My Messier Album

A detailed record of my journey through the Royal Astronomical Society of Canada's Messier list

Name: _____ Centre or Home Location: _____

The Messier Catalogue was developed in the 1700's by Charles Messier (1730 - 1817). Messier was a comet hunter working with speculum metal reflectors and small refractors that were the equivalent of a modern 80 - 100 mm reflector. As a result of the limited tools that he had to work with, he could not see the true nature of many of his "faint fuzzies" that are revealed in today's modern instruments. Once you have observed all of the objects on this list application forms can be found on the RASC website at **www.rasc.ca**. The Messier Certificate has been awarded since 1981.

Here is an overview of the Messier Observing List

Messier Objects	Number	Notes
Open Clusters	28	Includes many beautiful open clusters like M6, M7, The Beehive, The Pleiades and The Wild Duck.
Globular Clusters	29	Includes the showpiece objects M13, M22, M5 and M3.
Bright Nebulae	8	Includes the great Orion Nebula as well as the Lagoon, Swan, Eagle and Trifid Nebulae.
Planetary Nebulae	4	Includes the impressive Ring Nebula as well as the Dumbbell and Owl planetary nebulae.
Galaxies	40	Includes the amazing Andromeda Galaxy as well as M51, M33, M81/M82 and many others.
Double Stars	1	This is M40, an unusual Messier object.
Total	110	The Messier list can be started during any season.

Why Record Your Observations?

Recording observations is important for two reasons. It gives you a permanent record of all the great times you had while observing and recording scientific details of an observation can help researchers.

Recording Observations Overview

Very few, if any, astronomers remember everything that they have observed through the years, and for that reason alone it is wise to keep a record of your observations. Many experienced astronomers have commented on how much they enjoy looking through their logbooks and recalling the many precious memories that are contained there. It is truly worth the effort to write down your observations.

How to Record Observations

One of the most practical ways of recording observations is to have a template form completed ahead of time that contains all of the known data, like the object's name, number, location, size, magnitude, and so on. You then simply write down your description of the object in the space provided, and then use the time saved to explore other treasures in the night sky. The template can also include an area to make a drawing. The Messier Album has all of those features

Drawing at the Eyepiece

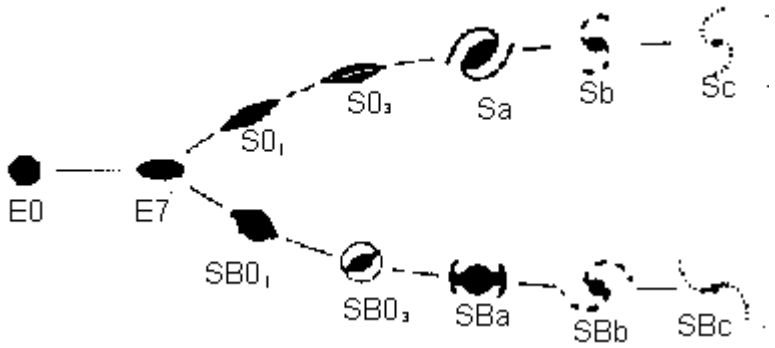
Drawing at the eyepiece can be a very rewarding experience for all the same reasons as making notes. The added bonus of a drawing is that it will clearly show what you saw to other people who may visualize a text description differently than you. Drawing is also the best way to learn how to see the fine detail in the astronomical objects you observe.

How to qualify for the Certificate

All of the objects in the Messier list have to be found by the certificate applicant without assistance from other observers. Many new telescopes are being sold with built-in "Go To" systems and while they are very useful for people who are trying to see many objects in a short time, the "Go To" approach does not allow for the full development of observing skills and abilities. By their very nature

they eliminate the challenge that the certificate recognizes and that is the ability to seek out and find astronomical objects using only your eyes, finder scope and star charts (all directed by an inquisitive mind). As a result, observations made with "Go To" telescopes, while fine for learning about the night sky, are not eligible for RASC Observing Certificates. The only exception may be to turn off the "Go To" system while doing your certificate list. [No longer true—there are now Traditional and GoTo versions of the certificate.]

Description of fields on the log forms

FIELD	DESCRIPTION
NGC Number:	This is the New General Catalogue designation that consists of a 1-4 digit number.
IC Number:	This is the Index Catalogue designation that is a supplement to the New General Catalogue.
Constellation:	These are the official three letter designations for the 88 recognized constellations.
Type:	PN = Planetary Nebula. OC = Open Cluster. GC = Globular Cluster. SNR = Supernova Remnant. EN= Emission Nebula. RN = Reflection Nebula. E/RN = Emission and Reflection Nebula. G = Galaxies as per diagram below: 

Description of fields on the log forms (continued)

FIELD	DESCRIPTION
Visual Magnitude:	Apparent visual magnitude is a measurement of the objects brightness as seen using average human eyesight.
Size:	Dimensions of an object using degrees, minutes of arc (1/60 degree) and seconds of arc (1/60 minute.)
Distance:	Distance of object measured in light years. Note that these are estimates and sources of this data can vary.
R.A. (Epoch 2000.0):	Coordinates in Right Ascension, divided into 24 hourly sections as they rise in the east.
Dec. (Epoch 2000.0):	Coordinates in Declination as measured +90 degrees north and -90 degrees south of the celestial equator.
UM I:	Map number where you can find the object in the first edition of Uranometria 2000.
UM II:	Map number where you can find the object in the second edition of Uranometria 2000.
Sky Atlas 2000:	Map number where you can find the object in Sky Atlas 2000.
Season:	Season of the year when the object is best seen after dusk.
Remarks:	Brief description of the object and some key observing tips.
Date:	Field for recording the date of the observation.
Time:	Field for recording the time of the observation. Please specify Time Zone or Universal Time.
Seeing:	Place a circle around or an X on top of one number that best describes the stability of the atmosphere. **1** = Best **2** = Above Average **3** = Average **4** = Below Average **5** = Poor **Note:** A somewhat hazy sky may provide good seeing; therefore use this for measuring stability only.
Transparency:	Place a circle around or an X on top of one number that best describes how clear the sky is. **1** = Best **2** = Above Average **3** = Average **4** = Below Average **5** = Poor **Note:** A crystal clear sky may provide less than perfect seeing; therefore use this for measuring clarity only.
Telescope:	Field for recording the aperture and type of telescope used. **Example:** 25 cm reflector.
Eyepiece:	Field for recording the focal length and type of eyepiece used. **Example:** 17mm Plossel.
Magnification:	Field for recording the magnification of the telescope/eyepiece combination used. Magnification equals the focal length of the telescope as measured in millimeters divided by the focal length of the eyepiece in millimeters. To calculate the focal length of your telescope in millimetres, use this formula: (Aperture in inches multiplied by the focal ratio) then multiply by 25.4. For example an 8 inch aperture scope with a focal ratio of F6 would have a focal length of (8 x 6 = 48 inches) Conversion: 48 inches x 25.4 = 1219.2 mm.
Observing Location:	Field for recording the location of the observing site.

Credits for the development of these forms

This project began when Stan Runge of the Winnipeg Centre approached the Observing Committee in regards to creating some detailed observing forms that would be specific to the RASC Messier and Finest NGC lists. He then presented prototypes that were made in conjunction with members of the Saskatoon Centre. The committee was impressed and we very much liked the idea that was presented. Soon after that work started on the project and during the time frame from autumn 2002 to spring 2004, as time allowed, we proceeded to further develop the forms and to provide enhanced content.

Dan Williams of the London Centre and Christopher Fleming, Chair of the Committee worked together on many cloudy evenings to perfect the design as much as possible and to do the tedious work of entering the data for each object. Dan is a computer professional and he managed the various database, graphics and word processing software programs that were used to bring the whole project together. Christopher acted as the astronomical content advisor and source of the data for the objects as well as the reference material. We hope you enjoy the results of our efforts.

Clear Skies,

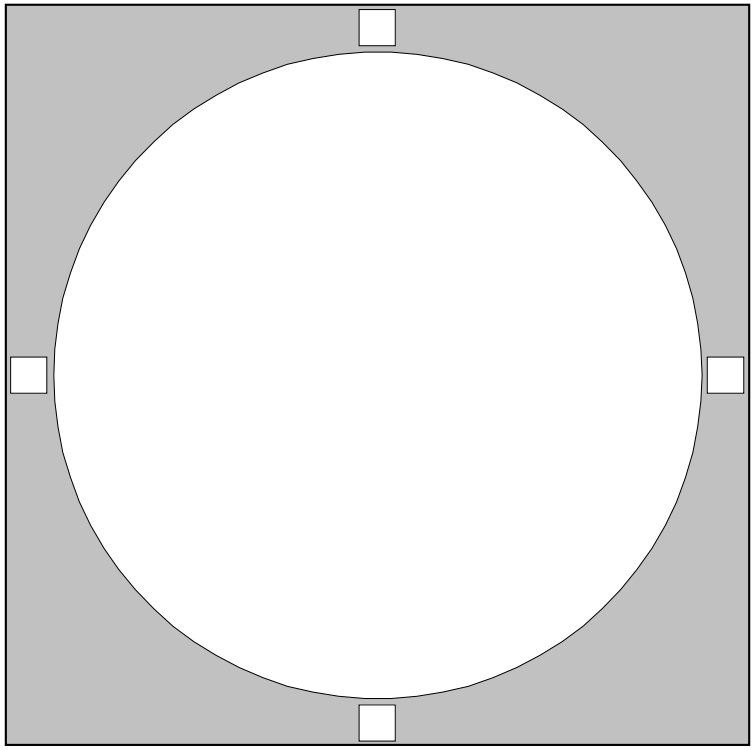
RASC Observing Committee,

Summer 2004

RASC Messier Objects - M1

Crab Nebula

Messier Object	**M1**		
NGC	**1952**		
Constellation	**Taurus**		
Type	**Supernova Remnant**		
Magnitude	**8.4**		
Distance (Kilo light-years)	**6.3**		
RA	**05 34.5**		
Dec	**+22:01**		
Size	**6' x 4'**		
UM I	UM II	**135,136**	**77**
SA		**16, 17**	
Remarks		**!! Famous Crab Nebula, Supernova Remnant**	
Time (hh:mm)			
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

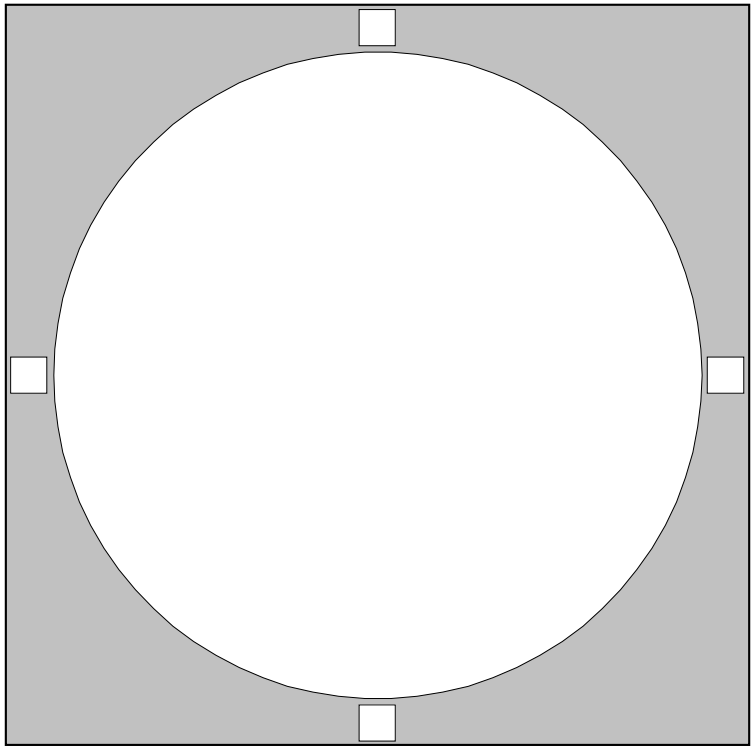


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M2

Messier Object	**M2**		
NGC	**7089**		
Constellation	**Aquarius**		
Type	**Globular Cluster**		
Magnitude	**6.4**		
Distance (Kilo light-years)	**37.9**		
RA	**21 33.5**		
Dec	**-00:49**		
Size	**12.9**		
UM I	UM II	**255,256**	**103**
SA	**7**		
Remarks	**200-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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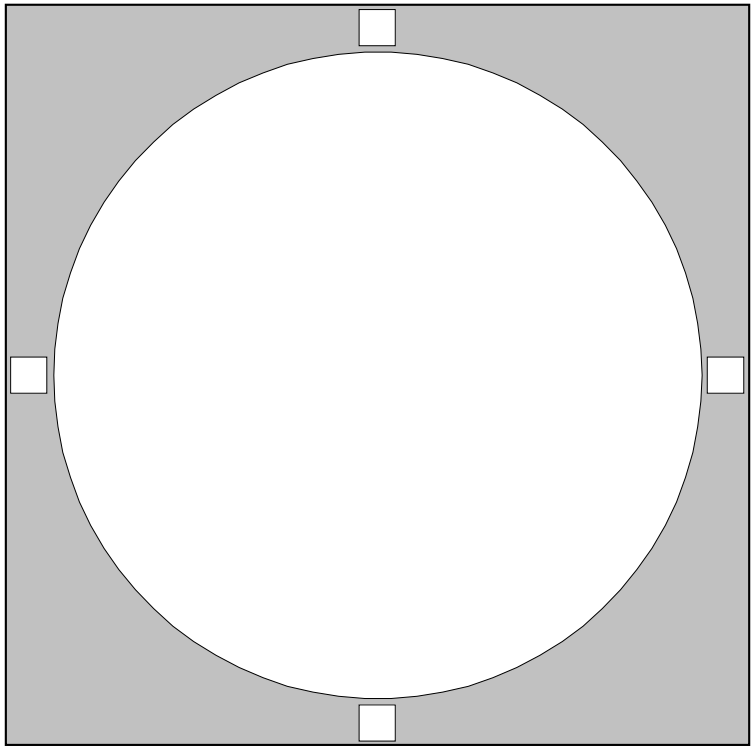
RASC Messier Objects - M3

Messier Object	**M3**		
NGC	**5272**		
Constellation	**Canes Venatici**		
Type	**Globular Cluster**		
Magnitude	**5.9**		
Distance (Kilo light-years)	**33.9**		
RA	**13 42.2**		
Dec	**+28:23**		
Size	**16.2'**		
UM I	UM II	**109,110,151**	**71**
SA	**22**		
Remarks	**!! contains many variable stars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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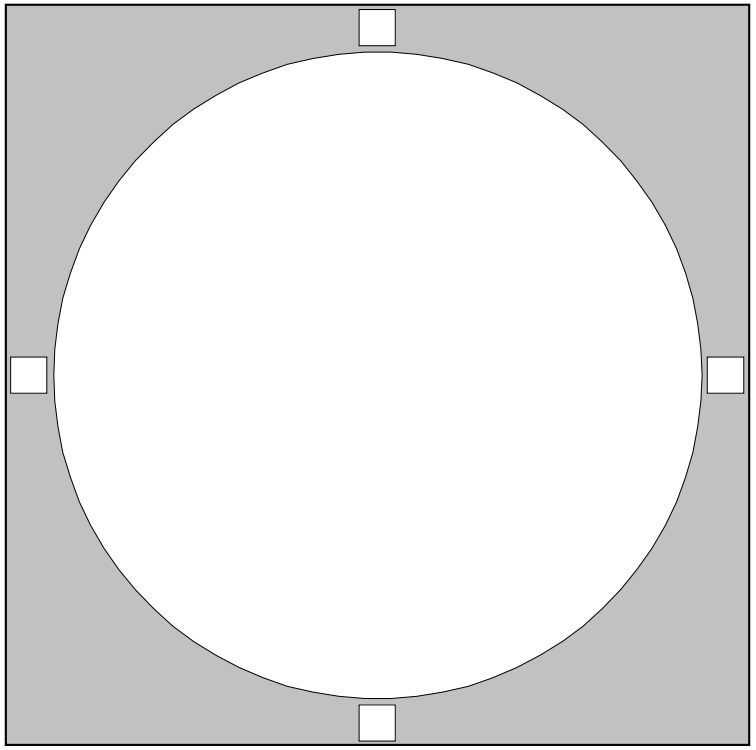
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M4

Messier Object	**M4**		
NGC	**6121**		
Constellation	**Scorpius**		
Type	**Globular Cluster**		
Magnitude	**5.8**		
Distance (Kilo light-years)	**7.2**		
RA	**16 23.6**		
Dec	**-26:32**		
Size	**26.3'**		
UM I	UM II	**336**	**147**
SA	**4, 15**		
Remarks	**bright globular near Antares**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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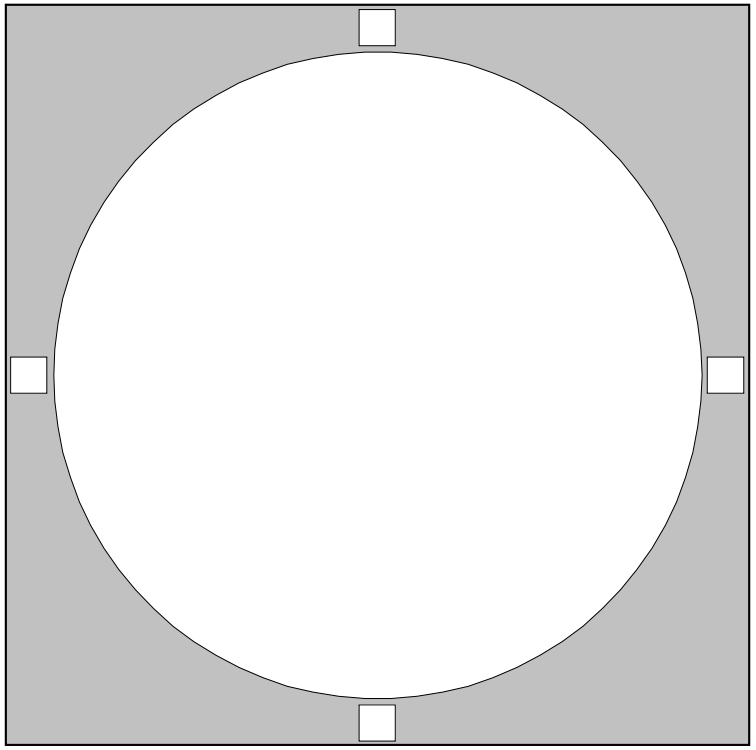
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M5

Messier Object	**M5**		
NGC	**5904**		
Constellation	**Serpens**		
Type	**Globular Cluster**		
Magnitude	**5.7**		
Distance (Kilo light-years)	**24.5**		
RA	**15 18.6**		
Dec	**+02:05**		
Size	**17.4'**		
UM I	UM II	**244**	**108**
SA	**22**		
Remarks	**!! one of the sky's finest globulars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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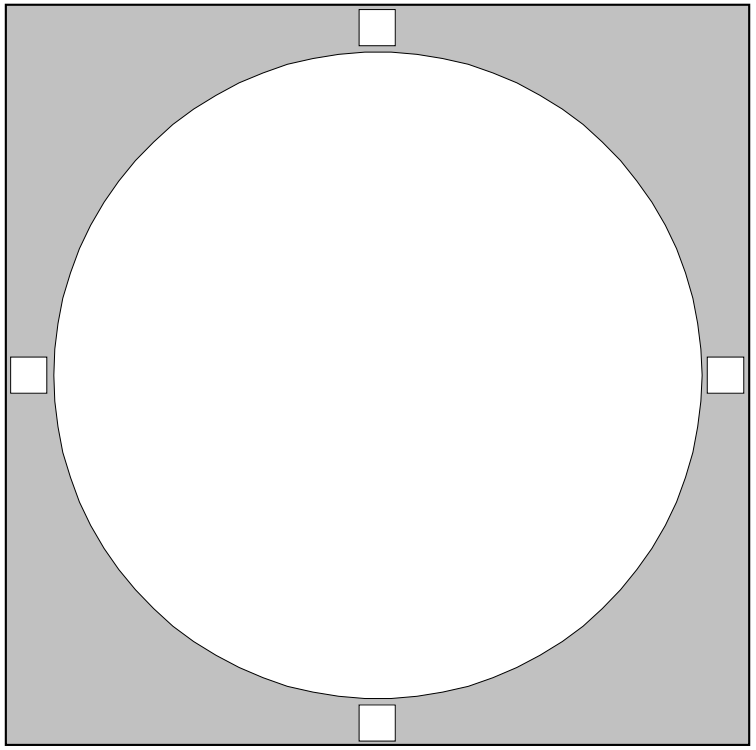
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M6

Butterfy Cluster

Messier Object	**M6**		
NGC	**6405**		
Constellation	**Scorpius**		
Type	**Open Cluster**		
Magnitude	**4.2**		
Distance (Kilo light-years)	**2**		
RA	**17 40.1**		
Dec	**-32:13**		
Size	**33.0'**		
UM I	UM II	**376,377**	**164,A20**
SA	**22**		
Remarks	**!! Butterfy Cluster; best at low power**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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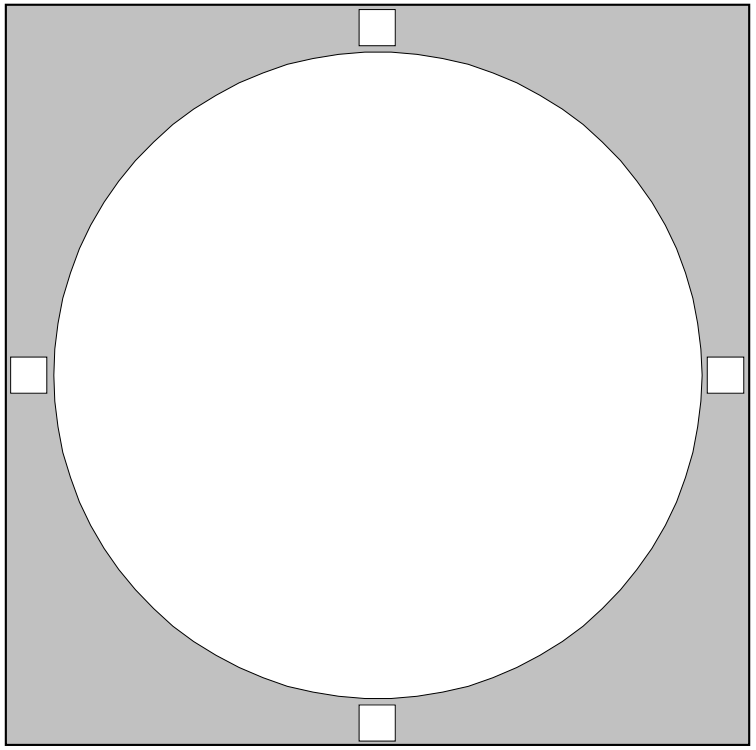
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M7

Messier Object	**M7**		
NGC	**6475**		
Constellation	**Scorpius**		
Type	**Open Cluster**		
Magnitude	**3.3**		
Distance (Kilo light-years)	**0.8**		
RA	**17 53.9**		
Dec	**-34:49**		
Size	**80.0'**		
UM I	UM II	**377**	**164,A20**
SA	**22**		
Remarks	**!! excellent in binoculars or rich-field scope**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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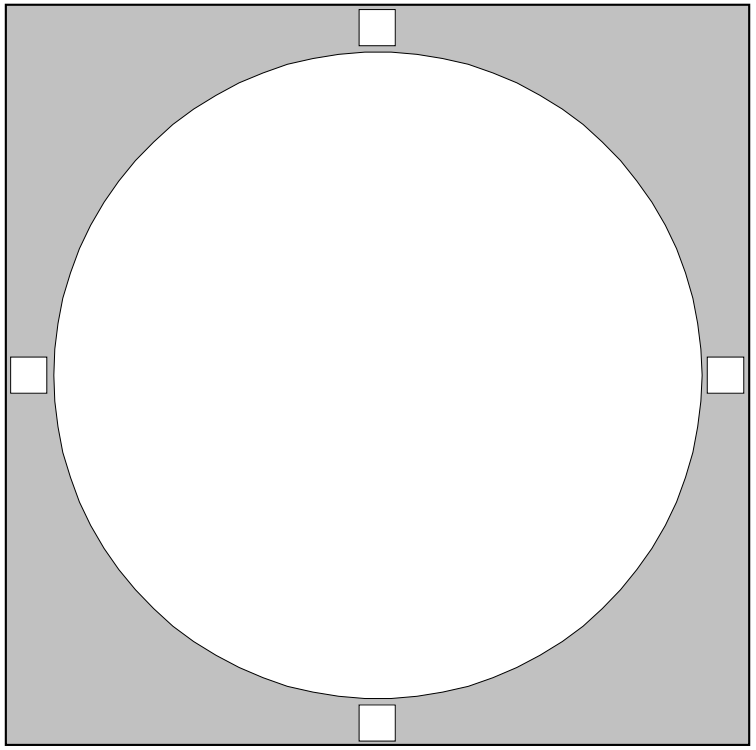
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M8

Lagoon Nebula

Messier Object	**M8**		
NGC	**6523**		
Constellation	**Sagittarius**		
Type	**Emission Nebula**		
Magnitude	**na**		
Distance (Kilo light-years)	**5.2**		
RA	**18 03.8**		
Dec	**-24:23**		
Size	**45.0' x 30.0'**		
UM I	UM II	**339**	**145,146**
SA	**22**		
Remarks	**!! Lagoon Nebula with Open Cluster NGC 6530**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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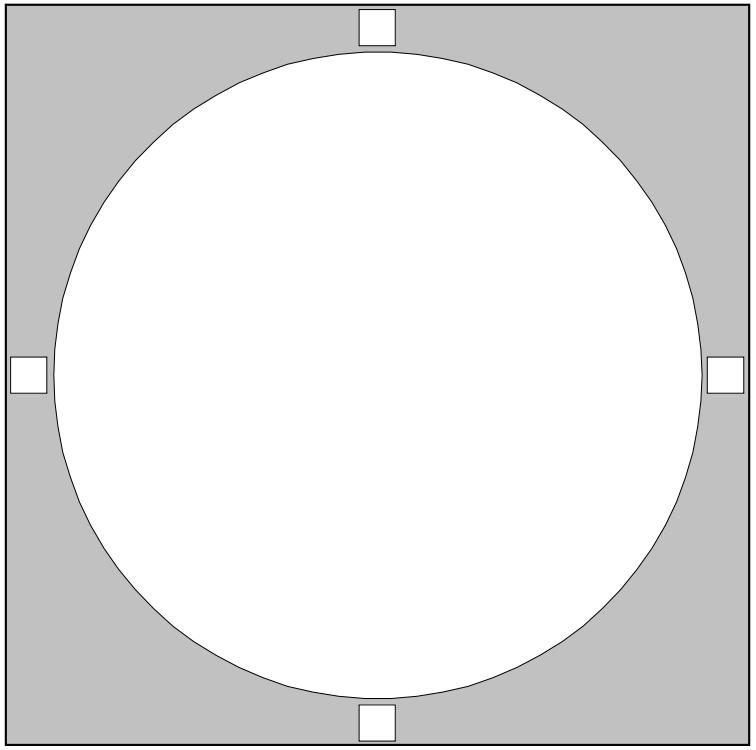
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M9

Messier Object	**M9**		
NGC	**6333**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**26.7**		
RA	**17 19.2**		
Dec	**-18:31**		
Size	**9.3'**		
UM I	UM II	**337,338**	**146**
SA	**15, 22**		
Remarks	**smallest of Ophiuchus globulars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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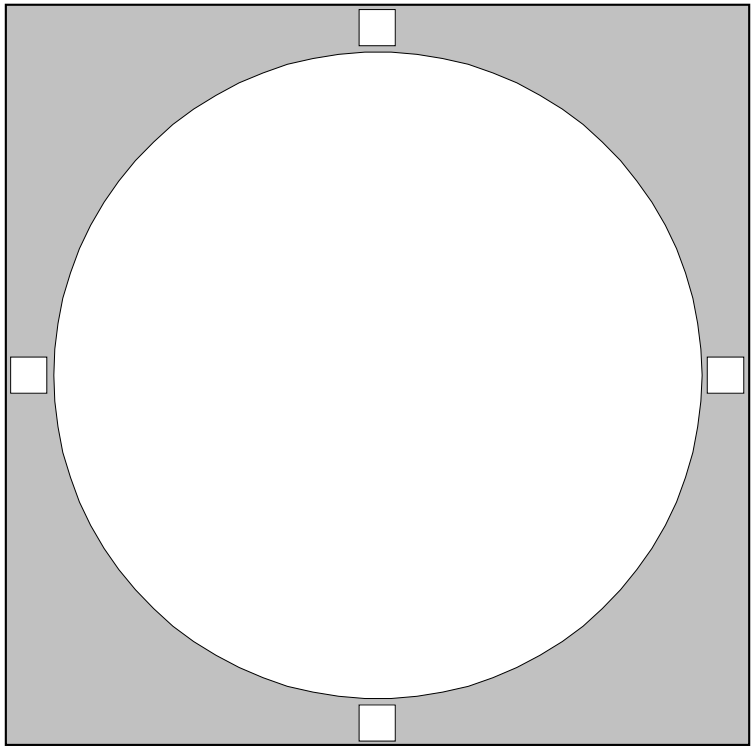
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M10

Messier Object	**M10**		
NGC	**6254**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.6**		
Distance (Kilo light-years)	**14.4**		
RA	**16 57.1**		
Dec	**-04:06**		
Size	**15.1'**		
UM I	UM II	**247**	**107**
SA	**15**		
Remarks	**rich globular cluster; M12 is three degrees north west**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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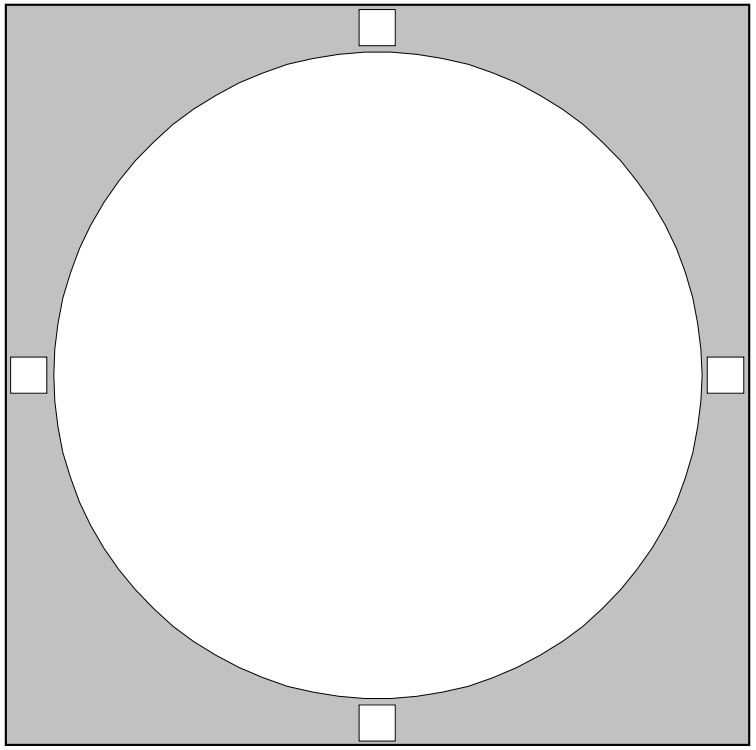
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M11

