 8.6  | 17 s        | 14 s        |             | 4(3)       | !!! Planetary or annular<br>neb,vB,pS,R,blue | 14           |
|         |          |          |       |              |             |      |         | NGC 7676  | GALXY | TUC  | 23 29.0       | -59 43        | 12.5 | 1.6 m       | 0.9 m       | 85          | E-SO       | B,S,IE,vsmbM *11                             | 110          |
|         |          |          |       |              |             |      |         | NGC 7678  | GALXY | PEG  | 23 28.5       | +22 25        | 11.8 | 2.5 m       | 1.7 m       | 5           | SBc        | vF,pL,vIE,lbM,am 4 st                        | 38           |
|         |          |          |       |              |             |      |         | NGC 7683  | GALXY | PSC  | 23 29.1       | +11 27        | 12.5 | 1.9 m       | 0.9 m       | 140         | SO         | F,*13 n                                      | 62           |
|         |          |          |       | x            |             |      |         | NGC 7686  | OPNCL | AND  | 23 30.1       | +49 08        | 5.6  | 15.0 m      |             |             | IV 1 p     | Cl,P,IC,st 7...11                            | 14           |
|         |          |          |       |              |             |      |         | NGC 7689  | GALXY | PHE  | 23 33.3       | -54 06        | 11.5 | 2.8 m       | 1.9 m       | 162         | SBc        | pF,L,R,vgbM                                  | 110          |
|         |          |          |       |              |             |      |         | NGC 7690  | GALXY | PHE  | 23 33.0       | -51 42        | 12.4 | 2.1 m       | 0.8 m       | 132         | Sb         | cB,S,IE,psbM,*8 f                            | 110          |
|         |          |          |       |              |             |      |         | NGC 7702  | GALXY | PHE  | 23 35.5       | -56 01        | 12.2 | 2.1 m       | 1.2 m       | 117         | SBO-a Ring | B,cS,E,g,sbM,*8-9 p                          | 110          |
|         |          |          |       |              |             |      |         | NGC 7711  | GALXY | PEG  | 23 35.7       | +15 18        | 12.1 | 2.6 m       | 1.3 m       | 95          | SO         | F,S,R,psbM,stellar                           | 38           |
|         |          |          |       |              |             |      |         | NGC 7713  | GALXY | SCL  | 23 36.3       | -37 56        | 11.2 | 4.5 m       | 1.8 m       | 168         | SBcd       | pB,L,E,vgbM                                  | 110          |
|         |          |          |       |              |             |      |         | NGC 7713A | GALXY | SCL  | 23 37.1       | -37 43        | 12.5 | 1.6 m       | 1.3 m       |             | SBc        |  | 110          |

Deep Sky Object List (211/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description          | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|--------------------------|--------------|
|         |          |          |       |              |             |      |         | NGC 7714 | GALXY | PSC  | 23 36.2       | +02 09        | 12.5 | 1.9 m       | 1.4 m       | 4           | SBb/P      | pB,S,R,psbM,*12 sp,*6 sf | 62           |
|         |          |          |       |              |             |      |         | NGC 7716 | GALXY | PSC  | 23 36.5       | +00 18        | 12.1 | 2.2 m       | 1.8 m       | 35          | SBb        | F,pL,IE,gbM,*10 s        | 62           |
|         |          |          |       |              |             |      |         | NGC 7720 | GALXY | PEG  | 23 38.5       | +27 02        | 12.4 | 1.6 m       | 1.3 m       | 10          | Elliptical | F,S,IE,bM,am st          | 38           |
|         |          |          |       |              |             |      |         | NGC 7721 | GALXY | AQR  | 23 38.8       | -06 31        | 11.6 | 3.1 m       | 1.2 m       | 165         | Sc         | pF,cL,E12,vgbM           | 62           |
|         |          |          |       |              |             |      |         | NGC 7722 | GALXY | PEG  | 23 38.7       | +15 57        | 12.4 | 2.1 m       | 1.8 m       | 150         | Sa         | pB,pL,R,mbM              | 38           |
|         |          |          |       | x            |             |      |         | NGC 7723 | GALXY | AQR  | 23 39.0       | -12 58        | 11.2 | 3.5 m       | 2.2 m       | 35          | SBb        | cB,cL,E,gmbM,r           | 86           |
|         |          |          |       | x            |             |      |         | NGC 7727 | GALXY | AQR  | 23 39.9       | -12 18        | 10.6 | 4.7 m       | 4.1 m       | 35          | SBap       | pB,pL,iR,mbM             | 86           |
|         |          |          |       |              |             |      |         | NGC 7741 | GALXY | PEG  | 23 43.9       | +26 04        | 11.3 | 4.5 m       | 2.9 m       | 170         | SBc        | cF,cL,iR,D* 10-12 np 2'  | 38           |
|         |          |          |       |              | x           |      |         | NGC 7742 | GALXY | PEG  | 23 44.3       | +10 46        | 11.6 | 1.8 m       | 1.7 m       |             | Sb         | cB,cS,gmbM,*12 f 72"     | 62           |
|         |          |          |       |              |             |      |         | NGC 7743 | GALXY | PEG  | 23 44.4       | +09 56        | 11.5 | 2.8 m       | 2.4 m       | 80          | SBO-a      | pF,S,R,*14 sf            | 62           |
|         |          |          |       |              |             |      |         | NGC 7744 | GALXY | PHE  | 23 45.0       | -42 55        | 11.9 | 2.2 m       | 1.8 m       | 105         | E-SO Bar   | cB,S,vIE,svmbM *14       | 110          |
|         |          |          |       |              |             |      |         | NGC 7753 | GALXY | PEG  | 23 47.1       | +29 29        | 12   | 2.9 m       | 1.9 m       | 50          | SBbc       | cF,cL,vIE,vglbM,r        | 38           |
|         |          |          |       |              |             |      |         | NGC 7755 | GALXY | SCL  | 23 47.9       | -30 31        | 11.9 | 3.8 m       | 2.8 m       | 20          | SBc        | B,cL,R,psmbM             | 86           |

