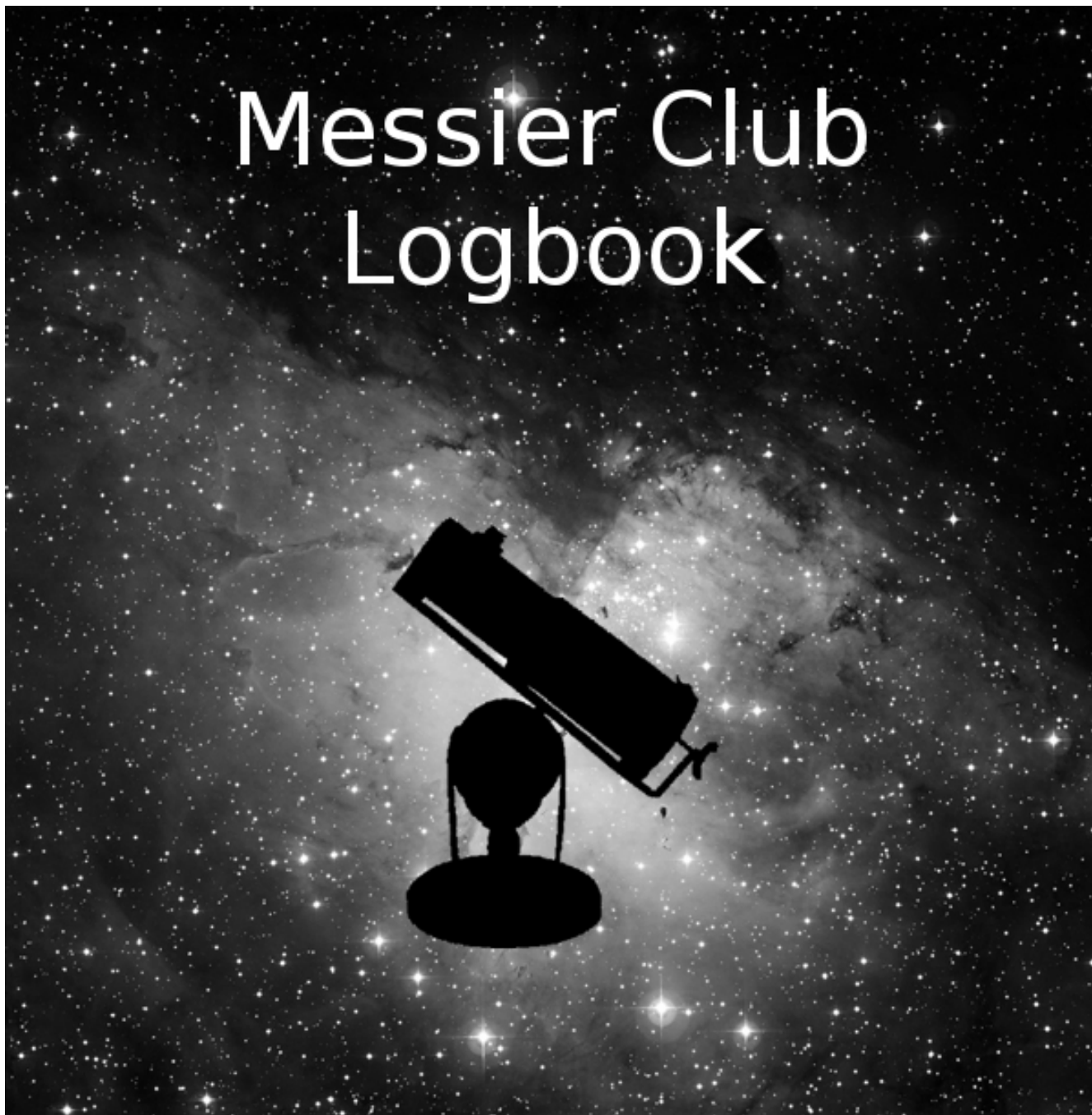


Astronomical League

# Messier Club Logbook



ordered by *Year-Round Messier Marathon Field Guide* chart no.  
Version 3

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organized by AL Messier master list

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The 41 Messier objects marked with asterisks (\*) are also requirements for the AL Urban Club. Any observations of these objects from a light-polluted area (no naked-eye Milky Way) will count for both clubs. Any observations of Messier objects with binoculars will also count for the AL Binocular Messier Club. Good hunting!