Wild Duck Cluster

Messier Object	**M11**		
NGC	**6705**		
Constellation	**Scutum**		
Type	**Open Cluster**		
Magnitude	**5.8**		
Distance (Kilo light-years)	**6**		
RA	**18 51.1**		
Dec	**-06:16**		
Size	**13.0'**		
UM I	UM II	**295**	**125,A14**
SA	**15, 16**		
Remarks	**!! Wild Duck cluster; the best open cluster?**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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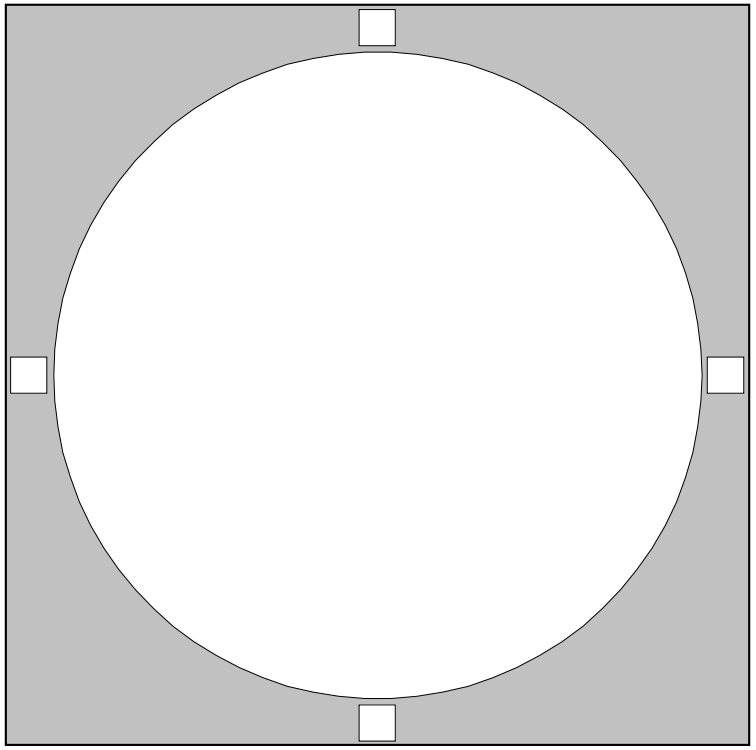
RASC Messier Objects - M12

Messier Object	**M12**		
NGC	**6218**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.8**		
Distance (Kilo light-years)	**16.0**		
RA	**16 47.2**		
Dec	**-01:57**		
Size	**14.5'**		
UM I	UM II	**246,247**	**107**
SA	**15**		
Remarks	**loose globular cluster near M10**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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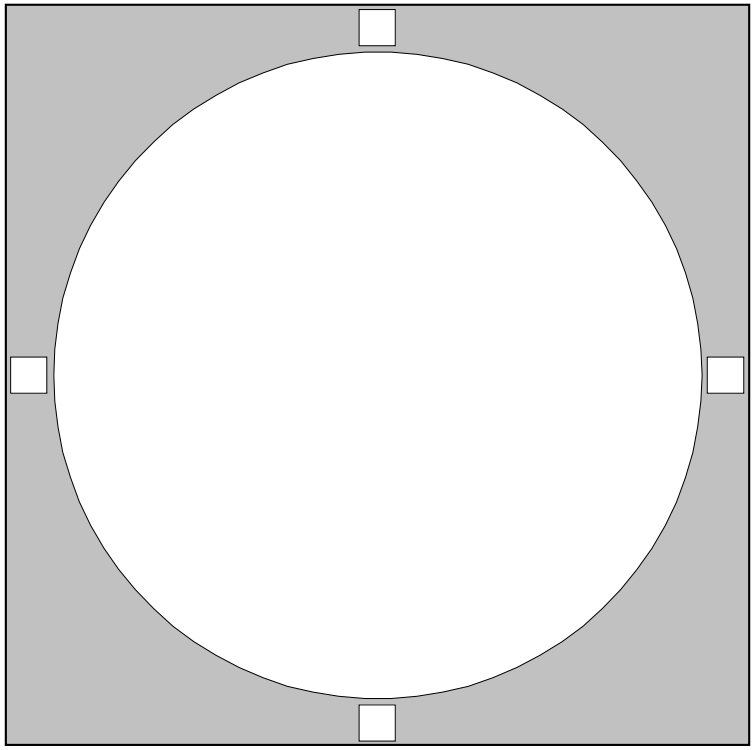
RASC Messier Objects - M13

Hercules Globular Cluster

Messier Object	**M13**		
NGC	**6205**		
Constellation	**Hercules**		
Type	**Globular Cluster**		
Magnitude	**5.7**		
Distance (Kilo light-years)	**25.1**		
RA	**16 41.7**		
Dec	**+36:28**		
Size	**16.6'**		
UM I	UM II	**114**	**50,51**
SA	**8**		
Remarks	**!! Hercules Cluster; NGC6207 half degree north east**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

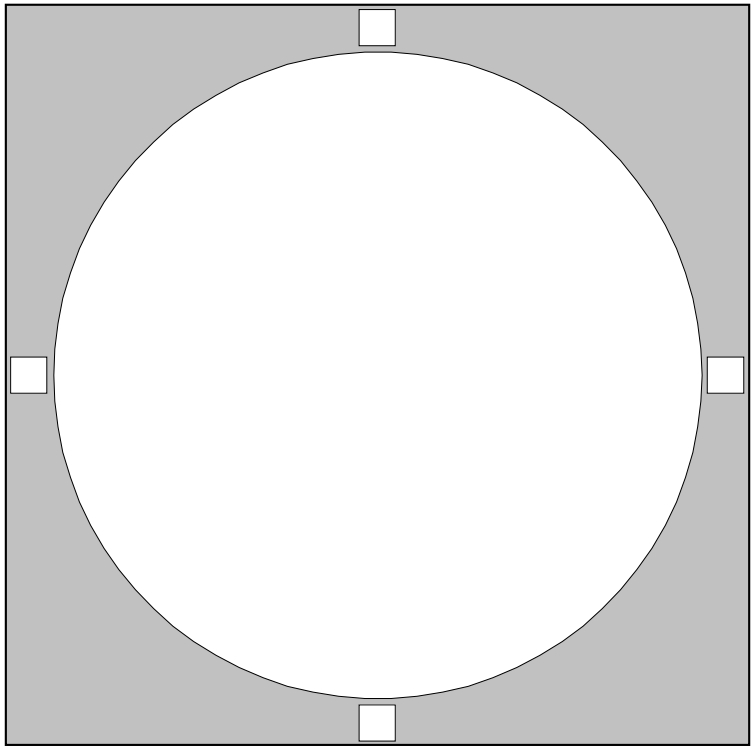


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M14

Messier Object	**M14**		
NGC	**6402**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**29.0**		
RA	**17 37.6**		
Dec	**-03:15**		
Size	**11.7'**		
UM I	UM II	**248**	**106**
SA	**15**		
Remarks	**200-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

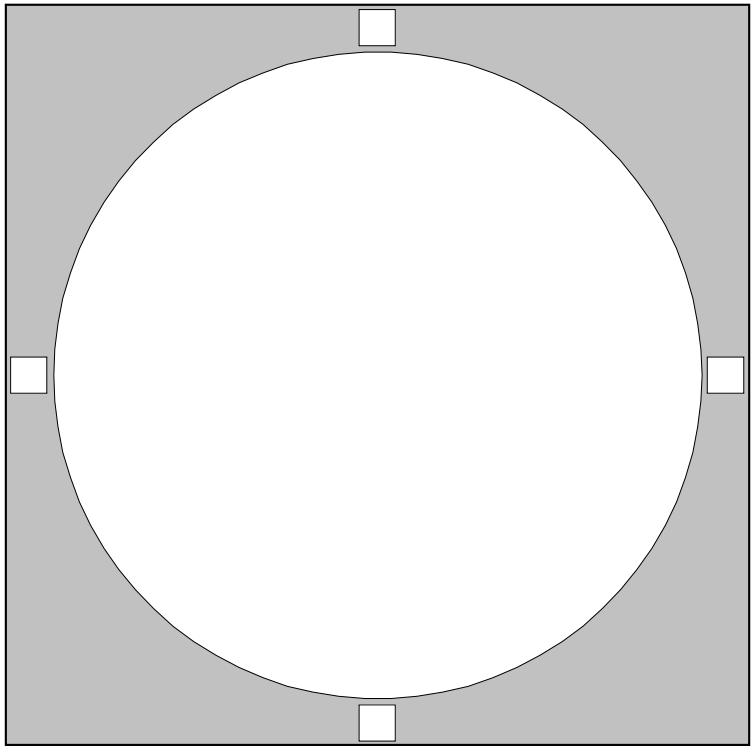


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M15

Messier Object	**M15**		
NGC	**7078**		
Constellation	**Pegasus**		
Type	**Globular Cluster**		
Magnitude	**6.0**		
Distance (Kilo light-years)	**33.6**		
RA	**21 30.0**		
Dec	**+12:10**		
Size	**12.3'**		
UM I	UM II	**210**	**83**
SA	**16, 17**		
Remarks	**rich, compact globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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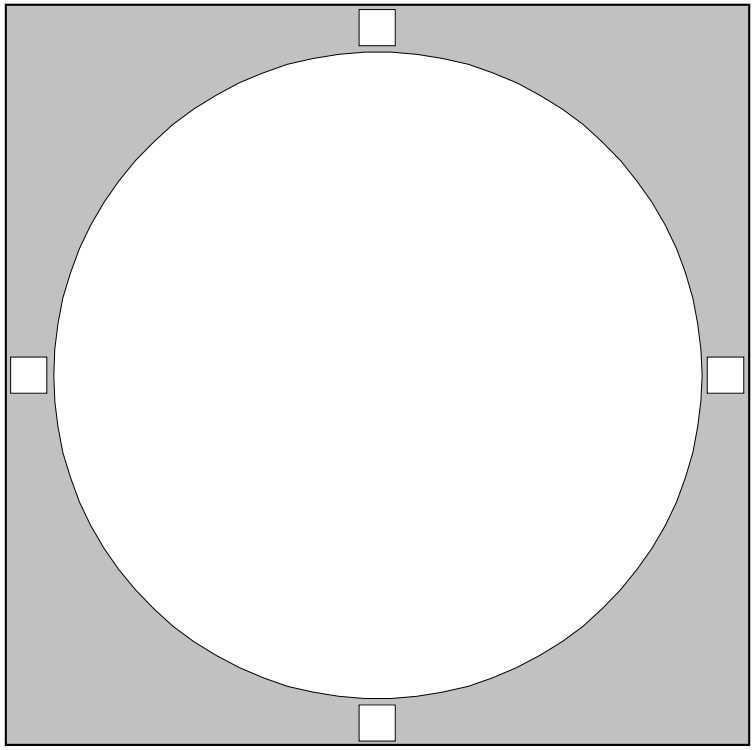
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M16

Eagle Nebula

Messier Object	**M16**		
NGC	**6611**		
Constellation	**Serpens**		
Type	**Emission Nebula+Open Cluster**		
Magnitude	**na**		
Distance (Kilo light-years)	**7**		
RA	**18 18.6**		
Dec	**-13:58**		
Size	**35.0' x 28.0'**		
UM I	UM II	**294**	**126**
SA	**15, 16**		
Remarks	**Eagle Nebula with Open Cluster; use nebular filter**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



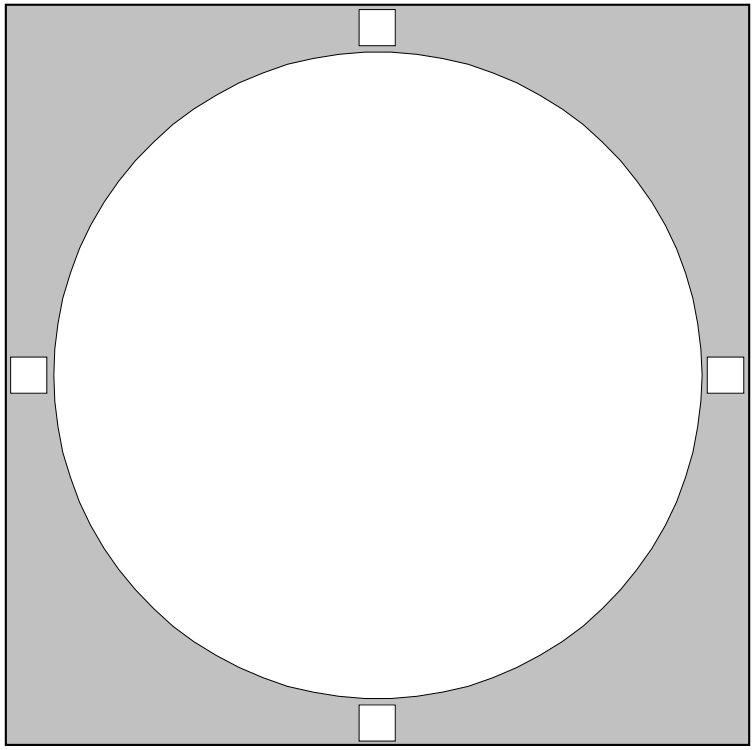
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M17

Omega. Swan. Horseshoe. or Lobster Nebula

Messier Object	**M17**		
NGC	**6618**		
Constellation	**Sagittarius**		
Type	**Emission Nebula**		
Magnitude	**na**		
Distance (Kilo light-years)	**5**		
RA	**18 20.8**		
Dec	**-16:11**		
Size	**20.0' x 15.0'**		
UM I	UM II	**294,295,339,340**	**126**
SA	**15, 16**		
Remarks	**!! Swan or Omega nebula; use nebular filter**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

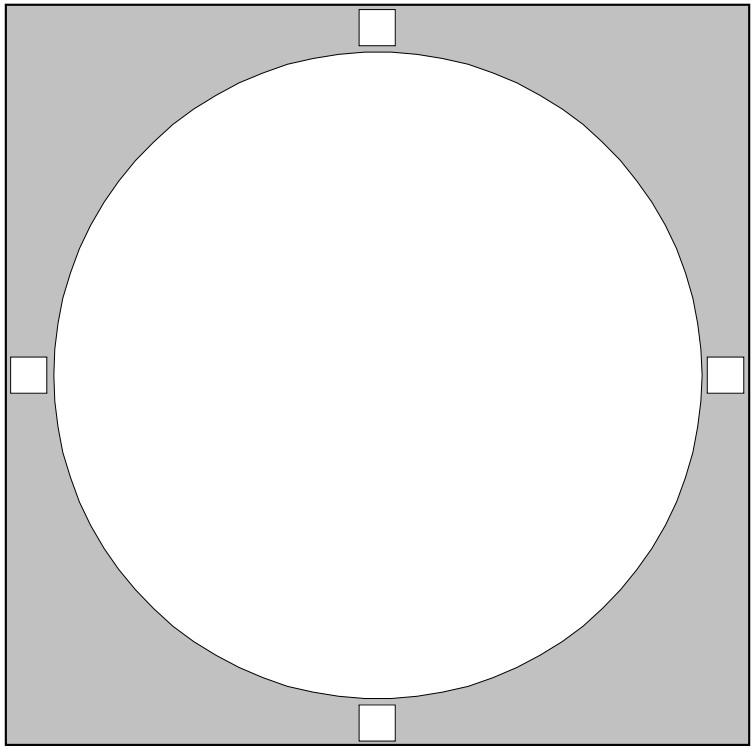


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M18

Messier Object	**M18**		
NGC	**6613**		
Constellation	**Sagittarius**		
Type	**Open Cluster**		
Magnitude	**6.9**		
Distance (Kilo light-years)	**4.9**		
RA	**18 19.9**		
Dec	**-17:08**		
Size	**10.0'**		
UM I	UM II	**294,295,339,340**	**126,145**
SA	**15, 16, 22**		
Remarks	**sparse cluster; one degree south of M17**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

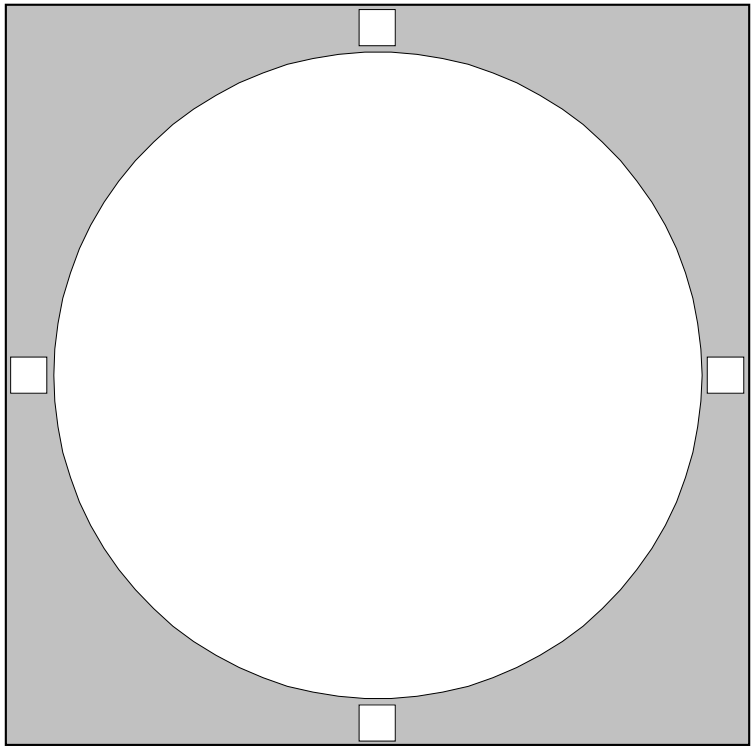


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M19

Messier Object	**M19**		
NGC	**6273**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.7**		
Distance (Kilo light-years)	**28.4**		
RA	**17 02.6**		
Dec	**-26:16**		
Size	**13.5'**		
UM I	UM II	**337**	**146**
SA	**22**		
Remarks	**oblate globular; M62 four degrees south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



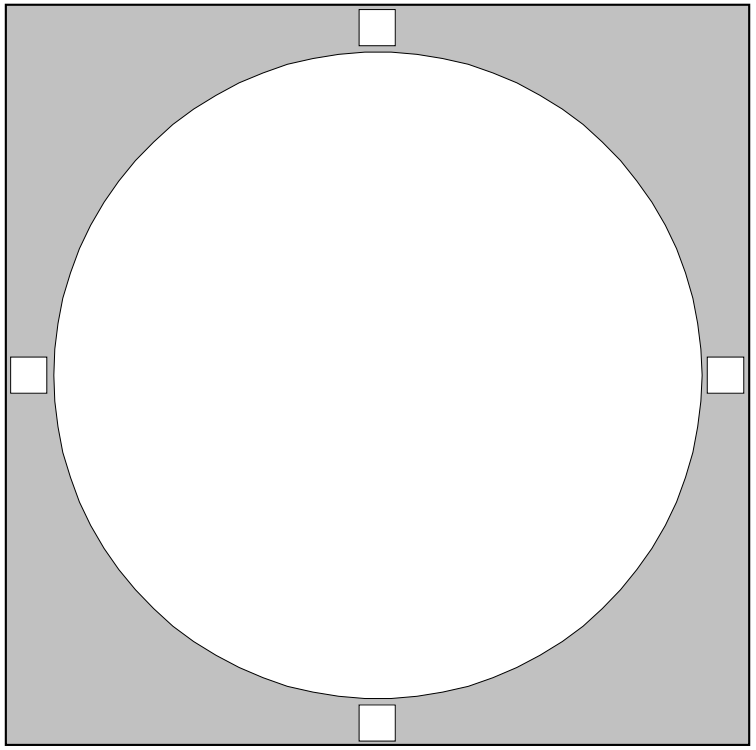
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M20

Trifid Nebula

Messier Object	**M20**		
NGC	**6514**		
Constellation	**Sagittarius**		
Type	**Emission/Reflection Nebula**		
Magnitude	**na**		
Distance (Kilo light-years)	**5.2**		
RA	**18 02.3**		
Dec	**-23:02**		
Size	**20.0' x 20.0'**		
UM I / UM II	**339**	**145,146,A17**	
SA	**22**		
Remarks	**!! Trifid Nebula; look for dark lanes**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

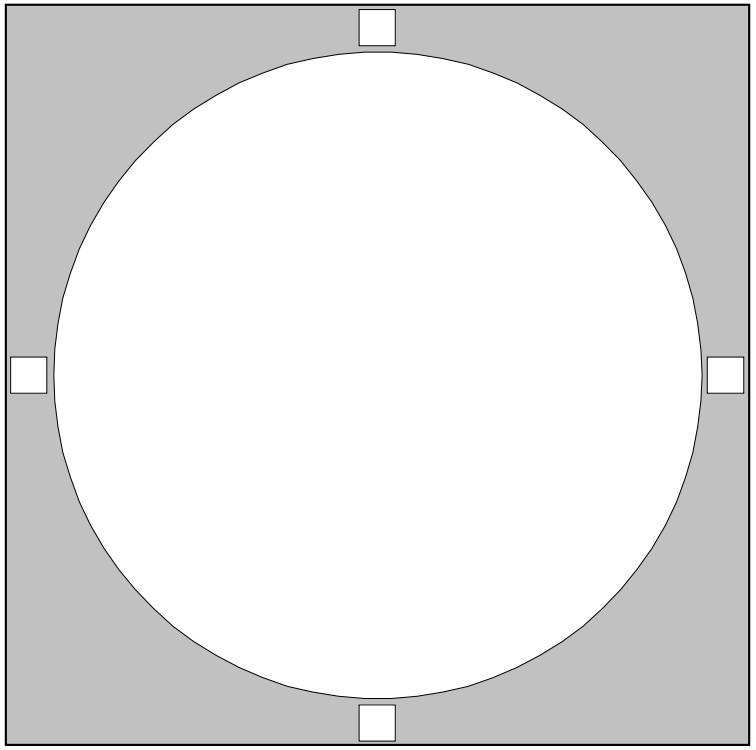


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M21

Messier Object	**M21**		
NGC	**6531**		
Constellation	**Sagittarius**		
Type	**Open Cluster**		
Magnitude	**5.9**		
Distance (Kilo light-years)	**4.25**		
RA	**18 04.6**		
Dec	**-22:30**		
Size	**13.0'**		
UM I	UM II	**339**	**145,A17**
SA	**22**		
Remarks	**0.7' noth east of M20; sparse cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

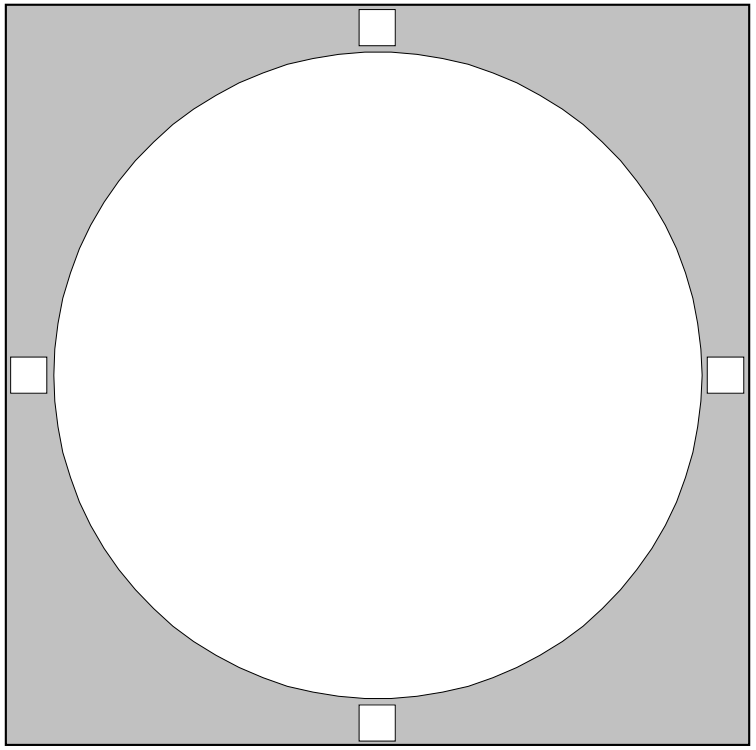


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M22

Messier Object	**M22**		
NGC	**6656**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**5.1**		
Distance (Kilo light-years)	**10.4**		
RA	**18 36.4**		
Dec	**-23:54**		
Size	**24.0'**		
UM I	UM II	**340**	**145**
SA	**22**		
Remarks	**spectacular from southern lattitude**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

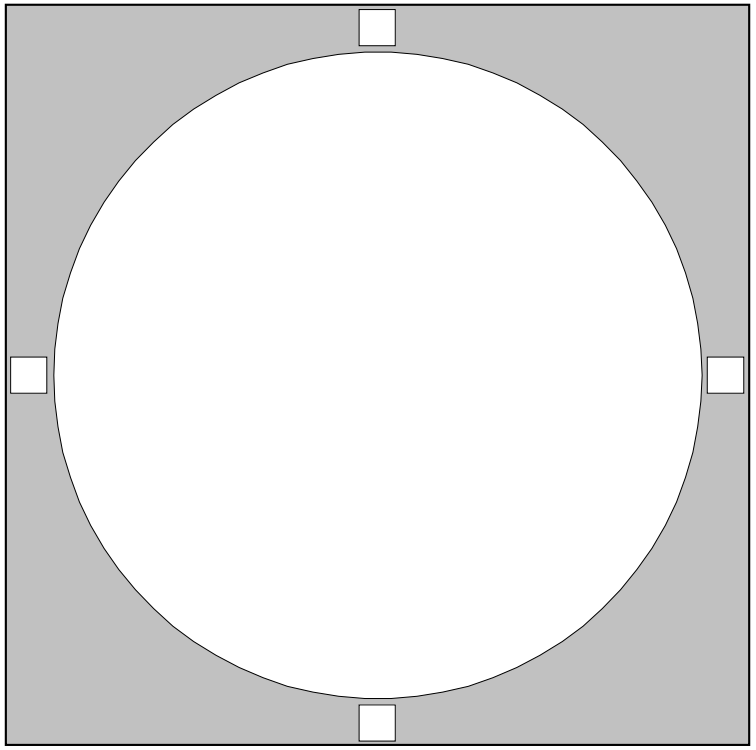


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M23

Messier Object	**M23**		
NGC	**6494**		
Constellation	**Sagittarius**		
Type	**Open Cluster**		
Magnitude	**5.5**		
Distance (Kilo light-years)	**2.15**		
RA	**17 56.8**		
Dec	**-19:01**		
Size	**27.0'**		
UM I	UM II	**388,339**	**145,146**
SA	**15, 22**		
Remarks	**bright, loose open cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



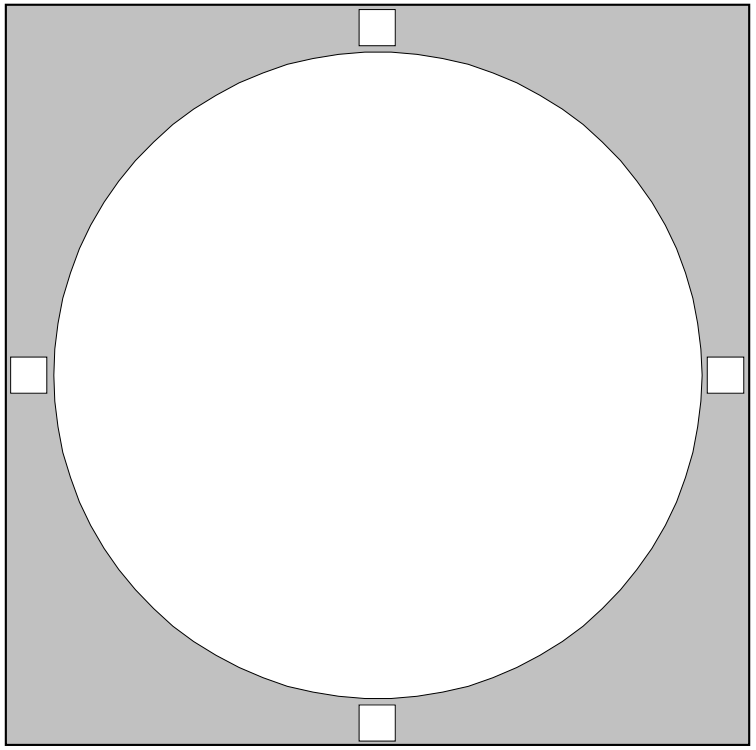
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M24

Sagittarius Star Cloud. Delle Caustiche

Messier Object	**M24**		
NGC	**>6603**		
Constellation	**Sagittarius**		
Type	**Star Cloud**		
Magnitude	**4.6**		
Distance (Kilo light-years)	**10**		
RA	**18 16.5**		
Dec	**-18:50**		
Size	**95.0' x 35.0'**		
UM I	UM II	**294,339,340**	**145**
SA	**15, 16, 22**		
Remarks	**rich star cloud; best in big binoculars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

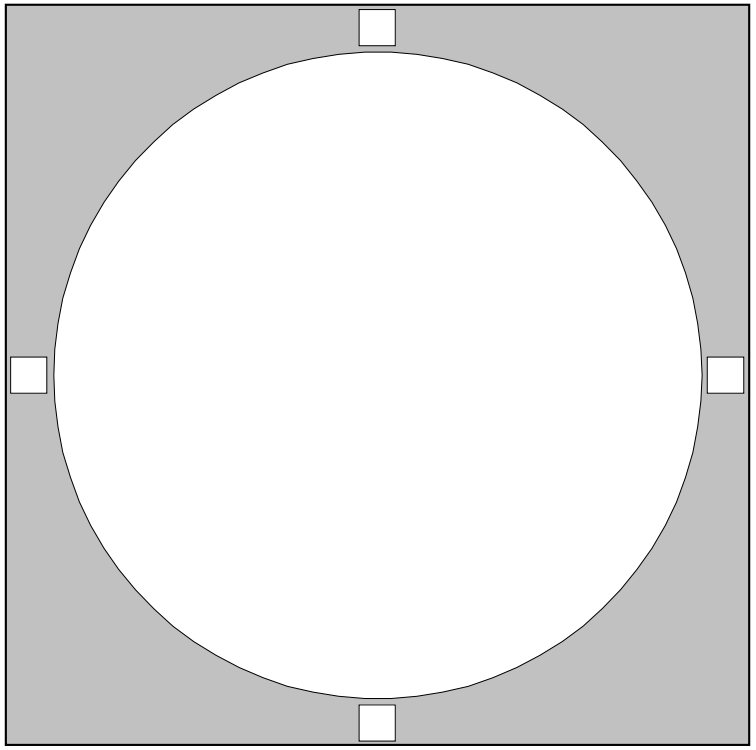


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M25

Messier Object	**M25**		
NGC	**IC4725**		
Constellation	**Sagittarius**		
Type	**Open Cluster**		
Magnitude	**4.6**		
Distance (Kilo light-years)	**2**		
RA	**18 31.6**		
Dec	**-19:15**		
Size	**32.0'**		
UM I	UM II	**340**	**145**
SA	**15, 16, 22**		
Remarks	**bright but sparse open cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