Deep Sky Object List (212/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description               | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|------------|-------------------------------|--------------|
|         |          |          |       |              | x           |      |         | NGC 7762 | OPNCL | CEP  | 23 49.8       | +68 02        | 10   | 11.0 m      |             |             | II 2 p     | Cl,pRi,pC,*11...15            | 2            |
|         |          |          |       |              |             |      |         | NGC 7764 | GALXY | PHE  | 23 50.9       | -40 44        | 12.2 | 2 m         | 1.5 m       | 148         | SB         | B,pL,R,gbM                    | 110          |
|         |          |          |       |              |             |      |         | NGC 7768 | GALXY | PEG  | 23 51.0       | +27 09        | 12.3 | 1.6 m       | 1.3 m       | 60          | Elliptical | vF,S,E,* inv,*p,vnr           | 38           |
|         |          |          |       |              |             |      |         | NGC 7769 | GALXY | PEG  | 23 51.1       | +20 09        | 12   | 1.6 m       | 1.6 m       |             | Sb         | pF,pS,R,mbM                   | 38           |
|         |          |          |       |              |             |      |         | NGC 7771 | GALXY | PEG  | 23 51.4       | +20 07        | 12.3 | 2.4 m       | 1.1 m       | 68          | SBa        | pB,pL,E84,bM,n of 2           | 38           |
|         |          |          |       |              |             |      |         | NGC 7782 | GALXY | PSC  | 23 53.9       | +07 58        | 12.2 | 2.2 m       | 1.3 m       | 175         | Sb         | pF,pL,IE,glbM,4th of 4        | 62           |
|         |          |          |       |              | x           |      |         | NGC 7785 | GALXY | PSC  | 23 55.3       | +05 55        | 11.6 | 2 m         | 1.3 m       | 143         | Elliptical | pB,pS,iR,psbM,r,* 8 p<br>4'.5 | 62           |
|         |          |          |       |              |             |      |         | NGC 7788 | OPNCL | CAS  | 23 56.7       | +61 24        | 9.4  | 9.0 m       |             |             | I 2 p      | Cl,S,pRi,vC,st 10,13..        | 14           |
|         |          | x        | x     | x            |             | 5    | x       | NGC 7789 | OPNCL | CAS  | 23 57.4       | +56 43        | 6.7  | 16 m        |             |             | II 1 r     | Cl,vL,vRi,vmC,st 11...18      | 14           |
|         |          |          |       | x            |             |      |         | NGC 7790 | OPNCL | CAS  | 23 58.4       | +61 13        | 8.5  | 17 m        |             |             | III 2 p    | Cl,pRi,pC                     | 14           |
|         |          |          | x     |              |             |      | x       | NGC 7793 | GALXY | SCL  | 23 57.8       | -32 36        | 9.1  | 9.6 m       | 6.4 m       | 98          | Scd        | Like a comet (1850)           | 86           |
|         |          |          |       |              |             |      |         | NGC 7794 | GALXY | PEG  | 23 58.6       | +10 44        | 12.5 | 1.5 m       | 1.4 m       |             | Sbc        | vF,pS,iR                      | 62           |
|         |          |          |       |              |             |      |         | NGC 7796 | GALXY | PHE  | 23 59.0       | -55 28        | 11.5 | 2.2 m       | 1.9 m       | 168         | Elliptical | pB,cS,R,gmbM                  | 110          |

## Deep Sky Object List (213/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag.  | Size<br>max | Size<br>min | P.A.<br>(°) | Class      | NGC Description                                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|----------------|-------|-------------|-------------|-------------|------------|--|--------------|
|         |          |          |       |              |             |      |         | NGC 7798  | GALXY | PEG  | 23 59.4       | +20 45         | 12.4  | 1.4 m       | 1.3 m       |             | Sc         | pF,S,R,sbM,*10 sp                                | 38           |
|         | C 43     |          | x     | x            | x           |      | x       | NGC 7814  | GALXY | PEG  | 00 03.2       | +16 09         | 10.6  | 4.7 m       | 2.4 m       | 135         | Sab        | cB,cL,E,vgbM                                     | 61           |
|         |          |          |       |              |             |      |         | NGC 7817  | GALXY | PEG  | 00 04.0       | +20 45         | 11.8  | 3.5 m       | 1 m         | 45          | Sbc        | pF,cL,mE approx 45<br>deg,lbM                    | 61           |
|         |          |          |       |              | x           |      |         | NGC 7832  | GALXY | PSC  | 00 06.5       | -03 43         | 13.3p | 1.9 m       | 1 m         | 25          | Elliptical | vF,vS,R,vgpsmbM,2 st<br>9 sf                     | 85           |
|         |          |          |       |              |             |      |         | Pal 5     | GLOCL | SER  | 15 16.1       | -00 07         | 11.8  | 6.9 m       |             |             | XII        | 13"-eF,pL,nBM at 100X;<br>low surface brightness | 70           |
|         |          |          |       |              |             |      |         | Pal 8     | GLOCL | SGR  | 18 41.5       | -19 49         | 11.2  | 4.7 m       |             |             | X          |  | 91           |
|         |          |          |       |              |             |      |         | Pal 9     | GLOCL | SGR  | 18 55.1       | -22 42         | 9.2   | 3.9 m       |             |             |            |  | 91           |
|         |          |          |       |              |             |      |         | Pal 11    | GLOCL | AQL  | 19 45.3       | -08 02         | 11.9  | 3.2 m       |             |             | XI         |  | 66           |
|         |          |          |       |              |             |      |         | Pismis 4  | OPNCL | VEL  | 08 34.5       | -44 16         | 5.9   | 18.0 m      |             |             | IV 1 p n   |  | 125          |
|         |          |          |       |              |             |      |         | Pismis 5  | OPNCL | VEL  | 08 37.5       | -39 40         | 9.9   | 2.0 m       |             |             | III 2 p n  |  | 125          |
|         |          |          |       |              |             |      |         | Pismis 6  | OPNCL | VEL  | 08 39.3       | -46 13         | 7     | 1.5 m       |             |             | II 2 p     |  | 125          |
|         |          |          |       |              |             |      |         | Pismis 8  | OPNCL | VEL  | 08 41.5       | -46 17         | 9.5   | 2.0 m       |             |             | II 3 p     |  | 125          |
|         |          |          |       |              |             |      |         | Pismis 12 | OPNCL | VEL  | 09 19.9       | -45 08         | 9.7   | 4.5 m       |             |             | III 2 p    |  | 124          |