**RA: 00 – 01**

**PSA: 2 – 6, 72**

**FG: 1 – 4**

**M74 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Pisces  
RA: 01 36.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +15 47  
SW: 232, 234 Description: \_\_\_\_\_  
PSA: 4, 5  
FG: 1 \_\_\_\_\_

**M77 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cetus  
RA: 02 42.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -00 01  
SW: 234-235 Description: \_\_\_\_\_  
PSA: 4, 6  
FG: 2 \_\_\_\_\_

**M31 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Andromeda  
RA: 00 42.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +41 16  
SW: 222-224 Description: \_\_\_\_\_  
PSA: 3, 72  
FG: 3 \_\_\_\_\_

**M110 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Andromeda  
RA: 00 42.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +41 41  
SW: 222-223 Description: \_\_\_\_\_  
PSA: 3, 72  
FG: 3 \_\_\_\_\_

**M32 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Andromeda  
RA: 00 42.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +40 52  
SW: 222-223 Description: \_\_\_\_\_  
PSA: 3, 72  
FG: 3 \_\_\_\_\_

**M33 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Triangulum  
RA: 01 33.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +30 39  
SW: 224-226 Description: \_\_\_\_\_  
PSA: 2-5  
FG: 4 \_\_\_\_\_

**RA: 02 – 05**

**PSA: 2, 13, 14, 16, 18**

**FG: 5 – 7**

**M34 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Perseus  
RA: 02 42.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +42 47  
SW: 231-232 Description: \_\_\_\_\_  
PSA: 2, 13  
FG: 5 \_\_\_\_\_

**M76 (PN)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Perseus  
RA: 01 42.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +51 34  
SW: 226-227 Description: \_\_\_\_\_  
PSA: 2, 13  
FG: 5 \_\_\_\_\_

**M79 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Lepus  
RA: 05 24.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -24 31  
SW: 267-268 Description: \_\_\_\_\_  
PSA: 16, 18  
FG: 6 \_\_\_\_\_

**M42 (DN)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Orion  
RA: 05 35.3 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -05 23  
SW: 249-251 Description: \_\_\_\_\_  
PSA: 16  
FG: 7 \_\_\_\_\_

**M43 (DN)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Orion  
RA: 05 35.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -05 16  
SW: 249-251 Description: \_\_\_\_\_  
PSA: 16  
FG: 7 \_\_\_\_\_

**M78 (DN)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Orion  
RA: 05 46.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +00 04  
SW: 251-252 Description: \_\_\_\_\_  
PSA: 14, 16  
FG: 7 \_\_\_\_\_

RA: 23 – 07

PSA: 3, 26 – 28, 72

FG: 8 – 10

**M50 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Monoceros  
 RA: 07 03.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -08 21  
 SW: 268-269 Description: \_\_\_\_\_  
 PSA: 27  
 FG: 8 \_\_\_\_\_

**M47 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Puppis  
 RA: 07 36.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -14 29  
 SW: 269 Description: \_\_\_\_\_  
 PSA: 26, 27  
 FG: 8 \_\_\_\_\_

**M46 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Puppis  
 RA: 07 41.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -14 49  
 SW: 269-270 Description: \_\_\_\_\_  
 PSA: 26, 27  
 FG: 8 \_\_\_\_\_

**M41 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Canis Major  
 RA: 06 47.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -20 44  
 SW: 265, 267 Description: \_\_\_\_\_  
 PSA: 27  
 FG: 9 \_\_\_\_\_

**M93 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Puppis  
 RA: 07 44.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -23 53  
 SW: 271 Description: \_\_\_\_\_  
 PSA: 26, 28  
 FG: 9 \_\_\_\_\_

**M52 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Cassiopeia  
 RA: 23 24.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: +61 36  
 SW: 94, 203 Description: \_\_\_\_\_  
 PSA: 3, 72  
 FG: 10 \_\_\_\_\_

**RA: 01 – 05**

**PSA: 1 – 3, 12 – 15, 72**

**FG: 10 – 12**

**M103 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cassiopeia  
RA: 01 33.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +60 42  
SW: 206-207 Description: \_\_\_\_\_  
PSA: 1-3, 72  
FG: 10 \_\_\_\_\_