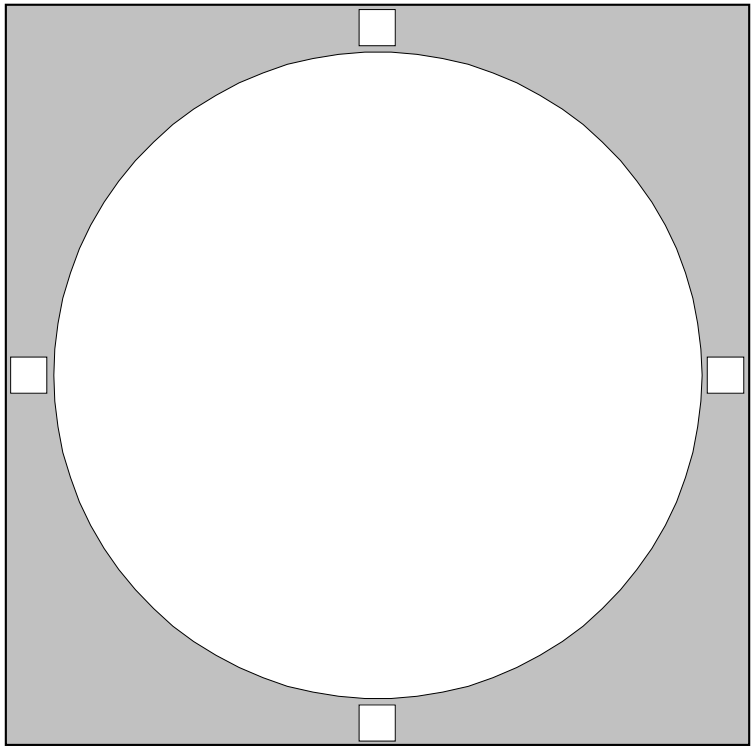


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M26

Messier Object	**M26**		
NGC	**6694**		
Constellation	**Scutum**		
Type	**Open Cluster**		
Magnitude	**8.0**		
Distance (Kilo light-years)	**5**		
RA	**18 45.2**		
Dec	**-09:24**		
Size	**14.0'**		
UM I	UM II	**295**	**125**
SA	**15, 16**		
Remarks	**bright, course cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



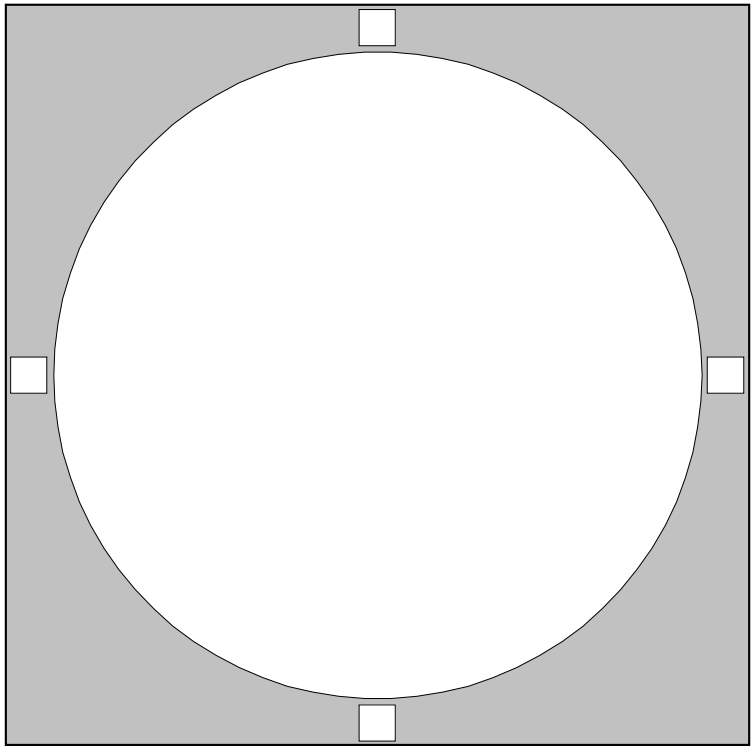
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M27

Dumbbell Nebula

Messier Object	**M27**		
NGC	**6853**		
Constellation	**Vulpecula**		
Type	**Planetary Nebula**		
Magnitude	**7.3**		
Distance (Kilo light-years)	**1.25**		
RA	**19 59.6**		
Dec	**+22:43**		
Size	**> 5' 48"**		
UM I	UM II	**162,163**	**66**
SA	**8, 9**		
Remarks	**!! Dumbbell Nebula; a superb object**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

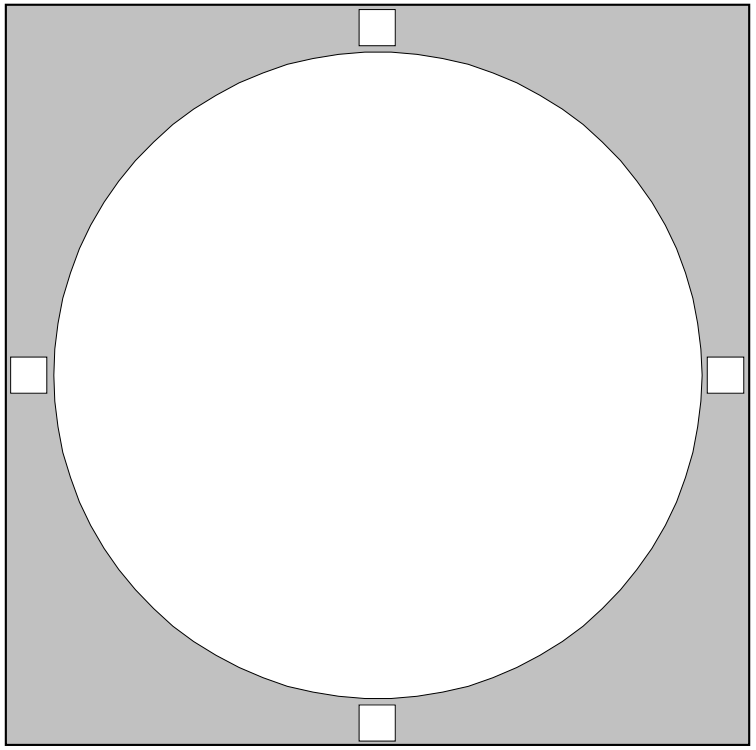


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M28

Messier Object	**M28**		
NGC	**6626**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**6.8**		
Distance (Kilo light-years)	**18.6**		
RA	**18 24.5**		
Dec	**-24:52**		
Size	**11.2'**		
UM I	UM II	**339,340**	**145**
SA	**22**		
Remarks	**compact globular near M22**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

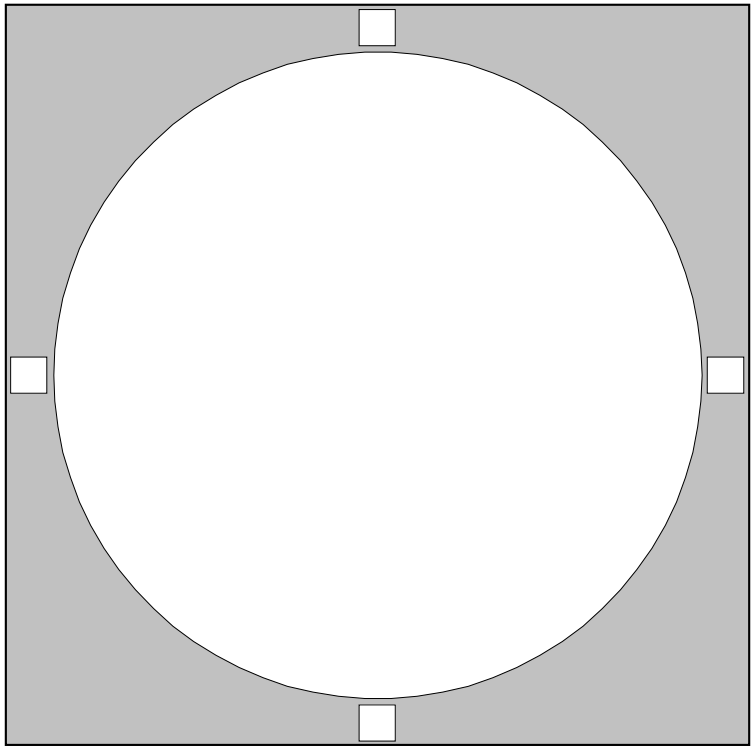


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M29

Messier Object	**M29**		
NGC	**6913**		
Constellation	**Cygnus**		
Type	**Open Cluster**		
Magnitude	**6.6**		
Distance (Kilo light-years)	**4.0**		
RA	**20 23.9**		
Dec	**+38:32**		
Size	**6.0'**		
UM I / UM II	**84,85,119,120**	**48,A2**	
SA	**8, 9**		
Remarks	**small, poor open cluster two degrees south of Gamma Cygni**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

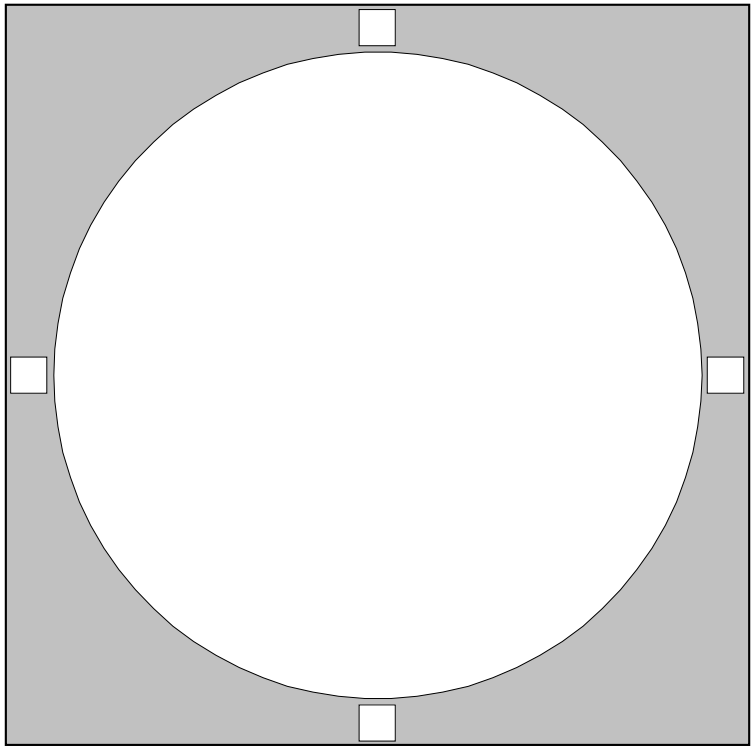


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M30

Messier Object	**M30**		
NGC	**7099**		
Constellation	**Capricornus**		
Type	**Globular Cluster**		
Magnitude	**7.3**		
Distance (Kilo light-years)	**26.1**		
RA	**21 40.4**		
Dec	**-23:11**		
Size	**11.0'**		
UM I	UM II	**345,346**	**143**
SA	**23**		
Remarks	**toughest in 1-night Messier marathon**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



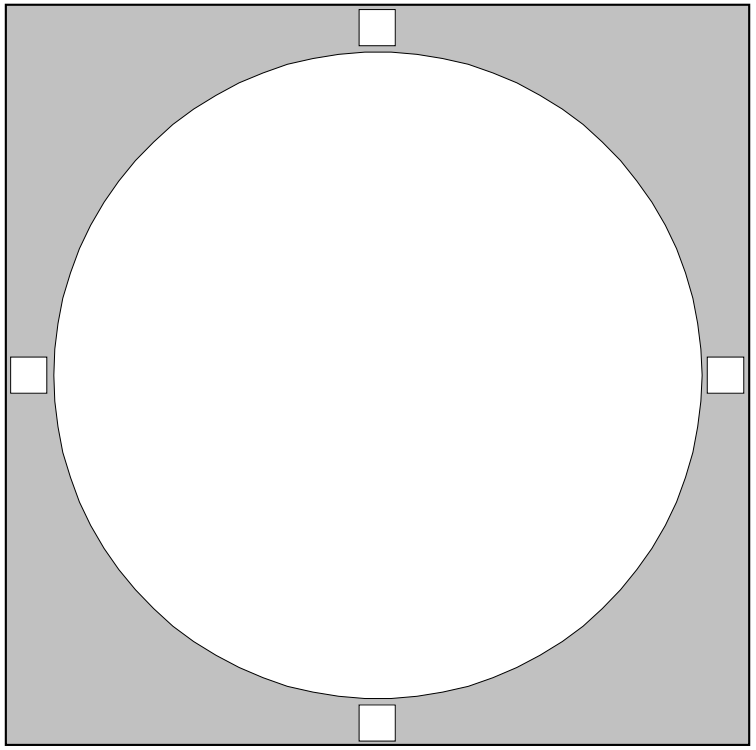
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M31

Andromeda Galaxy

Messier Object	**M31**		
NGC	**224**		
Constellation	**Andromeda**		
Type	**Spiral Galaxy (G-SAb)**		
Magnitude	**3.4**		
Distance (Kilo light-years)	**2900**		
RA	**00 42.7**		
Dec	**+41:16**		
Size	**185.0' x 75.0'**		
UM I	UM II	**60**	**30**
SA	**4, 9**		
Remarks	**!! Andromeda Galaxy; look for dust lanes**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

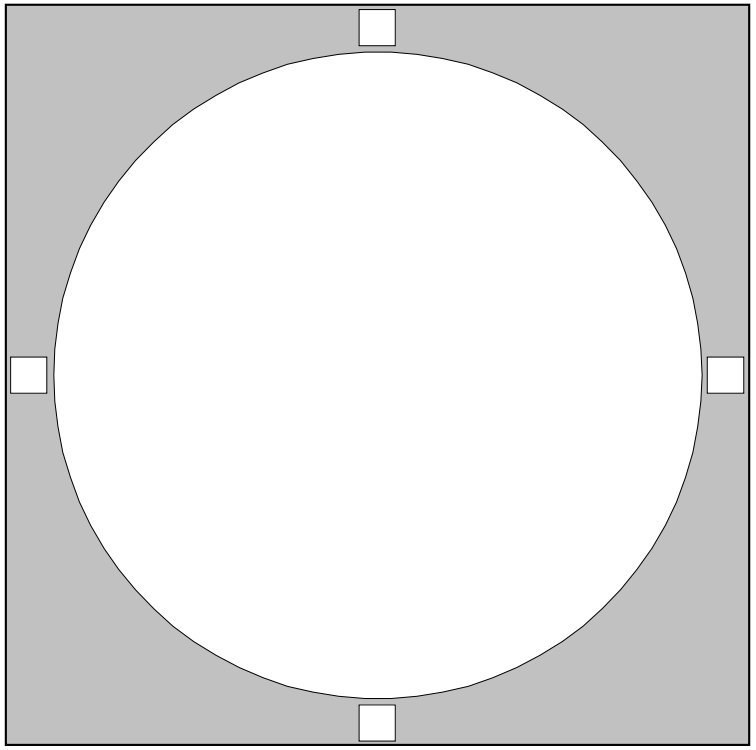


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M32

Messier Object	**M32**		
NGC	**221**		
Constellation	**Andromeda**		
Type	**Elliptical Galaxy (G-E5 peculiar)**		
Magnitude	**8.1**		
Distance (Kilo light-years)	**2900**		
RA	**00 42.7**		
Dec	**+40:52**		
Size	**110.0' x 7.0'**		
UM I	UM II	**60**	**30,45,62**
SA	**4, 9**		
Remarks	**closest companion to M31**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



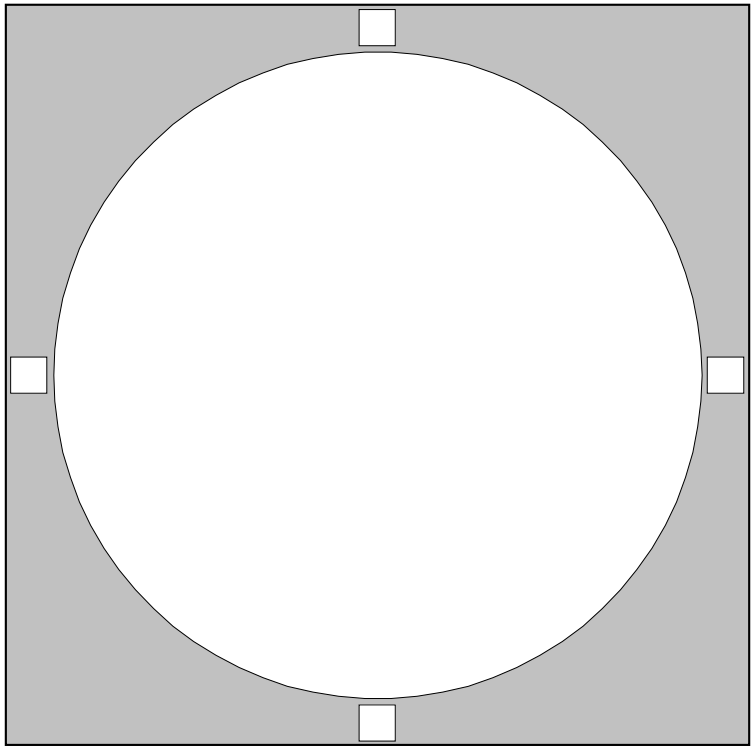
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M33

Triangulum Galaxy

Messier Object	**M33**		
NGC	**598**		
Constellation	**Triangulum**		
Type	**Spiral Galaxy (G-SAcd)**		
Magnitude	**5.7**		
Distance (Kilo light-years)	**3000**		
RA	**01 33.9**		
Dec	**+30:39**		
Size	**67.0' x 42.0'**		
UM I	UM II	**91**	**62**
SA	**4**		
Remarks	**large, diffuse spiral; requires dark sky**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

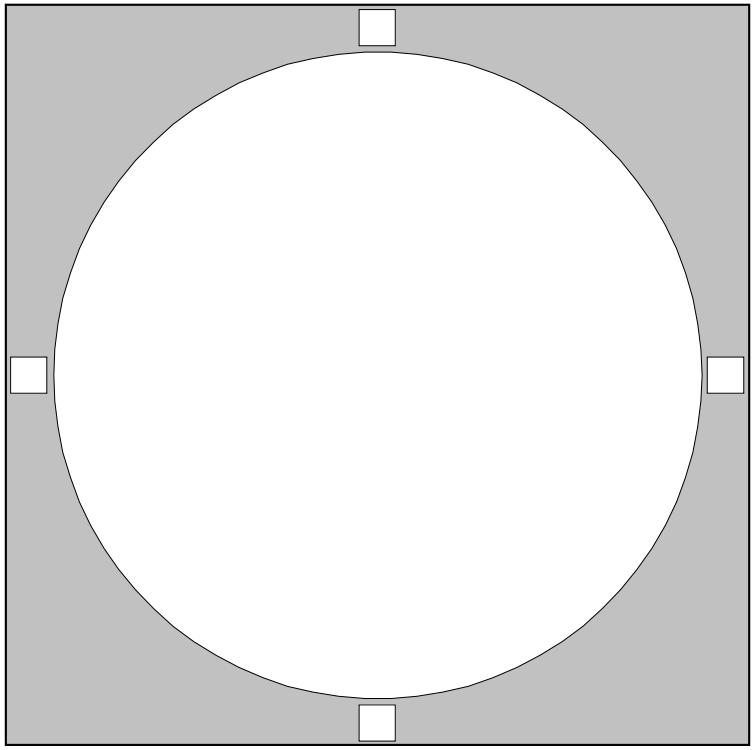


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M34

Messier Object	**M34**		
NGC	**1039**		
Constellation	**Perseus**		
Type	**Open Cluster**		
Magnitude	**5.2**		
Distance (Kilo light-years)	**1.4**		
RA	**02 42.0**		
Dec	**+42:47**		
Size	**35.0'**		
UM I	UM II	**62**	**43**
SA	**1, 4**		
Remarks	**best at low power**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

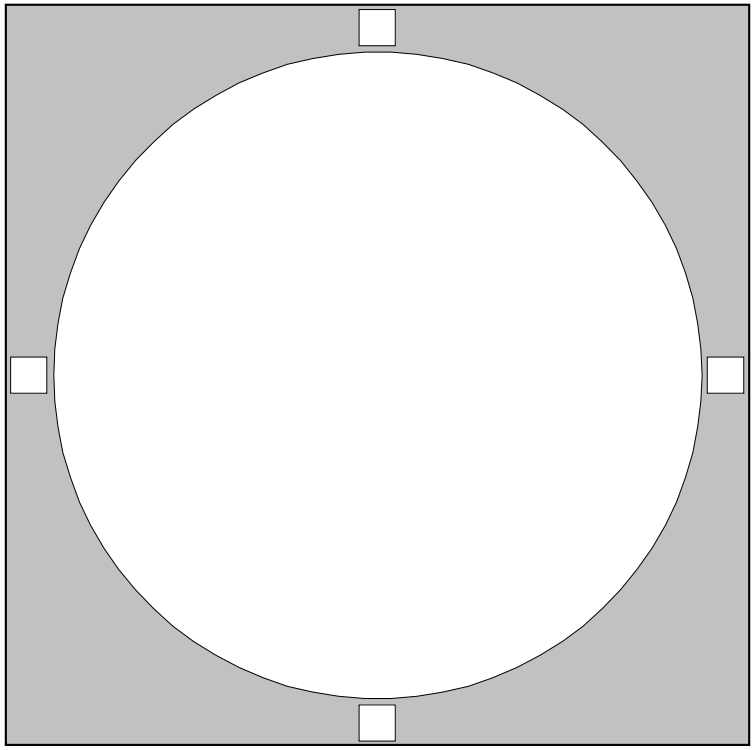


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M35

Messier Object	**M35**		
NGC	**2168**		
Constellation	**Gemini**		
Type	**Open Cluster**		
Magnitude	**5.1**		
Distance (Kilo light-years)	**2.8**		
RA	**06 08.9**		
Dec	**+24:20**		
Size	**28'**		
UM I	UM II	**136,137**	**76**
SA	**5**		
Remarks	**!! look for small cluster NGC 2158 1/4 degree south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

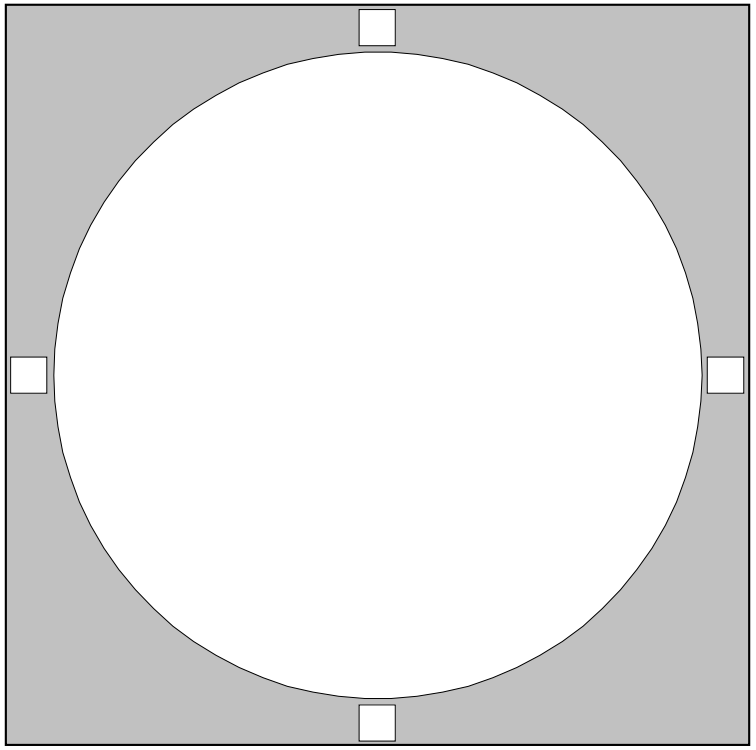


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M36

Messier Object	**M36**		
NGC	**1960**		
Constellation	**Auriga**		
Type	**Open Cluster**		
Magnitude	**6.0**		
Distance (Kilo light-years)	**4.1**		
RA	**05 36.1**		
Dec	**+34:08**		
Size	**12'**		
UM I	UM II	**97,98**	**59**
SA	**5**		
Remarks	**Bright but scattered group;use low power**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

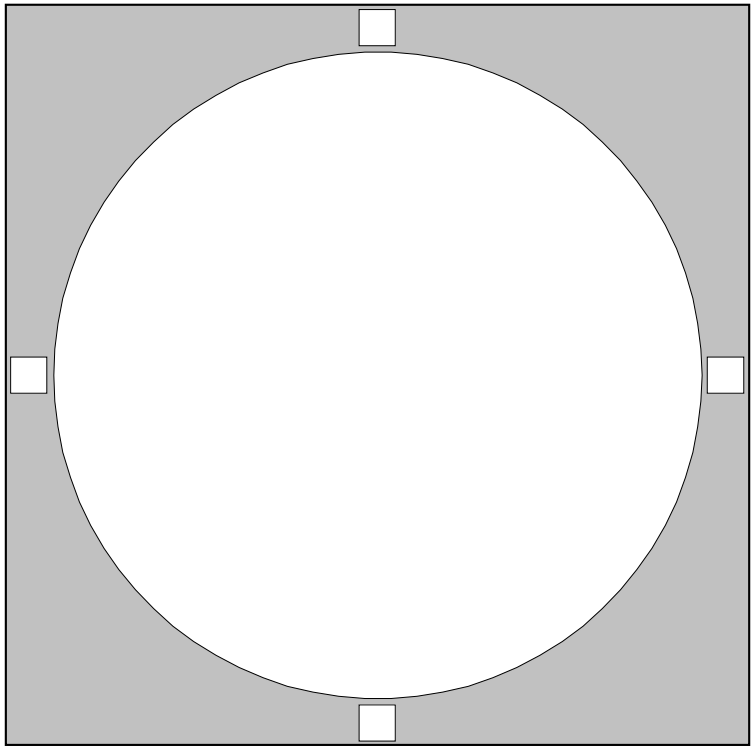


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M37

Messier Object	**M37**		
NGC	**2099**		
Constellation	**Auriga**		
Type	**Open Cluster**		
Magnitude	**5.6**		
Distance (Kilo light-years)	**4.4**		
RA	**05 52.4**		
Dec	**+32:33**		
Size	**20'**		
UM I	UM II	**98**	**59**
SA	**5**		
Remarks	**!! finest of three Auriga clusters; very rich**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

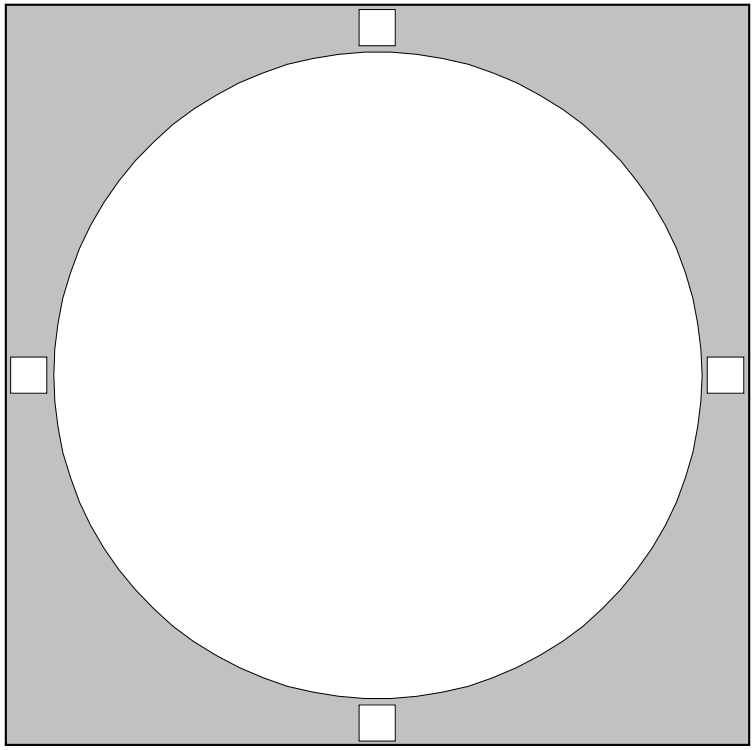


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M38

Messier Object	**M38**		
NGC	**1912**		
Constellation	**Auriga**		
Type	**Open Cluster**		
Magnitude	**6.4**		
Distance (Kilo light-years)	**4.2**		
RA	**05 28.7**		
Dec	**+35:50**		
Size	**21'**		
UM I	UM II	**97**	**59**
SA	**5**		
Remarks	**look for small cluster NGC1907 1/2 degree south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

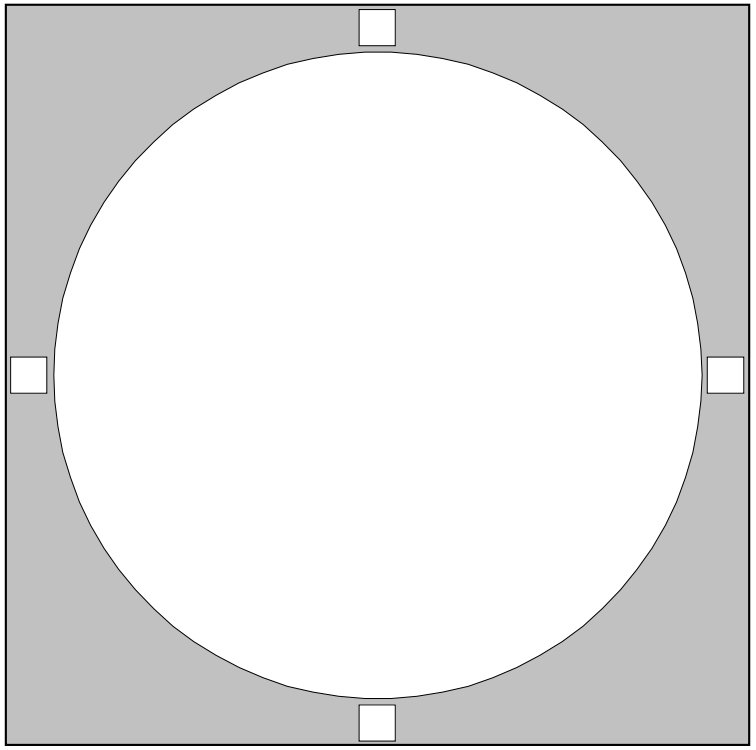


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M39

Messier Object	**M39**		
NGC	**7092**		
Constellation	**Cygnus**		
Type	**Open Cluster**		
Magnitude	**4.6**		
Distance (Kilo light-years)	**0.825**		
RA	**21 32.2**		
Dec	**+48:26**		
Size	**31.0'**		
UM I	UM II	**86**	**32**
SA	**9**		
Remarks	**very sparse cluster; use low power**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