## Deep Sky Object List (214/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object    | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|-----------------|--------------|
|         |          |          |       |              |             |      |         | Pismis 16 | OPNCL | VEL  | 09 51.1       | -53 11        | 8    | 1.5 m       |             |             | I 3 p    |                 | 124          |
|         |          |          |       |              |             |      |         | Pismis 17 | OPNCL | CAR  | 11 01.1       | -59 49        | 9.4  | 0.6 m       |             |             | III 2 p  |                 | 122          |
|         |          |          |       |              |             |      |         | Pismis 18 | OPNCL | CEN  | 13 36.6       | -62 09        | 9.7  | 4.0 m       |             |             | II 2 p   |                 | 139          |
|         |          |          |       |              |             |      |         | Pismis 20 | OPNCL | CIR  | 15 15.4       | -59 04        | 7.8  | 4.5 m       |             |             | I 3 p    |                 | 118          |
|         |          |          |       |              |             |      |         | Pismis 24 | OPNCL | SCO  | 17 25.3       | -34 21        | 9.6  | 4.0 m       |             |             | IV 2 p n |                 | 92           |
|         |          |          |       |              |             |      |         | PK 1- 6.2 | PLNNB | SGR  | 18 16.2       | -30 52        | 11.8 | < 5 s       |             |             | 1        |                 | 91           |
|         |          |          |       |              |             |      |         | PK 2- 2.4 | PLNNB | SGR  | 18 01.7       | -28 26        | 12.4 | 2 s         |             |             | 1        |                 | 91           |
|         |          |          |       |              |             |      |         | PK 2- 5.1 | PLNNB | SGR  | 18 14.6       | -29 49        | 11.5 | < 10 s      |             |             |          |                 | 91           |
|         |          |          |       |              |             |      |         | PK 2- 9.1 | PLNNB | SGR  | 18 29.2       | -31 30        | 11.9 | < 5 s       |             |             |          |                 | 91           |
|         |          |          |       |              |             |      |         | PK 3- 4.7 | PLNNB | SGR  | 18 11.6       | -28 22        | 11   | 12 s        |             |             |          |                 | 91           |
|         |          |          |       |              |             |      |         | PK 3- 4.9 | PLNNB | SGR  | 18 12.8       | -28 20        | 12   | < 10 s      |             |             | 1        |                 | 91           |
|         |          |          |       |              |             |      |         | PK 3-14.1 | PLNNB | SGR  | 18 55.6       | -32 16        | 10.9 | 4 s         |             |             | 2        |                 | 91           |
|         |          |          |       |              |             |      |         | PK 7+ 1.1 | PLNNB | SGR  | 17 55.1       | -21 45        | 11   | 6.6 s       |             |             | 2        |                 | 92           |



Deep Sky Object List (215/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object     | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                              | Chart<br>No. |    |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|--|--------------|----|
|         |          |          |       |              |             |      |         | PK 8+ 6.1  | PLNNB | OPH  | 17 38.9       | -18 18        | 11   | < 10 s      |             |             |       |  | 92           |    |
|         |          |          |       |              |             |      |         | PK 11+ 4.1 | PLNNB | SGR  | 17 56.3       | -16 30        | 12   | 8.0 s       | 7.3 s       |             | 2     |  |              | 92 |
|         |          |          |       |              |             |      |         | PK 12- 7.1 | PLNNB | SGR  | 18 42.6       | -21 17        | 12   | < 10 s      |             |             |       |  |              | 91 |
|         |          |          |       |              |             |      |         | PK 19- 4.1 | PLNNB | SCT  | 18 43.7       | -13 45        | 12.3 |             |             |             | 1     |  |              | 91 |
|         |          |          |       |              |             |      |         | PK 19- 5.1 | PLNNB | SCT  | 18 45.9       | -14 28        | 12.5 | < 5 s       |             |             | 1     |  |              | 91 |
|         |          |          |       |              |             |      |         | PK 19+ 3.1 | PLNNB | SER  | 18 15.3       | -10 10        | 12.5 | 4.3 s       | 3.5 s       |             |       |  |              | 67 |
|         |          |          |       |              |             |      |         | PK 22- 3.1 | PLNNB | SCT  | 18 43.0       | -11 07        | 12.4 | 7.0 s       | 5.8 s       |             | 2     |  |              | 67 |
|         |          |          |       |              |             |      |         | PK 23- 2.1 | PLNNB | SCT  | 18 43.4       | -09 05        | 12.4 | 4.8 s       | 4.3 s       |             | 2     |  |              | 67 |
|         |          |          |       |              |             |      |         | PK 31-10.1 | PLNNB | AQL  | 19 27.1       | -06 35        | 12.4 | 6.0 s       | 5.1 s       |             | 2     |  |              | 66 |
|         |          |          |       |              |             |      |         | PK 32+ 7.2 | PLNNB | SER  | 18 24.7       | +02 30        | 12.2 |             |             |             |       |  |              | 67 |
|         |          |          |       |              |             |      |         | PK 37- 3.2 | PLNNB | AQL  | 19 13.1       | +02 53        | 12.4 | 188 s       | 174 s       |             | 4     |  |              | 66 |
|         |          |          |       |              |             |      |         | PK 51+ 9.1 | PLNNB | HER  | 18 49.8       | +20 50        | 11.6 | 3 s         |             |             |       |  |              | 43 |
|         |          |          |       |              |             |      |         | PK 52- 2.2 | PLNNB | AQL  | 19 39.1       | +15 56        | 11.8 | 3 s         |             |             | 4     | 13"-pF,vS,R,BM at<br>165X, averted viz helps |              | 42 |