**M1 (SR)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Taurus  
RA: 05 34.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +22 01  
SW: 245-247 Description: \_\_\_\_\_  
PSA: 14  
FG: 11 \_\_\_\_\_

**M45 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Taurus  
RA: 03 47.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +24 07  
SW: 242-245 Description: \_\_\_\_\_  
PSA: 13, 15  
FG: 11 \_\_\_\_\_

**M36 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Auriga  
RA: 05 36.3 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +34 08  
SW: 256-258 Description: \_\_\_\_\_  
PSA: 12, 14  
FG: 12 \_\_\_\_\_

**M37 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Auriga  
RA: 05 53.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +32 33  
SW: 258-259 Description: \_\_\_\_\_  
PSA: 12, 14  
FG: 12 \_\_\_\_\_

**M38 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Auriga  
RA: 05 28.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +35 50  
SW: 259-260 Description: \_\_\_\_\_  
PSA: 12, 14  
FG: 12 \_\_\_\_\_

**RA: 06 – 11**

**PSA: 12, 23 – 26, 34, 35**

**FG: 13 – 16**

**M35 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Gemini  
RA: 06 08.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +24 20  
SW: 262-263 Description: \_\_\_\_\_  
PSA: 12, 14, 23, 25  
FG: 13 \_\_\_\_\_

**M48 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Hydra  
RA: 08 13.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -05 48  
SW: 271, 273 Description: \_\_\_\_\_  
PSA: 26  
FG: 14 \_\_\_\_\_

**M44 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cancer  
RA: 08 40.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +20 00  
SW: 106, 108 Description: \_\_\_\_\_  
PSA: 24, 35  
FG: 15 \_\_\_\_\_

**M67 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cancer  
RA: 08 51.3 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 48  
SW: 109-110 Description: \_\_\_\_\_  
PSA: 24, 35  
FG: 15 \_\_\_\_\_

**M65 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Leo  
RA: 11 18.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +13 06  
SW: 125, 127 Description: \_\_\_\_\_  
PSA: 34  
FG: 16 \_\_\_\_\_

**M66 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Leo  
RA: 11 20.3 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +13 00  
SW: 125, 127 Description: \_\_\_\_\_  
PSA: 34  
FG: 16 \_\_\_\_\_

**RA: 10 – 13**

**PSA: 34, 43 – 45**

**FG: 17 – 19**

**M95 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Leo  
RA: 10 44.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 42  
SW: 127-128 Description: \_\_\_\_\_  
PSA: 34  
FG: 17 \_\_\_\_\_

**M96 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Leo  
RA: 10 46.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 49  
SW: 127-128 Description: \_\_\_\_\_  
PSA: 34  
FG: 17 \_\_\_\_\_

**M105 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Leo  
RA: 10 47.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 43  
SW: 127-128 Description: \_\_\_\_\_  
PSA: 34  
FG: 17 \_\_\_\_\_

**M3 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Canes Venatici  
RA: 13 42.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +28 23  
SW: 138, 140 Description: \_\_\_\_\_  
PSA: 43, 44  
FG: 18 \_\_\_\_\_

**M53 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 13 12.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +18 10  
SW: 138-141 Description: \_\_\_\_\_  
PSA: 45  
FG: 18 \_\_\_\_\_

**M64 (Gal)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 56.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +21 41  
SW: 141-142 Description: \_\_\_\_\_  
PSA: 45  
FG: 19 \_\_\_\_\_



**RA: 11 – 14**

**PSA: 32, 41 – 43, 45, 53, C**

**FG: 19 – 22**

**M85** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 25.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +18 11  
SW: 129, 131 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 19 \_\_\_\_\_

**M51** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Canes Venatici  
RA: 13 29.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +47 12  
SW: 119-121 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 20 \_\_\_\_\_

**M101** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 14 03.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +54 21  
SW: 121-123 Description: \_\_\_\_\_  
PSA: 32, 42, 53  
FG: 20 \_\_\_\_\_

**M106** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Canes Venatici  
RA: 12 19.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +47 18  
SW: 125 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 21 \_\_\_\_\_

**M40** (Dbl) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 12 22.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +58 05  
SW: 92, 116 Description: \_\_\_\_\_  
PSA: 32, 41, 43  
FG: 21 \_\_\_\_\_

**M97** (PN) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 11 14.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +55 01  
SW: 114-115 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 22 \_\_\_\_\_