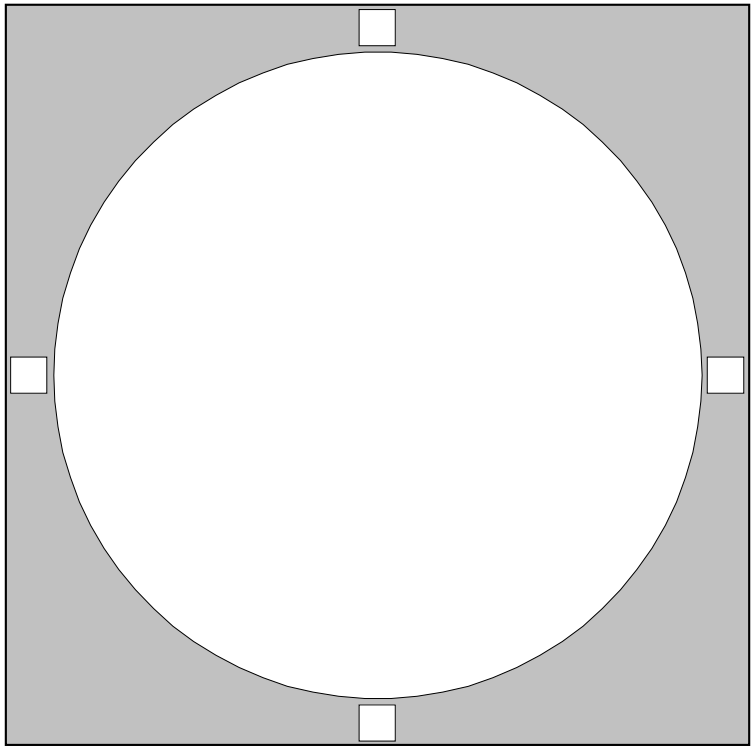
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M40

Winnecke 4

Messier Object	**M40**		
NGC	**Win4**		
Constellation	**Ursa Major**		
Type	**Double star**		
Magnitude	**8.0**		
Distance (Kilo light-years)	**0.51**		
RA	**12 22.4**		
Dec	**+58:05**		
Size			
UM I	UM II	**47**	**24**
SA	**2**		
Remarks	**double star Winnecke 4; seperation 50 seconds**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

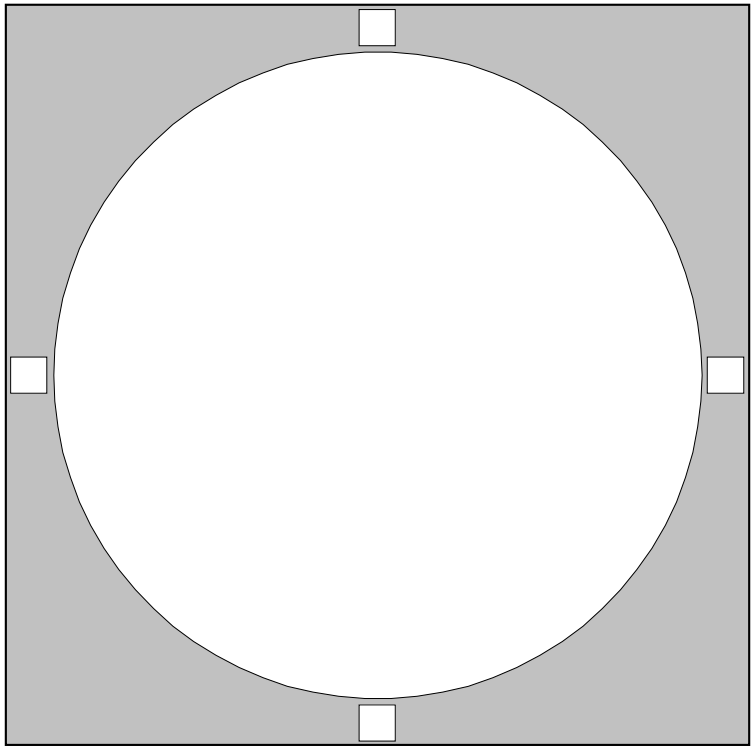


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M41

Messier Object	**M41**		
NGC	**2287**		
Constellation	**Canis Major**		
Type	**Open Cluster**		
Magnitude	**4.5**		
Distance (Kilo light-years)	**2.3**		
RA	**06 47.0**		
Dec	**-20:44**		
Size	**38'**		
UM I	UM II	**318**	**154**
SA	**19**		
Remarks	**4 degrees south of sirius; bright but coarse**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



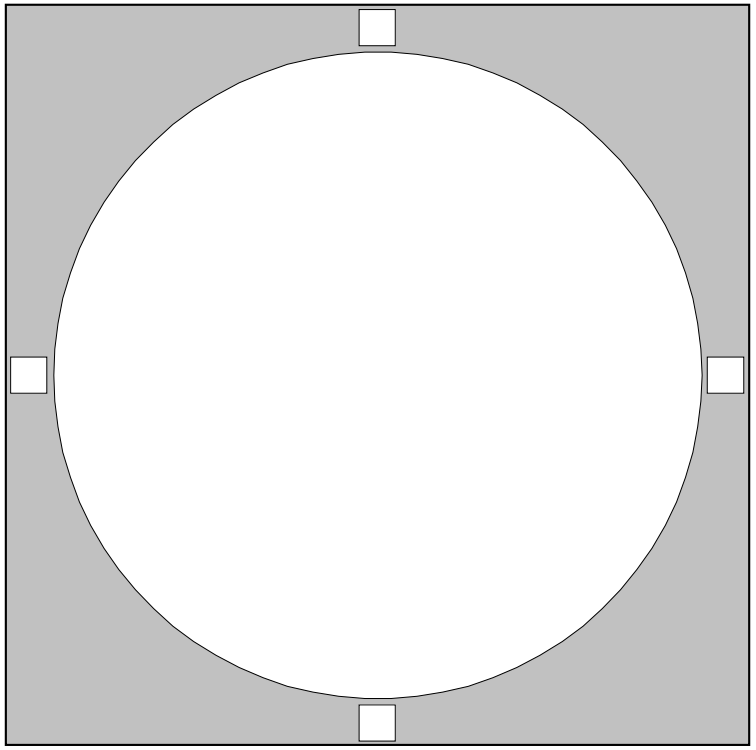
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M42

Orion Nebula

Messier Object	**M42**		
NGC	**1976**		
Constellation	**Orion**		
Type	**Emission/Reflection Nebula**		
Magnitude	**4.0**		
Distance (Kilo light-years)	**1.6**		
RA	**05 35.4**		
Dec	**-05:27**		
Size	**65' x 60'**		
UM I	UM II	**225,226,270,271**	**116,136**
SA	**11, B2**		
Remarks	**!! Orion Nebula; finest in northern sky**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



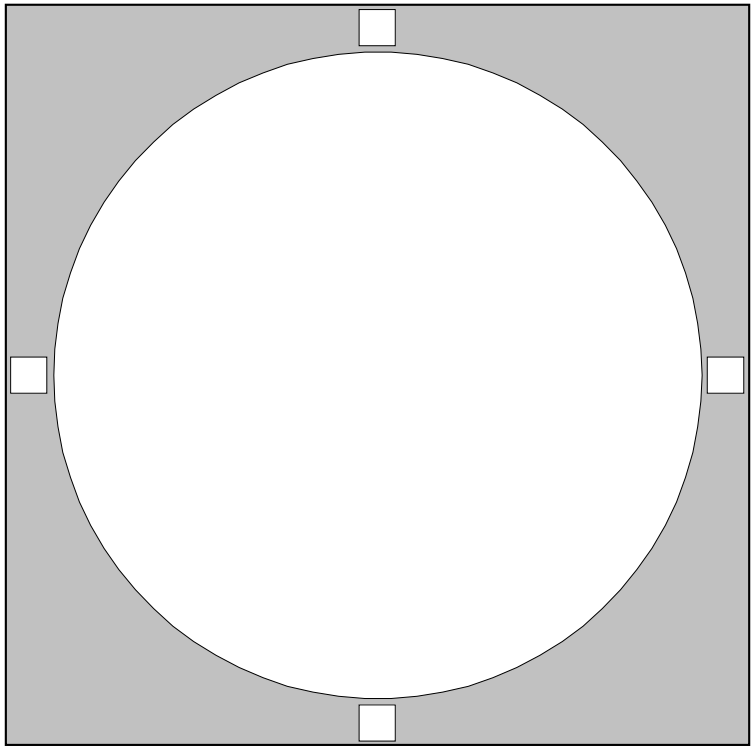
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M43

De Mairan's Nebula

Messier Object	**M43**		
NGC	**1982**		
Constellation	**Orion**		
Type	**Emission/Reflection Nebula**		
Magnitude	**9.0**		
Distance (Kilo light-years)	**1.6**		
RA	**05 35.6**		
Dec	**-05:16**		
Size	**20' x 15'**		
UM I	UM II	**225,226,270,271**	**116,136**
SA	**11, B2**		
Remarks	**detached part of Orion Nebula; De Mairan's Nebula**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



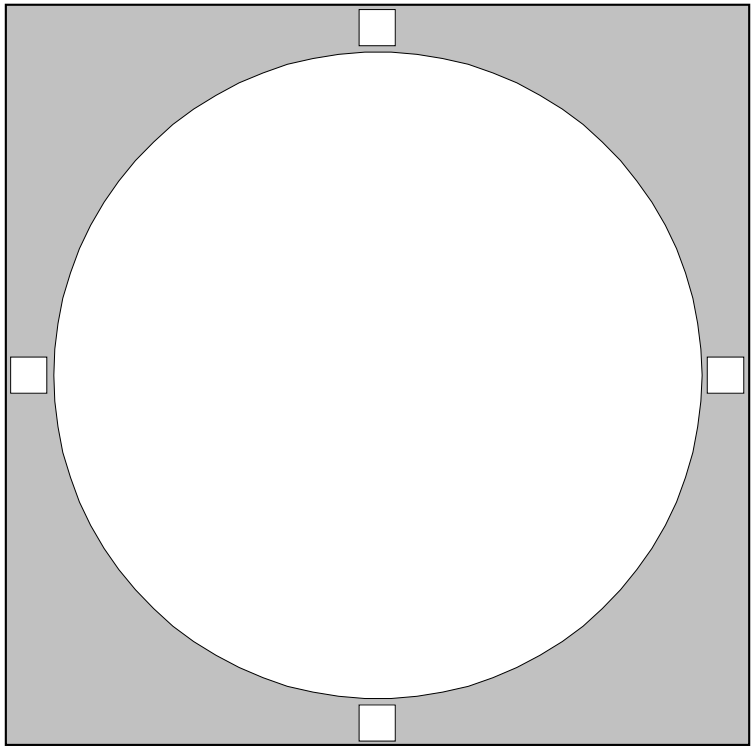
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M44

Beehive Cluster. Praesepe

Messier Object	**M44**		
NGC	**2632**		
Constellation	**Cancer**		
Type	**Open Cluster**		
Magnitude	**3.1**		
Distance (Kilo light-years)	**0.577**		
RA	**08 40.1**		
Dec	**+19:59**		
Size	**95'**		
UM I	UM II	**141**	**74,75**
SA	**6, 12**		
Remarks	**!! Beehive or Praesepe; use low power**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



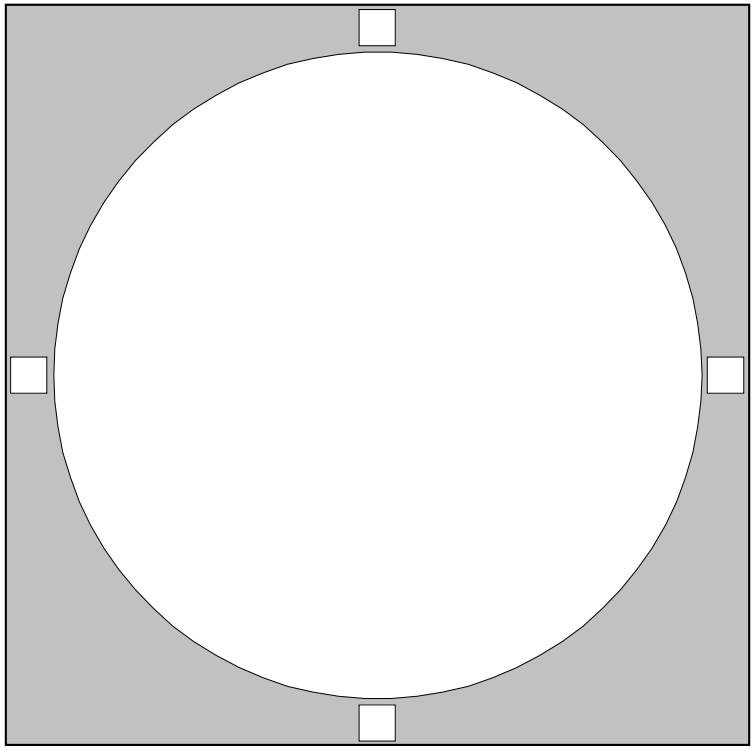
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M45

Pleiades

Messier Object	**M45**		
NGC	**-**		
Constellation	**Taurus**		
Type	**Open Cluster**		
Magnitude	**1.2**		
Distance (Kilo light-years)	**0.38**		
RA	**03 47.0**		
Dec	**+24:07**		
Size	**110'**		
UM I	UM II	**132**	**78,A12**
SA	**4, A2**		
Remarks	**!! Pleiades; look for subtle nebulosity**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

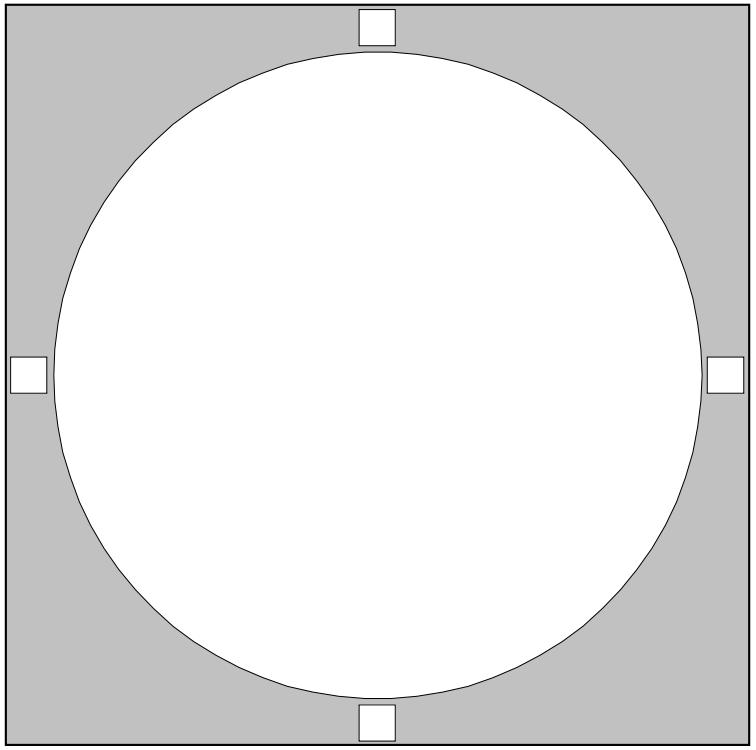


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M46

Messier Object	**M46**		
NGC	**2437**		
Constellation	**Puppis**		
Type	**Open Cluster**		
Magnitude	**6.1**		
Distance (Kilo light-years)	**5.4**		
RA	**07 41.8**		
Dec	**-14:49**		
Size	**27'**		
UM I	UM II	**274,275**	**135**
SA	**12, 19**		
Remarks	**!! contains planetary nebula NGC 2438**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

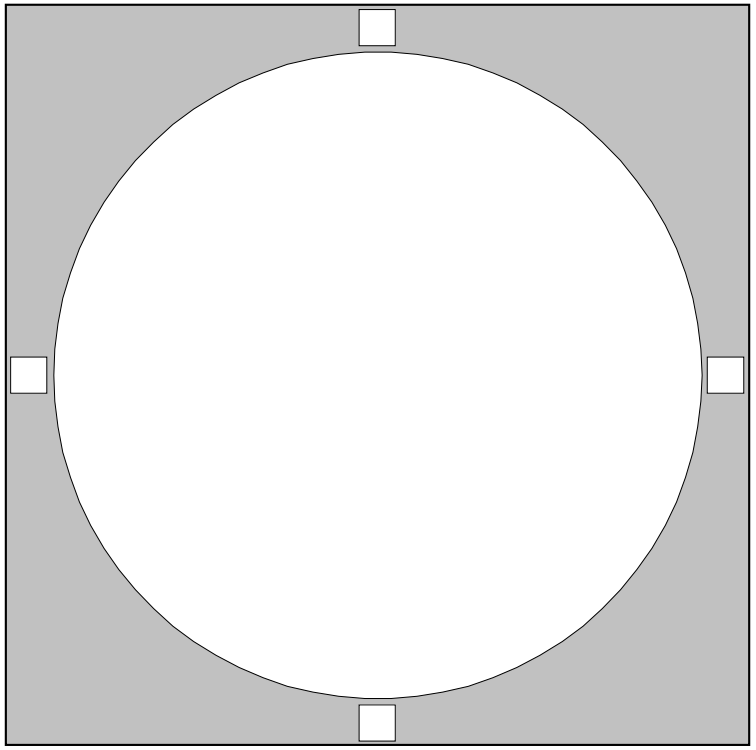


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M47

Messier Object	**M47**		
NGC	**2422**		
Constellation	**Puppis**		
Type	**Open Cluster**		
Magnitude	**4.4**		
Distance (Kilo light-years)	**1.6**		
RA	**07 36.6**		
Dec	**-14:30**		
Size	**29'**		
UM I	UM II	**274**	**135**
SA	**12, 19**		
Remarks	**coarse cluster 1.5 degrees west of M46**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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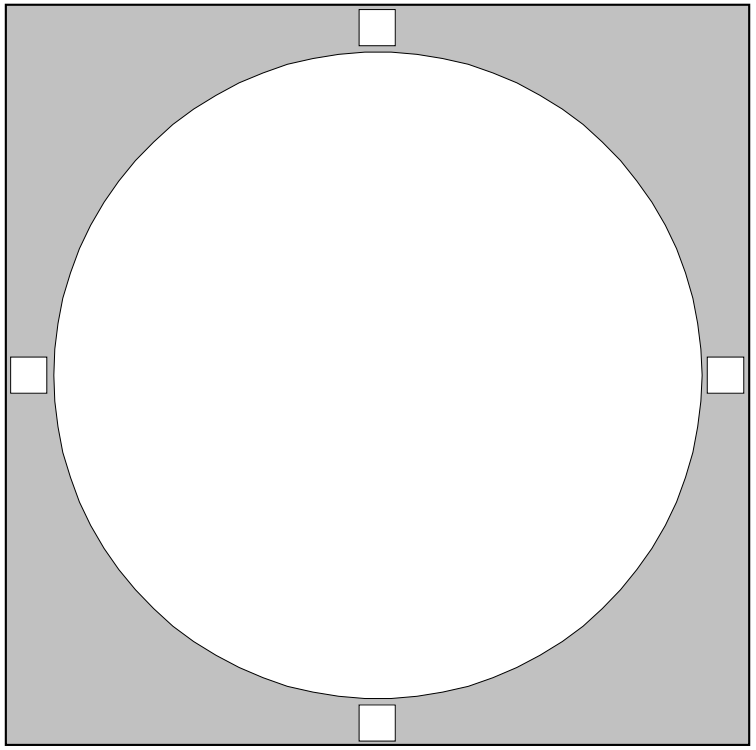
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M48

Messier Object	**M48**		
NGC	**2548**		
Constellation	**Hydra**		
Type	**Open Cluster**		
Magnitude	**5.8**		
Distance (Kilo light-years)	**1.5**		
RA	**08 13.8**		
Dec	**-05:48**		
Size	**54'**		
UM I	UM II	**230,231,275,276**	**114,134**
SA	**12**		
Remarks	**former "lost" Messier; large sparse cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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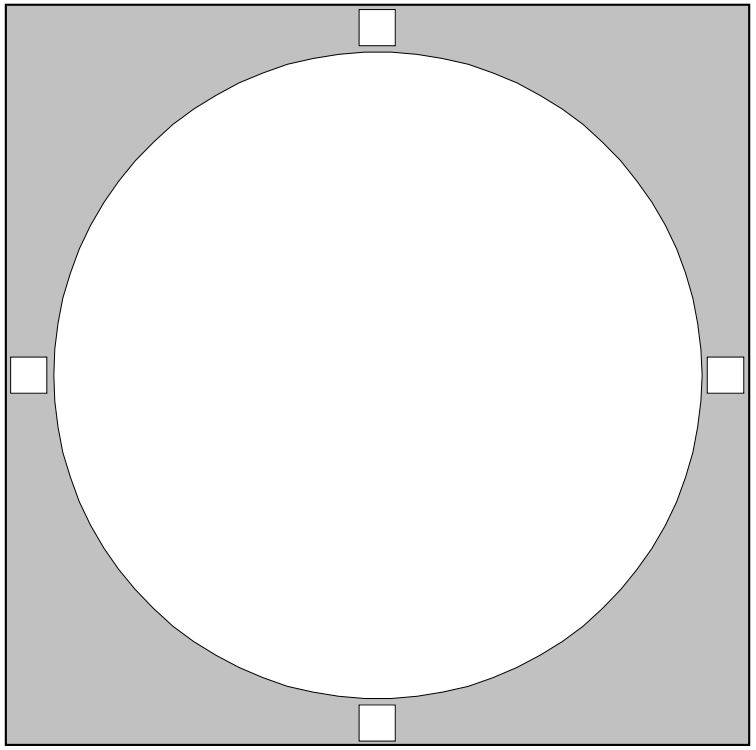
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M49

Messier Object	**M49**		
NGC	**4472**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E2)**		
Magnitude	**8.4**		
Distance (Kilo light-years)	**60000**		
RA	**12 29.8**		
Dec	**+08:00**		
Size	**8.1' x 7.1'**		
UM I / UM II	**193,194**	**91,A15**	
SA	**13, 14, B1**		
Remarks	**very bright elliptical**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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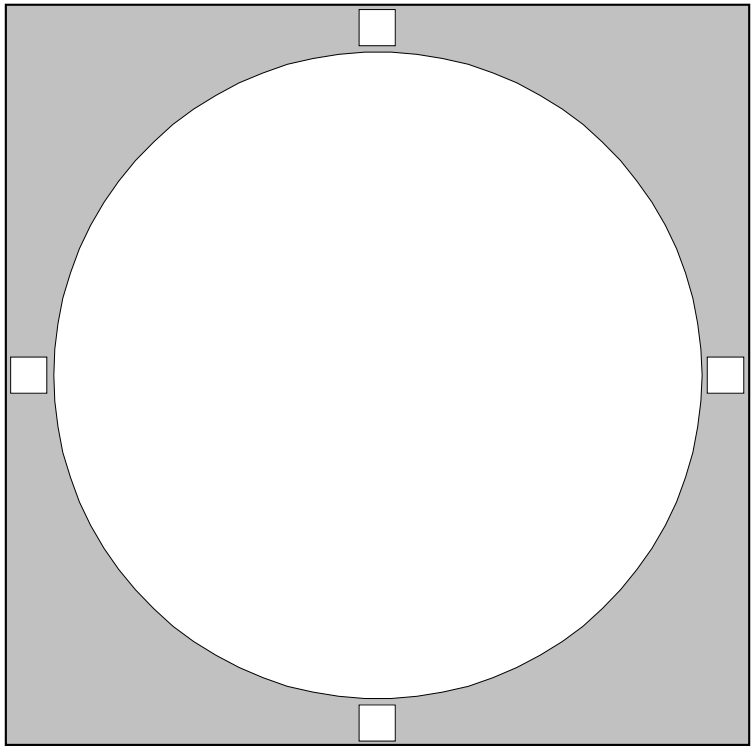
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M50

Messier Object	**M50**		
NGC	**2323**		
Constellation	**Monoceros**		
Type	**Open Cluster**		
Magnitude	**5.9**		
Distance (Kilo light-years)	**3**		
RA	**07 03.2**		
Dec	**-08:20**		
Size	**16'**		
UM I	UM II	**273**	**135**
SA	**12**		
Remarks	**between sirius and Procyon; use low magnification**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



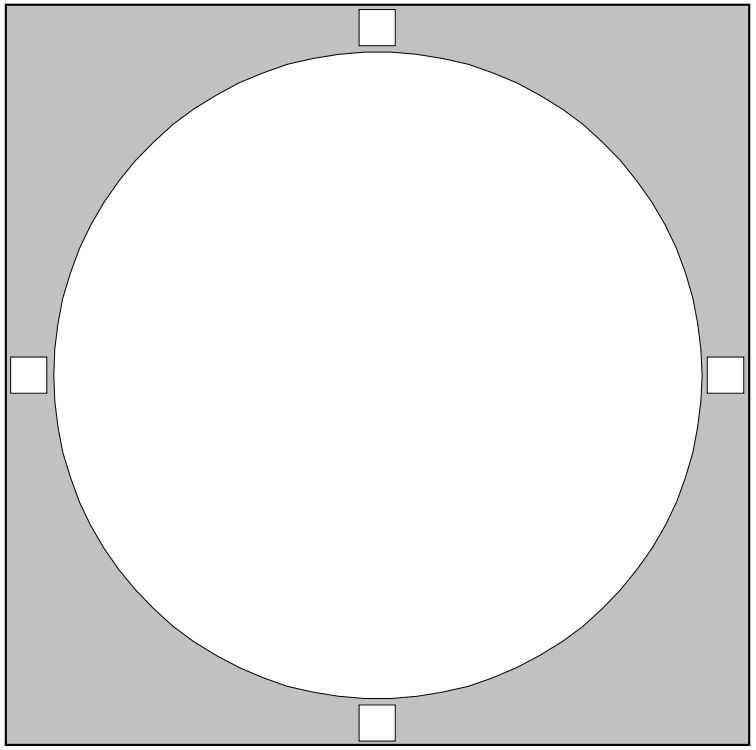
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M51

Whirlpool Galaxy

Messier Object	**M51**		
NGC	**5194/5**		
Constellation	**Canes Venatici**		
Type	**Spiral Galaxy (G-SAbc)**		
Magnitude	**8.4**		
Distance (Kilo light-years)	**37000**		
RA	**13 29.9**		
Dec	**+47:12**		
Size	**8.0' x 7.0'**		
UM I	UM II	**76**	**37**
SA	**7**		
Remarks	**!! Whirlpool Galaxy; superb in big scope**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

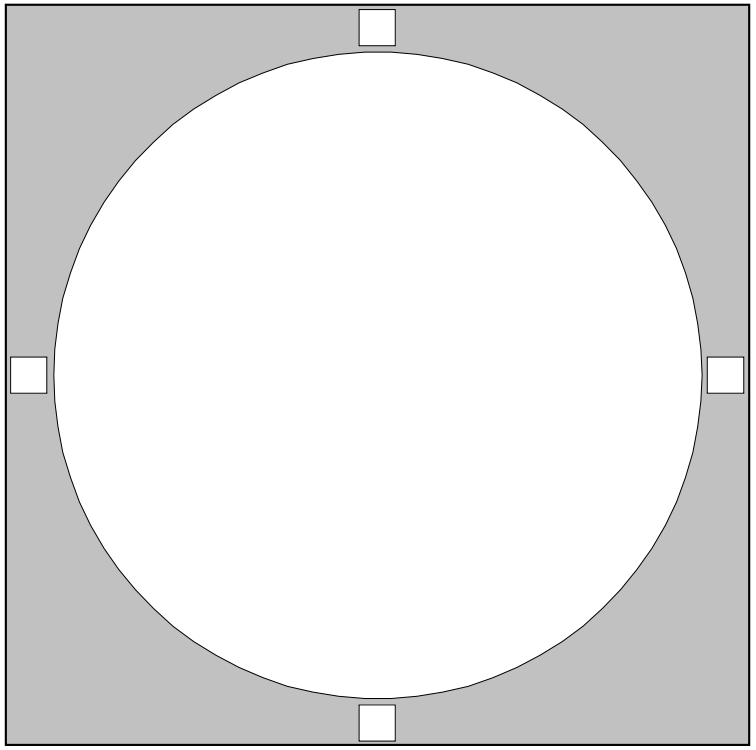


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M52

Messier Object	**M52**		
NGC	**7654**		
Constellation	**Cassiopeia**		
Type	**Open Cluster**		
Magnitude	**6.9**		
Distance (Kilo light-years)	**5.0**		
RA	**23 24.2**		
Dec	**+61:35**		
Size	**12.0'**		
UM I	UM II	**15,34,58**	**18**
SA	**3**		
Remarks	**young, rich cluster; faint Bubble Nebula near by**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

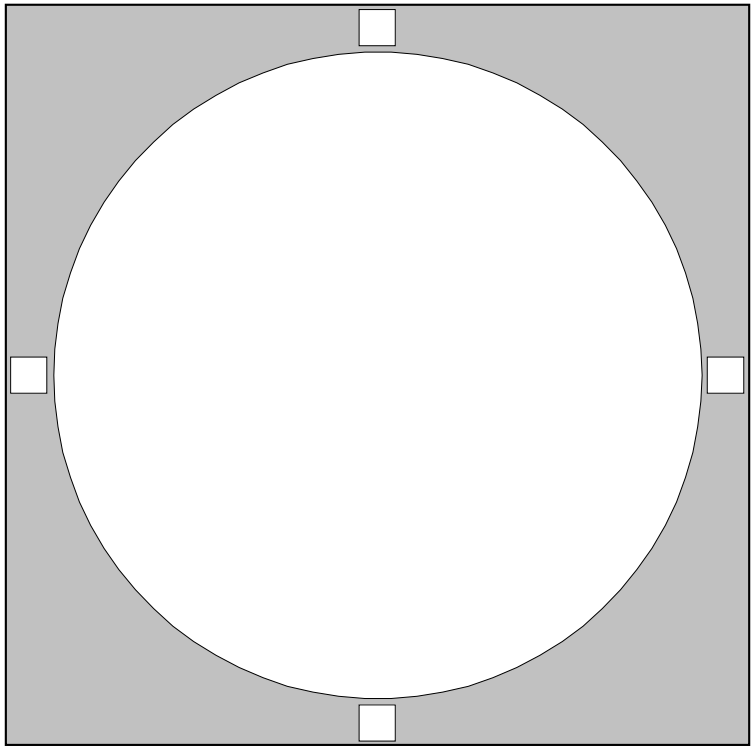


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M53

Messier Object	**M53**		
NGC	**5024**		
Constellation	**Coma Berenices**		
Type	**Globular Cluster**		
Magnitude	**7.5**		
Distance (Kilo light-years)	**59.7**		
RA	**13 12.9**		
Dec	**+18:10**		
Size	**12.6'**		
UM I	UM II	**150,195**	**71**
SA	**7, 14**		
Remarks	**150-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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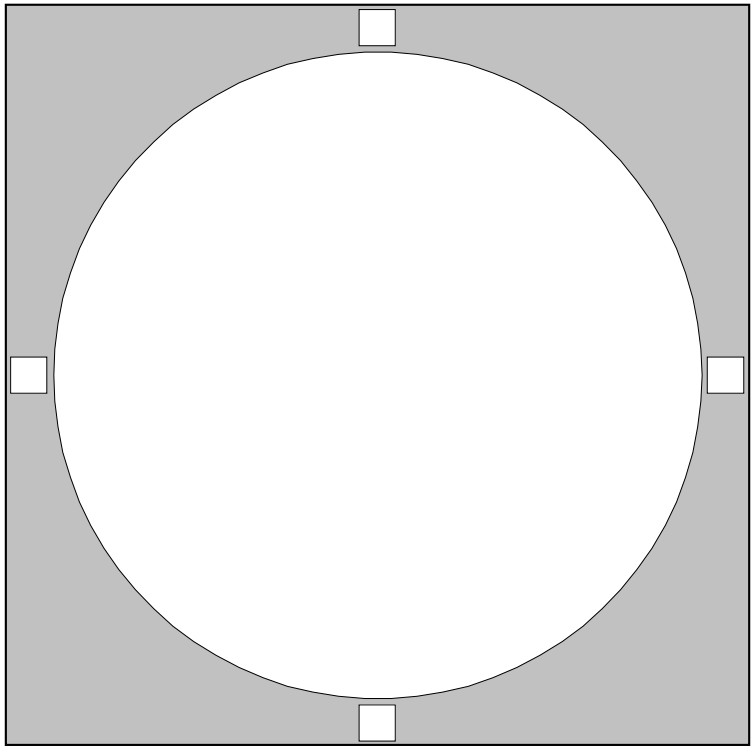
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M54