## Deep Sky Object List (216/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object      | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                            | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|--|--------------|
|         |          |          |       |              |             |      |         | PK 53+24.1  | PLNNB | HER  | 17 54.4       | +28 00        | 12   | 5.2 s       | 4.1 s       |             | 2     |  | 44           |
|         |          |          |       |              |             |      |         | PK 64+ 5.1  | PLNNB | CYG  | 19 34.8       | +30 31        | 9.6  | 5 s         |             |             | 4     | vF,S                                       | 42           |
|         |          |          |       |              |             |      |         | PK 72-17.1  | PLNNB | VUL  | 21 16.8       | +24 10        | 12.2 | 871 s       | 791 s       |             | 2     | 13"-vF,L,irR,nBM at 100X; UHC filter helps | 40           |
|         |          |          |       |              |             |      |         | PK 79+ 5.1  | PLNNB | CYG  | 20 09.0       | +43 44        | 12.3 | 23 s        | 21 s        |             | 4(2)  |  | 17           |
|         |          |          |       |              |             |      |         | PK 100- 8.1 | PLNNB | LAC  | 22 31.7       | +47 48        | 11.9 |             |             |             | 1     |  | 15           |
|         |          |          |       |              |             |      |         | PK 116+ 8.1 | PLNNB | CEP  | 23 31.9       | +70 23        | 12.2 | 42 s        | 36 s        |             | 3     |  | 2            |
|         |          |          |       |              |             |      |         | PK 118- 8.1 | PLNNB | CAS  | 00 18.7       | +53 53        | 12.5 | 5 s         |             |             |       |  | 37           |
|         |          |          |       |              |             |      |         | PK 169-0.1  | PLNNB | AUR  | 05 19.2       | +38 11        | 12   | 32 s        |             |             |       |  | 32           |
|         |          |          |       |              |             |      |         | PK 173- 5.1 | PLNNB | AUR  | 05 08.1       | +30 48        | 12   | 132 s       |             |             | 3     | 13"-pF,pL,R,nBM at 165X, 3* invol          | 56           |
|         |          |          |       |              |             |      |         | PK 194+ 2.1 | PLNNB | GEM  | 06 26.0       | +17 47        | 12.4 | 12 s        | 10 s        |             | 3b(2) | vS,B                                       | 55           |
|         |          |          |       |              |             |      |         | PK 219+31.1 | PLNNB | CNC  | 08 54.2       | +08 55        | 12.2 | 16.8 m      | 15.6 m      |             | 3a    |  | 77           |
|         |          |          |       |              |             |      |         | PK 242-11.1 | PLNNB | CMA  | 07 02.8       | -31 35        | 12.2 | 14 s        | 9 s         |             | ?(6)  |  | 102          |
|         |          |          |       |              |             |      |         | PK 254+ 5.1 | PLNNB | PYX  | 08 40.7       | -32 23        | 11   | 11 s        | 6 s         |             | 2a    |  | 101          |

## Deep Sky Object List (217/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object      | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|-----------------|--------------|
|         |          |          |       |              |             |      |         | PK 264- 8.1 | PLNNB | VEL  | 08 11.5       | -48 43        | 12.4 | 25 s        |             |             | 2     |                 | 125          |
|         |          |          |       |              |             |      |         | PK 264-12.1 | PLNNB | CAR  | 07 47.4       | -51 16        | 12.3 | < 10 s      |             |             |       |                 | 126          |
|         |          |          |       |              |             |      |         | PK 278- 4.1 | PLNNB | CAR  | 09 30.9       | -57 36        | 12.4 | 40 s        |             |             |       |                 | 124          |
|         |          |          |       |              |             |      |         | PK 279- 3.1 | PLNNB | CAR  | 09 43.5       | -57 17        | 10.4 | < 25 s      |             |             |       |                 | 124          |
|         |          |          |       |              |             |      |         | PK 283- 1.1 | PLNNB | CAR  | 10 15.6       | -58 51        | 11.8 | 30 s        |             |             | 4     |                 | 123          |
|         |          |          |       |              |             |      |         | PK 283+25.1 | PLNNB | HYA  | 11 26.7       | -34 22        | 12.1 | 188 s       | 174 s       |             |       |                 | 98           |
|         |          |          |       |              |             |      |         | PK 285+ 1.1 | PLNNB | VEL  | 10 38.6       | -56 47        | 8.6  | < 5 s       |             |             |       |                 | 123          |
|         |          |          |       |              |             |      |         | PK 288+ 0.1 | PLNNB | CAR  | 10 54.6       | -59 10        | 12.4 | 30 s        |             |             | 4     |                 | 123          |
|         |          |          |       |              |             |      |         | PK 290+ 7.1 | PLNNB | CEN  | 11 28.6       | -52 56        | 11.4 | 30 s        |             |             | 3(4)  |                 | 122          |
|         |          |          |       |              |             |      |         | PK 293+ 1.1 | PLNNB | CEN  | 11 35.2       | -60 17        | 12   | 45 s        | 27 s        |             |       |                 | 122          |
|         |          |          |       |              |             |      |         | PK 298- 1.2 | PLNNB | CRU  | 12 08.4       | -64 12        | 12.4 | 16 s        |             |             |       |                 | 139          |
|         |          |          |       |              |             |      |         | PK 300- 0.1 | PLNNB | CRU  | 12 28.8       | -63 44        | 11.7 | 34 s        | 23 s        |             |       |                 | 139          |
|         |          |          |       |              |             |      |         | PK 303+40.1 | PLNNB | HYA  | 12 53.6       | -22 52        | 12   | 938 s       | 636 s       |             | 3a    |                 | 97           |

## Deep Sky Object List (218/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object      | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ' ) | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description         | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-------------|-------|------|---------------|----------------|------|-------------|-------------|-------------|-------|-------------------------|--------------|
|         |          |          |       |              |             |      |         | PK 308-12.1 | PLNNB | APS  | 14 15.5       | -74 13         | 12   | 35 s        |             |             |       |                         | 138          |
|         |          |          |       |              |             |      |         | PK 315-13.1 | PLNNB | APS  | 15 37.2       | -71 55         | 11.8 | 4.9 s       |             |             |       |                         | 138          |
|         |          |          |       |              |             |      |         | PK 316+ 8.1 | PLNNB | CEN  | 14 18.2       | -52 11         | 10.1 | 12 s        |             |             |       |                         | 119          |
|         |          |          |       |              |             |      |         | PK 318- 2.1 | PLNNB | CIR  | 15 04.1       | -60 53         | 11.1 | 30 s        | 24 s        |             |       |                         | 118          |
|         |          |          |       |              |             |      |         | PK 318- 2.2 | PLNNB | CIR  | 15 06.0       | -61 22         | 10.6 | 45 s        |             |             |       |                         | 118          |
|         |          |          |       |              |             |      |         | PK 320-28.1 | PLNNB | PAV  | 19 33.8       | -74 33         | 12.2 | 8 s         | 6 s         |             |       |                         | 136          |
|         |          |          |       |              |             |      |         | PK 322- 2.1 | PLNNB | NOR  | 15 34.2       | -59 09         | 12.5 | 50 s        |             |             | 4(6)  |                         | 118          |
|         |          |          |       |              |             |      |         | PK 322- 6.1 | PLNNB | TRA  | 15 52.3       | -62 31         | 12.5 | < 10 s      |             |             |       |                         | 138          |
|         |          |          |       |              |             |      |         | PK 325- 4.1 | PLNNB | NOR  | 15 59.1       | -58 24         | 12.4 | 16 s        | 12 s        |             |       |                         | 118          |
|         |          |          |       |              |             |      |         | PK 329- 2.2 | PLNNB | NOR  | 16 14.5       | -54 57         | 11.9 | 25 s        | 21 s        |             | 4(3)  |                         | 117          |
|         |          |          |       |              |             |      |         | PK 342- 4.1 | PLNNB | SCO  | 17 19.5       | -45 53         | 12   | 40 s        | 26 s        |             |       |                         | 116          |
|         |          |          |       |              |             |      |         | PK 342+27.1 | PLNNB | LIB  | 15 22.3       | -23 38         | 11.6 | 7 s         |             |             | 2     | 13"-pB,vS,R,nBM at 220X | 94           |
|         |          |          |       |              |             |      |         | PK 342-14.1 | PLNNB | ARA  | 18 07.4       | -51 03         | 11.9 | 36 s        |             |             |       |                         | 115          |