**RA: 09 – 15**

**PSA: 21, 31 – 33, 43, 53**

**FG: 22 – 25**

**M81** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 09 55.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +69 04  
SW: 111, 113 Description: \_\_\_\_\_  
PSA: 21, 31  
FG: 22 \_\_\_\_\_

**M82** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 09 56.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +69 42  
SW: 113-115 Description: \_\_\_\_\_  
PSA: 21, 31  
FG: 22 \_\_\_\_\_

**M108** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 11 11.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +55 40  
SW: 115 Description: \_\_\_\_\_  
PSA: 31-33, 43  
FG: 23 \_\_\_\_\_

**M109** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ursa Major  
RA: 11 57.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +53 22  
SW: 116-117 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 23 \_\_\_\_\_

**M102** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
[NGC 5866] Draco  
RA: 15 06.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +55 46  
SW: 122-123 Description: \_\_\_\_\_  
PSA: 42, 53  
FG: 24 \_\_\_\_\_

**M63** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Canes Venatici  
RA: 13 58.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +42 02  
SW: 124 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 25 \_\_\_\_\_

RA: 12 – 13

PSA: 32, 43, 45 – 49, C

FG: 25 – 28

**M94** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Canes Venatici  
RA: 12 50.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +41 07  
SW: 194-195 Description: \_\_\_\_\_  
PSA: 32, 43  
FG: 25 \_\_\_\_\_

**M68** (Glob) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Hydra  
RA: 12 39.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -26 45  
SW: 136-137 Description: \_\_\_\_\_  
PSA: 47, 49  
FG: 26 \_\_\_\_\_

**M83** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Hydra  
RA: 13 37.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -29 52  
SW: 137 Description: \_\_\_\_\_  
PSA: 46-48  
FG: 26 \_\_\_\_\_

**M104** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 40.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -11 42  
SW: 134, 136 Description: \_\_\_\_\_  
PSA: 47  
FG: 27 \_\_\_\_\_

**M61** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 21.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +04 28  
SW: 100, 131 Description: \_\_\_\_\_  
PSA: 45, 47  
FG: 27 \_\_\_\_\_

**M49** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 29.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +08 00  
SW: 129, 131 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28 \_\_\_\_\_

**RA: 12**

**PSA: 45, C**

**FG: 28-a, 28-b**

**M58** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 37.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 49  
SW: 132 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-a \_\_\_\_\_

**M59** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 42.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 39  
SW: 131-132 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-a \_\_\_\_\_

**M60** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 43.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +11 33  
SW: 129-132 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-a \_\_\_\_\_

**M84** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 25.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 53  
SW: 129, 133 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-b \_\_\_\_\_

**M86** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 26.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 57  
SW: 129, 133 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-b \_\_\_\_\_

**M87** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 30.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 23  
SW: 129, 133 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-b \_\_\_\_\_

**RA: 12**

**PSA: 34, 45, C**

**FG: 28-b, 28-c, 28-d**

**M88** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 32.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +14 25  
SW: 129, 133 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-b \_\_\_\_\_

**M89** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 35.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 33  
SW: 132 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-c \_\_\_\_\_

**M90** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Virgo  
RA: 12 36.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +13 10  
SW: 129, 132 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-c \_\_\_\_\_

**M91** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 35.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +14 30  
SW: 133 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-c \_\_\_\_\_

**M98** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 13.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +14 54  
SW: 131 Description: \_\_\_\_\_  
PSA: 34, 45, C  
FG: 28-d \_\_\_\_\_

**M99** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 18.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +14 25  
SW: 131 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-d \_\_\_\_\_

**RA: 12 – 19**

**PSA: 45, 52, 63 – 65, C**

**FG: 28-d, 29 - 31**

**M100** (Gal) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Coma Berenices  
RA: 12 22.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +15 49  
SW: 131 Description: \_\_\_\_\_  
PSA: 45, C  
FG: 28-d \_\_\_\_\_

**M13** (Glob) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Hercules  
RA: 16 41.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +36 28  
SW: 152-153 Description: \_\_\_\_\_  
PSA: 52  
FG: 29 \_\_\_\_\_

**M92** (Glob) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Hercules  
RA: 17 17.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +43 08  
SW: 153-154 Description: \_\_\_\_\_  
PSA: 52, 63  
FG: 29 \_\_\_\_\_