Messier Object	**M54**		
NGC	**6715**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**88.7**		
RA	**18 55.1**		
Dec	**-30:29**		
Size	**9.1'**		
UM I	UM II	**378**	**163**
SA	**22**		
Remarks	**not easily resolved**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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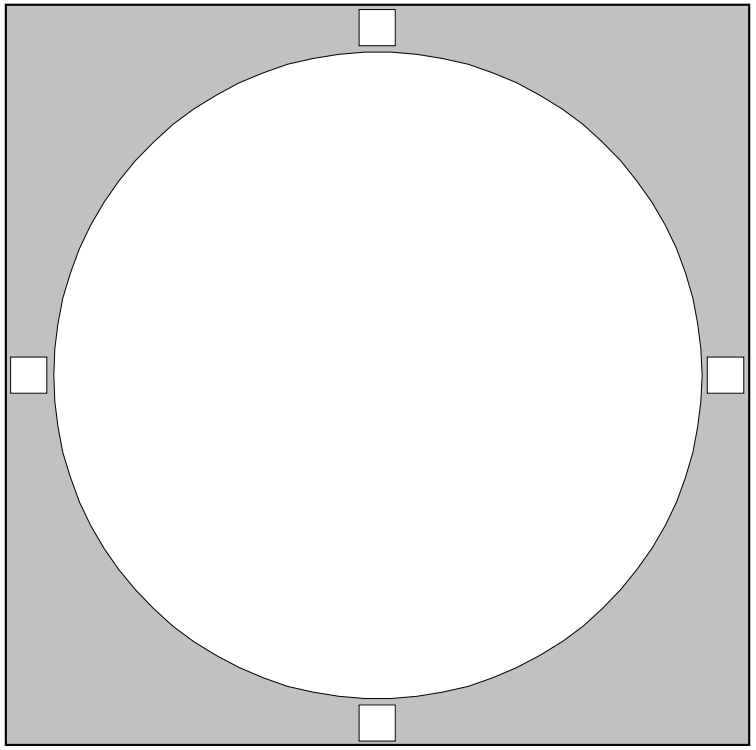
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M55

Messier Object	**M55**		
NGC	**6809**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**6.4**		
Distance (Kilo light-years)	**17.6**		
RA	**19 40.0**		
Dec	**-30:58**		
Size	**19.0'**		
UM I	UM II	**379,380**	**162**
SA	**22, 23**		
Remarks	**bright, loose globular cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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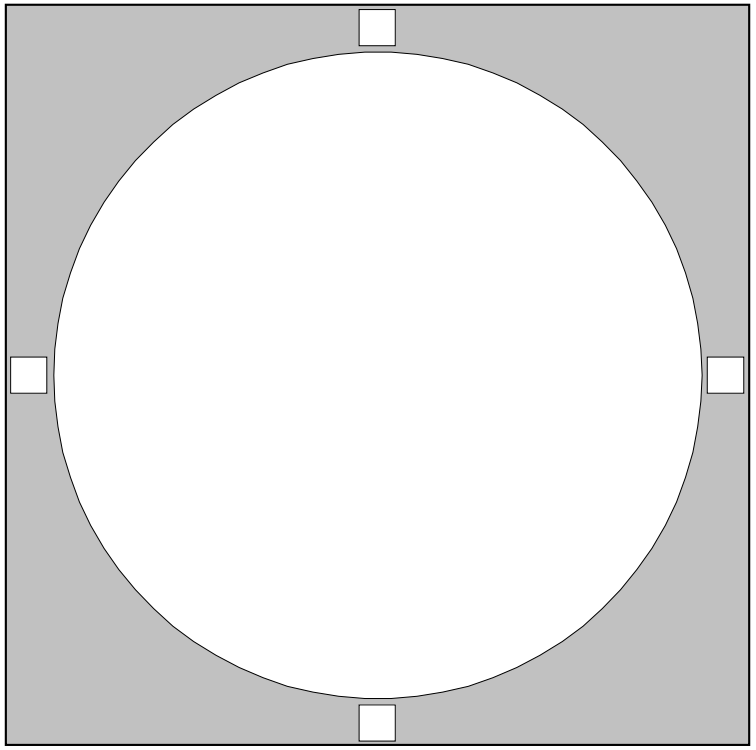
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M56

Messier Object	**M56**		
NGC	**6779**		
Constellation	**Lyra**		
Type	**Globular Cluster**		
Magnitude	**8.3**		
Distance (Kilo light-years)	**32.9**		
RA	**19 16.6**		
Dec	**+30:11**		
Size	**7.1'**		
UM I	UM II	**118**	**48,49**
SA	**8**		
Remarks	**within a rich dark field**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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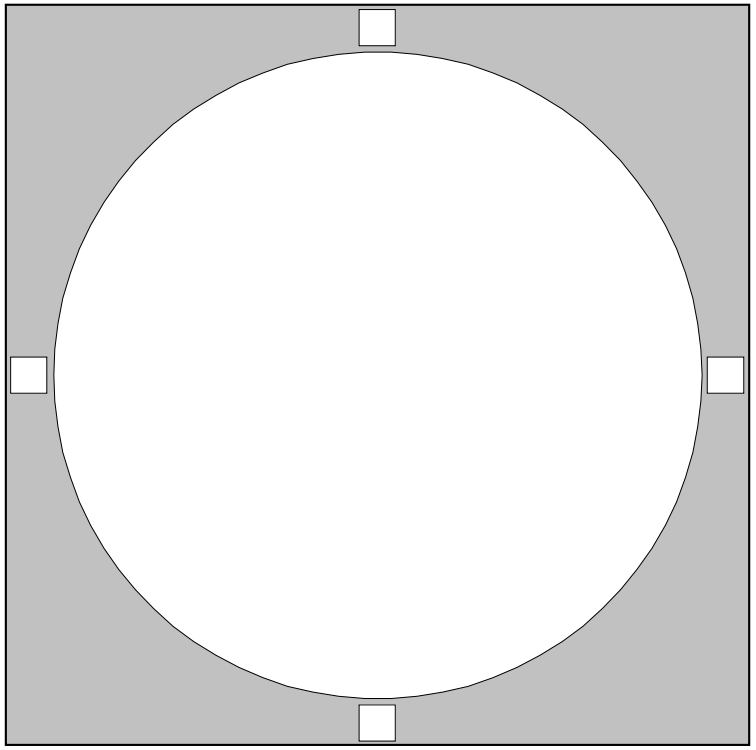
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M57

Ring Nebula

Messier Object	**M57**		
NGC	**6720**		
Constellation	**Lyra**		
Type	**Planetary Nebula**		
Magnitude	**8.8**		
Distance (Kilo light-years)	**2.3**		
RA	**18 53.6**		
Dec	**+33:02**		
Size	**> 1' 11"**		
UM I	UM II	**117**	**49**
SA	**8**		
Remarks	**!! Ring Nebula; an amazing smoke ring**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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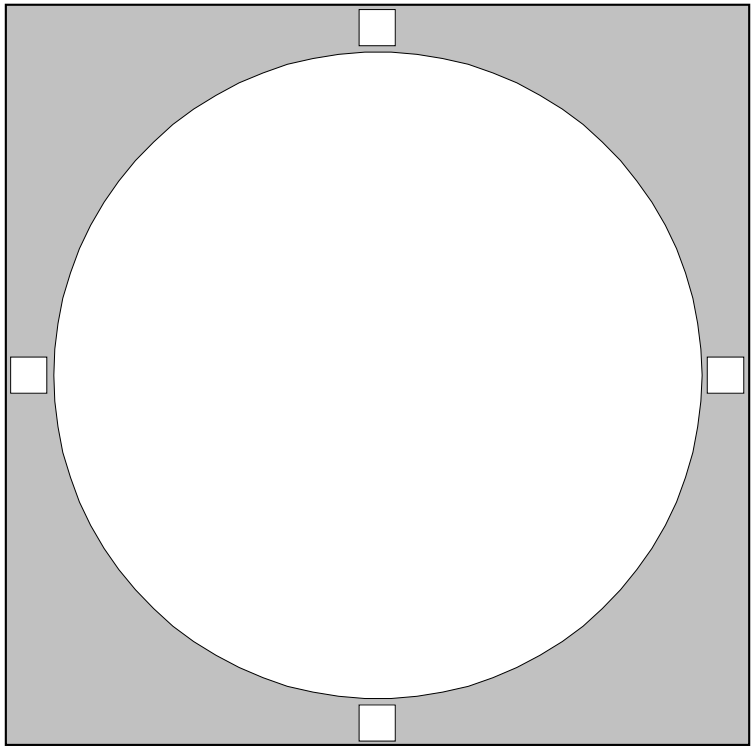
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M58

Messier Object	**M58**		
NGC	**4579**		
Constellation	**Virgo**		
Type	**Spiral Galaxy (G-SABb)**		
Magnitude	**9.7**		
Distance (Kilo light-years)	**60000**		
RA	**12 37.7**		
Dec	**+11:49**		
Size	**5.5' x 4.6'**		
UM I	UM II	**194**	**90,91,A13**
SA	**13, 14, B1**		
Remarks	**bright barred spiral; M59 and M60 one degree E**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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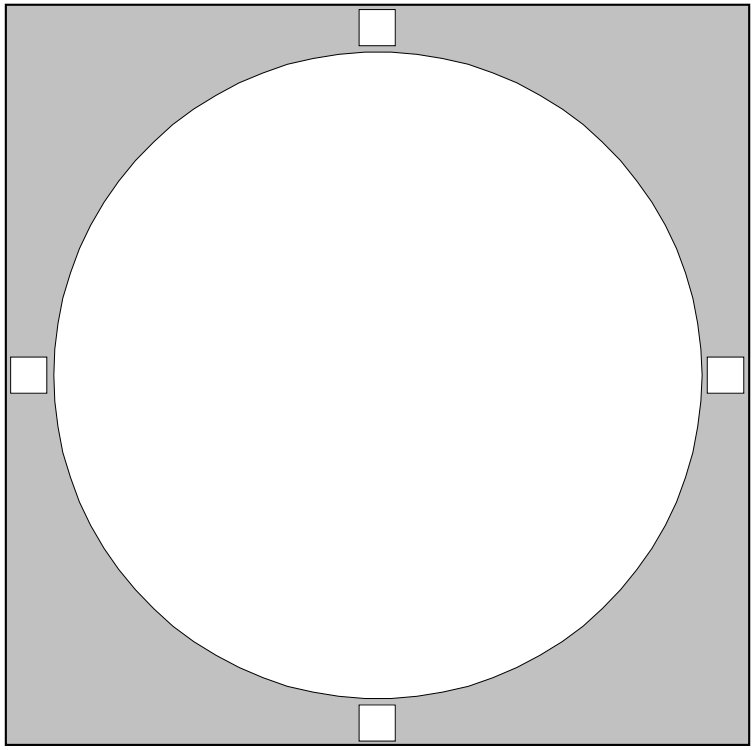
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M59

Messier Object	**M59**		
NGC	**4621**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E5)**		
Magnitude	**9.6**		
Distance (Kilo light-years)	**60000**		
RA	**12 42.0**		
Dec	**+11:39**		
Size	**4.6' x 3.6'**		
UM I	UM II	**194**	**90**
SA	**13, 14, B1**		
Remarks	**bright elliptical paired with M60**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

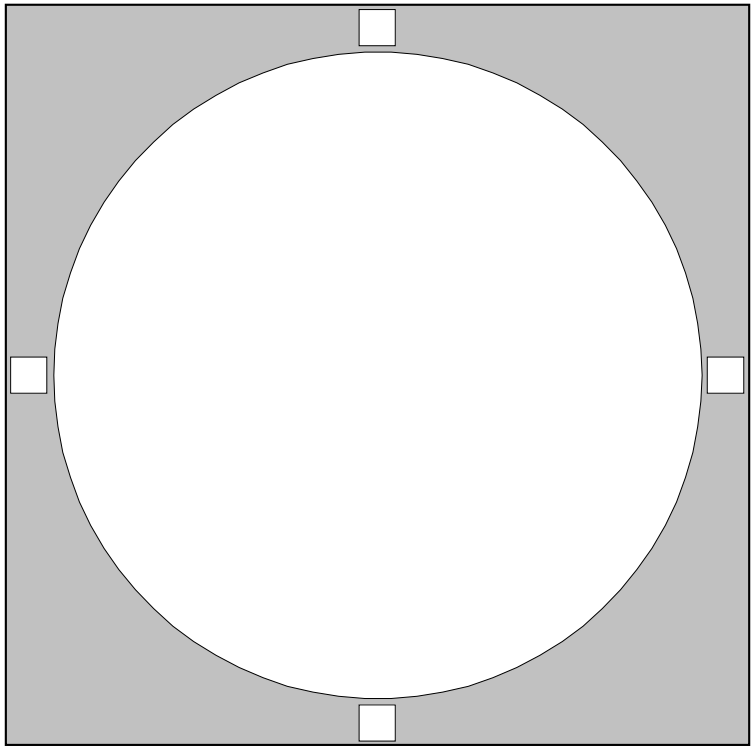


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M60

Messier Object	**M60**		
NGC	**4649**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E2)**		
Magnitude	**8.8**		
Distance (Kilo light-years)	**60000**		
RA	**12 43.7**		
Dec	**+11:33**		
Size	**7.1' x 6.1'**		
UM I	UM II	**194**	**90**
SA	**13, 14, B1**		
Remarks	**bright elliptical with M59 and NGC 4647**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

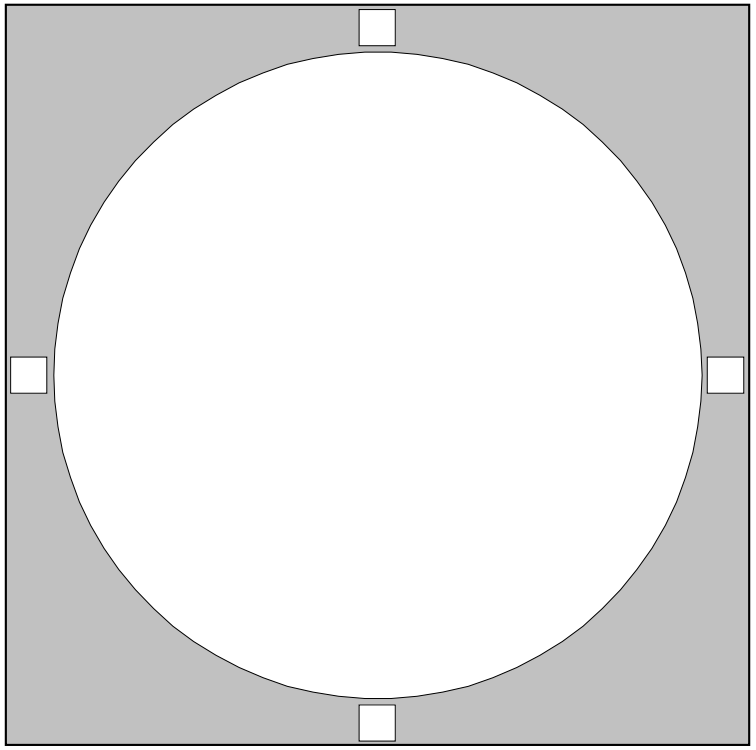


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M61

Messier Object	**M61**		
NGC	**4303**		
Constellation	**Virgo**		
Type	**Spiral Galaxy (G-SABbc)**		
Magnitude	**9.7**		
Distance (Kilo light-years)	**60000**		
RA	**12 21.9**		
Dec	**+04:28**		
Size	**6.0' x 5.9'**		
UM I	UM II	**238**	**111,A15**
SA	**13, 14, B1**		
Remarks	**face-on two-armed spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

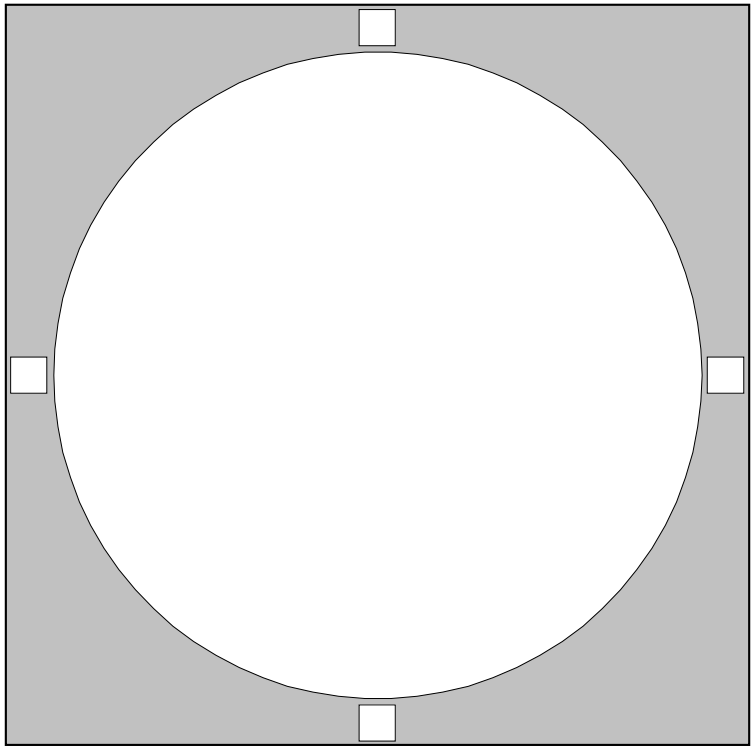


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M62

Messier Object	**M62**		
NGC	**6266**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.7**		
Distance (Kilo light-years)	**22.5**		
RA	**17 01.2**		
Dec	**-30:07**		
Size	**14.1'**		
UM I	UM II	**375,376**	**164**
SA	**22**		
Remarks	**asymmetrical; in rich field**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



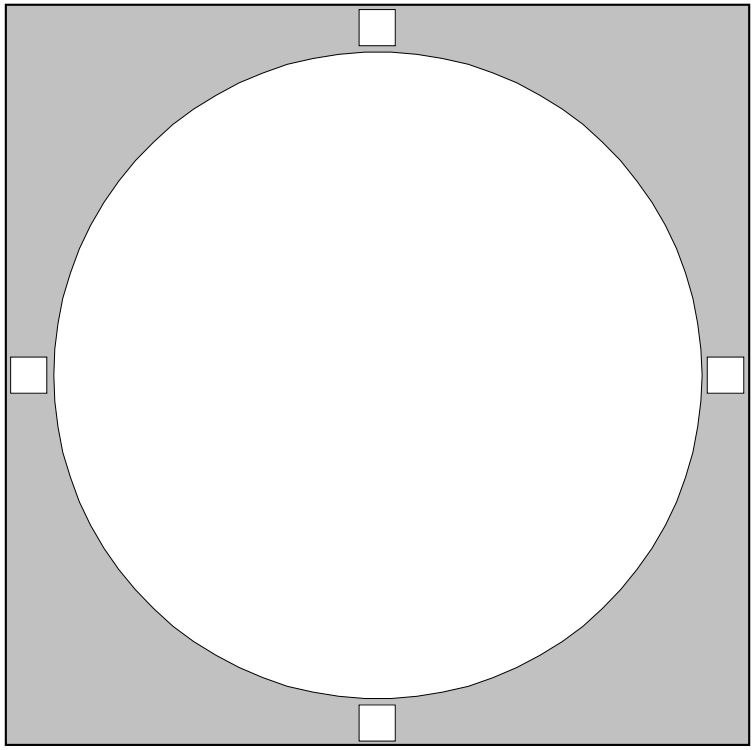
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M63

Sunflower Galaxy

Messier Object	**M63**		
NGC	**5055**		
Constellation	**Canes Venatici**		
Type	**Spiral Galaxy (G-SAbc)**		
Magnitude	**8.6**		
Distance (Kilo light-years)	**37000**		
RA	**13 15.8**		
Dec	**+42:02**		
Size	**14.0 x 8.0'**		
UM I	UM II	**75,76**	**37**
SA	**7**		
Remarks	**!! Sunflower Galaxy; bright, elongated**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



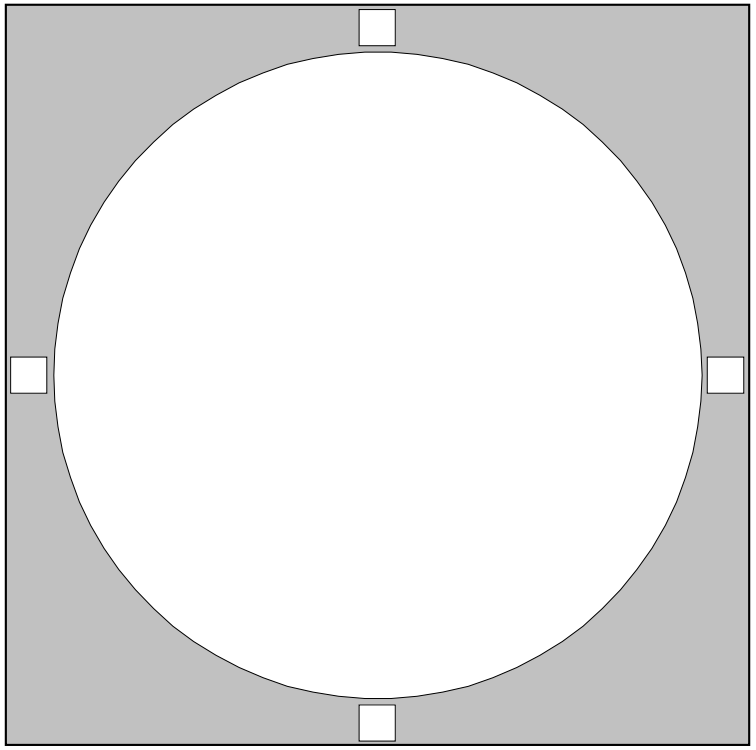
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M64

Black Eye Galaxy. Sleeping Beauty Galaxy

Messier Object	**M64**		
NGC	**4826**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SAab)**		
Magnitude	**8.5**		
Distance (Kilo light-years)	**19000**		
RA	**12 56.7**		
Dec	**+21:41**		
Size	**9.2' x 4.6'**		
UM I	UM II	**149**	**71**
SA	**7**		
Remarks	**!! Black Eye Gallaxy; eye needs big scope**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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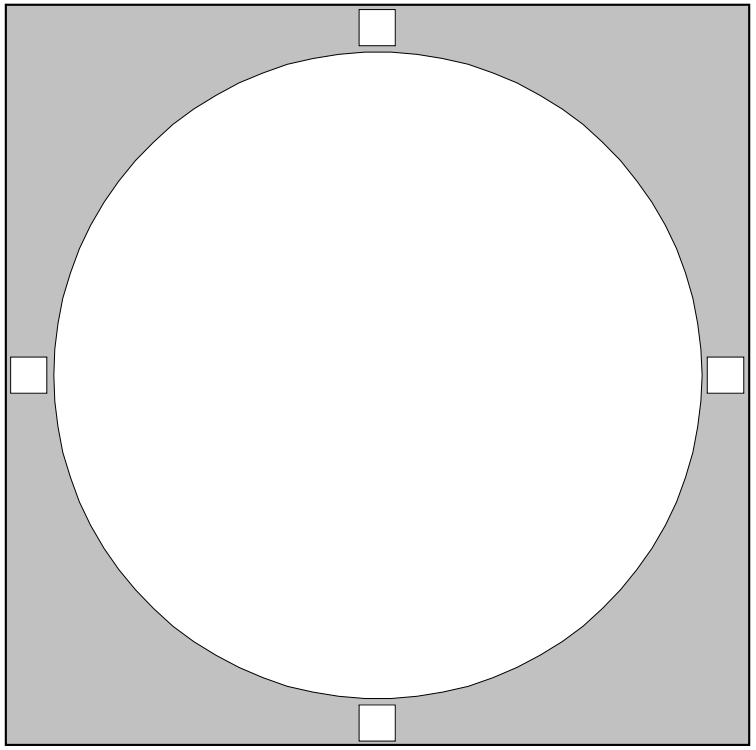
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M65

Messier Object	**M65**		
NGC	**3623**		
Constellation	**Leo**		
Type	**Spiral Galaxy (G-SABa)**		
Magnitude	**9.3**		
Distance (Kilo light-years)	**35000**		
RA	**11 18.9**		
Dec	**+13:05**		
Size	**8.7' x 2.2'**		
UM I	UM II	**191**	**92**
SA	**13**		
Remarks	**!! bright elongated spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

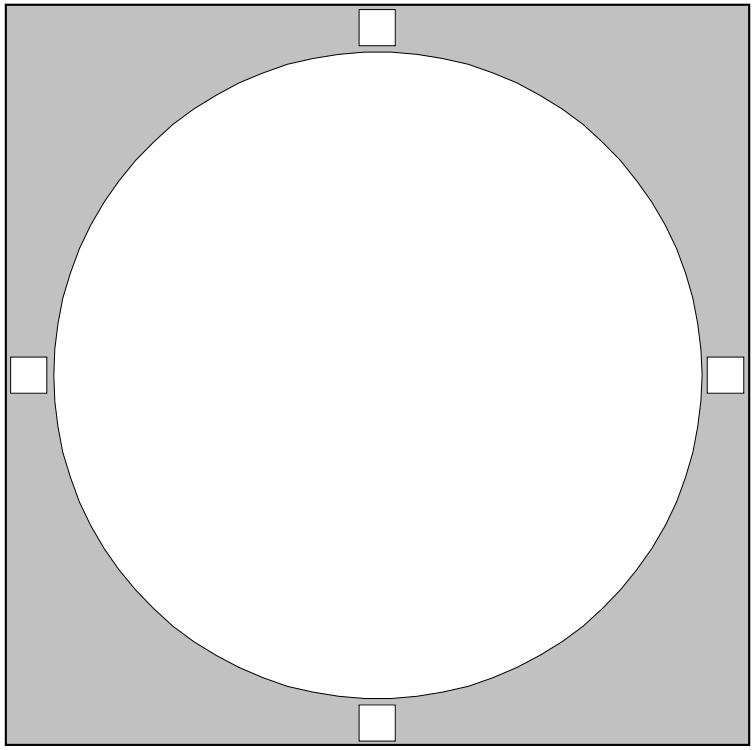


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M66

Messier Object	**M66**		
NGC	**3627**		
Constellation	**Leo**		
Type	**Spiral Galaxy (G-SABb)**		
Magnitude	**8.9**		
Distance (Kilo light-years)	**35000**		
RA	**11 20.2**		
Dec	**+12:59**		
Size	**8.2' x 3.9'**		
UM I / UM II	**191**	**91,92**	
SA	**13**		
Remarks	**!! M65 and NGC 3628 in same field**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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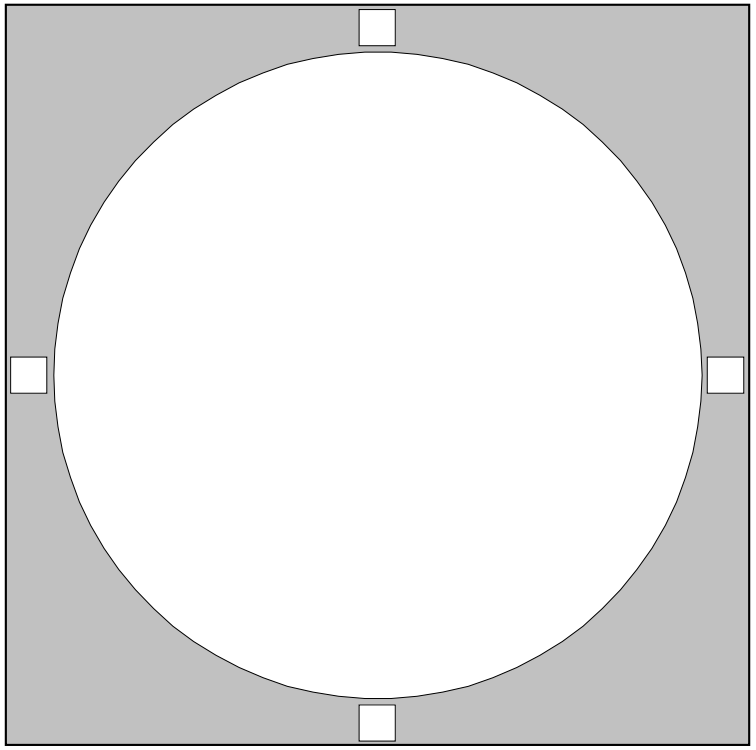
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M67

Messier Object	**M67**		
NGC	**2682**		
Constellation	**Cancer**		
Type	**Open Cluster**		
Magnitude	**6.9**		
Distance (Kilo light-years)	**2.7**		
RA	**08 50.4**		
Dec	**+11:49**		
Size	**29'**		
UM I	UM II	**186,187**	**94**
SA	**12**		
Remarks	**one of the oldest start clusters known**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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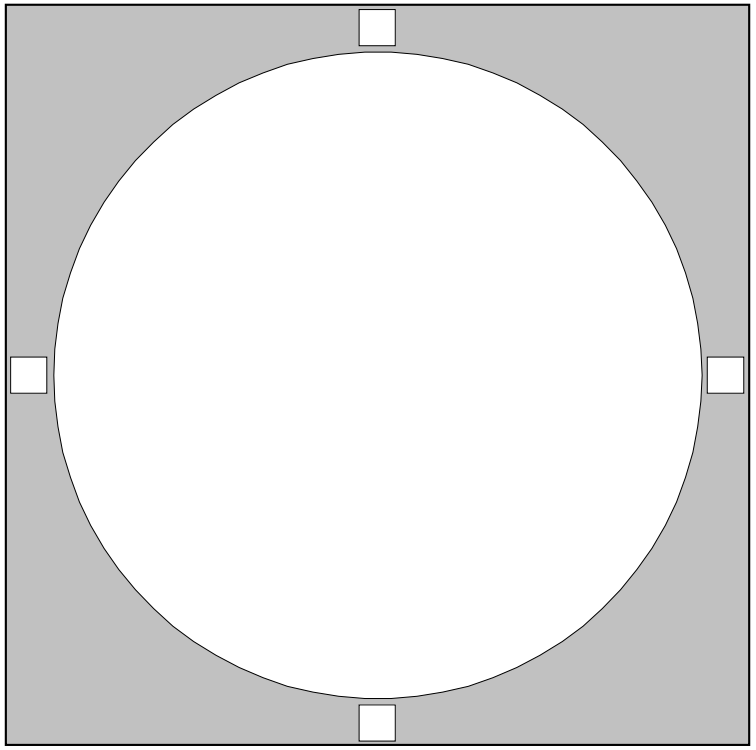
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M68