## Deep Sky Object List (219/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object      | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                             | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|-------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|---|--------------|
|         |          |          |       |              |             |      |         | PK 344+ 4.1 | PLNNB | SCO  | 16 42.6       | -38 55        | 12   | < 10 s      |             |             |           |   | 117          |
|         |          |          |       |              |             |      |         | PK 345- 4.1 | PLNNB | SCO  | 17 26.3       | -44 12        | 11.9 | < 5 s       |             |             | 1         |   | 116          |
|         |          |          |       |              |             |      |         | PK 352- 7.1 | PLNNB | CRA  | 18 00.2       | -38 50        | 11.4 | 2 s         |             |             | 1         |   | 115          |
|         |          |          |       |              |             |      |         | PK 355- 6.5 | PLNNB | SGR  | 18 02.5       | -36 39        | 11.7 | < 5 s       |             |             |           |   | 91           |
|         |          |          |       |              |             |      |         | PK 355+ 3.2 | PLNNB | SCO  | 17 21.5       | -30 21        | 10   | < 10 s      |             |             |           |   | 92           |
|         |          |          |       |              |             |      |         | PK 356- 4.1 | PLNNB | SCO  | 17 54.6       | -34 23        | 12.2 | 3 s         | 2 s         |             |           | 13"-pB,vS,IE,central *<br>seen at 220X      | 92           |
|         |          |          |       |              |             |      |         | PK 358- 6.1 | PLNNB | SGR  | 18 09.9       | -33 19        | 12   | < 10 s      |             |             |           |   | 91           |
|         |          |          |       |              |             |      |         | PK 359- 0.1 | PLNNB | SGR  | 17 47.9       | -30 00        | 11.8 | 19 s        | 12 s        |             | 2?(6)     |   | 92           |
|         |          |          |       |              |             |      |         | Roslund 4   | OPNCL | VUL  | 20 04.9       | +29 13        | 10   |             |             |             | IV 2 p n  |   | 41           |
|         |          |          |       |              |             |      |         | Ru 18       | OPNCL | CMA  | 07 24.8       | -26 13        | 9.4  | 4.0 m       |             |             | III 2 p   |   | 102          |
|         |          |          |       |              |             |      |         | Ru 20       | OPNCL | CMA  | 07 26.7       | -28 53        | 9.5  | 10.0 m      |             |             | III 2 m   |   | 102          |
|         |          |          |       |              |             |      |         | Ru 32       | OPNCL | PUP  | 07 45.0       | -25 31        | 8.4  | 6.0 m       |             |             | III 2 p n | 13"-pB,pL,nRi,nC at<br>135X; 21* mags 11... | 102          |
|         |          |          |       |              |             |      |         | Ru 34       | OPNCL | PUP  | 07 45.9       | -20 23        | 9.5  | 4.0 m       |             |             | III 2 p   |   | 102          |

Deep Sky Object List (220/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                                  | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|--|--------------|
|         |          |          |       |              |             |      |         | Ru 36  | OPNCL | PUP  | 07 48.5       | -26 18        | 9.6  | 4.0 m       |             |             | I 1 p   |  | 102          |
|         |          |          |       |              |             |      |         | Ru 44  | OPNCL | PUP  | 07 59.0       | -28 35        | 7.2  | 5.0 m       |             |             | III 1 p | 13"-B,L,Ri at 100X; 52*<br>; seen in 11X80 findr | 102          |
|         |          |          |       |              |             |      |         | Ru 46  | OPNCL | PUP  | 08 02.1       | -19 28        | 9.1  | 2.0 m       |             |             | II 3 p  |  | 101          |
|         |          |          |       |              |             |      |         | Ru 47  | OPNCL | PUP  | 08 02.3       | -31 06        | 9.6  | 5.0 m       |             |             | I 1 p   |  | 101          |
|         |          |          |       |              |             |      |         | Ru 49  | OPNCL | PUP  | 08 03.1       | -26 47        | 9.6  | 2.5 m       |             |             | II 3 p  |  | 101          |
|         |          |          |       |              |             |      |         | Ru 55  | OPNCL | PUP  | 08 12.3       | -32 36        | 7.8  | 17.0 m      |             |             | IV 2 p  |  | 101          |
|         |          |          |       |              |             |      |         | Ru 59  | OPNCL | PUP  | 08 19.1       | -34 27        | 9    | 5.0 m       |             |             | III 1 p |  | 101          |
|         |          |          |       |              |             |      |         | Ru 67  | OPNCL | VEL  | 08 41.8       | -43 23        | 9.1  | 6.0 m       |             |             | IV 3 p  |  | 125          |
|         |          |          |       |              |             |      |         | Ru 79  | OPNCL | VEL  | 09 41.0       | -53 50        | 9.2  | 11.0 m      |             |             | III 3 p |  | 124          |
|         |          |          |       |              |             |      |         | Ru 82  | OPNCL | VEL  | 09 45.6       | -53 59        | 8.1  | 3.6 m       |             |             | II 3 p  |  | 124          |
|         |          |          |       |              |             |      |         | Ru 83  | OPNCL | VEL  | 09 49.0       | -54 34        | 9.8  | 3.4 m       |             |             | I 3 p   |  | 124          |
|         |          |          |       |              |             |      |         | Ru 92  | OPNCL | CAR  | 10 53.9       | -61 44        | 8.6  | 2.2 m       |             |             | I 3 p   |  | 123          |
|         |          |          |       |              |             |      |         | Ru 93  | OPNCL | CAR  | 11 04.4       | -61 22        | 7.7  | 4.0 m       |             |             | III 2 p |  | 122          |