**M56** (Glob) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Lyra  
RA: 19 16.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +30 11  
SW: 190-191 Description: \_\_\_\_\_  
PSA: 63, 65  
FG: 30 \_\_\_\_\_

**M57** (PN) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Lyra  
RA: 18 53.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +33 02  
SW: 189-190 Description: \_\_\_\_\_  
PSA: 63, 65  
FG: 30 \_\_\_\_\_

**M71** (Glob) Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagitta  
RA: 19 53.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +18 47  
SW: 191-192 Description: \_\_\_\_\_  
PSA: 64  
FG: 31 \_\_\_\_\_

**RA: 15 – 21**

**PSA: 54 – 57, 62, 64, 73**

**FG: 31 – 34**

**M27 (PN)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Lyra  
RA: 19 59.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +22 43  
SW: 191-193 Description: \_\_\_\_\_  
PSA: 62, 64  
FG: 31 \_\_\_\_\_

**M29 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cygnus  
RA: 20 24.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +38 31  
SW: 196 Description: \_\_\_\_\_  
PSA: 62, 73  
FG: 32 \_\_\_\_\_

**M39 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Cygnus  
RA: 21 32.3 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +48 26  
SW: 197-198 Description: \_\_\_\_\_  
PSA: 62, 73  
FG: 32 \_\_\_\_\_

**M5 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Serpens Caput  
RA: 15 18.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +02 05  
SW: 148, 150 Description: \_\_\_\_\_  
PSA: 55, 57  
FG: 33 \_\_\_\_\_

**M10 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 16 57.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -04 06  
SW: 154, 156 Description: \_\_\_\_\_  
PSA: 54, 56  
FG: 34 \_\_\_\_\_

**M12 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 16 47.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -01 57  
SW: 156-157 Description: \_\_\_\_\_  
PSA: 54, 56  
FG: 34 \_\_\_\_\_

**RA: 16 – 18**

**PSA: 54, 56, 57, 65, 67**

**FG: 34 – 37**

**M107 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 16 32.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -13 03  
SW: 157-158 Description: \_\_\_\_\_  
PSA: 56  
FG: 34 \_\_\_\_\_

**M9 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 17 19.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -18 31  
SW: 159 Description: \_\_\_\_\_  
PSA: 56  
FG: 35 \_\_\_\_\_

**M14 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 17 37.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -03 15  
SW: 158 Description: \_\_\_\_\_  
PSA: 54, 56, 57  
FG: 35 \_\_\_\_\_

**M11 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scutum  
RA: 18 51.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -06 16  
SW: 182, 184 Description: \_\_\_\_\_  
PSA: 65, 67  
FG: 36 \_\_\_\_\_

**M26 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scutum  
RA: 18 45.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -09 24  
SW: 184-185 Description: \_\_\_\_\_  
PSA: 67  
FG: 36 \_\_\_\_\_

**M16 (C/N)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Serpens Cauda  
RA: 18 18.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -13 47  
SW: 174-175 Description: \_\_\_\_\_  
PSA: 67  
FG: 37 \_\_\_\_\_



**RA: 17 – 18**

**PSA: 56, 58, 67, 69**

**FG: 37 – 38**

**M17 (C/N)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 20.8 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -16 10  
SW: 173-174 Description: \_\_\_\_\_  
PSA: 67  
FG: 37 \_\_\_\_\_

**M18 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 19.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -17 08  
SW: 172-173 Description: \_\_\_\_\_  
PSA: 67  
FG: 37 \_\_\_\_\_

**M6 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scorpius  
RA: 17 40.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -32 12  
SW: 164-165 Description: \_\_\_\_\_  
PSA: 56, 58, 67, 69  
FG: 38 \_\_\_\_\_

**M7 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scorpius  
RA: 17 54.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -34 49  
SW: 165-166 Description: \_\_\_\_\_  
PSA: 58, 67, 69  
FG: 38 \_\_\_\_\_

**M19 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 17 02.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -26 16  
SW: 162-163 Description: \_\_\_\_\_  
PSA: 56, 58  
FG: 38 \_\_\_\_\_

**M62 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Ophiuchus  
RA: 17 01.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -30 07  
SW: 163 Description: \_\_\_\_\_  
PSA: 56, 58  
FG: 38 \_\_\_\_\_