Messier Object	**M68**		
NGC	**4590**		
Constellation	**Hydra**		
Type	**Globular Cluster**		
Magnitude	**7.7**		
Distance (Kilo light-years)	**33.3**		
RA	**12 39.5**		
Dec	**-26:45**		
Size	**12.0'**		
UM I	UM II	**329**	**149,150**
SA	**21**		
Remarks	**150-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

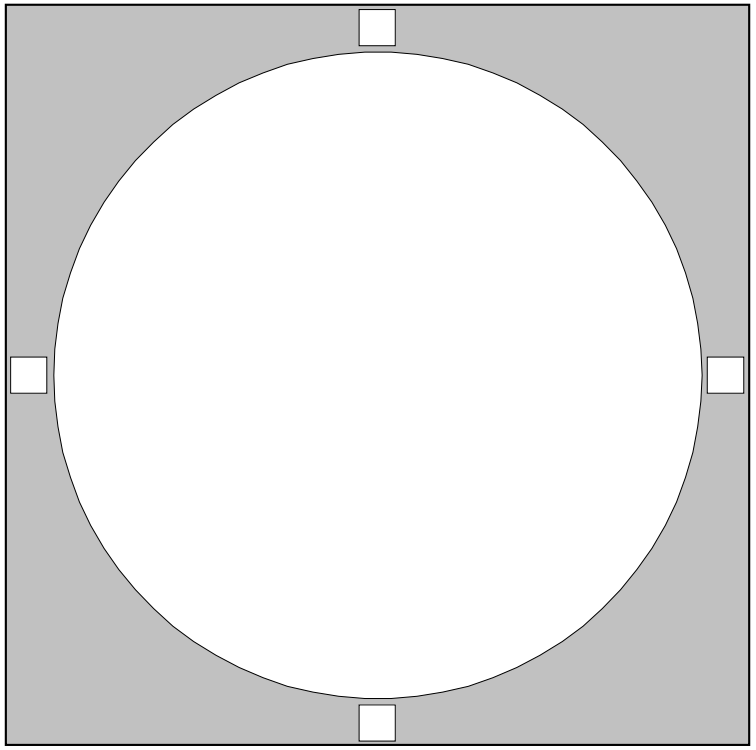


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M69

Messier Object	**M69**		
NGC	**6637**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**28.0**		
RA	**18 31.4**		
Dec	**-32:21**		
Size	**7.1'**		
UM I	UM II	**378**	**163**
SA	**22**		
Remarks	**small. poor globular cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

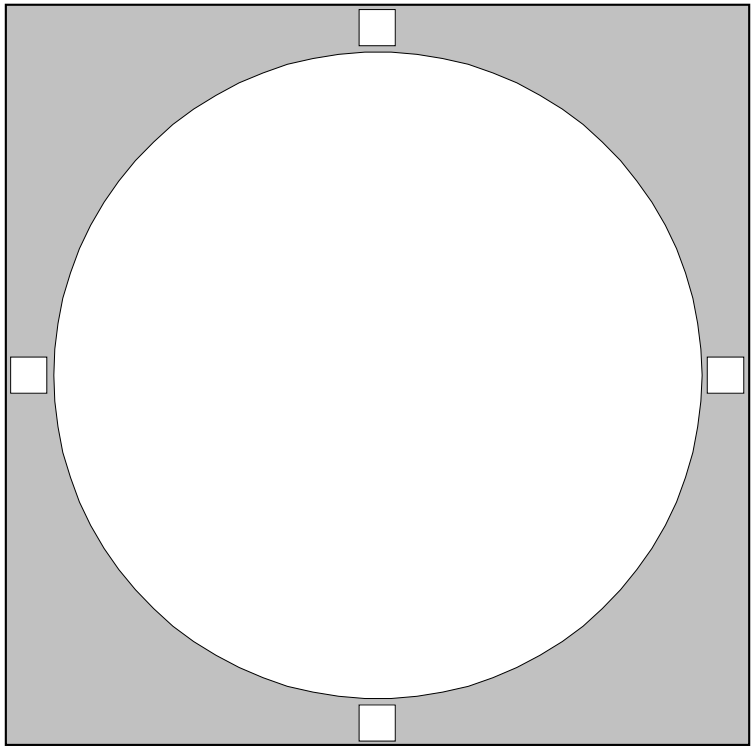


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M70

Messier Object	**M70**		
NGC	**6681**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**8.0'**		
Distance (Kilo light-years)	**29.4**		
RA	**18 43.2**		
Dec	**-32:18**		
Size	**7.8'**		
UM I	UM II	**378**	**163**
SA	**22**		
Remarks	**small globular two degrees east of M69**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

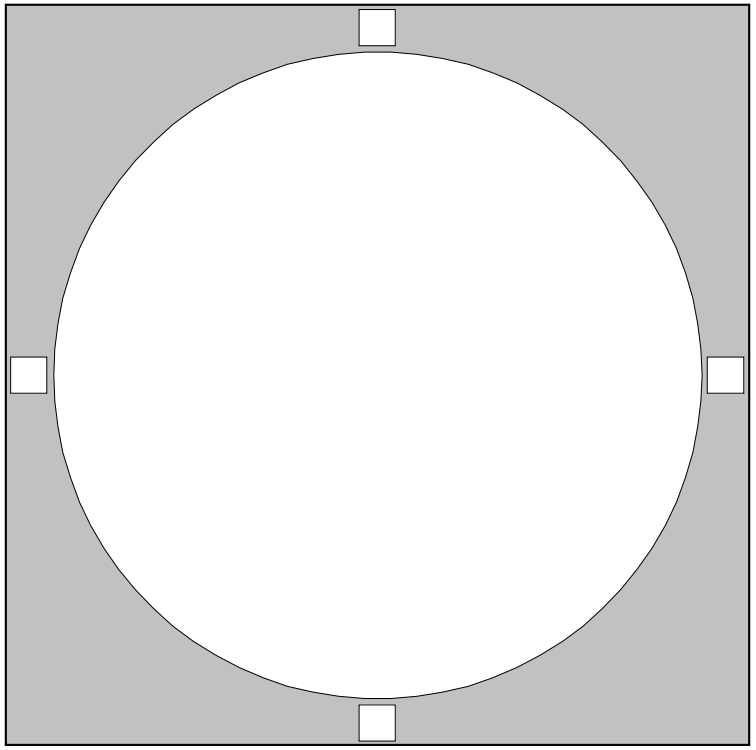


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M71

Messier Object	**M71**		
NGC	**6838**		
Constellation	**Sagitta**		
Type	**Globular Cluster**		
Magnitude	**8.0**		
Distance (Kilo light-years)	**12.7**		
RA	**19 53.8**		
Dec	**+18:47**		
Size	**7.2'**		
UM I	UM II	**162**	**66**
SA	**8, 16**		
Remarks	**loose globular; looks like and open cluster**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

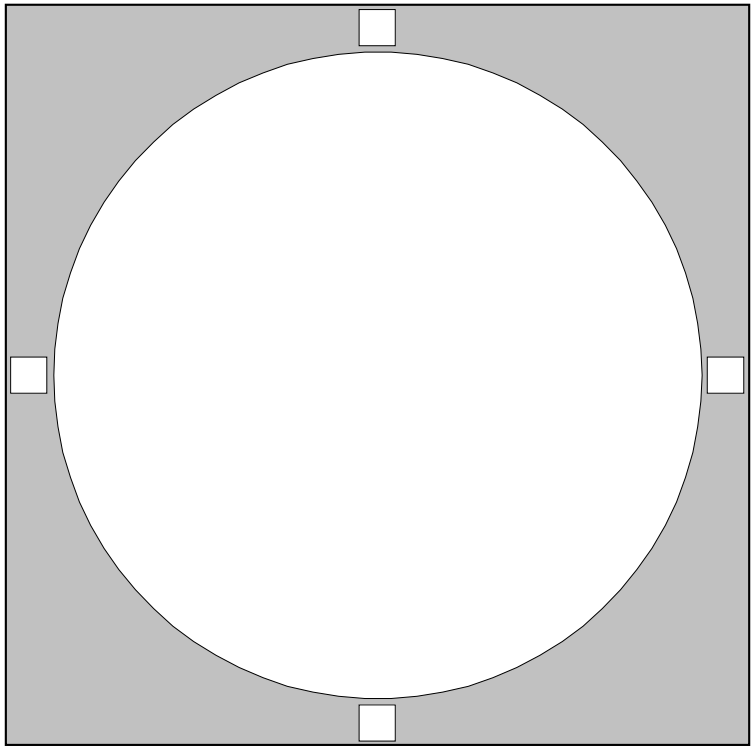


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M72

Messier Object	**M72**		
NGC	**6981**		
Constellation	**Aquarius**		
Type	**Globular Cluster**		
Magnitude	**9.3**		
Distance (Kilo light-years)	**55.4**		
RA	**20 53.5**		
Dec	**-12:32**		
Size	**5.9'**		
UM I	UM II	**299**	**124**
SA	**16**		
Remarks	**near the Saturn Nebula, NGC 7009**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

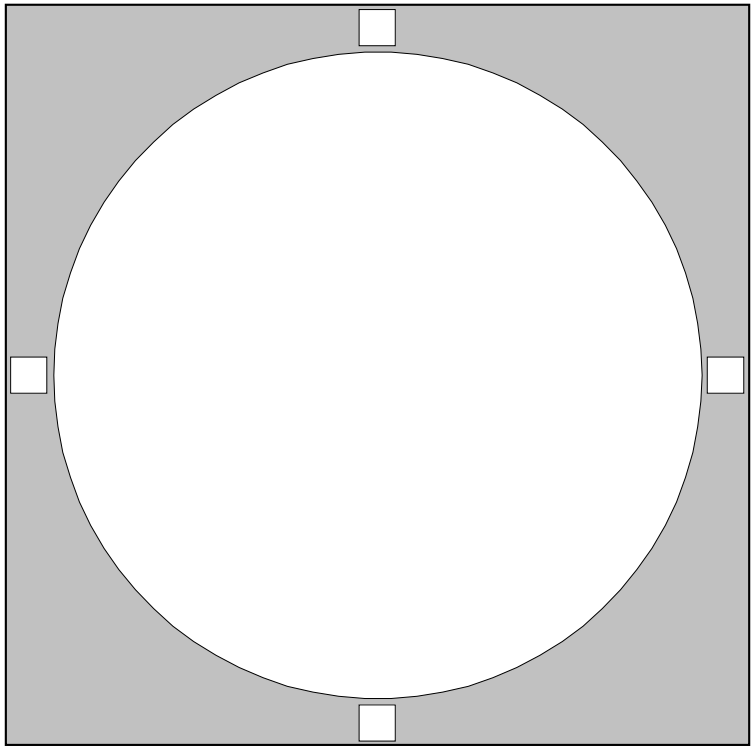


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M73

Messier Object	**M73**		
NGC	**6994**		
Constellation	**Aquarius**		
Type	**Open Cluster**		
Magnitude	**8.9p**		
Distance (Kilo light-years)	**2.0**		
RA	**20 59.0**		
Dec	**-12:38**		
Size	**2.8'**		
UM I	UM II	**299**	**123,124**
SA	**16**		
Remarks	**group of 4 stars only; an "Asterism"**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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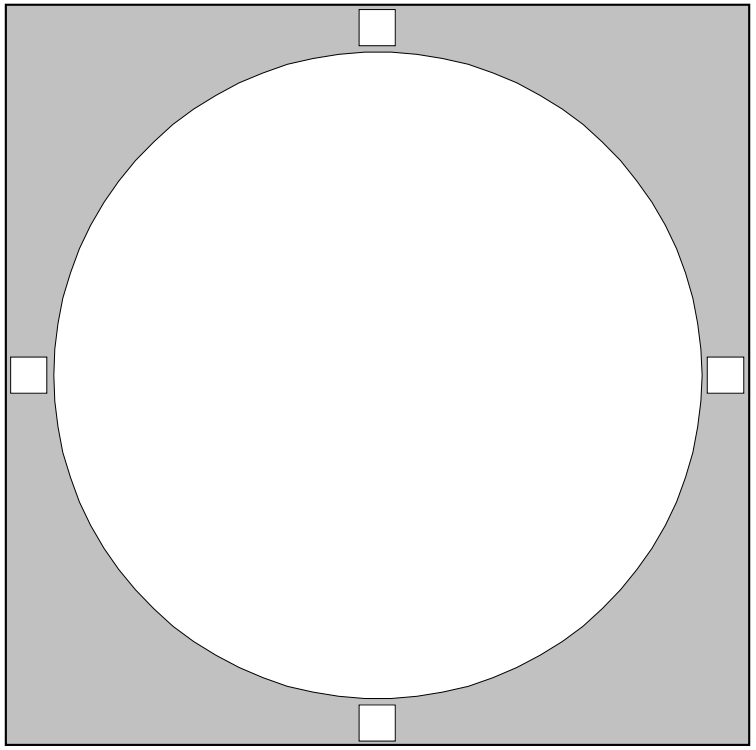
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M74

Messier Object	**M74**		
NGC	**628**		
Constellation	**Pisces**		
Type	**Spiral Galaxy (G-SAc)**		
Magnitude	**9.4**		
Distance (Kilo light-years)	**35000**		
RA	**01 36.7**		
Dec	**+15:47**		
Size	**11.0' x 11.0'**		
UM I	**173**	UM II	**100**
SA	**10**		
Remarks	**faint. elusive spiral; tough in small scope**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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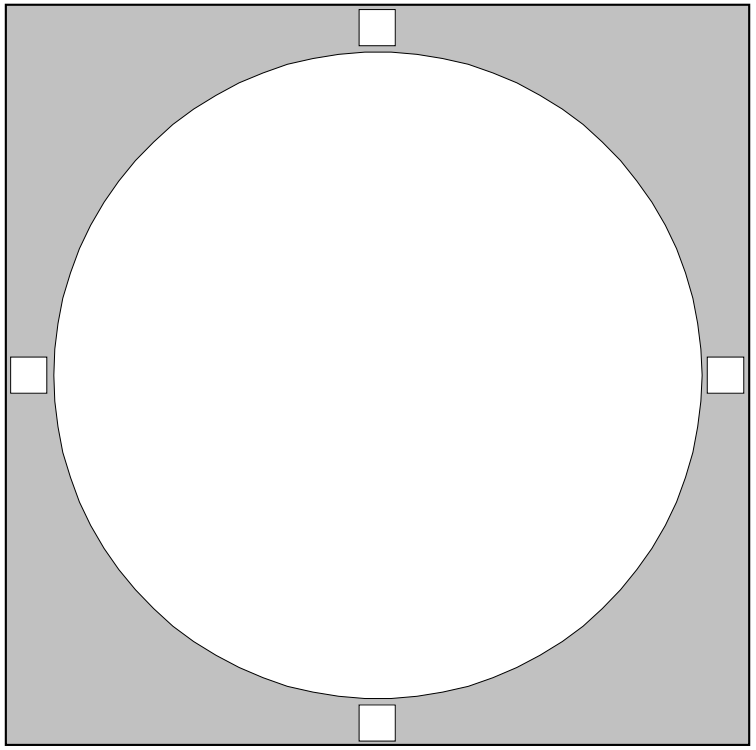
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M75

Messier Object	**M75**		
NGC	**6864**		
Constellation	**Sagittarius**		
Type	**Globular Cluster**		
Magnitude	**8.5**		
Distance (Kilo light-years)	**59.0**		
RA	**20 06.1**		
Dec	**-21:55**		
Size	**6.0'**		
UM I	UM II	**343**	**144**
SA	**22, 23**		
Remarks	**small and distant; 59 000 ly away**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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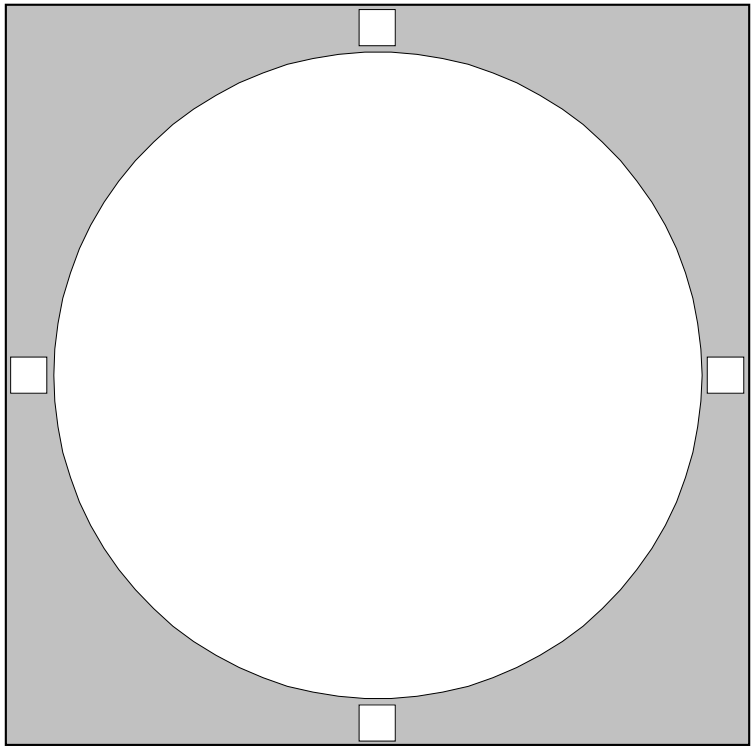
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M76

Little Dumbbell Nebula

Messier Object	**M76**		
NGC	**650/51**		
Constellation	**Perseus**		
Type	**Planetary Nebula**		
Magnitude	**10.1**		
Distance (Kilo light-years)	**3.4**		
RA	**01 42.4**		
Dec	**+51:34**		
Size	**> 1' 5"**		
UM I	UM II	**37**	**29,44**
SA	**1, 4**		
Remarks	**Little Dumbbell; faint but distinct**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



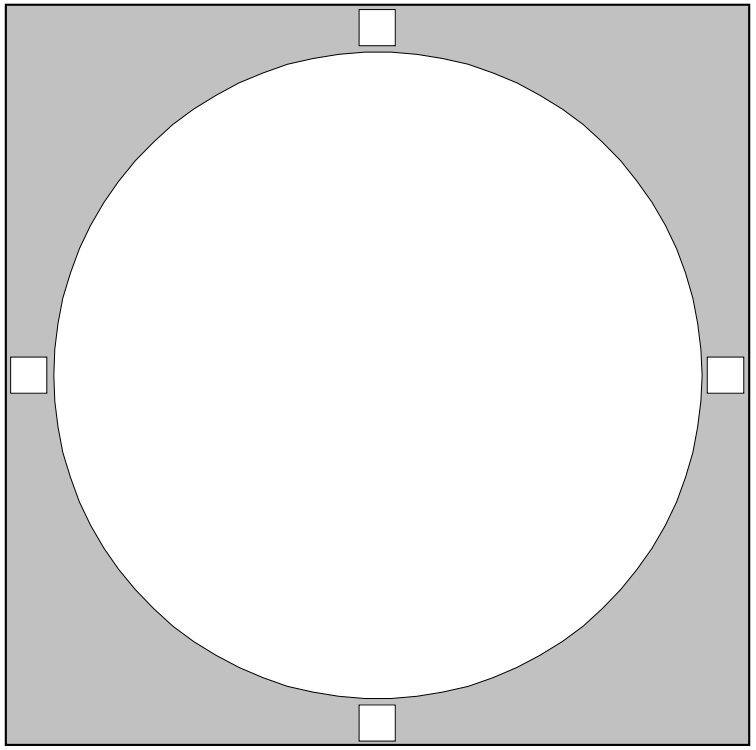
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M77

Cetus A

Messier Object	**M77**		
NGC	**1068**		
Constellation	**Cetus**		
Type	**Spiral Galaxy (G-SABab)**		
Magnitude	**8.9**		
Distance (Kilo light-years)	**60000**		
RA	**02 42.7**		
Dec	**-00:01**		
Size	**8.2' x 7.3'**		
UM I	UM II	**220**	**119**
SA	**10**		
Remarks	**a Seyfert galaxy; with starlike nucleus**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

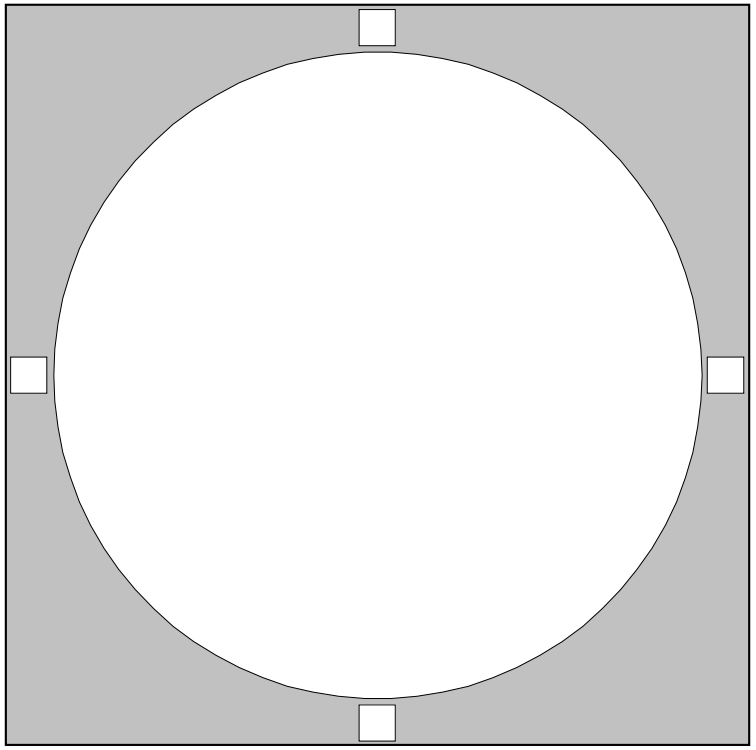


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M78

Messier Object	**M78**		
NGC	**2068**		
Constellation	**Orion**		
Type	**Reflection Nebula**		
Magnitude	**8.3**		
Distance (Kilo light-years)	**1.6**		
RA	**05 46.7**		
Dec	**+00:03**		
Size	**8' x 6'**		
UM I	UM II	**226**	**116**
SA	**11, B2**		
Remarks	**bright featureless relection nebula**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

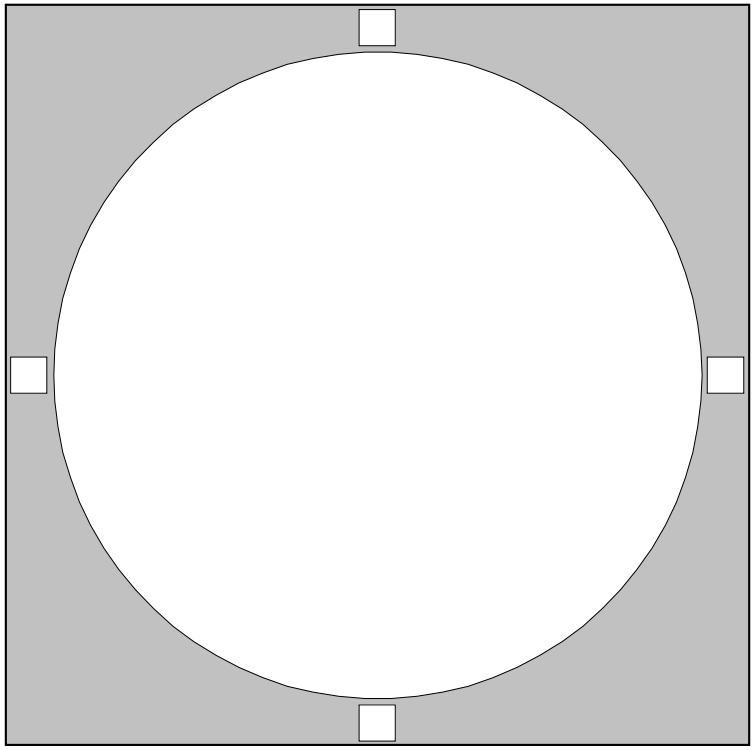


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M79

Messier Object	**M79**		
NGC	**1904**		
Constellation	**Lepus**		
Type	**Globular Cluster**		
Magnitude	**7.8**		
Distance (Kilo light-years)	**42.1**		
RA	**05 24.5**		
Dec	**-24:33**		
Size	**8.7'**		
UM I	UM II	**315**	**155**
SA	**19**		
Remarks	**200-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

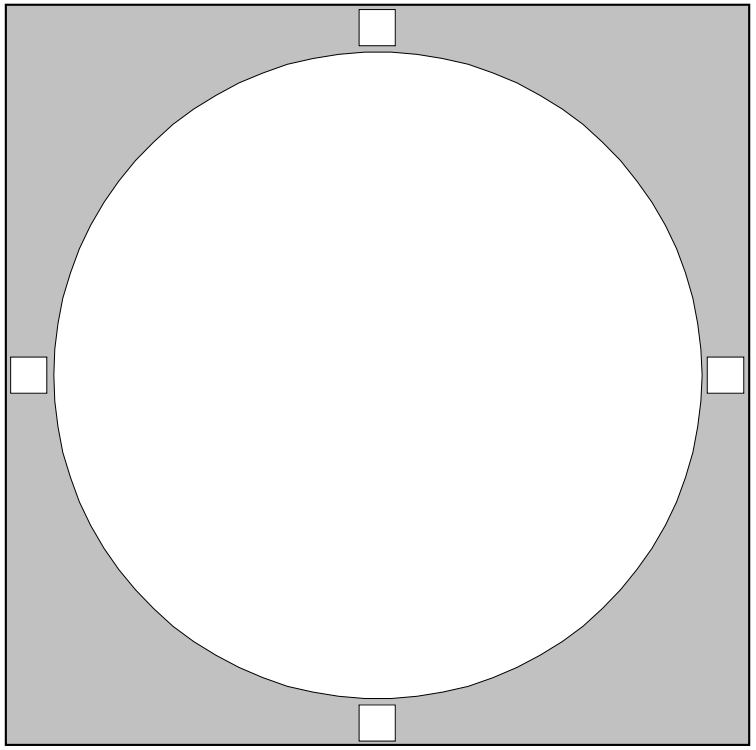


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M80

Messier Object	**M80**		
NGC	**6093**		
Constellation	**Scorpius**		
Type	**Globular Cluster**		
Magnitude	**7.3**		
Distance (Kilo light-years)	**32.6**		
RA	**16 17.0**		
Dec	**-22:59**		
Size	**8.9'**		
UM I	UM II	**335,336**	**147**
SA	**22**		
Remarks	**very compressed globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



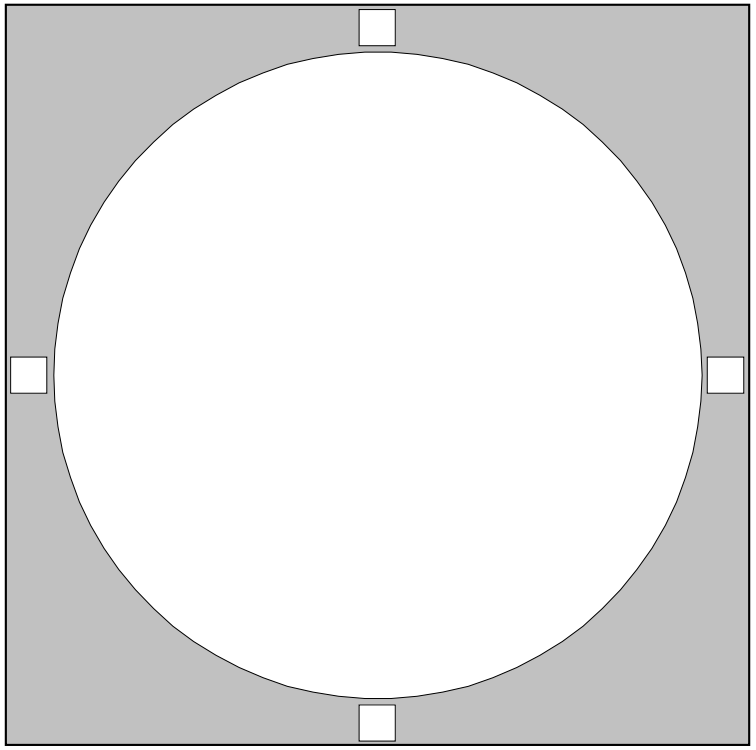
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M81

Bode's Galaxy

Messier Object	**M81**		
NGC	**3031**		
Constellation	**Ursa Major**		
Type	**Spiral Galaxy (G-SAab)**		
Magnitude	**6.9**		
Distance (Kilo light-years)	**12000**		
RA	**09 55.6**		
Dec	**+69:04**		
Size	**24' x 13'**		
UM I	UM II	**23**	**14**
SA	**1, 2**		
Remarks	**!! bright spiral visible in binoculars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



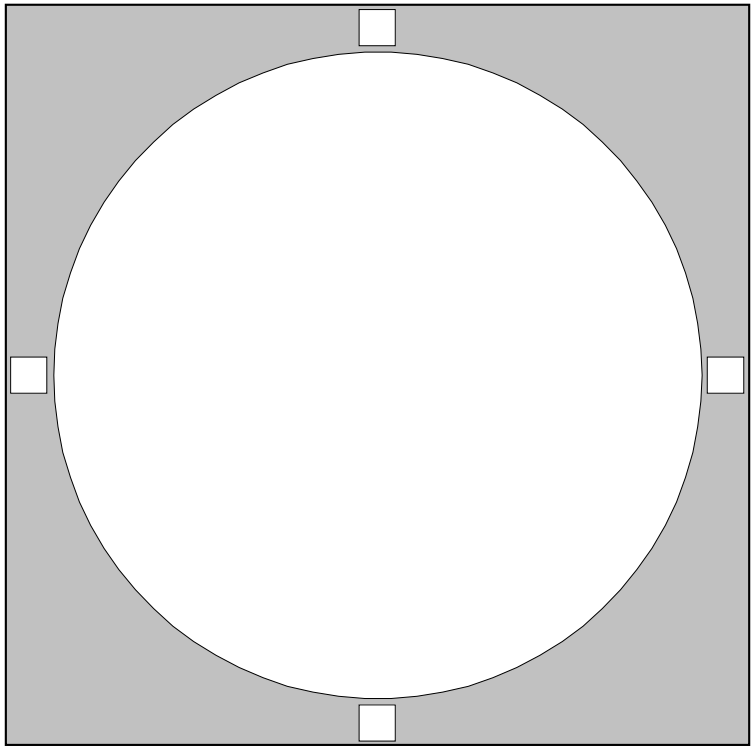
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M82