## Deep Sky Object List (221/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object         | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class   | NGC Description                                    | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|---------|--|--------------|
|         |          |          |       |              |             |      |         | Ru 97          | OPNCL | CRU  | 11 57.3       | -62 39        | 9.1  | 3.5 m       |             |             | II 2 m  |  | 140          |
|         |          |          |       |              |             |      |         | Ru 98          | OPNCL | CRU  | 11 58.0       | -64 29        | 7    | 10.0 m      |             |             | II 2 p  |  | 140          |
|         |          |          |       |              |             |      |         | Ru 107         | OPNCL | MUS  | 13 20.6       | -64 57        | 9.7  | 5.0 m       |             |             | II 2 p  |  | 139          |
|         |          |          |       |              |             |      |         | Ru 108         | OPNCL | CEN  | 13 32.2       | -58 29        | 7.5  | 12.0 m      |             |             | III 2 p |  | 120          |
|         |          |          |       |              |             |      |         | Ru 118         | OPNCL | NOR  | 16 24.6       | -51 58        | 9.8  | 3.4 m       |             |             | I 2 p   |  | 117          |
|         |          |          |       |              |             |      |         | Ru 119         | OPNCL | NOR  | 16 28.3       | -51 31        | 8.8  | 8.0 m       |             |             | II 1 p  |  | 117          |
|         |          |          |       |              |             |      |         | Ru 127         | OPNCL | SCO  | 17 37.7       | -36 16        | 8.8  | 8.0 m       |             |             | IV 2 p  |  | 92           |
|         |          |          |       |              |             |      |         | Ru 148         | OPNCL | PER  | 04 46.5       | +44 44        | 9.5  | 3.0 m       |             |             | IV 2 p  | 13"-pF,pS,nC,nRi at<br>100X; 2* 10m and 12*<br>12m | 33           |
|         |          |          | x     |              |             |      |         | Sculptor Dwarf | GALXY | SCL  | 00 59.4       | -33 44        | 8.8  | 60 m        |             |             | DwEI    |  | 109          |
|         | C 9      |          |       |              |             |      |         | Sh2-155        | BRTNB | CEP  | 22 56.8       | +62 37        | 99.9 | 50 m        | 30 m        |             | E       |  | 2            |
|         |          |          |       |              |             |      |         | Sher 1         | OPNCL | CAR  | 11 00.0       | -60 22        | 8.8  |             |             |             | II 2 p  |  | 122          |
|         |          |          | x     |              |             |      |         | SP1            | PLNNB | NOR  | 15 51.1       | -50 30        | 8.5  | 1.2 m       |             |             |         |  | 118          |

Deep Sky Object List (222/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object     | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                              | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|--|--------------|
|         |          |          |       |              |             |      |         | Steph 1    | OPNCL | LYR  | 18 53.5       | +36 55        | 3.8  | 20.0 m      |             |             | III 3 p  | 13"-B,pL,nRi,nC at 100X; 15* and Delta LYR   | 43           |
|         |          |          |       |              |             |      |         | Stock 1    | OPNCL | VUL  | 19 35.8       | +25 13        | 5.3  | 60.0 m      |             |             | IV 2 p   | 13"-B,vL,nC at 60X; 28*                      | 42           |
|         |          |          |       |              |             |      |         | Stock 2    | OPNCL | CAS  | 02 15.0       | +59 16        | 4.4  | 60.0 m      |             |             | III 1 m  | 13"-vB,vL,nC,vRi at 60X; 88*, nice chains    | 35           |
|         |          |          |       |              |             |      |         | Stock 5    | OPNCL | CAS  | 02 04.5       | +64 26        | 7    | 15.0 m      |             |             | IV 2 p   | 13"-B,pL,nRi,nC at 100X; 17*; just naked eye | 12           |
|         |          |          |       |              |             |      |         | Stock 6    | OPNCL | CAS  | 02 23.7       | +63 52        | 10   | 20.0 m      |             |             | IV 2 p   |  | 12           |
|         |          |          |       |              |             |      |         | Stock 13   | OPNCL | CAR  | 11 13.1       | -58 55        | 7    | 3.0 m       |             |             | I 2 p n  |  | 122          |
|         |          |          |       |              |             |      |         | Stock 14   | OPNCL | CEN  | 11 44.0       | -62 30        | 6.3  | 4.0 m       |             |             | II 1 p   |  | 140          |
|         |          |          |       |              |             |      |         | Stock 16   | OPNCL | CEN  | 13 19.1       | -62 34        | 9.1  | 3.0 m       |             |             | IV 2 p n |  | 139          |
|         |          |          |       |              |             |      |         | Stock 24   | OPNCL | CAS  | 00 39.7       | +61 57        | 8.8  | 4.0 m       |             |             | IV 2 P   |  | 37           |
|         |          |          |       |              |             |      |         | Tombaugh 5 | OPNCL | CAM  | 03 47.8       | +59 03        | 8.4  | 17.0 m      |             |             | III 2 m  |  | 34           |
|         |          |          |       |              |             |      |         | Tr 1       | OPNCL | CAS  | 01 35.7       | +61 17        | 8.1  | 4.5 m       |             |             | I 3 p    | S,pC   | 36           |



Deep Sky Object List (223/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---|--------------|
|         |          |          |       |              |             |      |         | Tr 2   | OPNCL | PER  | 02 37.3       | +55 59        | 5.9  | 20.0 m      |             |             | III 2 p  | 13"-pB,pL,pRi,sC at<br>100X; 20*; BI-Gold D*<br>inv | 35           |
|         |          |          |       |              |             |      |         | Tr 3   | OPNCL | CAS  | 03 11.8       | +63 15        | 7    | 23.0 m      |             |             | III 3 p  | L,nC  | 12           |
|         |          |          |       |              |             |      |         | Tr 6   | OPNCL | CMA  | 07 26.1       | -24 18        | 10   | 6.0 m       |             |             | III 2 p  | 13"-pF,pL,sRi,sC at<br>100X; 16* and fuzzy<br>back  | 102          |
|         |          |          |       |              |             |      |         | Tr 7   | OPNCL | PUP  | 07 27.3       | -24 02        | 7.9  | 5.0 m       |             |             | II 3 p n | 13"-pF,pS,nRi,sC at<br>100X; 17*                    | 102          |
|         |          |          |       |              |             |      |         | Tr 9   | OPNCL | PUP  | 07 55.3       | -25 56        | 8.7  | 6.0 m       |             |             | II 2 p   | 13"-pB,pL,nRi,nC at<br>100X; 22* mags 11...13       | 102          |
|         |          |          |       |              |             |      |         | Tr 10  | OPNCL | VEL  | 08 47.8       | -42 29        | 4.6  | 15.0 m      |             |             | II 2 p   |   | 125          |
|         |          |          |       |              |             |      |         | Tr 11  | OPNCL | CAR  | 10 05.0       | -61 37        | 8.1  | 6.0 m       |             |             | II 3 m   |   | 123          |
|         |          |          |       |              |             |      |         | Tr 12  | OPNCL | CAR  | 10 06.4       | -60 19        | 8.8  | 4.0 m       |             |             | I 3 p    |   | 123          |
|         |          |          |       |              |             |      |         | Tr 14  | OPNCL | CAR  | 10 43.9       | -59 34        | 5.5  | 5.0 m       |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Tr 15  | OPNCL | CAR  | 10 44.8       | -59 22        | 7    | 3.0 m       |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Tr 16  | OPNCL | CAR  | 10 45.1       | -59 43        | 5    | 10.0 m      |             |             |          |   | 123          |
|         |          |          |       |              |             |      |         | Tr 17  | OPNCL | CAR  | 10 56.2       | -59 13        | 8.4  | 5.0 m       |             |             | II 2 p   |   | 123          |