**RA: 16 – 18**

**PSA: 56, 58, 67, 69**

**FG: 39 – 41**

**M4 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scorpius  
RA: 16 23.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -26 31  
SW: 159-161 Description: \_\_\_\_\_  
PSA: 56, 58  
FG: 39 \_\_\_\_\_

**M80 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Scorpius  
RA: 16 14.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -22 59  
SW: 162 Description: \_\_\_\_\_  
PSA: 56  
FG: 39 \_\_\_\_\_

**M8 (C/N)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 03.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -24 23  
SW: 168-169 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 40 \_\_\_\_\_

**M20 (C/N)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 02.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -23 02  
SW: 169-170 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 40 \_\_\_\_\_

**M21 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 04.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -22 30  
SW: 171 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 40 \_\_\_\_\_

**M23 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 17 56.9 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -19 01  
SW: 177-178 Description: \_\_\_\_\_  
PSA: 67  
FG: 41 \_\_\_\_\_

**RA: 18**

**PSA: 67, 69**

**FG: 41 – 43**

**M24 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 18.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -18 25  
SW: 171-172 Description: \_\_\_\_\_  
PSA: 67  
FG: 41 \_\_\_\_\_

**M25 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 31.7 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -19 14  
SW: 176-177 Description: \_\_\_\_\_  
PSA: 67  
FG: 41 \_\_\_\_\_

**M22 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 36.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -23 54  
SW: 177-178 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 42 \_\_\_\_\_

**M28 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 24.6 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -24 52  
SW: 178 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 42 \_\_\_\_\_

**M54 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 55.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -30 29  
SW: 178-179 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 43 \_\_\_\_\_

**M69 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 31.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -32 21  
SW: 179-180 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 43 \_\_\_\_\_

**RA: 18 – 21**

**PSA: 66 – 69, 75, 77**

**FG: 43 – 47**

**M70 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 18 43.2 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -32 17  
SW: 180 Description: \_\_\_\_\_  
PSA: 67, 69  
FG: 43 \_\_\_\_\_

**M55 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 19 40.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -30 57  
SW: 180-181 Description: \_\_\_\_\_  
PSA: 66, 68  
FG: 44 \_\_\_\_\_

**M75 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Sagittarius  
RA: 20 06.1 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -21 55  
SW: 181-182 Description: \_\_\_\_\_  
PSA: 66  
FG: 45 \_\_\_\_\_

**M15 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Pegasus  
RA: 21 30.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: +12 10  
SW: 210-212 Description: \_\_\_\_\_  
PSA: 75  
FG: 46 \_\_\_\_\_

**M2 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Aquarius  
RA: 21 33.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -00 49  
SW: 213, 215 Description: \_\_\_\_\_  
PSA: 75, 77  
FG: 47 \_\_\_\_\_

**M72 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
Aquarius  
RA: 20 53.5 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
Dec: -12 32  
SW: 215-216 Description: \_\_\_\_\_  
PSA: 66, 77  
FG: 47 \_\_\_\_\_

RA: 20 – 21

PSA: 66, 77

FG: 47 – 48

**M73 (OC)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Aquarius  
 RA: 20 59.0 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -12 38  
 SW: 216-217 Description: \_\_\_\_\_  
 PSA: 66, 77  
 FG: 47 \_\_\_\_\_

**M30 (Glob)** Date \_\_\_\_\_ Time \_\_\_\_\_ Location \_\_\_\_\_  
 Capricornus  
 RA: 21 40.4 NELM \_\_\_\_\_ Seeing \_\_\_\_\_ Transp. \_\_\_\_\_ Magnif. \_\_\_\_\_ Aperture \_\_\_\_\_  
 Dec: -23 11  
 SW: 218-220 Description: \_\_\_\_\_  
 PSA: 77  
 FG: 48 \_\_\_\_\_

**Abbreviations**

C/N: Cluster/Nebula  
 Dbl: Double Star  
 DN: Diffuse Nebula  
 Gal: Galaxy  
 Glob: Globular Cluster  
 OC: Open Cluster  
 PN: Planetary Nebula

RA: hours of right ascension  
 Dec: degrees of declination  
 NELM: naked eye limiting magnitude

PSA: chart no. in *Pocket Sky Atlas*, by Sinnott  
 SW: pages in *Starwatch*, by Harrington  
 FG: chart no. in *Year-Round Messier Marathon Field Guide*, by Pennington