Cigar Galaxy

Messier Object	**M82**		
NGC	**3034**		
Constellation	**Ursa Major**		
Type	**Irregular Galaxy (G-I0)**		
Magnitude	**8.4**		
Distance (Kilo light-years)	**12000**		
RA	**09 55.8**		
Dec	**+69:41**		
Size	**12' x 6'**		
UM I	UM II	**23**	**14**
SA	**1, 2**		
Remarks	**!! the "exploding" gallaxy; M81 1/2 degree south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



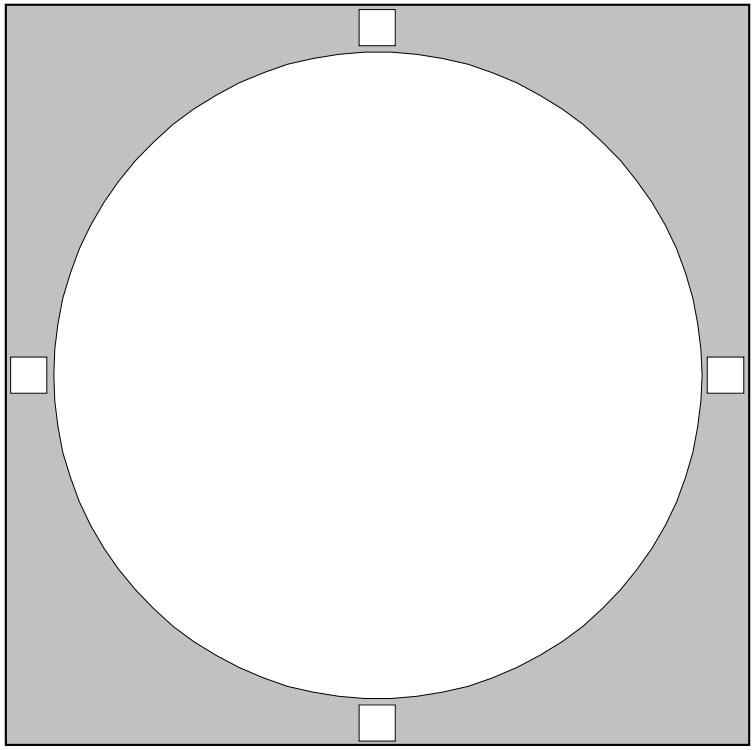
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M83

Southern Pinwheel

Messier Object	**M83**		
NGC	**5236**		
Constellation	**Hydra**		
Type	**Spiral Galaxy (G-SABc)**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**15000**		
RA	**13 37.0**		
Dec	**-29:52**		
Size	**16.0' x 13.0'**		
UM I	UM II	**370,371**	**149,167**
SA	**21**		
Remarks	**large and diffuse; superb from far south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

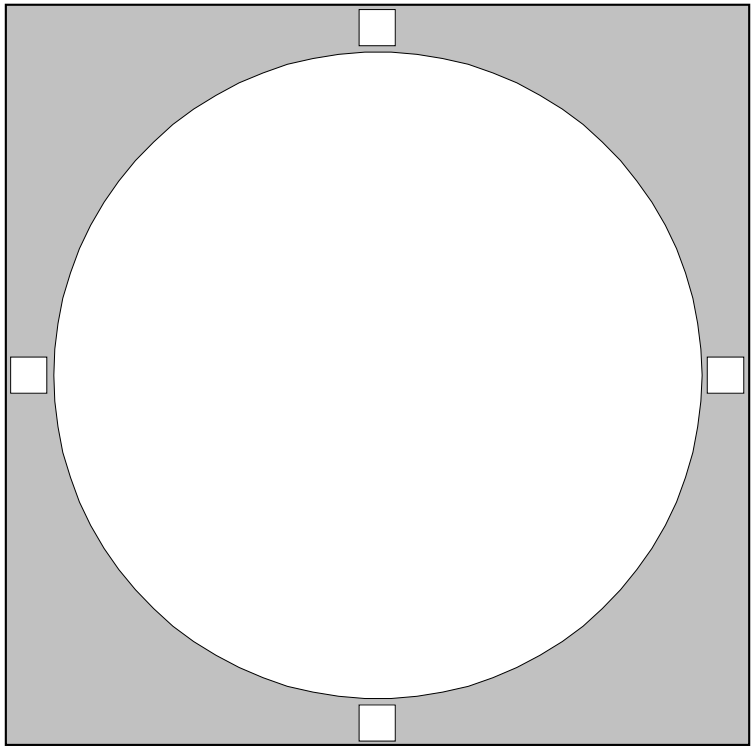


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M84

Messier Object	**M84**		
NGC	**4374**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E1)**		
Magnitude	**9.1**		
Distance (Kilo light-years)	**60000**		
RA	**12 25.1**		
Dec	**+12:53**		
Size	**5.1' x 4.1'**		
UM I	UM II	**193**	**91,A13**
SA	**13, 14, B1**		
Remarks	**!! with M86 in Markarian's Chain**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

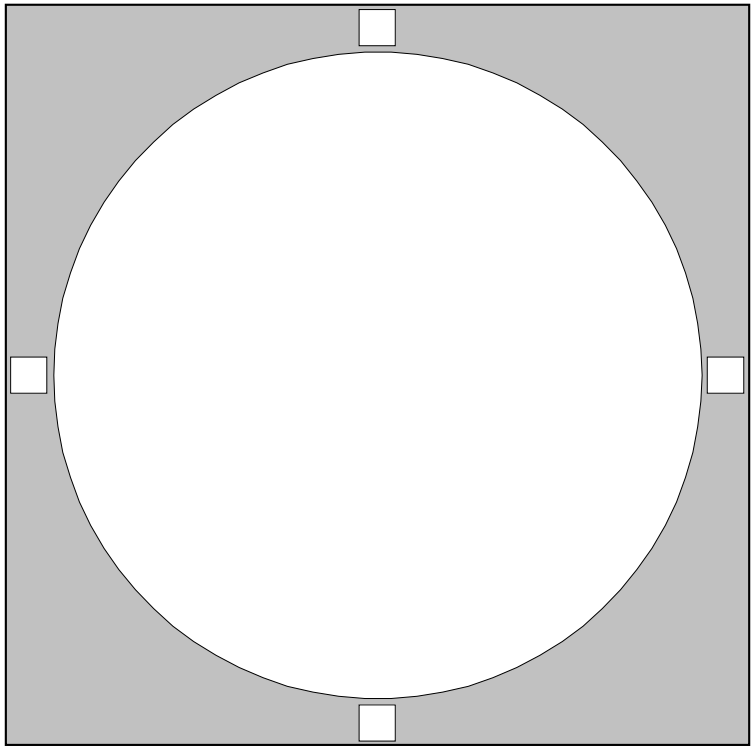


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M85

Messier Object	**M85**		
NGC	**4382**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-Sa0+)**		
Magnitude	**9.1**		
Distance (Kilo light-years)	**60000**		
RA	**12 25.4**		
Dec	**+18:11**		
Size	**7.5' x 5.7'**		
UM I	UM II	**148**	**72**
SA	**7, 13, 14, B1**		
Remarks	**bright elliptical shape**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

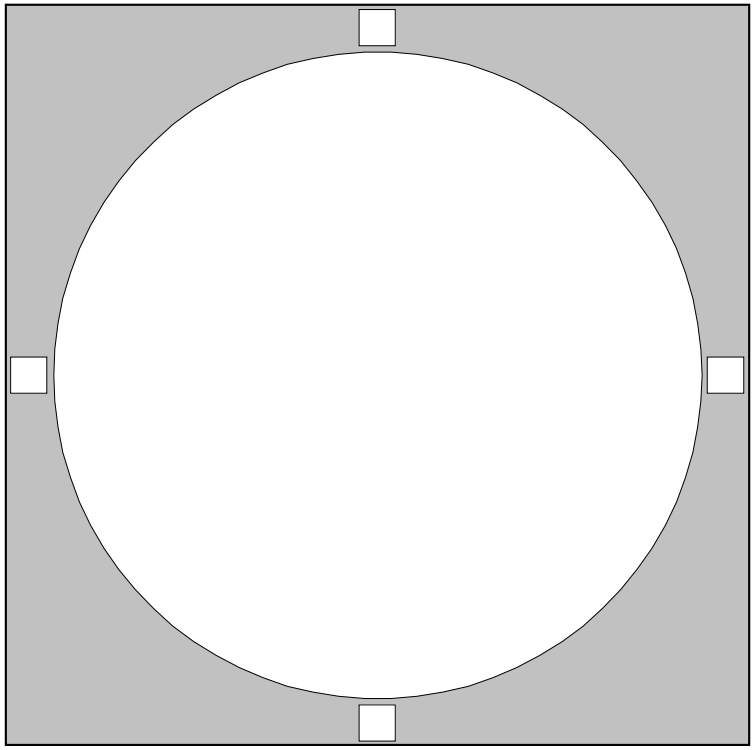


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M86

Messier Object	**M86**		
NGC	**4406**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E3)**		
Magnitude	**8.9**		
Distance (Kilo light-years)	**60000**		
RA	**12 26.2**		
Dec	**+12:57**		
Size	**12.0' x 9.0'**		
UM I	UM II	**193**	**91,A13**
SA	**13, 14, B1**		
Remarks	**!! with many NGC galaxies in Chain**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



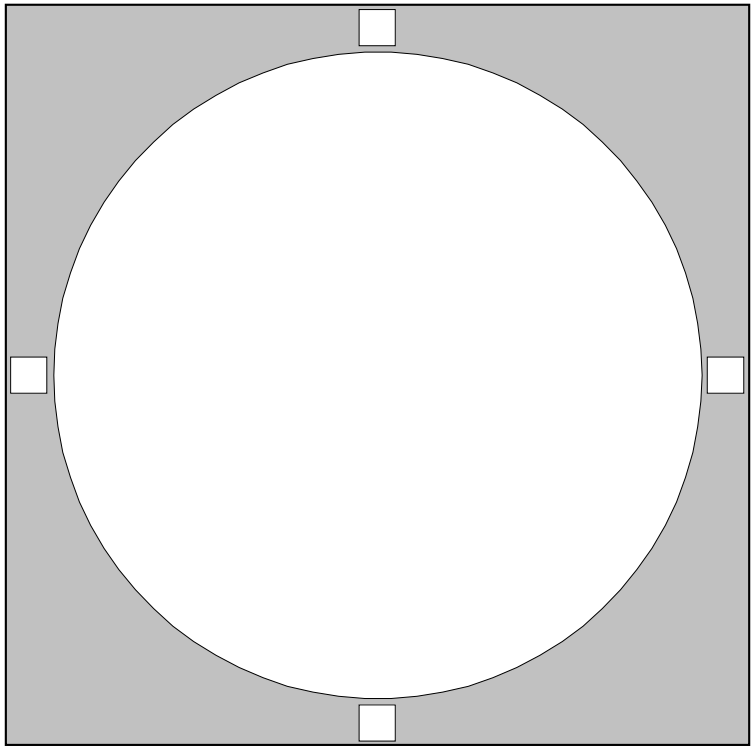
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M87

Virgo A

Messier Object	**M87**		
NGC	**4486**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E0-1)**		
Magnitude	**8.6**		
Distance (Kilo light-years)	**60000**		
RA	**12 30.8**		
Dec	**+12:24**		
Size	**7.1' x 7.1'**		
UM I	UM II	**193,194**	**91,A13**
SA	**13, 14, B1**		
Remarks	**the one with famous jet and black hole**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

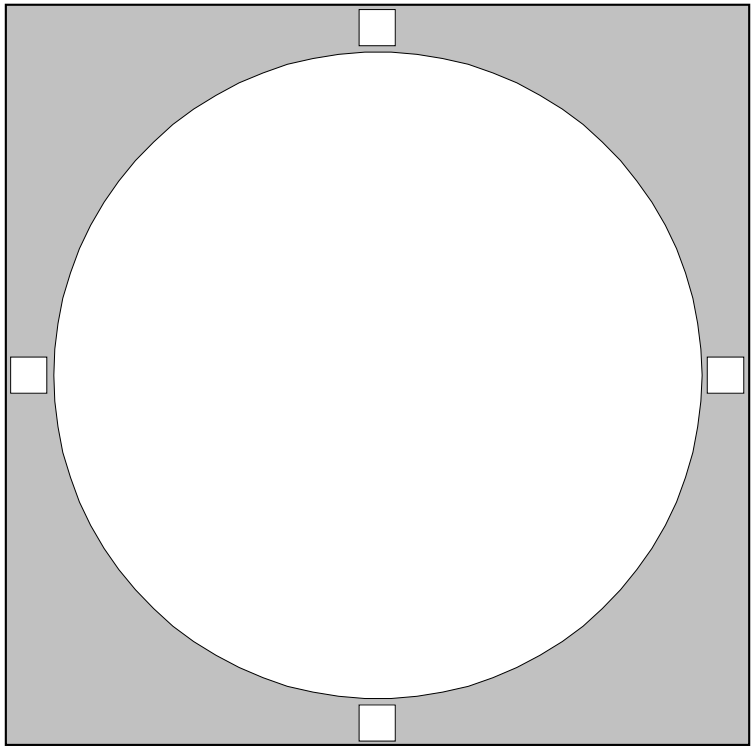


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M88

Messier Object	**M88**		
NGC	**4501**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SAb)**		
Magnitude	**9.6**		
Distance (Kilo light-years)	**60000**		
RA	**12 32.0**		
Dec	**+14:25**		
Size	**6.1' x 2.8'**		
UM I / UM II	**193,194**	**90,91,A13**	
SA	**13, 14, B1**		
Remarks	**bright multiple arm spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

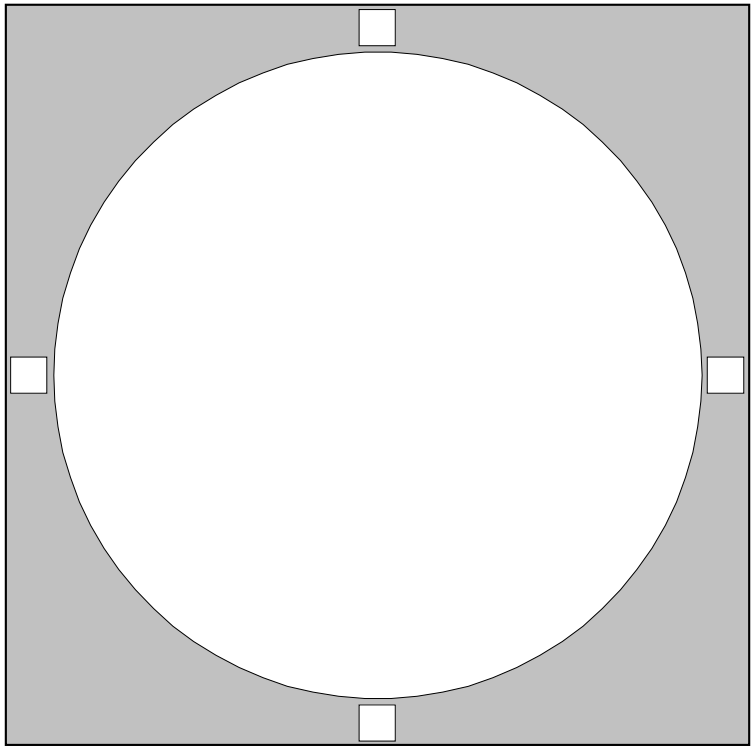


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M89

Messier Object	**M89**		
NGC	**4552**		
Constellation	**Virgo**		
Type	**Elliptical Galaxy (G-E)**		
Magnitude	**9.8**		
Distance (Kilo light-years)	**60000**		
RA	**12 35.7**		
Dec	**+12:33**		
Size	**3.4' x 3.4'**		
UM I / UM II	**193,194**	**90,91,A13**	
SA	**13, 14, B1**		
Remarks	**elliptical; resembles M86 but smaller**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

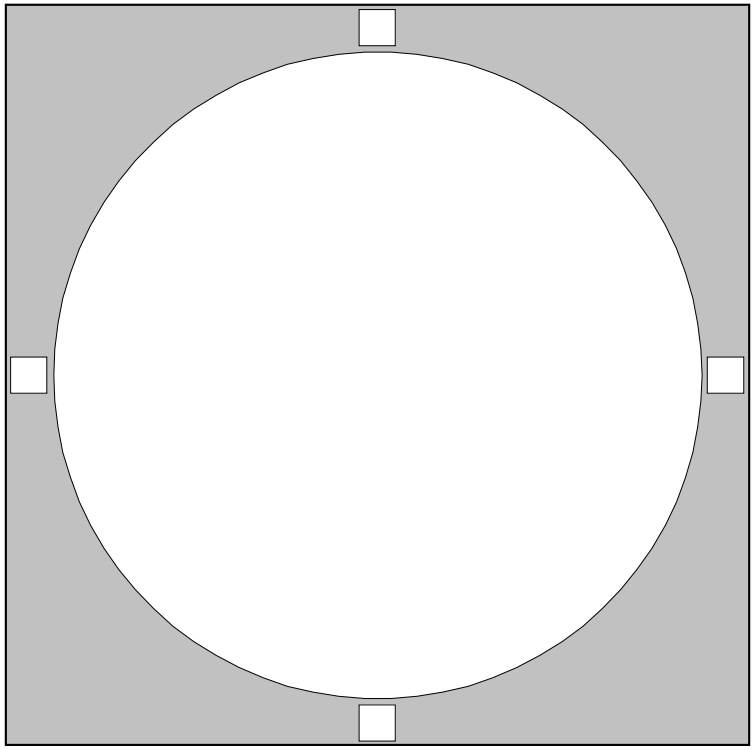


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M90

Messier Object	**M90**		
NGC	**4569**		
Constellation	**Virgo**		
Type	**Spiral Galaxy (G-SABab)**		
Magnitude	**9.5**		
Distance (Kilo light-years)	**60000**		
RA	**12 36.8**		
Dec	**+13:10**		
Size	**10.0' x 4.0'**		
UM I	UM II	**194**	**90,91,A13**
SA	**13, 14, B1**		
Remarks	**bright barred spiral near M89**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

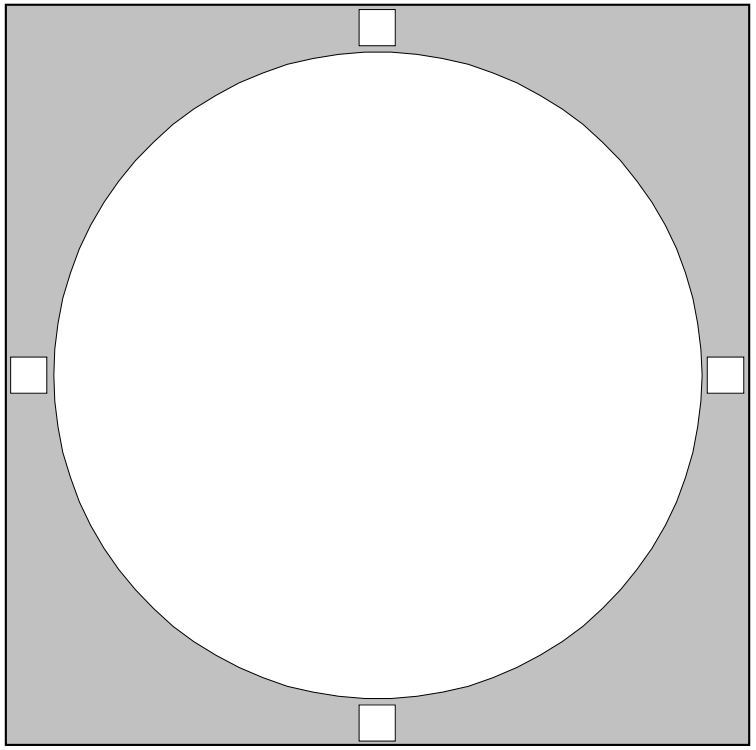


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M91

Messier Object	**M91**		
NGC	**4548**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SBb)**		
Magnitude	**10.2**		
Distance (Kilo light-years)	**60000**		
RA	**12 35.4**		
Dec	**+14:30**		
Size	**5.0' x 4.1'**		
UM I	UM II	**193,194**	**90,91,A13**
SA	**13, 14, B1**		
Remarks	**some lists say M91 = M58, not NGC 4548**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

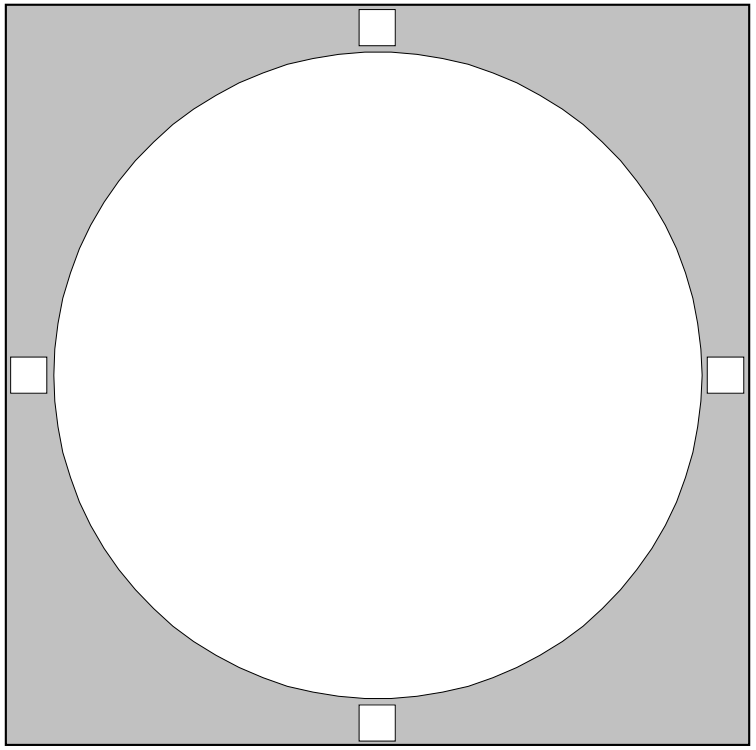


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M92

Messier Object	**M92**		
NGC	**6341**		
Constellation	**Hercules**		
Type	**Globular Cluster**		
Magnitude	**6.4**		
Distance (Kilo light-years)	**26.7**		
RA	**17 17.1**		
Dec	**+43:08**		
Size	**11.2'**		
UM I	UM II	**81**	**34**
SA	**8**		
Remarks	**nine degrees noth east of M13; fine but often overlooked**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

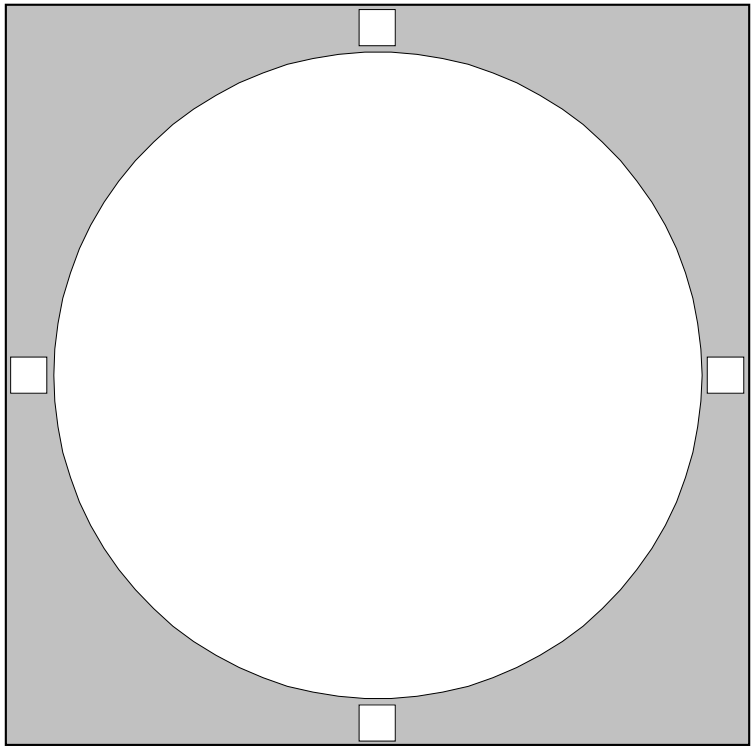


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M93

Messier Object	**M93**		
NGC	**2447**		
Constellation	**Puppis**		
Type	**Open Cluster**		
Magnitude	**~ 6.2**		
Distance (Kilo light-years)	**3.6**		
RA	**07 44.6**		
Dec	**-23:52**		
Size	**22'**		
UM I	UM II	**319,320**	**153**
SA	**19**		
Remarks	**compact, bright cluster;fairly rich**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

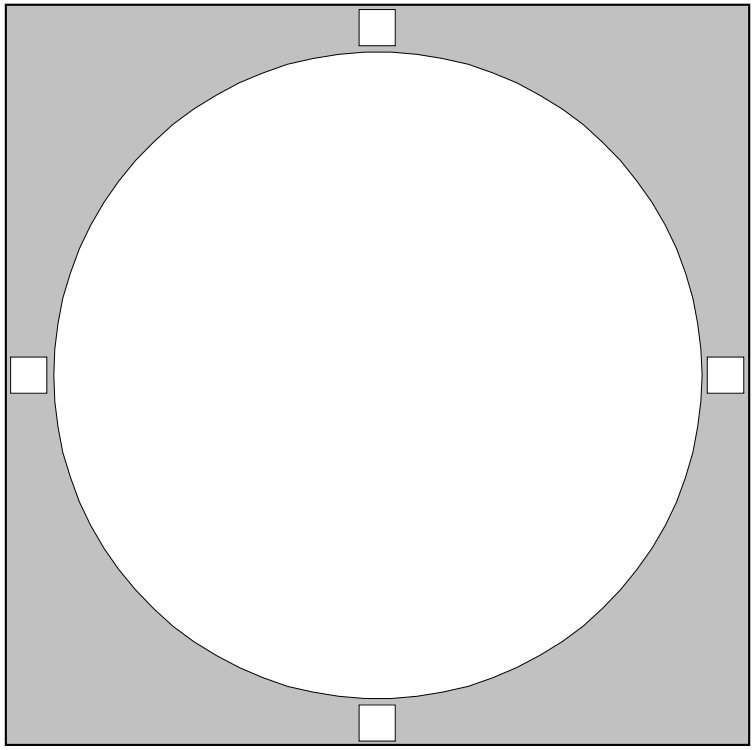


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M94

Messier Object	**M94**		
NGC	**4736**		
Constellation	**Canes Venatici**		
Type	**Spiral Galaxy (G-SAab)**		
Magnitude	**8.2**		
Distance (Kilo light-years)	**14500**		
RA	**12 50.9**		
Dec	**+41:07**		
Size	**13.0' x 11.0'**		
UM I	UM II	**75**	**37**
SA	**7**		
Remarks	**very bright and comet-like**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

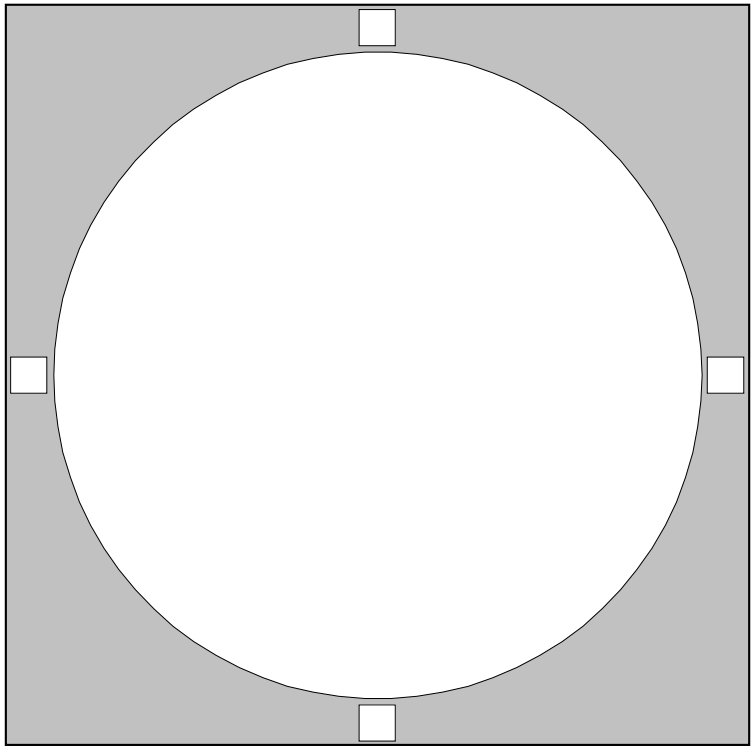


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M95

Messier Object	**M95**		
NGC	**3351**		
Constellation	**Leo**		
Type	**Spiral Galaxy (G-SBb)**		
Magnitude	**9.7**		
Distance (Kilo light-years)	**38000**		
RA	**10 44.0**		
Dec	**+11:42**		
Size	**7.8' x 4.6'**		
UM I	UM II	**190**	**92**
SA	**13**		
Remarks	**bright barred spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

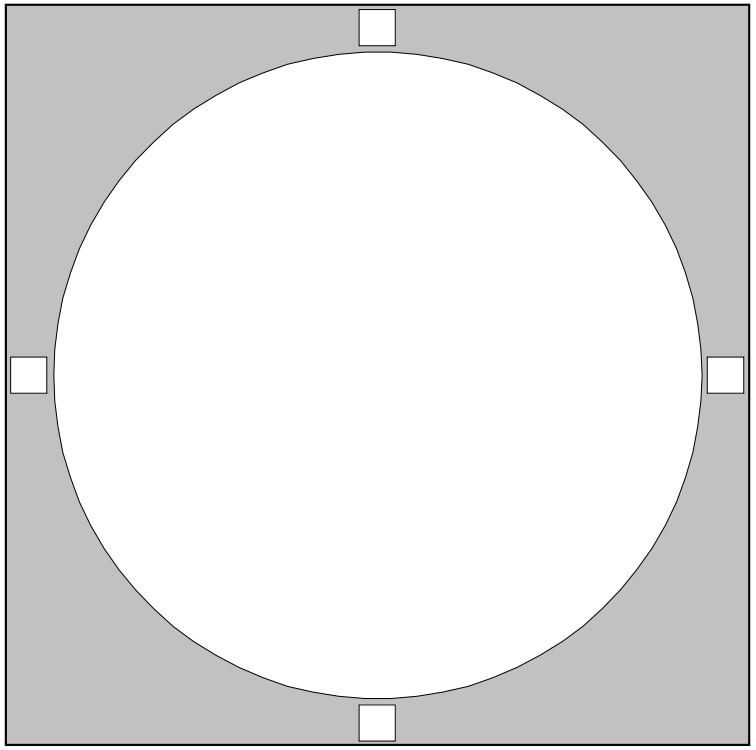


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M96

Messier Object	**M96**		
NGC	**3368**		
Constellation	**Leo**		
Type	**Spiral Galaxy (G-SABab)**		
Magnitude	**9.2**		
Distance (Kilo light-years)	**38000**		
RA	**10 46.8**		
Dec	**+11:49**		
Size	**6.9' x 4.6'**		
UM I	UM II	**190**	**92**
SA	**13**		
Remarks	**M95 in same field**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