Deep Sky Object List (224/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class    | NGC Description                 | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|--------|-------|------|---------------|---------------|------|-------------|-------------|-------------|----------|---------------------------------|--------------|
|         |          |          |       |              |             |      |         | Tr 18  | OPNCL | CAR  | 11 11.4       | -60 40        | 6.9  | 12.0 m      |             |             | III 2 p  |                                 | 122          |
|         |          |          |       |              |             |      |         | Tr 19  | OPNCL | CAR  | 11 14.3       | -57 35        | 9.6  | 10.0 m      |             |             | III 3 m  |                                 | 122          |
|         |          |          | x     |              |             |      |         | Tr 20  | OPNCL | CRU  | 12 39.7       | -60 36        | 10.1 | 18 m        |             |             | II 2 m   | L,vRi                           | 121          |
|         |          |          |       |              |             |      |         | Tr 21  | OPNCL | CEN  | 13 32.2       | -62 47        | 7.7  | 4.0 m       |             |             | I 3 p    |                                 | 139          |
|         |          |          |       |              |             |      |         | Tr 22  | OPNCL | CEN  | 14 31.2       | -61 10        | 7.9  | 7.0 m       |             |             | II 2 p   |                                 | 119          |
|         |          |          | x     |              |             |      |         | Tr 24  | OPNCL | SCO  | 16 57.0       | -40 40        | 8.6  | 60.0 m      |             |             | IV 2 p n | vvL,B,E,Irr                     | 117          |
|         |          |          |       |              |             |      |         | Tr 26  | OPNCL | OPH  | 17 28.5       | -29 29        | 9.5  | 7.0 m       |             |             | III 2 p  | 13"-pB,L,nC,sRi at<br>100X; 32* | 92           |
|         |          |          |       |              |             |      |         | Tr 27  | OPNCL | SCO  | 17 36.2       | -33 29        | 6.7  | 7.0 m       |             |             | I 2 p    |                                 | 92           |
|         |          |          |       |              |             |      |         | Tr 28  | OPNCL | SCO  | 17 36.8       | -32 39        | 7.7  | 8.0 m       |             |             | II 2 p n |                                 | 92           |
|         |          |          |       |              |             |      |         | Tr 29  | OPNCL | SCO  | 17 41.6       | -40 06        | 7.5  | 9.0 m       |             |             | II 3 p   |                                 | 116          |
|         |          |          |       |              |             |      |         | Tr 30  | OPNCL | SCO  | 17 56.5       | -35 19        | 8.8  | 10.0 m      |             |             | III 2 p  | F,pL,Irr                        | 92           |
|         |          |          |       |              |             |      |         | Tr 31  | OPNCL | SGR  | 17 59.9       | -28 11        | 9.8  | 8.0 m       |             |             | III 1 p  |                                 | 92           |
|         |          |          |       |              |             |      |         | Tr 33  | OPNCL | SGR  | 18 24.8       | -19 41        | 7.8  | 7.0 m       |             |             | II 3 p   |                                 | 91           |

## Deep Sky Object List (225/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class  | NGC Description | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|--------|-----------------|--------------|
|         |          |          |       |              |             |      |         | Tr 34    | OPNCL | SCT  | 18 39.8       | -08 29        | 8.6  | 8.0 m       |             |             | II 2 m |                 | 67           |
|         |          |          |       |              |             |      |         | Tr 35    | OPNCL | SCT  | 18 42.9       | -04 08        | 9.2  | 9.0 m       |             |             | II 2 p |                 | 67           |
|         |          |          |       |              |             |      |         | Tr 37    | OPNCL | CEP  | 21 39.0       | +57 30        | 5.1  | 50.0 m      |             |             | II 3 m |                 | 16           |
|         |          |          |       |              |             |      |         | UGC 1551 | GALXY | ARI  | 02 03.6       | +24 04        | 12.5 | 2.8 m       | 2.3 m       | 135         | SBdm   |                 | 59           |
|         |          |          |       |              |             |      |         | UGC 3504 | GALXY | LYN  | 06 40.1       | +60 04        | 12.3 | 3.1 m       | 2.7 m       | 135         | S(B)c  |                 | 31           |
|         |          |          |       |              |             |      |         | UGC 3580 | GALXY | CAM  | 06 55.5       | +69 35        | 11.8 | 4.6 m       | 2.2 m       | 3           | Sa     |                 | 10           |
|         |          |          |       |              |             |      |         | UGC 3685 | GALXY | LYN  | 07 09.0       | +61 36        | 12   | 4.0 m       | 4.0 m       |             | SBb    |                 | 30           |
|         |          |          |       |              |             |      |         | UGC 3691 | GALXY | GEM  | 07 08.0       | +15 10        | 11.9 | 2.2 m       | 1.1 m       | 65          | Sc     |                 | 54           |
|         |          |          |       |              |             |      |         | UGC 3730 | GALXY | CAM  | 07 14.3       | +73 29        | 12.5 | 2.7 m       | 1.0 m       | 165         | Ring   |                 | 10           |
|         |          |          |       |              |             |      |         | UGC 4305 | GALXY | UMA  | 08 18.9       | +70 43        | 11.1 | 7.6 m       | 6.2 m       | 15          | Ir+    |                 | 9            |
|         |          |          |       |              |             |      |         | UGC 4393 | GALXY | LYN  | 08 26.1       | +45 58        | 12.4 | 2.5 m       | 1.8 m       | 45          | SB     |                 | 29           |
|         |          |          |       |              |             |      |         | UGC 4506 | GALXY | HYA  | 08 37.9       | -02 28        | 11.7 | 1.8 m       | 1.1 m       | 140         | Pec    |                 | 77           |
|         |          |          |       |              |             |      |         | UGC 4841 | GALXY | CAM  | 09 14.8       | +74 14        | 12.4 | 2.8 m       | 2.3 m       | 150         | S(B)d  |                 | 9            |

## Deep Sky Object List (226/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object   | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class | NGC Description                                | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|----------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-------|--|--------------|
|         |          |          |       |              |             |      |         | UGC 5139 | GALXY | UMA  | 09 40.5       | +71 11        | 12.5 | 3.5 m       | 3.0 m       |             | Ir+   |  | 9            |
|         |          |          |       |              |             |      |         | UGC 5373 | GALXY | SEX  | 10 00.0       | +05 20        | 11.3 | 5.1 m       | 3.5 m       | 110         | Ir+   | 13"-F,pL,E 2X1,nmBM<br>at 100X                 | 75           |
|         |          |          |       |              |             |      |         | UGC 5470 | GALXY | LEO  | 10 08.4       | +12 18        | 10.2 | 10.7 m      | 8.3 m       | 80          | dE3   |  | 51           |
|         |          |          |       |              |             |      |         | UGC 5612 | GALXY | UMA  | 10 24.0       | +70 53        | 12.1 | 3.4 m       | 2.3 m       | 165         | SB+   |  | 8            |
|         |          |          |       |              |             |      |         | UGC 6253 | GALXY | LEO  | 11 13.5       | +22 10        | 12   | 12 m        | 11 m        |             | dE0   |  | 50           |
|         |          |          |       |              |             |      |         | UGC 6903 | GALXY | VIR  | 11 55.7       | +01 15        | 12.3 | 2.5 m       | 2.2 m       | 150         | S(B)c |  | 74           |
|         |          |          |       |              |             |      |         | UGC 6930 | GALXY | UMA  | 11 57.3       | +49 16        | 12.1 | 4.4 m       | 2.8 m       |             | S(B)d |  | 26           |
|         |          |          |       |              |             |      |         | UGC 6983 | GALXY | UMA  | 11 59.2       | +52 42        | 12.4 | 4.2 m       | 3.2 m       | 85          | SBc   |  | 26           |
|         |          |          |       |              |             |      |         | UGC 7577 | GALXY | CVN  | 12 27.6       | +43 29        | 12.3 | 3.9 m       | 2.5 m       | 130         | Ir+   |  | 25           |
|         |          |          |       |              |             |      |         | UGC 7599 | GALXY | CVN  | 12 28.5       | +37 13        | 12.3 | 4.3 m       | 2.4 m       | 130         | Sm    |  | 25           |
|         |          |          |       |              |             |      |         | UGC 7699 | GALXY | CVN  | 12 32.8       | +37 37        | 12.5 | 3.8 m       | 1.0 m       | 32          | SBc   |  | 25           |
|         |          |          |       |              |             |      |         | UGC 8041 | GALXY | VIR  | 12 55.2       | +00 07        | 12   | 3.2 m       | 2.1 m       | 165         | SBd   | F,pS,E, spiral pattern<br>faint and indistinct | 73           |
|         |          |          |       |              |             |      |         | UGC 8201 | GALXY | DRA  | 13 06.3       | +67 42        | 12.5 | 3.2 m       | 2.2 m       |             | Ir+   |  | 7            |

Deep Sky Object List (227/227)

| Messier | Caldwell | Best NGC | Clark | Herschel 400 | Herschel-II | RASC | TAAS200 | Object     | Type  | Con. | R.A.<br>(h m) | Dec.<br>(° ') | Mag. | Size<br>max | Size<br>min | P.A.<br>(°) | Class     | NGC Description                                     | Chart<br>No. |
|---------|----------|----------|-------|--------------|-------------|------|---------|------------|-------|------|---------------|---------------|------|-------------|-------------|-------------|-----------|---|--------------|
|         |          |          |       |              |             |      |         | UGC 8320   | GALXY | CVN  | 13 14.4       | +45 55        | 12.4 | 3.8 m       | 1.5 m       | 150         | Ir+       |   | 24           |
|         |          |          |       |              |             |      |         | UGC 9749   | GALXY | UMI  | 15 08.8       | +67 12        | 10.9 | 27.3 m      | 16.0 m      | 70          | dE6       | 13"-vF,L,E 1.5X1 at<br>60X; low surface<br>brghtnss | 6            |
|         |          |          |       |              |             |      |         | UGC 10822  | GALXY | DRA  | 17 20.2       | +57 55        | 9.9  | 33.5 m      | 18.9 m      |             | dE3       | 13"-vF,L,pmE at 60X                                 | 20           |
|         |          |          |       |              |             |      |         | UGC 11909  | GALXY | LAC  | 22 06.3       | +47 15        | 12.3 | 3.0 m       | 0.7 m       | 3           | S pec     |   | 15           |
|         |          |          |       |              |             |      |         | UGC 12613  | GALXY | PEG  | 23 28.6       | +14 45        | 12   | 4.6 m       | 3.0 m       | 120         | Ir+       |   | 38           |
|         |          |          |       |              |             |      |         | UGC 12632  | GALXY | AND  | 23 30.0       | +41 00        | 12.1 | 4.9 m       | 3.9 m       |             | S         |   | 14           |
|         |          |          |       |              |             |      |         | UGCA 205   | GALXY | SEX  | 10 11.0       | -04 43        | 11.5 | 5.9 m       | 4.9 m       |             | Ir        |   | 75           |
|         |          |          |       |              |             |      |         | vdB 1      | OPNCL | MON  | 06 37.5       | +03 04        | 9.5  | 5.0 m       |             |             | III 1p :b |   | 79           |
|         |          |          |       |              |             |      |         | vdB 130    | OPNCL | CYG  | 20 17.7       | +39 19        | 9.3  | 6 m         |             |             |           |   | 17           |
|         |          |          |       |              |             |      |         | Waterloo 6 | OPNCL | VEL  | 08 40.4       | -46 09        | 8.4  | 2.2 m       |             |             |           |   | 125          |
| M 40    |          |          | x     |              |             |      |         | Winnecke 4 | 2STAR | UMA  | 12 21.9       | +58 06        | 9    |             |             |             |           | Neb D*  | 25           |