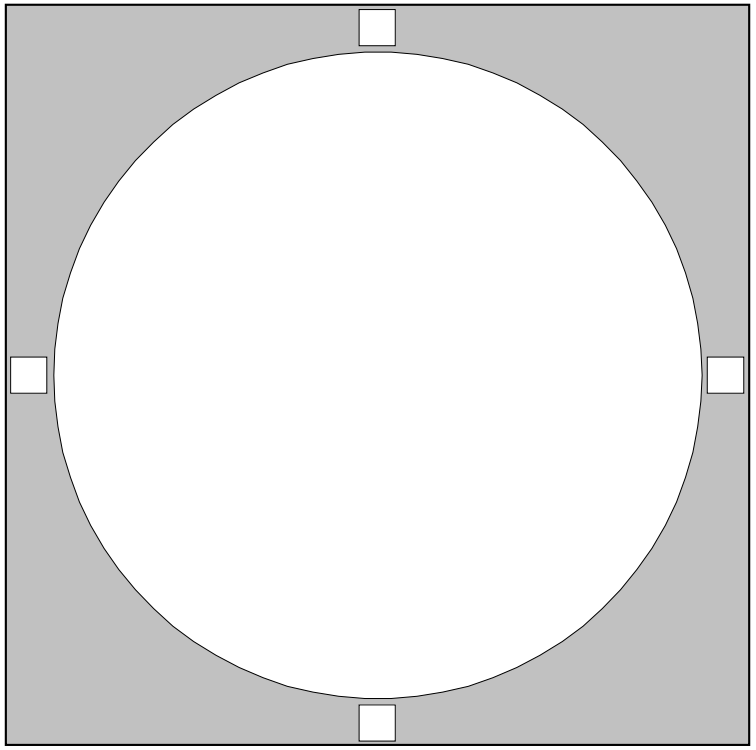
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M97

Owl Nebula

Messier Object	**M97**		
NGC	**3587**		
Constellation	**Ursa Major**		
Type	**Planetary Nebula**		
Magnitude	**9.9**		
Distance (Kilo light-years)	**2.6**		
RA	**11 14.8**		
Dec	**+55:01**		
Size	**3' 14"**		
UM I	UM II	**46**	**24**
SA	**2, 6**		
Remarks	**!! Owl Nebula; distinct grey oval**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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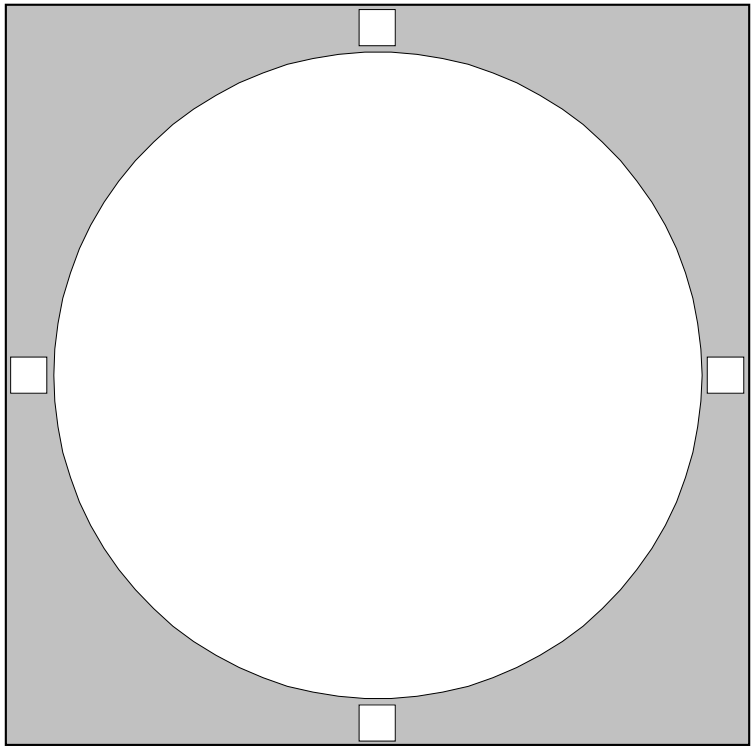
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M98

Messier Object	**M98**		
NGC	**4192**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SABab)**		
Magnitude	**10.1**		
Distance (Kilo light-years)	**60000**		
RA	**12 13.8**		
Dec	**+14:54**		
Size	**9.1' x 2.1'**		
UM I	UM II	**193**	**91**
SA	**7, 13, 14, B1**		
Remarks	**nearly edge-on spiral near star 6 Comae Berenices**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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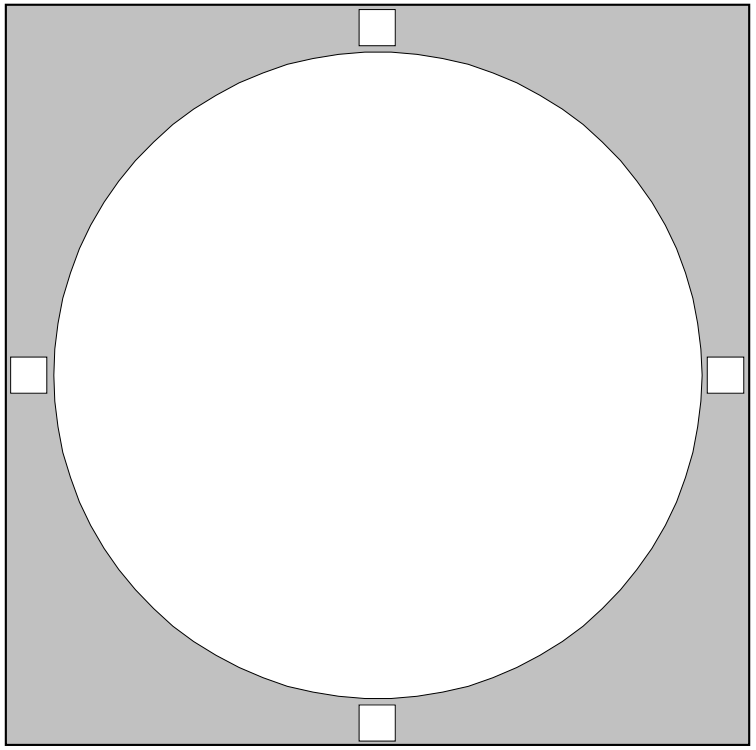
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M99

Messier Object	**M99**		
NGC	**4254**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SAC)**		
Magnitude	**9.9**		
Distance (Kilo light-years)	**60000**		
RA	**12 18.8**		
Dec	**+14:25**		
Size	**4.6' x 4.3'**		
UM I	UM II	**193**	**91,A13**
SA	**7, 13, 14, B1**		
Remarks	**nearly face-on spiral near M98**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

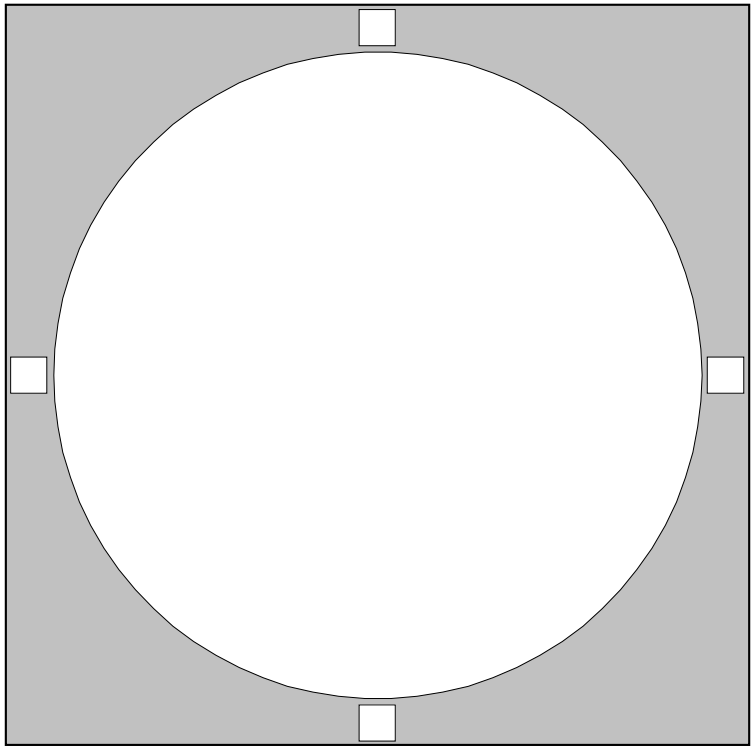


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M100

Messier Object	**M100**		
NGC	**4321**		
Constellation	**Coma Berenices**		
Type	**Spiral Galaxy (G-SABbc)**		
Magnitude	**9.3**		
Distance (Kilo light-years)	**60000**		
RA	**12 22.9**		
Dec	**+15:49**		
Size	**6.2' x 5.3'**		
UM I	UM II	**193**	**91,A13**
SA	**7, 13, 14, B1**		
Remarks	**face-on spiral with starlike nucleus**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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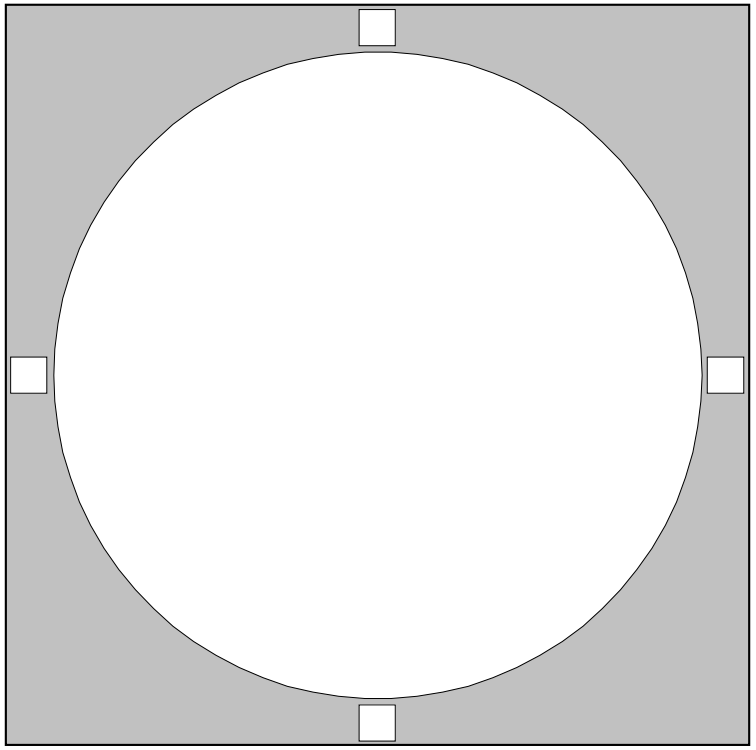
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M101

Pinwheel Galaxy

Messier Object	**M101**		
NGC	**5457**		
Constellation	**Ursa Major**		
Type	**Spiral Galaxy (G-SABcd)**		
Magnitude	**7.9**		
Distance (Kilo light-years)	**27000**		
RA	**14 03.2**		
Dec	**+54:21**		
Size	**26' x 26'**		
UM I	UM II	**49**	**23**
SA	**2, 7**		
Remarks	**!! Pinwheel Gallaxy; diffuse face-on spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



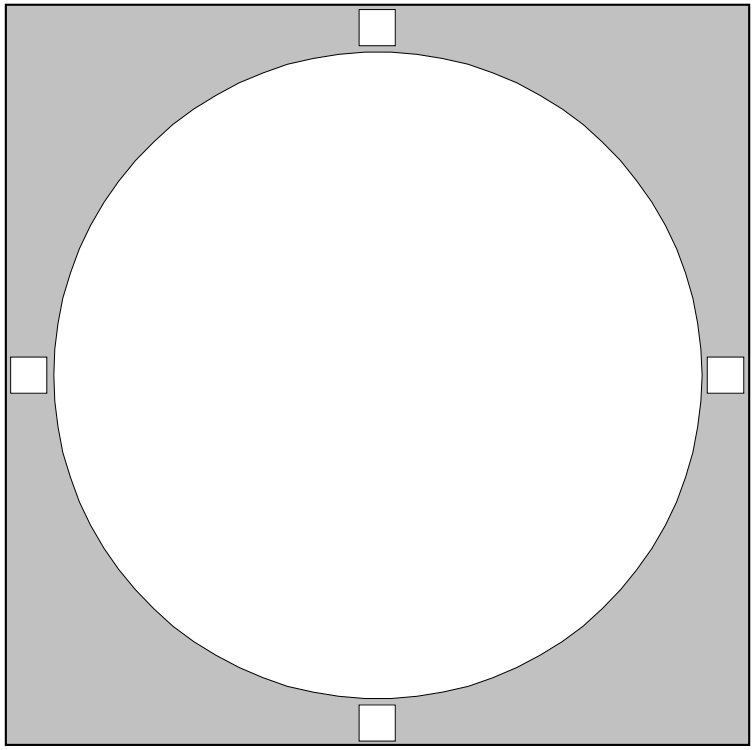
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M102?

NGC 5866 Spindle Galaxy

Messier Object	**M102?**		
NGC	**5866?**		
Constellation	**Draco**		
Type	**Spiral Galaxy (G-SA0)**		
Magnitude	**9.9**		
Distance (Kilo light-years)	**40000**		
RA	**15 06.5**		
Dec	**+55:46**		
Size	**6.6' x 3.2'**		
UM I	UM II	**50**	**22**
SA			
Remarks	**or is M102 = M101? (look for 5907)**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

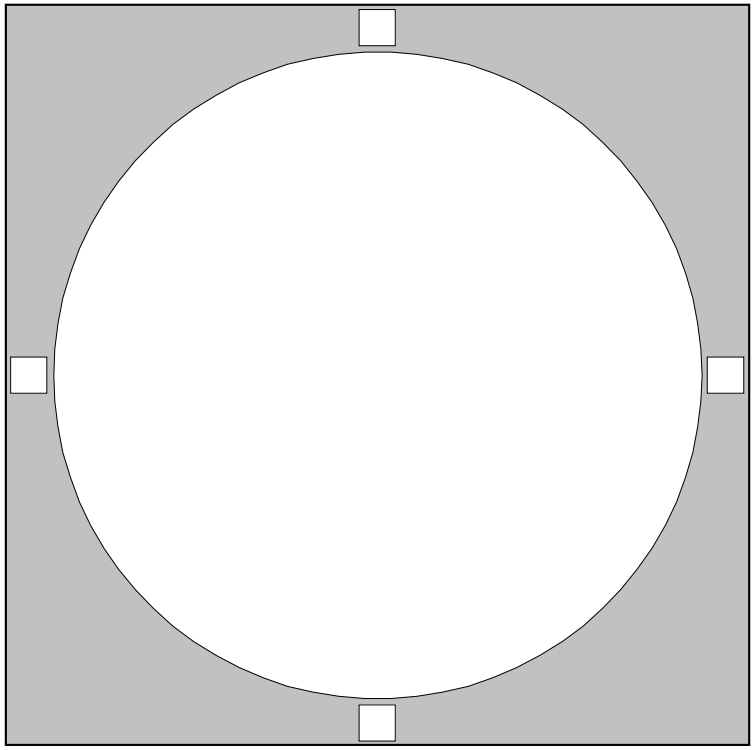


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M103

Messier Object	**M103**		
NGC	**581**		
Constellation	**Cassiopeia**		
Type	**Open Cluster**		
Magnitude	**7.4**		
Distance (Kilo light-years)	**8.5**		
RA	**01 33.2**		
Dec	**+60:42**		
Size	**6.0'**		
UM I	UM II	**16,36,37**	**29**
SA	**1**		
Remarks	**three NGC open clusters near by**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



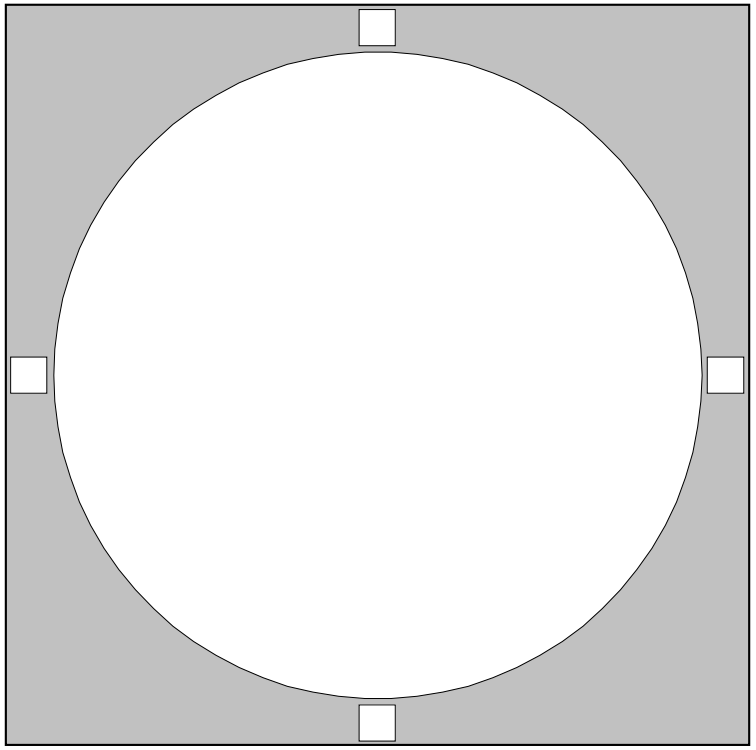
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M104

Sombrero Galaxy

Messier Object	**M104**		
NGC	**4594**		
Constellation	**Virgo**		
Type	**Spiral Galaxy (G-SA)**		
Magnitude	**8.0**		
Distance (Kilo light-years)	**50000**		
RA	**12 40.0**		
Dec	**-11:37**		
Size	**7.1' x 4.4'**		
UM I	UM II	**284**	**130,131**
SA	**13, 14**		
Remarks	**!! Sombrero Galaxy; look for dust lane**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

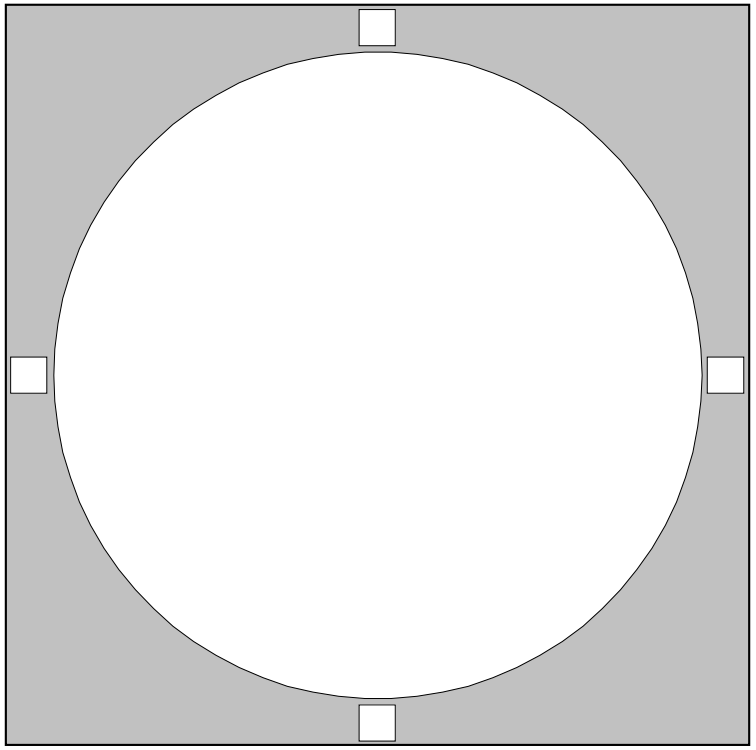


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M105

Messier Object	**M105**		
NGC	**3379**		
Constellation	**Leo**		
Type	**Elliptical Galaxy (G-E1)**		
Magnitude	**9.3**		
Distance (Kilo light-years)	**38000**		
RA	**10 47.8**		
Dec	**+12:35**		
Size	**3.9' x 3.9'**		
UM I	UM II	**190**	**92**
SA	**13**		
Remarks	**bright ellipical near M95 and M96**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

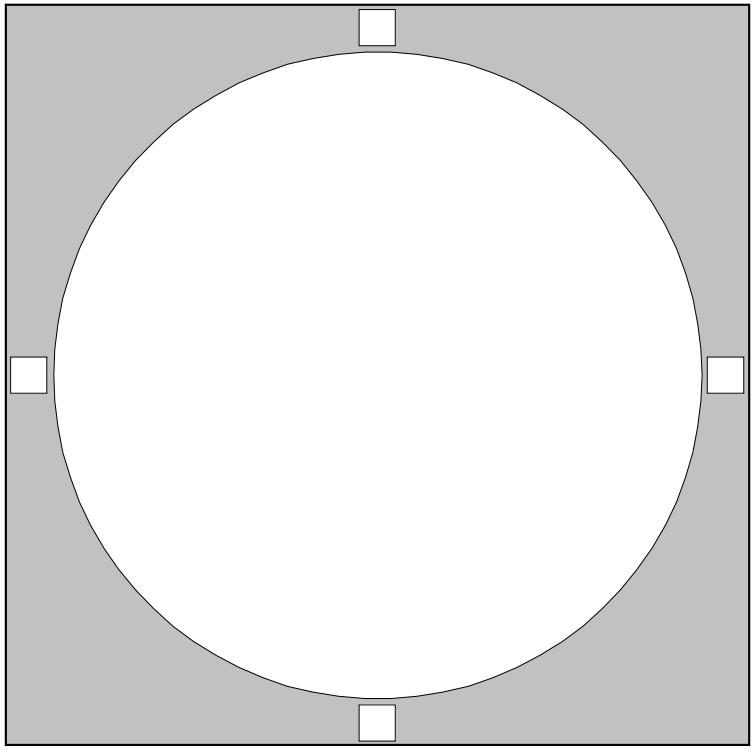


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M106

Messier Object	**M106**		
NGC	**4258**		
Constellation	**Canes Venatici**		
Type	**Spiral Galaxy (G-SABbc)**		
Magnitude	**8.4**		
Distance (Kilo light-years)	**25000**		
RA	**12 19.0**		
Dec	**+47:18**		
Size	**20.0' x 8.0'**		
UM I	UM II	**74,75**	**37**
SA	**2, 6, 7**		
Remarks	**!! Superb large. bright spiral**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

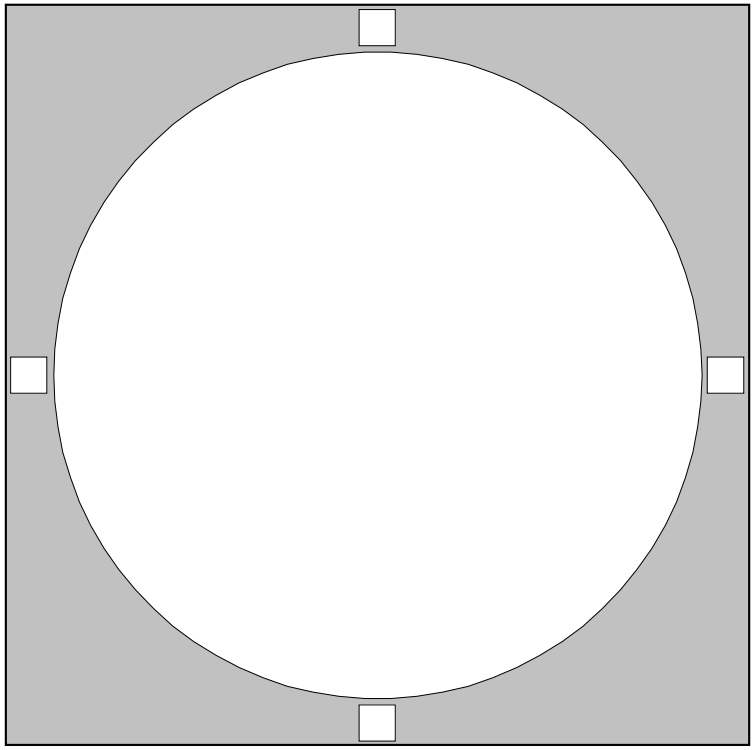


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M107

Messier Object	**M107**		
NGC	**6171**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**8.1**		
Distance (Kilo light-years)	**20.9**		
RA	**16 32.5**		
Dec	**-13:03**		
Size	**10.0'**		
UM I	UM II	**291**	**127**
SA	**15**		
Remarks	**small. faint globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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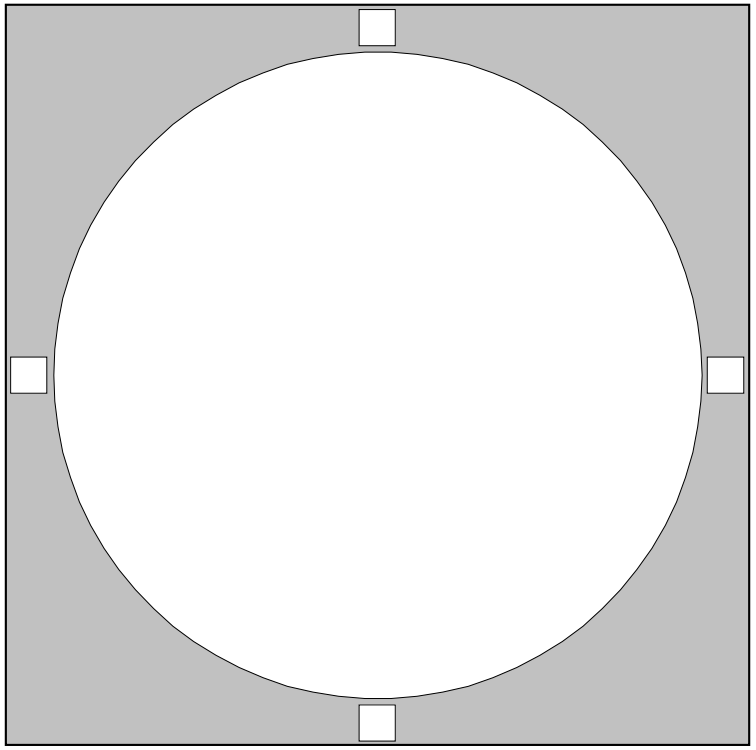
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M108

Messier Object	**M108**		
NGC	**3556**		
Constellation	**Ursa Major**		
Type	**Spiral Galaxy (G-SBcd)**		
Magnitude	**10.0**		
Distance (Kilo light-years)	**45000**		
RA	**11 11.5**		
Dec	**+55:40**		
Size	**8.1' x 2.1'**		
UM I	UM II	**46**	**24**
SA	**2, 6**		
Remarks	**nearly edge-on; paired with M97 3/4 degree south east**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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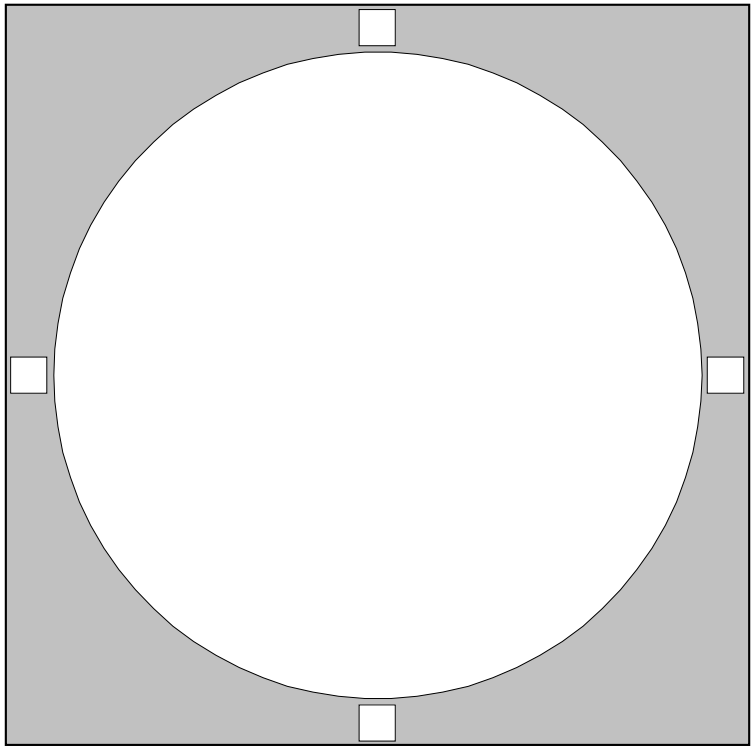
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M109

Messier Object	**M109**		
NGC	**3992**		
Constellation	**Ursa Major**		
Type	**Spiral Galaxy (G-SBbc)**		
Magnitude	**9.8**		
Distance (Kilo light-years)	**55000**		
RA	**11 57.6**		
Dec	**+53:23**		
Size	**7.6' x 4.3'**		
UM I	UM II	**47**	**24**
SA	**2, 6, 7**		
Remarks	**barred spiral near Gamma UMa**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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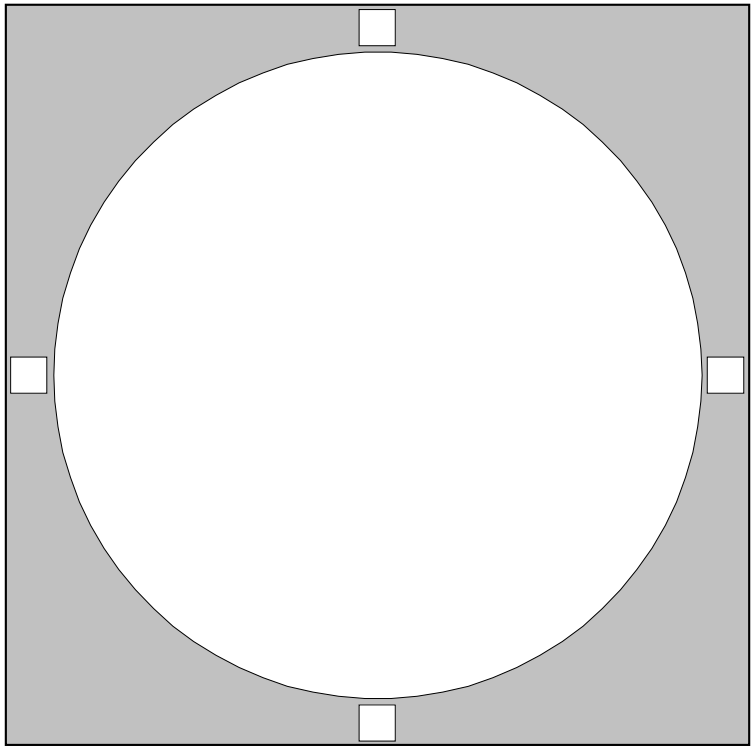
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M110

Messier Object	**M110**		
NGC	**205**		
Constellation	**Andromeda**		
Type	**Elliptical Galaxy (G-E3 peculiar)**		
Magnitude	**8.1**		
Distance (Kilo light-years)	**2900**		
RA	**00 40.4**		
Dec	**+41:41**		
Size	**20.0' x 12.0'**		
UM I	UM II	**60**	**30**
SA	**4, 9**		
Remarks	**more distant companion to M31**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



Notes

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SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca