Prospective Imaging Objects – December

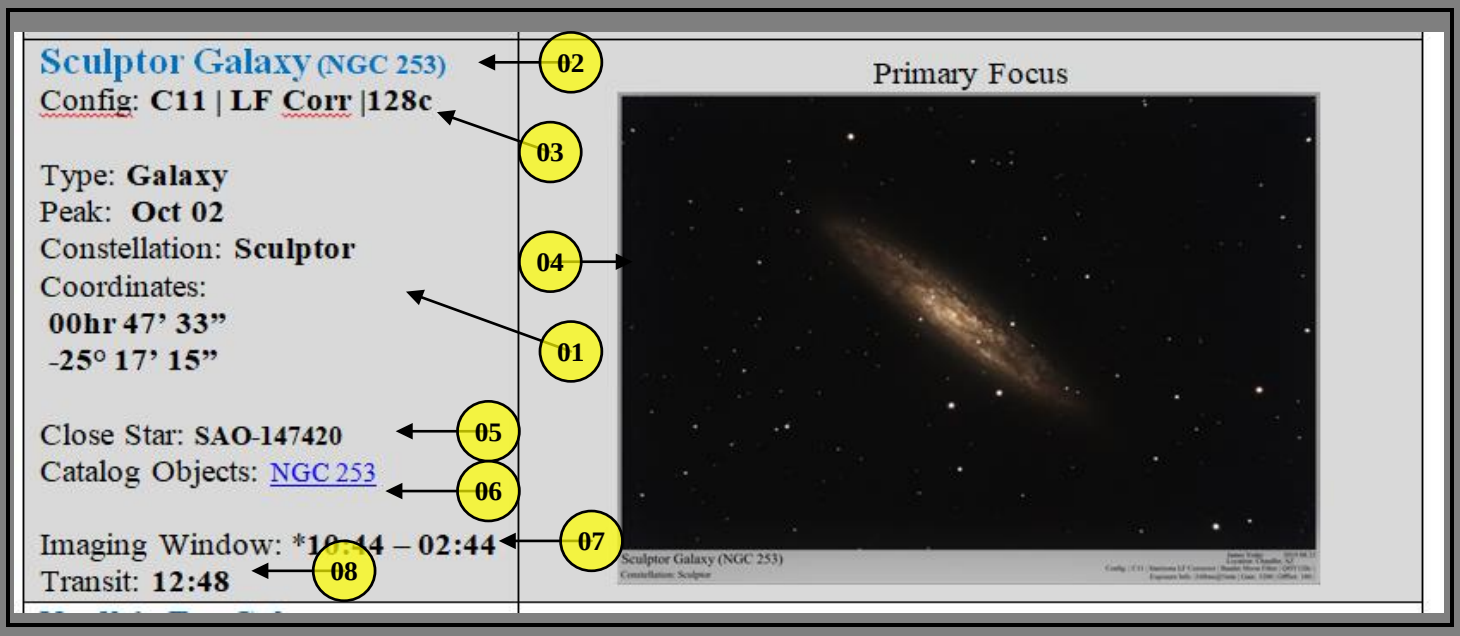
Astronomical Data

Sunrise	Sunset	Astronomical Dusk	Astronomical Dawn	Imaging	Data Date
07:24am	05:22 pm	06:50 pm	05:55 am	11:05	December 15

Hardware Info

Configuration	FL	FOV	FOV°	FR	Image Scale (1 – 1.5) ideal
C11HD | ZWO ASI-6200MC |	2800 mm	45'x 30'	0.75° x 0.5°	10	0.280"/pix (Oversampled)
C11HD | 0.7xReducer | ASI-6200MC |	1960 mm	60' x 45'	1.0° x 0.75°	7	0.393"/pix (Oversampled)
C11HD | HS-v4 | ZWO ASI-6200MC |	540 mm	228' x 150'	3.8° x 2.5°	1.9	1.4"/pix (Undersampled)
C6 | ZWO ASI-6200MC |	1500 mm	83' x 55'	1.38° x 0.92°	10	0.52"/pix (Oversampled)
C6 | 0.63 Corrector | ZWO ASI-6200MC |	1220 mm	131' x 88'	2.18° x 1.46°	6.3	0.82"/pix (Oversampled)
C6 | HS-v4 | ZWO6200MC	300mm	412' x 275'	6.87° x4.58°	2.0	2.59"/pix (Undersampled)

How to use this document



01: Background Fill Color - Items that I have previously images will have a fill color of grey, Images not yet imaged will have a white background color.

02: Object Name and catalog number – Common name long with one of the reference catalog numbers associated with this object.

03: Config – The optimal configuration to image this object, and the configuration the provided image is based on based on what hardware I own. Configuration will either be the Celestron C-11 Primary focus (with focal reducer) or C-11 with HyperStar.

04: Object Image – If this is an object I have already imaged, the thumbnail is my photo. It is hyperlinked to my website, so selecting the image should open a larger image in your browser. If the object has not yet been imaged by me the image displayed is for the identified configuration as obtained from http://www.telescopious.com.

05: Close Star – A fairly bright star close to the target that can be used to check focus and sync the telescope before the imaging session begins.

06: Catalog Objects – List of objects that should appear in the field of view. When possible they are hyperlinked to http://www.telescopious.com where more information can be obtained.

07: Imaging Window – Ideally the time the object is 45° above the horizon. Southern objects with negative DEC that do not peak above 45° are indicated with a *. Imaging window for these objects may be based on 30° or even 25° above horizon for the imaging window.

08: Transit – When the object is at the highest point in the sky for the night. For equatorial mounts this is when the meridian flip will occur.

Prospective Imaging Objects – December

Bow-Tie Nebula (NGC-40) Config: |C11HD|ZWO6200MC| Type: **Planetary Nebula** Constellation: **Cepheus** Coordinates: **00h 13’ 01”** **72° 31’ 21”** Close Star: **SAO-20268** Catalog Objects: NGC-40 Imaging Window: **06:50 – 09:52** Transit: **06:58 | 51°**	**C-11 HD: Primary Focus** 
Andromeda Galaxy Group Config: |C11HD|ZWO6200MC| Type: **Cluster of dim galaxies** Peak: Constellation: **Andromeda** Coordinates: **00h 17’ 58”** **30° 03’ 03”** Close Star: **SAO-73765** (Alpheratz) Catalog Objects: NGC 67-72 et. El. Imaging Window: **06:50 – 10:38** Transit: **07:03 | 87°**	**C-11 HD: Primary Focus** 
NGC-147 & NGC-185 Config: **C11-HD | HS | ZWO6200MC** Type: **Galaxy Pair** Constellation: **Cassiopeia** Coordinates: **00h 36’ 22”** **48° 26’ 42”** Close Star: **SAO-21609 (Shedar)** Catalog Objects: NGC-147, NGC-185 Imaging Window: **06:50 – 11:10** Transit: **07:18 | 75°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

NGC-147 & NGC-185

Config: **C11-HD | FR | ZWO6200MC**

Type: **Galaxy Pair**

Constellation: **Cassiopeia**
Coordinates:
Frame 01
RA: **00hr 38’ 33”** DEC: **48° 25’ 44”**
Frame 02
RA: **00hr 33’ 21”** DEC: **48° 25’ 44”**

Close Star: **SAO-21609 (Shedar)**
Catalog Objects: NGC-147
Imaging Window: **06:50 – 11:10**
Transit: **07:18 | 75°**

C-11 HD: Focal Reducer
Composite!

NGC-147

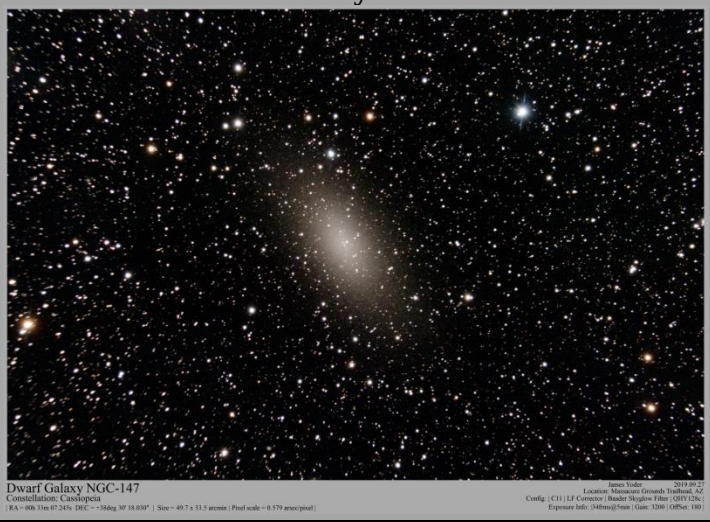
Config: |ZWO6200MC|

Type: **Galaxy**
Peak:
Constellation: **Cassiopeia**
Coordinates:
00h 33’ 07.245”
48° 30’ 18.030”

Close Star: **SAO-37375**
Catalog Objects: NGC-147

Imaging Window: **06:50 – 11:10**
Transit: **07:18 | 75°**

Primary Focus



NGC-185

Config: **C11-HD | ZWO6200MC**

Type: **Dwarf Spheroidal Galaxy**

Constellation: **Cassiopeia**
Coordinates:
00h 38’ 58”
48° 20’ 14”

Close Star: **SAO-21609 (Shedar)**
Catalog Objects: NGC-185
Imaging Window: **06:50 – 11:16**
Transit: **07:24 | 75°**

C-11 HD: Primary Focus

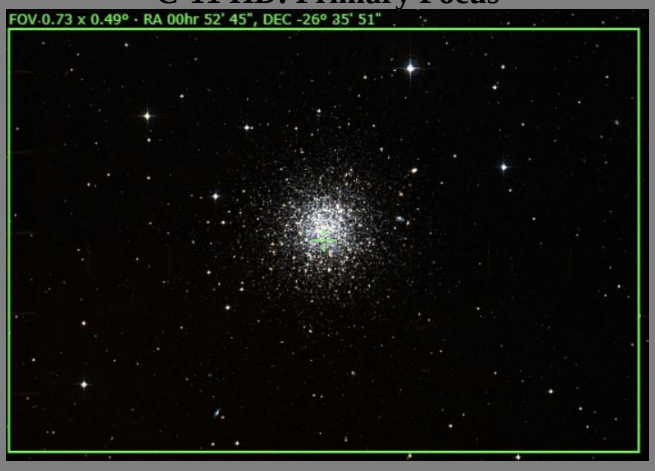
Prospective Imaging Objects – December

M-110 Config: **C11-HD | ZWO6200MC** Type: **Elliptical Galaxy** Constellation: **Andromeda** Coordinates: **00h 40’ 22”** **41° 41’ 07”** Close Star: **SAO-73765 (Sirrah)** Catalog Objects: M-110 Imaging Window: **06:50 – 11:14** Transit: **07:25 | 82°**	**C-11 HD: Primary Focus** 
M-32 Config: **C11-HD | ZWO6200MC** Type: **Elliptical Galaxy** Constellation: **Andromeda** Coordinates: **00h 42’ 42”** **40° 51’ 57”** Close Star: **SAO-73765 (Sirrah)** Catalog Objects: M-32 Imaging Window: **06:50 – 11:16** Transit: **07:27 | 83°**	**C-11 HD: Primary Focus** 
M-31, M-32 Config: **C11-HD | HS | ZWO6200MC** Type: **Andromeda Galaxy** Constellation: **Andromeda** Coordinates: **00h 42’ 44”** **41° 16’ 08”** Angle: **133° East** Close Star: **SAO-73765 (Sirrah)** Catalog Objects: M-31, M-32 Imaging Window: **06:50 – 11:16** Transit: **07:27 | 82°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

NGC246, NGC255, PGC 2689 Config: **C11-HD | HS | ZWO6200MC** Type: **Planetary Nebula, 2 Galaies** Constellation: **Cetus** Coordinates: **00h 47’ 00”** **-11° 40’ 40”** Close Star: **SAO-147420 (Diphda)** Catalog Objects: NGC-246 Imaging Window: ***06:50 – 10:22** Transit: **07:32 | 45°**	**C-11 HD: Focal Reducer**  Skull Nebula (NGC-246) and Galaxy NGC-255 Constellation: Cetus the Whale
Skull Nebula (NGC-246) Config: **C11-HD | ZWO6200MC** Type: **Planetary Nebula** Constellation: **Cetus** Coordinates: **00h 47’ 03”** **-11° 52’ 17”** Close Star: **SAO-147420 (Diphda)** Catalog Objects: NGC-246 Imaging Window: ***06:50 – 10:22** Transit: **07:32 | 45°**	**C-11 HD: Primary Focus** 
Needle’s Eye Galaxy (NGC 247) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Peak: Constellation: **Cetus** Coordinates: **00hr 47’ 12”** **-20° 44’ 38”** Close Star: **SAO-147420** Catalog Objects: NGC 247 Imaging Window: ***06:50 – 10:06** Transit: **07:32 | 36°**	**C-11 HD: Primary Focus**  Needle's Eye Galaxy (NGC-247) Constellation: Cetus

Prospective Imaging Objects – December

NGC-288, NGC-253 Config: **C11-HD | HS | ZWO6200MC** Type: **Globular and Galaxy** Constellation: **Sculptor** Coordinates: **00h 50’ 03”** **-25° 54’ 37”** Close Star: **SAO-147420 (Diphda)** Catalog Objects: NGC-288, NGC-253 Imaging Window: ***06:50 – 09:28** Transit: **07:37 | 31°**	**C-11 HD: HyperStar v4**  Sculptor galaxy (NGC-253) and Globular Cluster (NGC-288)
Sculptor Galaxy (NGC-253) Config: **C11-HD | ZWO6200MC** Type: **Spiral Galaxy** Constellation: **Sculptor** Coordinates: **00h 47’ 33”** **-25° 17’ 15”** Close Star: **SAO-147420 (Diphda)** Catalog Objects: NGC-253 Imaging Window: ***06:50 – 09:28** Transit: **07:32 | 31°**	**C-11 HD: Primary Focus**  Sculptor Galaxy (NGC 253)
NGC-288 Config: **C11-HD | ZWO6200MC** Type: **Globular Cluster** Constellation: **Sculptor** Coordinates: **00h 52’ 45”** **-26° 35’ 51”** Close Star: **SAO-147420 (Diphda)** Catalog Objects: NGC-288 Imaging Window: ***06:50 – 09:20** Transit: **07:37 | 31°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

NGC-188 Config: **C11-HD | FR | ZWO6200MC** Type: **Open Cluster** Constellation: **Cepheus** Coordinates: **00h 47’ 30”** **85° 15’ 30”** Close Star: **SAO-308 (Polaris)** Catalog Objects: NGC-188 Imaging Window: ***06:50 – 11:46** Transit: **07:32 | 38°**	**C-11 HD: Focal Reducer** 
NGC-281 Config: **C11-HD | FR | ZWO6200MC** Type: **Diffuse Nebula** Constellation: **Cassiopeia** Coordinates: **00h 53’ 00”** **56° 37’ 00”** Close Star: **SAO-11482 (Navi)** Catalog Objects: NGC-281 Imaging Window: **06:50 – 11:28** Transit: **07:37 | 67°**	**C-11 HD: Focal Reducer** 
Gamma Cassiopeiae Nebula (SH2-185) Config: **C11-HD | HS | ZWO6200MC** Type: **Bright Nebula** Constellation: **Cassiopeia** Coordinates: **01h 03’ 11”** **60° 42’ 24”** Close Star: **SAO-11482 (Navi)** Catalog Objects: SH2-185 Imaging Window: **06:50 – 11:30** Transit: **07:45 | 62°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

Gamma Cassiopeiae Nebula (SH2-185) Config: **C11-HD | HS | ZWO6200MC** Type: **Bright Nebula** Constellation: **Cassiopeia** Coordinates: **00h 58’ 48”** **61° 04’ 02”** Close Star: **SAO-11482 (Navi)** Catalog Objects: SH2-185 Imaging Window: **06:50 – 11:30** Transit: **07:45 | 62°**	**C-11 HD: Primary Focus** 
IC-1613 Config: **C11-HD | ZWO6200MC** Type: **Irregular Dwarf Galaxy** Constellation: **Cetus** Coordinates: **01h 04’ 48”** **02° 07’ 07”** Close Star: **SAO-75151 (Hamal)** Catalog Objects: IC-1613 Imaging Window: **06:50 – 10:10** Transit: **07:49 | 59°**	**C-11 HD: Primary Focus** 
Mirachs Ghost (NGC-404) Config: **C11-HD | ZWO6200MC** Type: **Elliptical Galaxy** Constellation: **Andromeda** Coordinates: **01h 09’ 36”** **35° 40’ 58”** Close Star: **SAO-544471 (Mirach)** Catalog Objects: NGC-404 Imaging Window: **06:50 – 11:37** Transit: **07:54 | 88°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

NGC-457 & Dolphin Nebula
Config: **C11-HD | HS | ZWO6200MC**

Type: **Open Cluster & Nebula**

Constellation: **Cassiopeia**
Coordinates:
01° 23’ 38”
58° 12’ 54”

Close Star: **SAO-22268 (Ruchbah)**
Catalog Objects: NGC-457
Imaging Window: **06:50 – 11:54**
Transit: **08:04 | 65°**

C-11 HD: HyperStar v4

Owl Cluster (NGC-457)
Config: **C11-HD | ZWO6200MC**

Type: **Open Cluster & Nebula**

Constellation: **Cassiopeia**
Coordinates:
01h 23’ 38”
58° 12’ 54”

Close Star: **SAO-22268 (Ruchbah)**
Catalog Objects: NGC-457
Imaging Window: **06:50 – 11:54**
Transit: **08:04 | 65°**

C-11 HD: Primary Focus

Minkowski’s Object (Arp-133)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Galaxy Cluster**
Constellation: **Cetus**
Coordinates:
01h 25’ 27”
-01° 29’ 03”

Close Star: **SAO-75151 (Hamal)**
Catalog Objects: ARP-133
Imaging Window: **06:50 – 10:14**
Transit: **08:10 | 55°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Firefox Nebula (Sh 2-188)

Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Cassiopeia**
Coordinates:
01h 31’ 37”
58° 21’ 22”

Close Star: **SAO-22268 (Ruchbah)**
Catalog Objects: Sh 2-188

Imaging Window: **06:50 – 12:04**
Transit: **08:15 | 65°**

C-11 HD: Primary Focus

M-103 (NGC-581)

Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**
Constellation: **Cassiopeia**
Coordinates:
01h 33’ 31”
60° 39’ 44”

Close Star: ISO-22268 (Ruchbah)
Catalog Objects: M-103/NGC-581

Imaging Window: **06:50 – 12:04**
Transit: **08:18 | 63°**

C-11 HD: Primary Focus

Triangulum Galaxy (M-33)

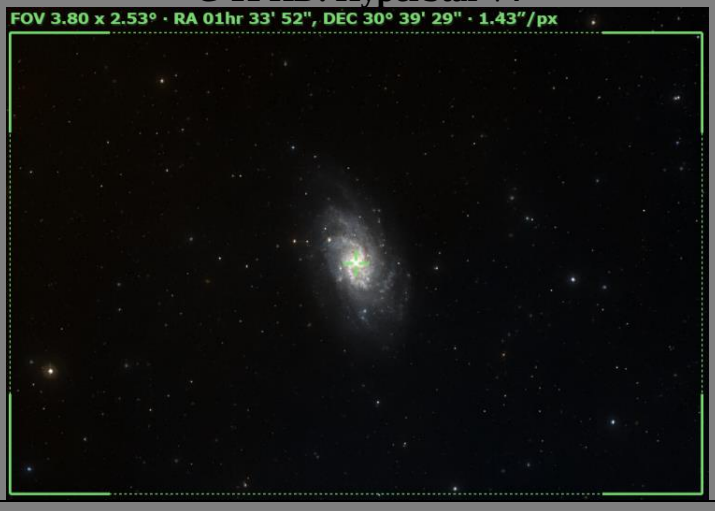
Config: **C11 | HS | ZWO6200MC**

Type: **Galaxy**
Constellation: **Triangulum**
Coordinates:
01h 33’ 52”
30° 39’ 29”

Close Star: **SAO-74996**
Catalog Objects: M33, NGC598

Imaging Window: **06:50 – 11:54**
Transit: **08:18 | 87°**

C-11 HD: HyperStar v4



Prospective Imaging Objects – December

Triangulum Galaxy (M-33)

Config: |C11-HD|FR|ZWO6200MC|

Type: **Galaxy**
Peak: **Oct 14**
Constellation: **Triangulum**

Camera Rotation - 90°
Coordinates:
01h 33’ 52”
30° 39’ 29”

Close Star: **SAO-74996**
Catalog Objects: M33, NGC598

Imaging Window: **06:50 – 11:54**
Transit: **08:18 | 87°**

CH11-HD Focal Reducer **90° Rotation**

M-74

Config: |C11HD|ZWO6200MC|

Type: **Spiral Galaxy**
Peak:
Constellation: **Pisces**
Coordinates:
01h 36’ 42”
15° 46’ 60”

Close Star: ISO-91781 (Algenib)
Catalog Objects: M-74

Imaging Window: **06:50 – 11:28**
Transit: **08:21 | 72°**

C-11 HD: Primary Focus

Little Dumbbell Nebula (M-76)

Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Peak:
Constellation: **Perseus**
Coordinates:
01h 42’ 18”
51° 34’ 17”

Close Star: ISO-37375
Catalog Objects: M-76/ NGC-650
Imaging Window: **06:50 – 12:20**
Transit: **08:27 | 72°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Nautilus Galaxy (NGC-772) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Peak: Constellation: **Aries** Coordinates: **01h 59’ 19”** **19° 00’ 27”** Close Star: ISO-75012 (Sheratan) Catalog Objects: NGC-772 Imaging Window: **06:50 – 11:58** Transit: **08:44 | 76°**	**C-11 HD: Primary Focus** 
Hand chi Persei (NGC 869, 884) Config: **C11-HD | HS | ZWO6200MC** Type: **Double Open Cluster** Peak: **October 28** Constellation: **Perseus** Coordinates: **02hr 20’ 31”** **56° 54’ 05”** Close Star: SAO-22258 (Ruchbah) Catalog Objects: NGC 869, 884 Imaging Window: **06:50 – 12:54** Transit: **09:03 | 66°**	**C-11 HD: HyperStar v4** 
Edge On Galaxy (NGC 891) Config: |C1|LF|ZWO6200MC| Type: **Galaxy** Peak: **Oct 27** Constellation: **Andromeda** Coordinates: **02h 23’ 43.29”** **42° 25’ 46.4”** Close Star: **SAO-37734** Catalog Objects: NGC891 Imaging Window: **06:50 – 12:57** Transit: **09:07 | 81°**	Primary Focus 

Prospective Imaging Objects – December

NGC-925 (PGC 9332)

Config: |C11-HD|ZWO6200MC|

Type: **Galaxy**
Constellation: **Triangulum**
Coordinates:
02h 27’ 17”
33° 34’ 44”

Close Star: **SAO-55306** (Beta Trianguli)
Catalog Objects: NGC925/PGC9332

Imaging Window: **06:50 – 12:52**
Transit: **09:12 | 90°**

Primary Focus

Fish Head Nebula (IC-1795)

Config: |C11-HD|FR|ZWO6200MC|

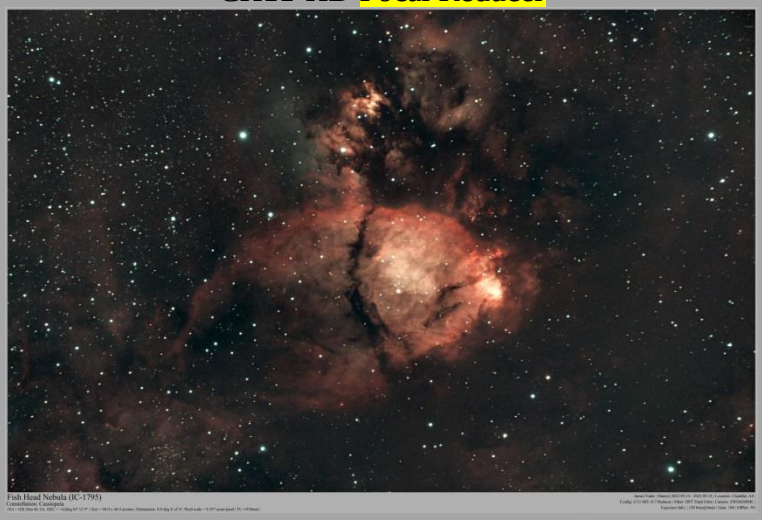
Type: **Bright Nebula**
Constellation: **Cassiopeia**

Coordinates:
02h 27’ 03”
62° 02’ 31”

Close Star: **SAO-38787** (Mirfak)
Catalog Objects: IC-1795

Imaging Window: **06:50 – 12:54**
Transit: **09:10 | 87°**

CH11-HD Focal Reducer



Heart and Soul Nebulas

Config: **C11 | HS | ZWO6200MC**

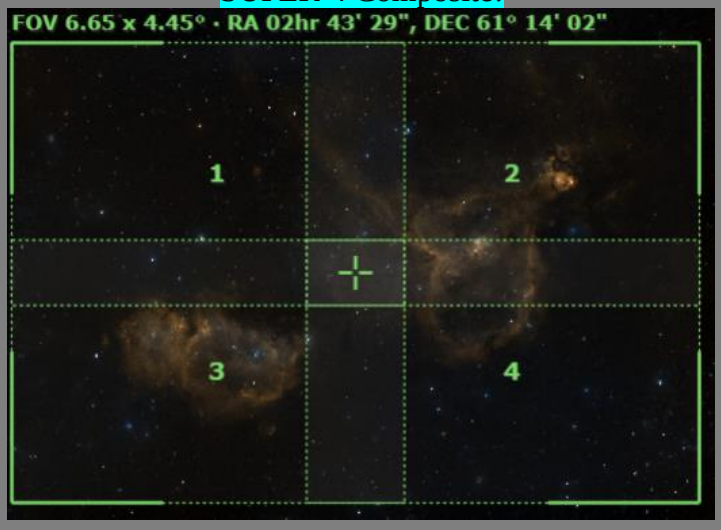
Type: **Diffuse Nebula**

Constellation: **Cassiopeia**
Coordinates (RA, DEC):
Pane 1: **02hr 55' 41", 62º 09' 11"**
Pane 2, **02hr 31' 16", 62º 09' 11**
Pane 3, **02hr 54' 58", 60º 15' 00"**
Pane 4, **02hr 31' 59", 60º 15' 00"**

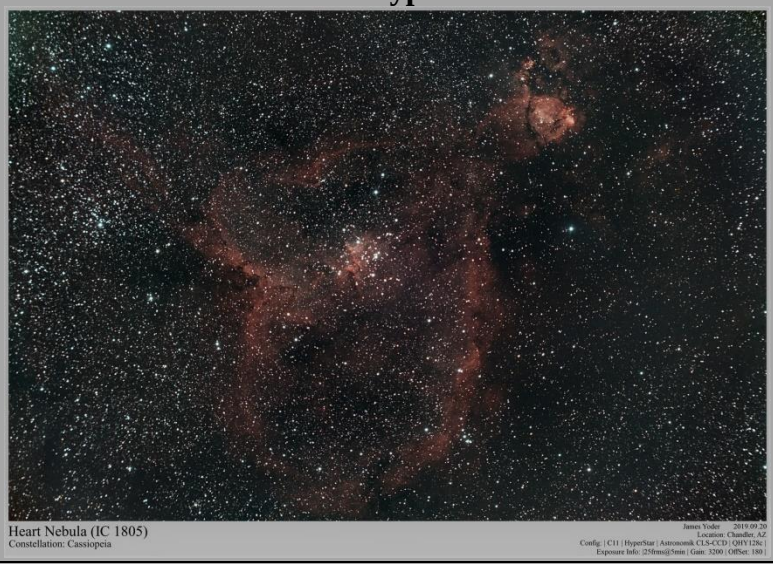
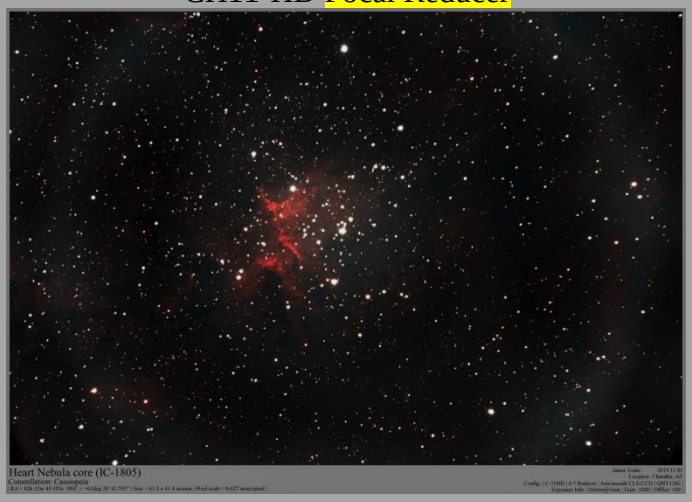
Close Star: **SAO-38787 (Mirfak)**
Catalog Objects: IC-1848

Imaging Window: **06:50 – 01:02**
Transit: **09:17 | 62°**

C-11 HD: HyperStar v4
SUPER-4 Composite!



Prospective Imaging Objects – December

Heart Nebula (IC 1805) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Peak: **October 31** Constellation: **Cassiopeia** Coordinates: **02hr 31’ 16”** **61° 21’ 36”** Close Star: SAO-12031 Catalog Objects: IC 1805 Imaging Window: **06:50 – 01:02** Transit: **09:17 | 62°**	**C-11 HD: HyperStar v4** 
Heart Nebula (IC 1805) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Cassiopeia** Coordinates: **02hr 26’ 36”** **62° 06’ 53”** Close Star: SAO-12031 Catalog Objects: IC 1805 Imaging Window: **06:50 – 01:02** Transit: **09:17 | 62°**	CH11-HD Focal Reducer 
Heart Nebula (IC-1805) Config: |C1|LF|ZWO6200MC| Type: **Diffuse Nebula** Peak: **October 31** Constellation: **Cassiopeia** Coordinates: **02hr 32’ 42”** **61° 27’ 00”** Close Star: SAO-12031 Catalog Objects: IC 1805 Imaging Window: **06:50 – 01:02** Transit: **09:17 | 62°**	Primary Focus 

Prospective Imaging Objects – December

M-77, NGC 1055

Config: |C11-HD|FR|ZWO6200MC|

Type: **Galaxy**
Peak:
Constellation: **Cetus**
Coordinates:
02hr 42’ 14”
00° 14’ 28”
Angle: 90°

Close Star: **SAO-110665**
Catalog Objects: M-77, NGC-1055, NGC-1068

Imaging Window: **07:21 – 11:38**
Transit: **09:27 | 57°**

CH11-HD Focal Reducer

NGC-1055

Config: |C11HD|ZWO6200MC|

Type: **Galaxy**
Peak:
Constellation: **Cetus**
Coordinates:
02hr 41’ 50”
00° 29’ 48”

Close Star: **SAO-110665**
Catalog Objects: NGC-1055

Imaging Window: **07:18 – 11:39**
Transit: **09:26 | 57°**

C-11 HD: Primary Focus

M-34 (NGC-1039)

Config: |C11-HD|ZWO6200MC|

Type: **Open Cluster**
Constellation: **Perseus**
Coordinates:
02h 42’ 05”
42° 45’ 42”

Close Star: **SAO-38592** (Algol)
Catalog Objects: M-34/NGC-1039

Imaging Window: **06:50 – 01:16**
Transit: **09:26 | 81°**

Primary Focus

Prospective Imaging Objects – December

M 77 (NGC 1068)

Config: |C11HD|ZWO6200MC|

Type: **Galaxy**
Peak:
Constellation: **Cetus**
Coordinates:
02hr 42’ 34”
00° 02’ 07”

Close Star: **SAO-110665**
Catalog Objects: M 77, NGC-1068

Imaging Window: **07:21 – 11:38**
Transit: **09:27 | 57°**

C-11 HD: Primary Focus

Soul Nebula (IC-1848)

Config: **C11-HD | HS | ZWO6200MC**

Type: **Diffuse Nebula**
Peak:
Constellation: **Cassiopeia**
Coordinates:
02hr 57’ 16”
60° 37’ 37”

Close Star: **SAO-38787 (Mirfak)**
Catalog Objects: IC 1848

Imaging Window: **06:50 – 01:23**
Transit: **09:36 | 63°**

C-11 HD: HyperStar v4

Soul Nebula (IC-1848)

Config: |C1|LF|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Cassiopeia**
Coordinates:
02hr 57’ 16”
60° 37’ 37”

Close Star: **SAO-38787 (Mirfak)**
Catalog Objects: IC 1848

Imaging Window: **06:50 – 01:23**
Transit: **09:36 | 63°**

Primary Focus

Prospective Imaging Objects – December

Perseus Galaxy Cluster

Config: |C11HD|ZWO6200MC|

Type: **Galaxy Cluster**
Peak:
Constellation: **Perseus**
Coordinates:
03hr 19’ 58”
41° 29’ 13”

Close Star: **SAO-38592** (Algol)
Catalog Objects: Abell-426, NGC1275, 1278, 1272, Et. El.

Imaging Window: **06:50 – 01:53**
Transit: **10:04 | 82°**

C-11 HD: Primary Focus

NGC-1333

Config: |C11HD|ZWO6200MC|

Type: **Bright Nebula**
Peak: **November 13**
Constellation: **Perseus**
Coordinates:
03hr 29’ 15”
31° 20’ 12”

Close Star: **SAO-56799**
Catalog Objects: NGC 1333

Imaging Window: **06:50 – 01:51**
Transit: **10:13 | 88°**

C-11 HD: Primary Focus

NGC-1360

Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Peak:
Constellation: **Fornax**
Coordinates:
03hr 33’ 15”
-25° 52’ 16”

Close Star: **SAO-168460**
Catalog Objects: NGC-1360

Imaging Window: ***08:30 – 12:13**
Transit: **10:17 | 31°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

IC-348

Config: |C11HD|ZWO6200MC|

Type: **Bright Nebula**
Peak:
Constellation: **Perseus**
Coordinates:
03hr 44’ 26”
32° 10’ 54”

Close Star: **SAO-147420**
Catalog Objects: IC-348

Imaging Window: **06:56 – 02:07**
Transit: **10:29 | 89°**

C-11 HD: Primary Focus

IC-342

Config: |C11HD|ZWO6200MC|

Type: **Barred Spiral Galaxy**
Peak:
Constellation: **Camelopardalis**
Coordinates:
03hr 46’ 48”
68° 05’ 44”

Close Star: **SAO-12031 (Segin)**
Catalog Objects: IC-342

Imaging Window: **07:12 – 01:56**
Transit: **10:31 | 55°**

C-11 HD: Primary Focus

Pleiades (M 45)

Config: **C11-HD | HS | ZWO6200MC**

Type: **Bright Nebula**
Peak: **November 16**
Constellation: **Taurus**
Coordinates:
03hr 46’ 07”
24° 11’ 18”

Close Star: **SAO-56799**
Catalog Objects: M45

Imaging Window: **07:11 – 01:56**
Transit: **10:30 | 81**

C-11 HD: HyperStar v4

Prospective Imaging Objects – December

Pleiades (M-45)

Config: |C1|LF|ZWO6200MC|

Type: **Bright Nebula**
Peak: **November 16**
Constellation: **Taurus**
Coordinates:
03hr 46’ 15.932”
24° 12’ 07.154”

Close Star: **SAO-56799**
Catalog Objects: M45

Imaging Window: **07:11 – 01:56**
Transit: **10:30 | 81°**

Primary Focus

California Nebula (NGC 1499)

Config: **C11-HD | HS | ZWO6200MC**

Type: **Diffuse Nebula**
Peak: **November 22**
Constellation: **Perseus**
Coordinates:
04hr 01’ 22”
36° 21’ 19”

Close Star: SAO-56840
Catalog Objects: NGC 1499

Imaging Window: **07:09 – 02:32**
Transit: **10:47 | 87°**

C-11 HD: HyperStar v4

Oyster Nebula (NGC 1501)

Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Constellation: **Camelopardalis**
Coordinates:
04hr 06’ 58”
60° 55’ 3.5”

Close Star: **SAO-038787 (Mirfak)**
Catalog Objects: NGC-1501

Imaging Window: **07:11 – 02:37**
Transit: **10:51 | 62°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Crystal Ball Nebula (NGC 1514)
Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Constellation: **Taurus**
Coordinates:
04hr 09’ 17”
30° 46’ 35”

Close Star: **SAO-56799**
Catalog Objects: NGC-1514

Imaging Window: **07:22 – 10:53**
Transit: **10:53 | 87°**

C-11 HD: Primary Focus

Cleopatra’s Eye (NGC 1535)
Config: |C11HD |ZWO6200MC|

Type: **Planetary Nebula**
Constellation: **Eridanus**
Coordinates:
04hr 14’ 16”
-12° 44’ 20”

Close Star: **SAO-131907** (Rigel)
Catalog Objects: NGC-1535

Imaging Window: ***08:57 – 01:07**
Transit: **10:58 | 44°**

C-11 HD: Primary Focus

Hind’s Variable Nebula (NGC 1555)
Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Constellation: **Taurus**
Coordinates:
04hr 21’ 54”
19° 32’ 00”

Close Star: **SAO-94027** (Aldebaran)
Catalog Objects: NGC-1555

Imaging Window: **07:56 – 02:22**
Transit: **11:06 | 76°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Hyades (Mel 25) Config: **C11-HD | HS | ZWO6200MC** Type: **Open Cluster** Constellation: **Taurus** Coordinates: **04hr 26’ 34”** **15° 31’ 39”** Close Star: SAO-56840 Catalog Objects: Mel 25 Imaging Window: **08:10 – 02:24** Transit: **11:14 | 73°**	**C-11 HD: HyperStar v4** 
Trifid of the North (NGC 1579) Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Perseus** Coordinates: **04hr 30’ 12”** **35° 16’ 60”** Close Star: **SAO-56799** Catalog Objects: NGC-1579 Imaging Window: **07:37 – 02:57** Transit: **11:14 | 88°**	**C-11 HD: Primary Focus** 
Witch Head Nebula (IC 2118) Config: **C11-HD | HS | ZWO6200MC** Type: **Bright Nebula** Peak: Constellation: **Eridanus** Coordinates: **05hr 05’ 19.872”** **-06° 56’ 00.365”** Close Star: SAO-131794 Catalog Objects: IC 2118 Imaging Window: ***09:13 – 02:20** Transit: **11:46 | 49°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

Witch Head Nebula (IC 2118) Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Eridanus** Coordinates: **05hr 07’ 07”** **-06° 20’ 07”** Close Star: SAO-131794 Catalog Objects: IC 2118 Imaging Window: ***09:13 – 02:20** Transit: **11:46 | 49°**	**C-11 HD: Primary Focus** 
Foxface Nebula (NGC 1788) Config: |C11|HS|ZWO6200MCc| Type: **Bright Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 06’ 10”** **-04° 04’ 26”** Close Star: SAO-131794 Catalog Objects: NGC 1788 Imaging Window: **10:04 – 01:44** Transit: **11:51**	**Hyperstar** 
Foxface Nebula (NGC 1788) Config: |C11-HD|FR|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 05’ 52”** **-03° 22’ 22”** Close Star: SAO-131794 Catalog Objects: NGC 1788 Imaging Window: **10:04 – 01:44** Transit: **11:51**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – December

Foxface Nebula (NGC 1788)
Config: |C11HD|ZWO6200MC|

Type: **Bright Nebula**
Peak:
Constellation: **Orion**
Coordinates:
05hr 06’ 26”
-03° 20’ 13”

Close Star: SAO-131794
Catalog Objects: NGC 1788

Imaging Window: **10:04 – 01:44**
Transit: **11:51**

C-11 HD: Primary Focus

Flaming Star Nebula (IC-405)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Bright Nebula**
Peak:
Constellation: **Auriga**
Coordinates:
05hr 19’ 38”
33° 49’ 10”

Close Star: SAO-77168 (Elnath)
Catalog Objects: IC 405, IC 410

Imaging Window: **08:26 – 03:43**
Transit: **12:01 | 89°**

C-11 HD: HyperStar v4

Flaming Star Nebula (IC 405)
Config: |C11-HD|FR|ZWO6200MC|

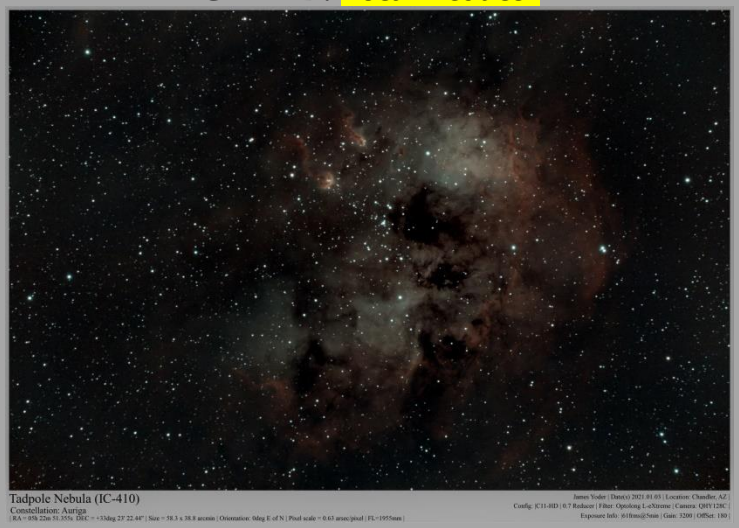
Type: **Bright Nebula**
Peak:
Constellation: **Auriga**
Coordinates:
05hr 15’ 55”
34° 29’ 08”

Close Star: SAO-77168 (Elnath)
Catalog Objects: IC 405

Imaging Window: **08:26 – 03:43**
Transit: **12:01 | 89°**

C-11 HD: Focal Reducer

Prospective Imaging Objects – December

Flaming Star Nebula (IC 405) Config: |C11-HD|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Auriga** Coordinates: **05hr 16’ 37”** **34° 23’ 47”** Close Star: SAO-77168 (Elnath) Catalog Objects: IC 405 Imaging Window: **08:26 – 03:43** Transit: **12:01 | 89°**	**C-11 HD: Primary Focus** 
Tadpoles (IC 410) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Auriga** Coordinates: **05hr 22’ 54”** **33° 23’ 31”** Close Star: SAO-77168 (Elnath) Catalog Objects: IC 410 Imaging Window: **08:31 – 03:47** Transit: **12:06 | 90°**	**C-11 HD: Focal Reducer** 
Tadpoles (IC 410) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Auriga** Coordinates: **05hr 22’ 37”** **33° 23’ 03”** Close Star: SAO-77168 (Elnath) Catalog Objects: IC 410 Imaging Window: **08:31 – 03:47** Transit: **12:06 | 90°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

M-79 (NGC-1904)
Config: |C11HD|ZWO6200MC|

Type: **Globular Cluster**
Peak:
Constellation: **Lepus**
Coordinates:
05hr 24’ 11”
-24° 31’ 25”

Close Star: SAO-170457
Catalog Objects: M 79

Imaging Window: ***10:10 – 02:16**
Transit: **12:11 | 32°**

C-11 HD: Primary Focus

Spirograph Nebula (IC 418)
Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Constellation: **Lepus**
Coordinates:
05hr 27’ 28”
-12° 41’ 48”

Close Star: SAO-132542 (Saiph)
Catalog Objects: IC-418

Imaging Window: ***10:06 – 02:16**
Transit: **12:11 | 44°**

C-11 HD: Primary Focus

The Spider and the Fly
(M-77, NGC-1055, NGC-1931)
Config: |C11-HD|FR|ZWO6200MC|
Type: **Diffuse Nebula**
Peak:
Constellation: **Auriga**

Camera Rotation - 90°
Frame 01
RA: **05hr 30’ 44”**DEC: **34° 20’ 41”**
Frame 02
RA: **05hr 27’ 55”**DEC: **34° 20’ 41”**

Close Star: SAO-77168 (Elnath)
Catalog Objects: IC-417, NGC-1931

Imaging Window: **08:36 – 03:54**
Transit: **12:12 | 89°**

C-11 HD: Focal Reducer
Composite!

Prospective Imaging Objects – December

The Spider (IC 417) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Auriga** Coordinates: **05hr 28’ 03”** **34° 22’ 58”** Close Star: SAO-77168 (Elnath) Catalog Objects: IC 417 Imaging Window: **08:36 – 03:54** Transit: **12:12 | 89°**	**C-11 HD: Primary Focus** 
Starfish Cluster (M-38) Config: |C11HD|ZWO6200MC| Type: **Open Cluster** Constellation: **Auriga** Coordinates: **05hr 28’ 43”** **35° 51’ 18”** Close Star: **SAO-77168** (Elnath) Catalog Objects: M-38 Imaging Window: **08:35 – 03:56** Transit: **12:12 | 88°**	**C-11 HD: Primary Focus** 
The Fly (NGC 1931) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Auriga** Coordinates: **05hr 31’ 24”** **34° 15’ 00”** Close Star: SAO-77168 (Elnath) Catalog Objects: NGC 1931 Imaging Window: **08:40 – 03:57** Transit: **12:15 | 89°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Crab Nebula (M 1)

Config: |C1|LF|ZWO6200MC|

Type: **Planetary Nebula**
Peak:
Constellation: **Taurus**
Coordinates:
05hr 34’ 30”
22° 00’ 59.9”

Close Star: SAO-77336
Catalog Objects: M 1

Imaging Window: **09:03 – 03:40**
Transit: **12:18 | 79°**

Primary Focus

The Orion Complex

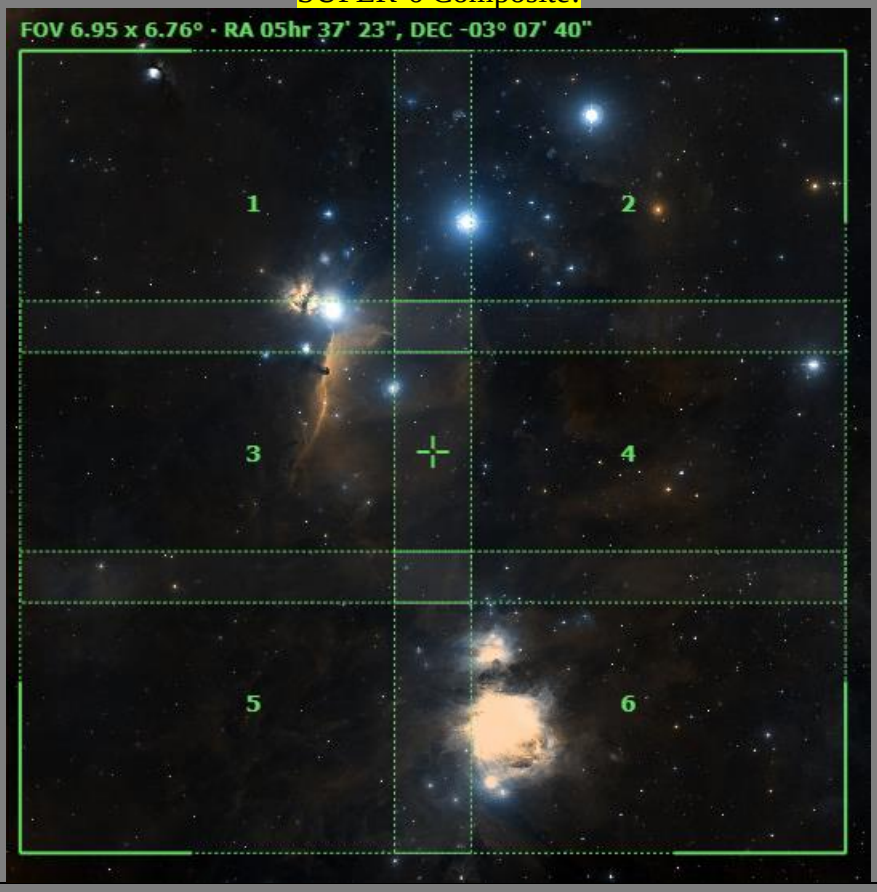
Config: **C11 | HS | ZWO6200MC**

Type: **Diffuse Nebula**
Peak:
Constellation: **Orion**
Coordinates:
Frame 01
RA: **05hr 43' 42"** DEC: **-01° 01' 06"**
Frame 02
RA: **05hr 31’ 05”** DEC: **-01° 01' 06"**
Frame 03
RA: **05hr 43’ 42”** DEC: **-03° 07’ 35”**
Frame 04
RA: **05hr 31’ 04”** DEC: **-03° 07’ 35”**
Frame 05
RA: **05hr 43’ 43”** DEC: **-05° 14’ 05”**
Frame 06
RA: **05hr 31’ 04”** DEC: **-05° 14’ 05”**

Close Star: SAO-132542 (Saiph)
Catalog Objects: M-42

Imaging Window: **10:46 – 01:59**
Transit: **12:19**

C-11 HD: HyperStar v4
SUPER-6 Composite!



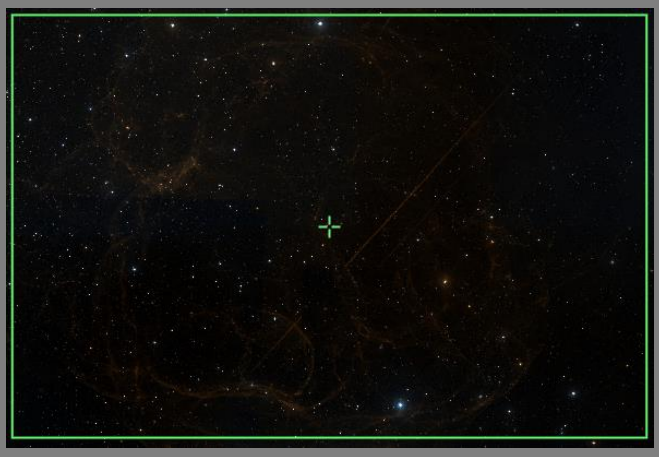
Prospective Imaging Objects – December

The Orion Nebula (M 42) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 46"** **-05° 15' 34"** Close Star: SAO-132542 (Saiph) Catalog Objects: M-42 Imaging Window: **10:46 – 01:59** Transit: **12:19**	**C-11 HD: HyperStar v4** 
The Orion Nebula (M 42) Config: **C6-SE | HS | ZWO6200MC (Cropped)** Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 18.4"** **-05° 23' 51.0"** Close Star: SAO-132542 (Saiph) Catalog Objects: M-42 Imaging Window: **10:46 – 01:59** Transit: **12:19**	**C6-SE: HyperStar v4**  Orion Nebula (M-42) Constellation: Orion the hunter
The Orion Nebula (M 42) Config: |C1|LF|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 09"** **-05° 24' 32"** Close Star: SAO-132542 (Saiph) Catalog Objects: M-42 Imaging Window: **10:46 – 01:59** Transit: **12:19**	Primary Focus  Orion Nebula (M-42) Constellation: Orion

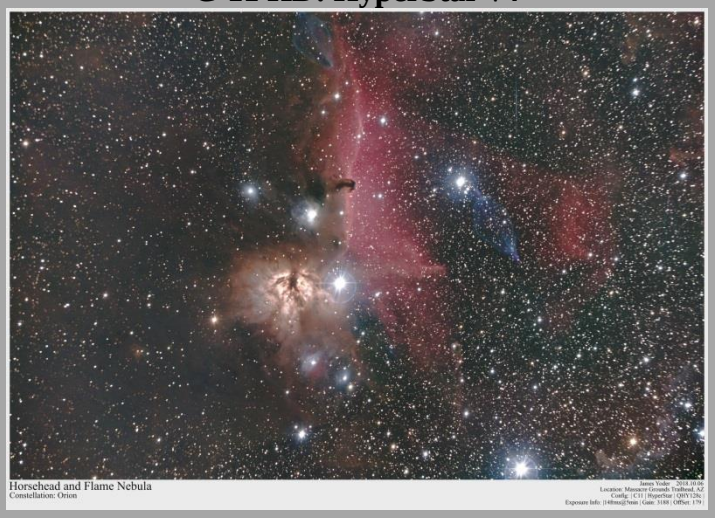
Prospective Imaging Objects – December

Running Man Nebula (NGC 1977) Config: |C6-HD|FR|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 18.1"** **-04° 41' 25.9"** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC-1977 Imaging Window: **10:42 – 02:03** Transit: **12:19 | 52°**	**C-6SE: Primary Focus** 
Running Man Nebula (NGC 1977) Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 27"** **-04° 53' 09"** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC-1977 Imaging Window: **10:42 – 02:03** Transit: **12:19 | 52°**	**C-11 HD: Primary Focus** 
M-36 (NGC-1960) Config: |C11HD|ZWO6200MC| Type: **Open Cluster** Constellation: **Auriga** Coordinates: **05hr 36' 18"** **34° 08' 27"** Close Star: **SAO-77168** (Elnath) Catalog Objects: M-36/NGC-1960 Imaging Window: **08:45 – 04:02** Transit: **12:20 | 89°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Simeis 147 (SH2-240) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Constellation: **Taurus** Camera Rotation - 90° Coordinates: Frame 01 RA: **05hr 45' 38"** DEC: **27º 56' 31"** Frame 02 RA: **05hr 36' 28"** DEC: **27º 56' 31"** Close Star: **SAO-77168** (Elnath) Catalog Objects:SH2-240 Imaging Window: **08:59 – 03:58** Transit: **12:25 | 85°**	**C-11 HD: HyperStar v4** Composite-2 
Simeis 147 (SH2-240) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Constellation: **Taurus** Coordinates: **05hr 39' 04"** **28° 00' 00"** Close Star: **SAO-77168** (Elnath) Catalog Objects:SH2-240 Imaging Window: **08:59 – 03:58** Transit: **12:25 | 85°**	**C-11 HD: HyperStar v4** 

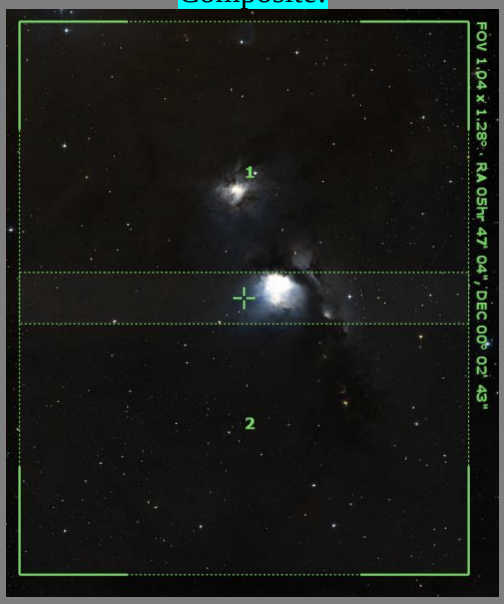
Prospective Imaging Objects – December

Flame and Horsehead Nebula **(NGC 2024, B 33)** Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse/Dark Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 40’ 04”** **-02° 28’ 13”** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC-2024, B-33 Imaging Window: **10:30 – 02:28** Transit: **12:25 | 55°**	**C-11 HD: HyperStar v4** 
Flame Nebula (NGC 2024) Config: |C11-HD|FR|ZWO6200MC| | Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 41’ 30”** **-01° 45’ 21”** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC-2024 Imaging Window: **10:30 – 02:28** Transit: **12:25 | 55°**	**C-11 HD: Focal Reducer** 
Flame Nebula (NGC 2024) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 41’ 45.843”** **-01° 49’ 31.401”** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC-2024 Imaging Window: **10:30 – 02:28** Transit: **12:25 | 55°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Horsehead Nebula (B 33) Config: |C1|LF|ZWO6200MC| Type: **Dark Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 40’ 59”** **-02° 31’ 47”** Close Star: SAO-132542 (Saiph) Catalog Objects: B 33 Imaging Window: **10:33 – 02:23** Transit: **12:25 | 54°**	Primary Focus  Horshead Nebula (IC-434) Constellation: Orion
NGC 2022 Config: |C11HD|ZWO6200MC| Type: **Planetary Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 42’ 07”** **09° 04’ 55”** Close Star: SAO-112740 (Bellatrix) Catalog Objects: NGC-2022 Imaging Window: **09:45 – 03:14** Transit: **12:26 | 66°**	**C-11 HD: Primary Focus**  NGC-2022 Constellation: Orion
NGC 1961 Config: |C11HD|ZWO6200MC| Type: **Spiral Galaxy** Peak: Constellation: **Camelopardalis** Coordinates: **05hr 43’ 27”** **69° 20’ 48”** Close Star: SAO-40750 (Menkalinan) Catalog Objects: NGC-1961 Imaging Window: **09:14 – 03:45** Transit: **12:26 | 54°**	**C-11 HD: Primary Focus**  Galaxy Cluster (NGC-1961 et al.) Constellation: Camelopardalis

Prospective Imaging Objects – December

M-78 Config: |C11-HD|FR|ZWO6200MC| Type: **Dark Nebula** Peak: Constellation: **Orion** Frame 01 RA: **05hr 47’ 05”**DEC: **00° 20’ 09”** Frame 02 RA: **05hr 47’ 05”**DEC: **-00° 14’ 43”** Close Star: SAO-132346 (Alnilam) Catalog Objects: M-78 Imaging Window: **10:25 – 02:43** Transit: **12:31**	**C-11 HD: Focal Reducer** Composite! 
M-78 Config: |C11-HD|FR|ZWO6200MC| Type: **Bright and Dark Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 46’ 59”** **00° 08’ 59”** Close Star: SAO-132346 (Alnilam) Catalog Objects: M-78 Imaging Window: **10:25 – 02:43** Transit: **12:31**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – December

M-78

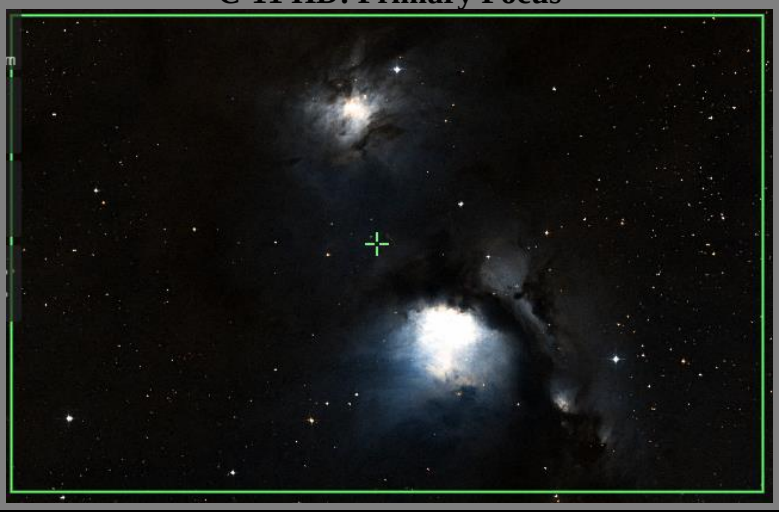
Config: |C11HD|ZWO6200MC|

Type: **Bright and Dark Nebula**
Peak:
Constellation: **Orion**
Coordinates:
05hr 47’ 03”
00° 09’ 46”

Close Star: SAO-132346 (Alnilam)
Catalog Objects: M-78

Imaging Window: **10:25 – 02:43**
Transit: **12:31**

C-11 HD: Primary Focus



Salt and Pepper Cluster(M-37)

Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**
Constellation: **Auriga**
Coordinates:
05hr 52’ 18”
32° 33’ 11”

Close Star: **SAO-77168** (Elnath)
Catalog Objects: M-37/NGC-2099

Imaging Window: **09:03 – 04:16**
Transit: **12:36 | 89°**

C-11 HD: Primary Focus

LDN-1622 (Region 01)

Config: |C11HD|ZWO6200MC|

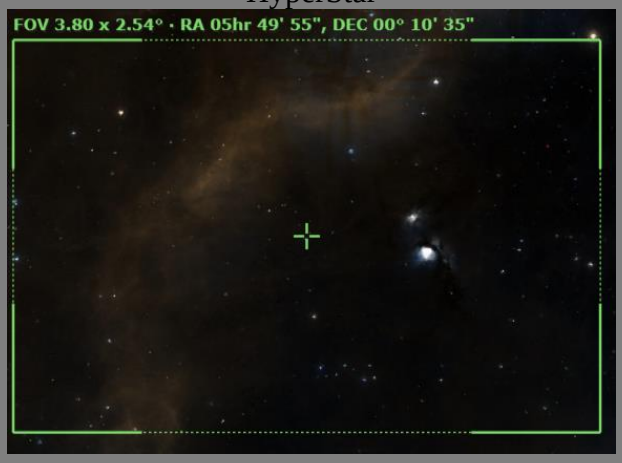
Type: **Dark Nebula & Nebula**
Peak:
Constellation: **Orion**

Coordinates:
Pane 1: **05hr 50' 40", 01° 46' 30"**
Pane 2, **05hr 50' 40", 00° 14' 57**

Close Star: SAO-132346 (Alnilam)
Catalog Objects: LDN-1622
Imaging Window: **10:25 – 02:58**
Transit: **12:38 | 59°**

C-11 HD: HyperStar v4
Composite!

Prospective Imaging Objects – December

LDN-1622 (Region 01) Config: |C11HD|ZWO6200MC| Type: **Dark Nebula & Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 51’ 00”** **00° 59’ 47”** Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN-1622 Imaging Window: **10:25 – 02:58** Transit: **12:38 | 59°**	HyperStar 
LDN-1622 (Region 02) Config: |C11HD|ZWO6200MC| Type: **Dark Nebula & Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 49’ 55”** **00° 10’ 35”** Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN-1622 Imaging Window: **10:25 – 02:58** Transit: **12:38 | 59°**	HyperStar 
LDN-1622 (Region 03) Config: **C11-HD | HS | ZWO6200MC** Type: **Bright and Dark Nebula** Peak: Coordinates: **05hr 54’ 51”** **01° 47’ 10”** Close Star: SAO-112740(Bellatrix) Catalog Objects: LDN-1622 Imaging Window: **10:25 – 02:58** Transit: **12:38 | 59°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

LDN 1622
Config: |C11HD|ZWO6200MC|

Type: **Dark Nebula**
Peak:
Constellation: **Orion**

Camera Rotation - 90°
Frame 01
RA: **05hr 56’ 28”**DEC: **01° 58’ 32”**
Frame 02
RA: **05hr 54’ 08”**DEC: **01° 58’ 35”**

Close Star: SAO-132346 (Alnilam)
Catalog Objects: LDN-1622

Imaging Window: **10:25 – 02:58**
Transit: **12:38 | 59°**

C-11 HD: Focal Reducer
Composite!

LDN-1622
Config: |C11HD|FR|ZWO6200MC|

Type: **Bright and Dark Nebula**
Peak:
Constellation: **Orion**
Coordinates:
05hr 54’ 52”
01° 49’ 51”

Close Star: SAO-112740(Bellatrix)
Catalog Objects: LDN-1622

Imaging Window: **10:25 – 02:58**
Transit: **12:38 | 59°**

C-11 HD: Focal Reducer

LDN 1622
Config: |C11HD|ZWO6200MC|

Type: **Dark Nebula**
Peak:
Constellation: **Orion**
Coordinates:
05hr 54’ 55”
01° 49’ 49”

Close Star: SAO-132346 (Alnilam)
Catalog Objects: LDN-1622

Imaging Window: **10:25 – 02:58**
Transit: **12:38 | 59°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Angel Nebula (NGC 2170)
Config: |C11-HD|FR|ZWO6200MC|

Type: **Bright and Dark Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 08’ 26”
-06° 25’ 24”

Close Star: SAO-132542 (Saiph)
Catalog Objects: NGC-2170

Imaging Window: **11:26 – 02:24**
Transit: **12:51**

C-11 HD: Focal Reducer

Angel Nebula (NGC 2170)
Config: |C11-HD |ZWO6200MC|

Type: **Bright and Dark Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 08’ 26”
-06° 25’ 24”

Close Star: SAO-132542 (Saiph)
Catalog Objects: NGC-2170

Imaging Window: **11:26 – 02:24**
Transit: **12:51**

C-11 HD: Primary Focus

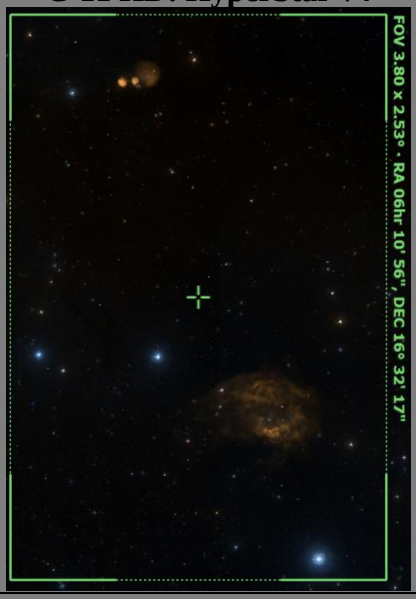
IC-2162 & SH 2-261
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Orion**
Coordinates:
06hr 10’ 56”
16° 32’ 17”
Angle: **90° East**

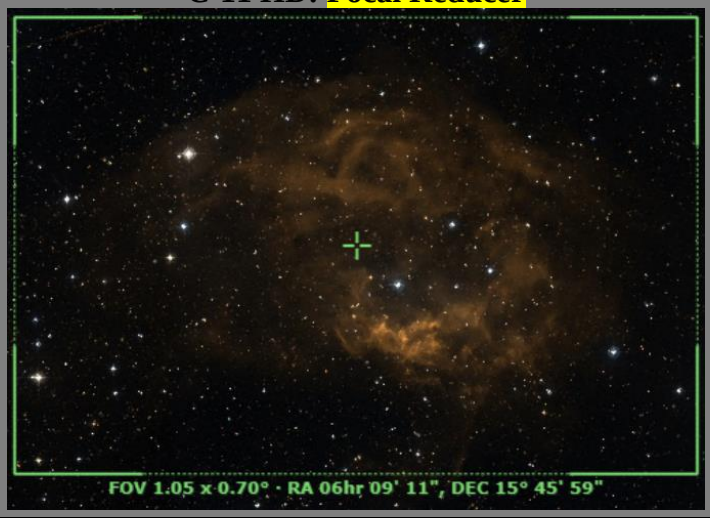
Close Star: SAO-78297 (Calix)
Catalog Objects: IC-2162 Sh 2-261

Imaging Window: **09:52 – 03:59**
Transit: **12:52 | 72°**

C-11 HD: HyperStar v4



Prospective Imaging Objects – December

Lower's Nebula (Sh 2-261) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **06hr 09' 11"** **15° 45' 59"** Close Star: **SAO-78297** (Calix) Catalog Objects: Sh 2-261 Imaging Window: **09:52 – 03:59** Transit: **12:52 | 72°**	**C-11 HD: Focal Reducer** 
Lower's Nebula (Sh 2-261) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Orion** Coordinates: **06hr 08' 59"** **15° 46' 39"** Close Star: **SAO-78297** (Calix) Catalog Objects: Sh 2-261 Imaging Window: **09:52 – 03:59** Transit: **12:52 | 72°**	**C-11 HD: Primary Focus** 
M-35, NGC-2158 Config: |C11-HD|FR|ZWO6200MC| Type: **Open Cluster Pair** Constellation: **Gemini** Coordinates: **06hr 08' 39"** **24° 14' 48"** Close Star: **SAO-95912** (Alhena) Catalog Objects: M-35/NGC-2168, NGC-2158 Imaging Window: **09:33 – 04:19** Transit: **12:53 | 81°**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – December

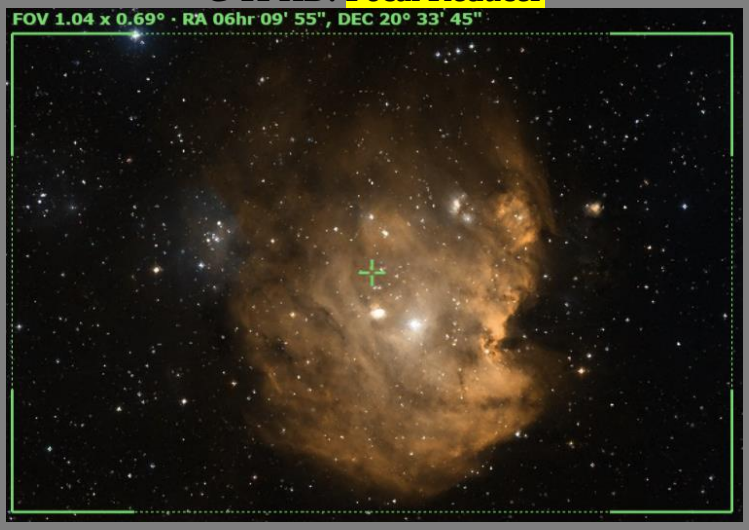
Monkey Head (NGC-2174)
Config: |C11-HD|FR|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Orion**
Coordinates:
06hr 09’ 50”
20° 29’ 50”

Close Star: SAO-78297 (Calix)
Catalog Objects: NGC-2174/Sh 2-252

Imaging Window: **09:42 – 04:12**
Transit: **12:53 | 77°**

C-11 HD: Focal Reducer



Monkey Head (NGC 2174)
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Orion**
Coordinates:
06hr 09’ 50”
20° 29’ 50”

Close Star: SAO-78297 (Calix)
Catalog Objects: NGC-2174/Sh 2-252

Imaging Window: **09:42 – 04:12**
Transit: **12:53 | 77°**

C-11 HD: Primary Focus

IC 2162
Config: |C11HD|ZWO6200MC|

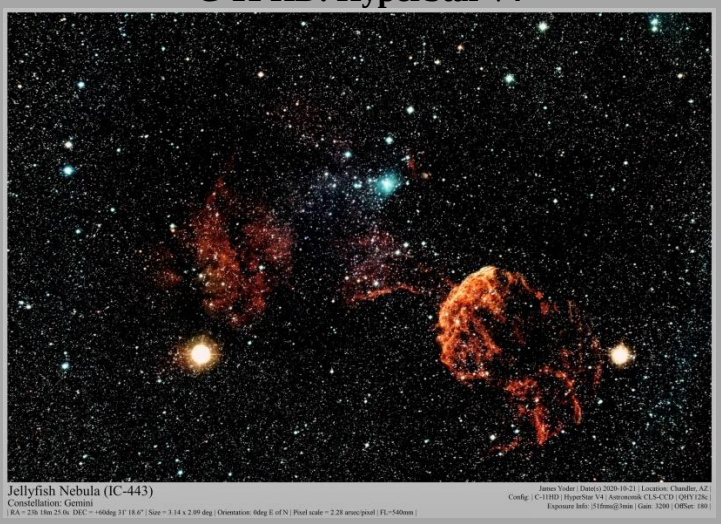
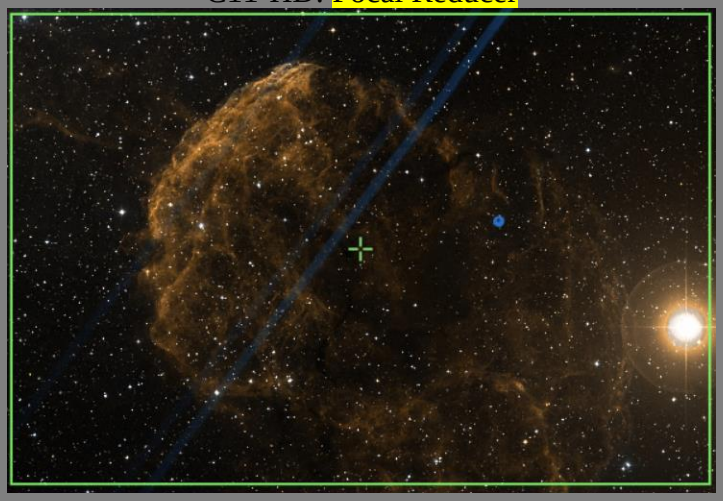
Type: **Bright Nebula**
Peak:
Constellation: **Orion**
Coordinates:
06hr 12’ 25”
17° 59’ 26”

Close Star: SAO-78297 (Calix)
Catalog Objects: IC-2162

Imaging Window: **09:51 – 04:09**
Transit: **12:57 | 75°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Jellyfish Nebula (IC 443) Config: **C11-HD | HS | ZWO6200MC** Type: **Supernova Remnant** Peak: Constellation: **Gemini** Coordinates: **06hr 19’ 56”** **23° 06’ 17”** Close Star: SAO-78297 (Calix) Catalog Objects: IC-443 Imaging Window: **09:45 – 04:24** Transit: **01:01 | 79°**	**C-11 HD: HyperStar v4** 
Jellyfish Nebula (IC 443) Config: |C11-HD|FR|ZWO6200MC| Type: **Supernova Remnant** Peak: Constellation: **Gemini** Coordinates: **06hr 16’ 59”** **22° 37’ 29”** Close Star: SAO-78297 (Calix) Catalog Objects: IC-443 Imaging Window: **09:45 – 04:24** Transit: **01:01 | 79°**	C11-HD: Focal Reducer 
Jellyfish Nebula (IC 443) Config: |C11|LF|ZWO6200MC| Type: **Supernova Remnant** Peak: Constellation: **Gemini** Coordinates: **06hr 16’ 51”** **22° 36’ 34”** Close Star: SAO-78297 (Calix) Catalog Objects: IC-443 Imaging Window: **09:45 – 04:24** Transit: **01:01 | 79°**	Primary Focus 

Prospective Imaging Objects – December

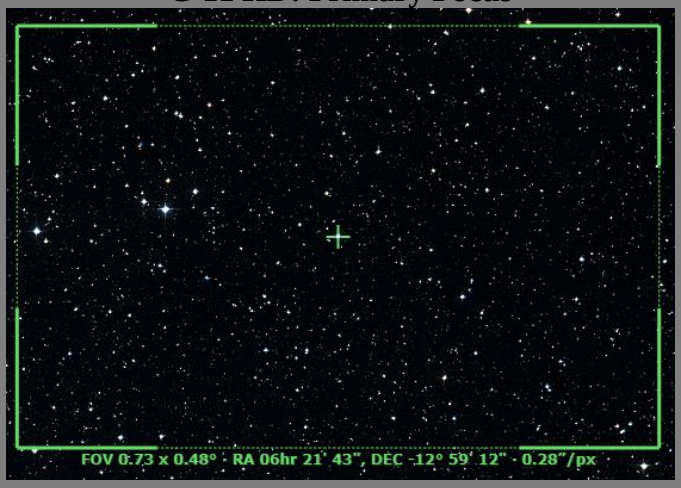
IC-2165
Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**
Peak:
Constellation: **Canis Major**
Coordinates:
06hr 21’ 43”
-12° 59’ 12”

Close Star:
Catalog Objects: IC-2165

Imaging Window: ***10:29 – 03:48**
Transit: **01:05 | 44°**

C-11 HD: Primary Focus



SH 2-249
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Gemini**
Coordinates:
06hr 19’ 15”
23° 24’ 58”

Close Star: SAO-78297 (Calix)
Catalog Objects: SH 2-249

Imaging Window: **09:49 – 04:30**
Transit: **01:06| 80°**

C-11 HD: Primary Focus

Rosette Nebula (NGC 2237)
Config: **C11-HD | HS | ZWO6200MC**

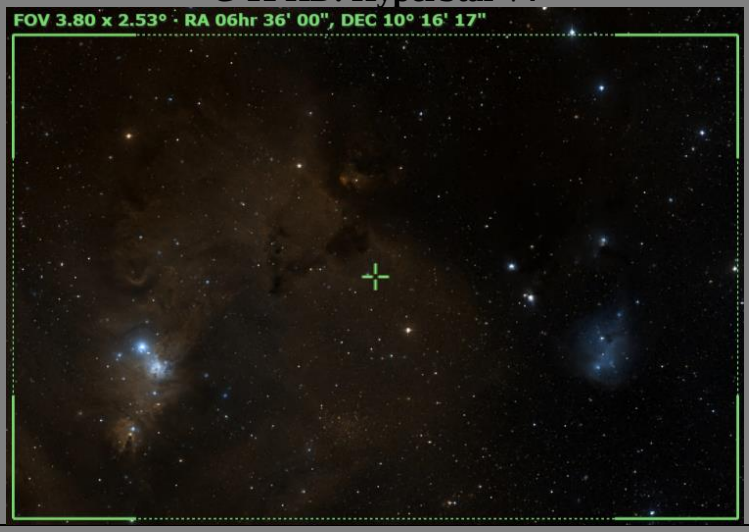
Type: **Diffuse Nebula**
Constellation: **Monoceros**
Coordinates:
06hr 31’ 53.37”
04° 50’ 45.29”

Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2237 ,NGC-2244

Imaging Window: **10:48 – 03:48**
Transit: **01:14 | 62°**

C-11 HD: HyperStar v4

Prospective Imaging Objects – December

Rosette Nebula (NGC 2237) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 32’ 01”** **04° 59’ 28”** Close Star: SAO-95912 (Alhena) Catalog Objects: NGC-2237 Imaging Window: **10:48 – 03:48** Transit: **01:14 | 62°**	**C-11 HD: Focal Reducer** 
Rosette Nebula (NGC 2237) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 32’ 02”** **04° 58’ 14”** Close Star: SAO-95912 (Alhena) Catalog Objects: NGC-2237 Imaging Window: **10:48 – 03:48** Transit: **01:14 | 62°**	**C-11 HD: Primary Focus** 
IC-2169 Config: **C11 | HS | ZWO6200MC** Type: **Bright Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 36’ 00”** **10° 16’ 17”** Close Star: SAO-95912 (Alhena) Catalog Objects: IC-2169 Imaging Window: **10:30 – 04:06** Transit: **01:15 | 80°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – December

IC 2169 Config: |C11-HD|FR|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 31' 21"** **09° 56' 20"** Close Star: SAO-95912 (Alhena) Catalog Objects: IC-2169 Imaging Window: **10:30 – 04:06** Transit: **01:15 | 80°**	**C-11 HD: Focal Reducer** 
IC 2169 Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 31' 36"** **09° 58' 16"** Close Star: SAO-95912 (Alhena) Catalog Objects: IC-2169 Imaging Window: **10:30 – 04:06** Transit: **01:15 | 80°**	**C-11 HD: Primary Focus** 
Hubble's Variable Nebula (NGC 2261) Config: |C11HD| ZWO6200MC| Type: **Reflection Nebula** Constellation: **Monoceros** Coordinates: **06hr 39' 12"** **08° 45' 00"** Close Star: SAO-95912 (Alhena) Catalog Objects: NGC-2261 Imaging Window: **10:43 – 04:10** Transit: **01:23 | 65°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Christmas Tree & Cone
Config: |C11-HD|FR|ZWO6200MC|

Type: **Diffuse Nebula**

Coordinates:
Pane 1: **06hr 40' 53", 10º 07' 47"**
Pane 2, **06hr 40' 53", 09º 34' 40**

Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2264/Sh 2-273

Imaging Window: **10:41 – 04:15**
Transit: **01:24 | 67°**

C-11 HD: Focal Reducer
Composite!

Christmas Tree & Cone
Config: |C11-HD|FR|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 40' 47"
09° 42' 40"
Angle: **90° East**
Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2264/Sh 2-273

Imaging Window: **10:41 – 04:15**
Transit: **01:24 | 67°**

C-11 HD: Focal Reducer

Christmas Tree Cluster (NGC 2264)
Config: |C1|LF|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 40' 58.74"
09° 53' 32.69"

Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2264/Sh 2-273

Imaging Window: **10:41 – 04:15**
Transit: **01:24 | 67°**

Primary Focus

Prospective Imaging Objects – December

Christmas Tree & Cone
Config: |C6FR|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 40’ 51.6”
09° 40’ 25.2”
Angle: **90° East**

Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2264/Sh 2-273

Imaging Window: **10:41 – 04:15**
Transit: **01:24 | 67°**

C-6 HD: Focal Reducer

Cone Nebula-1 (NGC 2264)
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
06hr 41’ 07”
09° 27’ 52”

Close Star: SAO-95912 (Alhena)
Catalog Objects: NGC-2264/Sh 2-273

Imaging Window: **10:41 – 04:15**
Transit: **01:24 | 67°**

C-11 HD: Primary Focus

M-41 (NGC 2287)
Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**
Constellation: **Canis Major**
Coordinates:
06hr 46’ 09”
20° 47’ 35”

Close Star: **SAO-151881** (Sirius)
Catalog Objects: M-41/NGC 2287

Imaging Window: ***11:38 – 03:25**
Transit: **01:30 | 36°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

M-50 (NGC 2323)
Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**
Constellation: **Monoceros**
Coordinates:
07hr 02’ 48”
-08° 22’ 33”

Close Star: **SAO-151881** (Sirius)
Catalog Objects: M-50/NGC 2323

Imaging Window: ***11:19 – 04:19**
Transit: **01:46 | 48°**

C-11 HD: Primary Focus

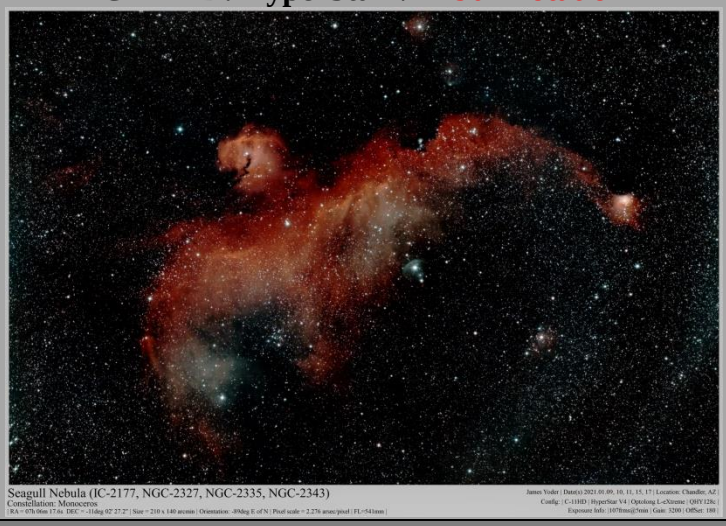
Seagull Nebula (IC-2177)
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
07hr 06’ 20”
-11° 06’ 56”

Close Star: SAO-151881 (Sirius)
Catalog Objects: IC-2177

Imaging Window: ***11:31 – 04:07**
Transit: **01:48 | 46°**

C-11 HD: HyperStar v4 - 90° Rotation



Seagull Nebula (IC 2177)
Config: |C11HD|ZWO6200MC|

Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
07hr 04’ 47”
-10° 27’ 49”

Close Star: SAO-151881 (Sirius)
Catalog Objects: IC-2177

Imaging Window: ***11:31 – 04:07**
Transit: **01:48 | 46°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Hourglass Nebula (NGC-2346) Config: |C11HD|ZWO6200MC| Type: **Planetary Nebula** Peak: Constellation: **Monoceros** Coordinates: **07hr 09' 23"** **00° 48' 22"** Close Star: SAO-115756 (Procyon) Catalog Objects: NGC-2346 Imaging Window: ***11:19 – 04:30** Transit: **01:53 | 56°**	**C-11 HD: Primary Focus** x2 
Integral Sign Galaxy (UGC 3697) Config: |C11HD|FR|ZWO6200MC| Type: **Galaxy Group** Constellation: **Camelopardalis** Coordinates: **07hr 11' 40"** **71° 56' 04"** Close Star: **SAO-40186** (Capella) Catalog Objects: UGC-3697, UGC-3714, UGC-3701 Imaging Window: **11:00 – 04:57** Transit: **01:55 | 52°°**	**C-11 HD: Focal Reducer** 
Integral Sign Galaxy (UGC 3697) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Constellation: **Camelopardalis** Coordinates: **07hr 11' 50"** **71° 48' 14"** Close Star: **SAO-40186** (Capella) Catalog Objects: UGC-3697, UGC-3714, UGC-3701 Imaging Window: **11:00 – 04:57** Transit: **01:55 | 52°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Thor's Helmet (NGC-2359) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Canis Major** Coordinates: **07h 18' 26.223"** **-13° 15' 29.563"** Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2359/ Sh2-298/ LBN1041 Imaging Window: ***10:56 – 05:12** Transit: **02:02 | 43°**	**C-11 HD: Primary Focus** 
Candy Wrapper (NGC-2371) Config: |C11HD|ZWO6200MC| Type: **Planetary Nebula** Constellation: **Gemini** Coordinates: **07° 25' 34"** **29° 29' 18"** Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2371 Imaging Window: **10:41 – 05:44** Transit: **02:09 | 86°**	**C-11 HD: Primary Focus x2** 
Medusa Nebula (Abell 21) Config: |C11HD|ZWO6200MC| Type: **Planetary Nebula** Constellation: **Gemini** Coordinates: **07h 29' 00"** **13° 15' 00"** Close Star: **SAO-115756** (Procyon) Catalog Objects: Abell 21 Imaging Window: **11:19 – 05:13** Transit: **02:13 | 70°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Eskimo Nebula (NGC-2392)

Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**

Constellation: **Gemini**
Coordinates:
07h 29’ 11”
20° 54’ 45”

Close Star: **SAO-79666** (Pollux)
Catalog Objects: NGC-2392

Imaging Window: **11:00 – 05:32**
Transit: **02:13 | 70°**

C-11 HD: Primary Focus

M-47 (NGC-2422)

Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**

Constellation: **Puppis**
Coordinates:
07h 36’ 36”
-14° 32’ 19”

Close Star: **SAO-79666** (Pollux)
Catalog Objects: M-47/NGC-2422

Imaging Window: ***11:15 – 05:28**
Transit: **02:20 | 42°**

C-11 HD: Primary Focus

NGC-2403

Config: |C11HD|ZWO6200MC|

Type: **Barred Spiral Galaxy**

Constellation: **Camelopardalis**
Coordinates:
07h 36’ 51”
65° 36’ 06”

Close Star: **SAO-79666** (Pollux)
Catalog Objects: NGC-2403

Imaging Window: **10:52 – 05:55**
Transit: **02:20 | 58°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Intergalactic Wanderer (NGC-2419)
Config: |C11HD|ZWO6200MC|

Type: **Globular Cluster**

Constellation: **Lynx**
Coordinates:
07h 38’ 09”
38° 52’ 57”

Close Star: **SAO-79666** (Pollux)
Catalog Objects: NGC-2419

Imaging Window: **10:41 – 05:55**
Transit: **02:22 | 84°**

C-11 HD: Primary Focus

M-46 (NGC-2437)
Config: |C11HD|ZWO6200MC|

Type: **Open Cluster with PN**

Constellation: **Puppis**
Coordinates:
07h 41’ 45”
-14° 46’ 43”

Close Star: **SAO-151881** (Sirius)
Catalog Objects: M-46/NGC-2437, NGC-2438

Imaging Window: ***11:23 – 05:28**
Transit: **02:25 | 42°**

C-11 HD: Primary Focus

Bow-Tie Nebula (NGC-2440)
Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**

Constellation: **Puppis**
Coordinates:
07° 41’ 55”
-18° 12’ 29”

Close Star: **SAO-151881** (Sirius)
Catalog Objects: NGC-2440

Imaging Window: ***11:42 – 05:12**
Transit: **02:25 | 38°**

C-11 HD: Primary Focus x2

Prospective Imaging Objects – December

Butterfly Cluster (M-93, NGC-2447) Config: |C11HD|ZWO6200MC| Type: **Open Cluster** Constellation: **Puppis** Coordinates: **07h 44’ 46”** **-23° 51’ 52”** Close Star: **SAO-151881** (Sirius) Catalog Objects: M-93/NGC-2447 Imaging Window: ***12:17 – 04:38** Transit: **02:28 | 33°**	**C-11 HD: Primary Focus** 
M-48 (NGC-2548) Config: |C11HD|ZWO6200MC| Type: **Open Cluster** Constellation: **Hydra** Coordinates: **08h 13’ 46”** **-05° 46’ 05”** Close Star: **SAO-115756** (Procyon) Catalog Objects: M-48/NGC-2548 Imaging Window: **01:26 – 04:35** Transit: **02:57 | 51°**	**C-11 HD: Primary Focus** 
NGC-2610 Config: **C11-HD | HS | ZWO6200MC** Type: **Planetary Nebula** Constellation: **Hydra** Coordinates: **08h 33’ 23”** **-16° 08’ 55”** Close Star: **SAO-151881** (Sirius) Catalog Objects: NGC-2610 Imaging Window: **12:59 – 05:43** Transit: **03:17 | 41°**	**C-11 HD: Primary Focus** x2 

Prospective Imaging Objects – December

Beehive Cluster (NGC-2632)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Open Cluster**

Constellation: **Cancer**
Coordinates:
08h 39’ 59”
19° 39’ 01”

Close Star: **SAO-115756** (Procyon)
Catalog Objects: M-44/NGC-2632

Imaging Window: **12:14 – 05:55**
Transit: **03:23 | 76°**

C-11 HD: HyperStar v4

M-67 (NGC-2682)
Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**

Constellation: **Cancer**
Coordinates:
08h 51’ 18”
11° 48’ 60”

Close Star: **SAO-115756** (Procyon)
Catalog Objects: M-67/NGC-2682

Imaging Window: **12:45 – 05:55**
Transit: **03:35 | 68°**

C-11 HD: Primary Focus

Helix Galaxy (NGC-2685)
Config: |C11HD|ZWO6200MC|

Type: **Galaxy**

Constellation: **Ursa Major**
Coordinates:
08h 55’ 14”
58° 42’ 24”

Close Star: **SAO-27876** (Merak)
Catalog Objects: NGC-2685

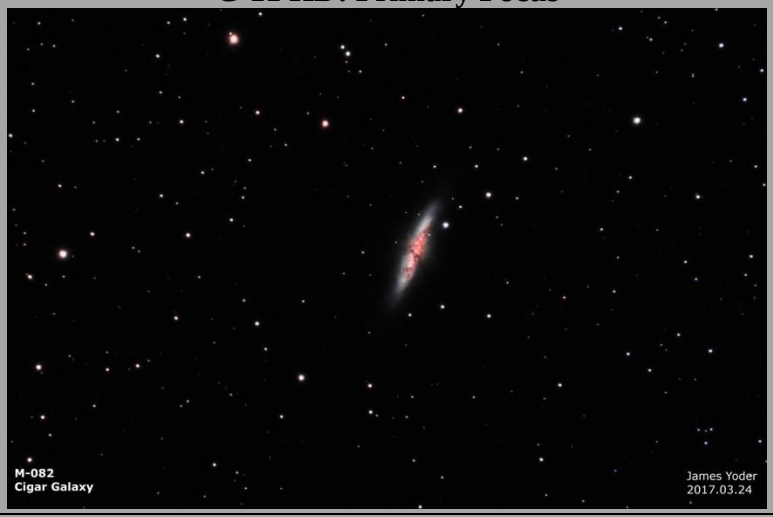
Imaging Window: **11:56 – 05:55**
Transit: **03:39 | 65°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

NGC-2903 Config: |C11HD|ZWO6200MC| Type: **Galaxy** Constellation: **Leo** Coordinates: **09h 32’ 08.949”** **21° 30’ 37.772”** Close Star: **SAO-98967** (Regulus) Catalog Objects: NGC-2903 Imaging Window: **01:02 – 05:55** Transit: **04:15 | 78°**	**C-11 HD: Primary Focus** 
Bode’s Cigar (M81 & M82) Config: **C11-HD | HS | ZWO6200MC** Type: **Galaxy Pair** Peak: Constellation: **Ursa Major** Coordinates: **09hr 54’ 02”** **68° 53’ 32”** Close Star: **SAO-15384** Catalog Objects: M-81 & M-82 Imaging Window: **01:29 – 05:55** Transit: **04:39 | 54°**	**C-11 HD: HyperStar v4** 
Bode’s Cigar (M81 & M82) Config: **C11-HD | HS | ZWO6200MC** Type: **Galaxy Pair** Constellation: **Ursa Major** Coordinates: RA: **09hr 55’ 40”**DEC: **69° 18’ 39”** 90° Rotation Close Star: **SAO-15384** Catalog Objects: M-81 & M-82 Imaging Window: **01:29 – 05:55** Transit: **04:39 | 54°**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – December

Bode's Nebula (M-81) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Constellation: **Ursa Major** Coordinates: **09h 55' 24.184"** **69° 05' 18.969"** Close Star: **SAO-15384** Catalog Objects: M-81/NGC-3031 Imaging Window: **01:25 – 05:55** Transit: **04:39 | 54°**	**C-11 HD: Primary Focus** 
Cigar Galaxy (M-82) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Constellation: **Ursa Major** Coordinates: **09h 55' 57.451"** **69° 42' 37.646"** Close Star: **SAO-15384** Catalog Objects: M-82/NGC-3034 Imaging Window: **01:29 – 05:55** Transit: **04:39 | 54°**	**C-11 HD: Primary Focus** 
Spindel Galaxy (NGC-3115) Config: |C11HD|ZWO6200MC| Type: **Galaxy** Constellation: **Sextans** Coordinates: **10h 05' 21"** **-07° 47' 09"** Close Star: **SAO-98967** (Regulus) Catalog Objects: NGC-3115 Imaging Window: ***11:43 – 04:48** Transit: **02:20 | 49°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – December

Powder keg Galaxy (UGC-5470)

Config: |C11HD|ZWO6200MC|

Type: **Galaxy**

Constellation: **Leo**
Coordinates:
10h 08’ 27”
12° 19’ 49”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: UGC-5470

Imaging Window: **02:01 – 05:55**
Transit: **04:51 | 69°**

C-11 HD: Primary Focus

NGC-3166 & NGC-3169

Config: |C11HD|ZWO6200MC|

Type: **Galaxy pair**

Constellation: **Sextans**
Coordinates:
10h 14’ 01”
03° 25’ 51”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: NGC-3166, NGC-3169

Imaging Window: **02:37 – 05:55**
Transit: **04:57 | 60°**

C-11 HD: Primary Focus

Hickson 44 (NGC-3190, 3189,)

Config: |C11HD|ZWO6200MC|

Type: **Galaxy Group**

Constellation: **Leo**
Coordinates:
10h 17’ 57”
21° 49’ 11”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: NGC-3189, 3190, 3185, 3193, 3187, PGC-2806871

Imaging Window: **01:47 – 05:55**
Transit: **05:01 | 79°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

NGC-3184

Config: |C11HD|ZWO6200MC|

Type: **Face-on Spiral Galaxy**

Constellation: **Ursa Major**
Coordinates:
10h 18’ 17”
41° 25’ 24”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: NGC-3184

Imaging Window: **01:19 – 05:55**
Transit: **05:01 | 82°**

C-11 HD: Primary Focus

NGC-3227 & NGC-3226

Config: |C11HD|ZWO6200MC|

Type: **Interacting Galaxies**

Constellation: **Leo**
Coordinates:
10h 23’ 29”
19° 53’ 07”

Close Star: **SAO-60178** (Castor)
Catalog Objects: NGC-3227, NGC-3226

Imaging Window: **01:57 – 05:55**
Transit: **05:06 | 76°**

C-11 HD: Primary Focus

Ghost of Jupiter (NGC-3242)

Config: |C11HD|ZWO6200MC|

Type: **Planetary Nebula**

Constellation: **Hydra**
Coordinates:
10h 24’ 46”
-18° 38’ 31”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: NGC-3242

Imaging Window: ***03:02 – 05:55**
Transit: **05:08 | 38°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

Galaxy Group 2574
Config: **C11-HD | HS | ZWO6200MC**

Type: **Galaxy Group**

Constellation: **Leo**
Coordinates:
10h 28’ 40”
68° 26’ 14”

Close Star: **SAO-27876** (Merak)
Catalog Objects: IC-2574

Imaging Window: **01:55 – 05:55**
Transit: **05:11 | 55°**

C-11 HD: HyperStar v4

Coddington’s Nebula (IC-2574)
Config: |C11HD|ZWO6200MC|

Type: **Barred Spiral Galaxy**

Constellation: **Leo**
Coordinates:
10h 28’ 40”
68° 26’ 14”

Close Star: **SAO-27876** (Merak)
Catalog Objects: IC-2574

Imaging Window: **01:55 – 05:55**
Transit: **05:11 | 55°**

C-11 HD: Primary Focus

Leo Galaxy Group (M-96, M95 et el.)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Galaxy Grouping**

Constellation: **Leo**
Coordinates:
10h 47’ 23”
12° 23’ 59”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: M-96,M95, NGC3389, NGC3384, M105

Imaging Window: **02:41 – 05:55**
Transit: **05:30 | 68°**

C-11 HD: HyperStar v4

Prospective Imaging Objects – December

M-95, M-96 (NGC-3351, 3368)

Config: |C11-HD|FR|ZWO6200MC|

Type: **Galaxy Pair**

Constellation: **Leo**
Coordinates:
10h 45’ 20”
11° 44’ 30”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: M-95, M-96

Imaging Window: **12:04 – 05:44**
Transit: **02:58 | 68°**

C-11 HD: Focal Reducer

Leo Trio 2 (NGC-3379, 3384, 3389)

Config: |C11HD|ZWO6200MC|

Type: **Trio of Galaxies**

Constellation: **Leo**
Coordinates:
10h 48’ 07.227”
12° 33’ 52.943”

Close Star: **SAO-98967** (Regulus)
Catalog Objects: M-105/NGC3379, NGC-3384, NGC-3389

Imaging Window: **02:40 – 05:55**
Transit: **05:31 | 69°**

C-11 HD: Primary Focus

Ambartsumian’s Knot et el. (NGC-3561, 3558, 3553, 3550, etc.)

Config: |C11HD|ZWO6200MC|

Type: **Galaxy Cluster**

Constellation: **Ursa Major**
Coordinates:
11h 10’ 43”
28° 41’ 41”

Close Star: **SAO-81727** (Zosma)
Catalog Objects: NGC-3561

Imaging Window: **02:28 – 05:55**
Transit: **05:54 | 85°**

C-11 HD: Primary Focus

Prospective Imaging Objects – December

M-108 & M-97

Config: |C11HD|ZWO6200MC|

Type: **Irregular Galaxy & Planetary Nebula**

Constellation: **Ursa Major**
Coordinates:
11h 12’ 49”
55° 20’ 57”

Close Star: **SAO-27876** (Merak)
Catalog Objects: M-108/NGC-3555

Imaging Window: **02:09 – 05:55**
Transit: **05:54 | 68°**

C-11 HD: HyperStar v4

M-108 (NGC-3556)

Config: |C11HD|ZWO6200MC|

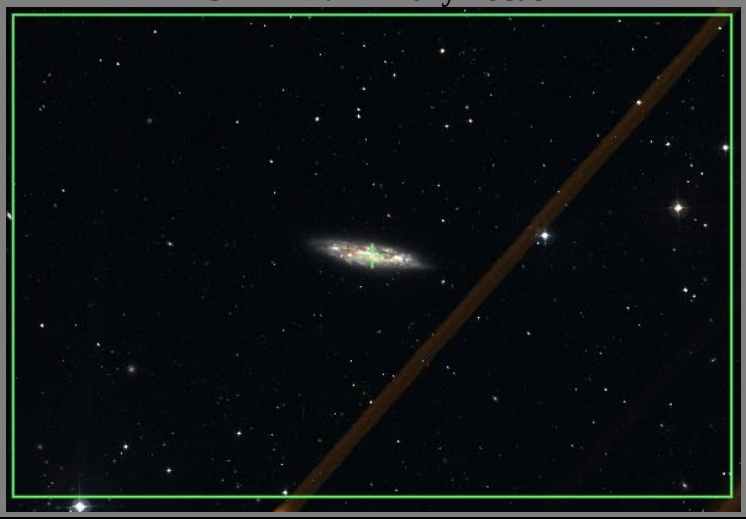
Type: **Irregular Galaxy**

Constellation: **Ursa Major**
Coordinates:
11h 11’ 29”
55° 40’ 22”

Close Star: **SAO-27876** (Merak)
Catalog Objects: M-108/NGC-3555

Imaging Window: **02:09 – 05:55**
Transit: **05:54 | 68°**

C-11 HD: Primary Focus



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Prospective Imaging Objects – December

Imaging Summary November 01, 2024

Astronomical Dusk = 06:59 Astronomical Dawn = 05:23

HyperStar: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Nebula	Nebula	SH2-185	06:50 – 11:30	07:45	07	Cassiopeia: Gamma Cassiopeiae Nebula
HyperStar	Nebula	Neb, OC	NGC-457	06:50 – 11:54	08:04	09	Cassiopeia: Open Cluster and Nebula
HyperStar	Nebula	Nebula	IC-1848	06:50 – 01:02	09:17	13	Comp4! Cassiopeia: Heart & Soul Nebula
HyperStar	Nebula	Nebula	IC-1805	06:50 – 01:02	09:17	14	Cassiopeia: Heart Nebula
HyperStar	Nebula	Nebula	IC-1848	06:50 – 01:23	09:36	16	Cassiopeia: Soul Nebula
HyperStar	Nebula	Nebula	NGC-1499	07:09 – 02:32	10:47	19	Perseus: California Nebula
HyperStar	Nebula	Nebula	IC-405	08:26 – 03:43	12:01	23	Auriga: Flaming Star Nebula
HyperStar	Nebula	Nebula	Orion Cmpx	10:46 – 01:59	12:19	27	Comp6! Orion: Orion Complex of objects
HyperStar	Nebula	Nebula	M-42	10:46 – 01:59	12:19	28	Orion: Orion and Running Man Nebula
HyperStar	Nebula	Nebula	M-42	10:46 – 01:59	12:19	28	Orion: Orion and Running Man Nebula
HyperStar	Nebula	Nebula	SH 2-240	08:59 – 03:58	12:25	30	Comp2! Taurus: Simeis 147
HyperStar	Nebula	Nebula	SH 2-240	08:59 – 03:58	12:25	30	Taurus: Simeis 147
HyperStar	Nebula	Nebula	NGC-2024, B-33	10:30 – 02:28	12:25	31	Orion: Horsehead and Flame Nebula
HyperStar	Nebula	Nebula	IC-2162, SH2-261	09:52 – 03:59	12:52	37	Orion: Two Nebulas
HyperStar	Nebula	Nebula	IC-443	09:45 – 04:24	01:01	40	Gemini: Jellyfish Nebula
HyperStar	Nebula	Nebula	NGC-2237	10:48 – 03:48	01:14	41	Monoceros: Rosett Nebula
HyperStar	Nebula	Nebula	IC-2169	10:30 – 04:06	01:15	42	Monoceros: DN & Nebulas
HyperStar	Nebula	Nebula	IC-2177	*11:31-04:07	01:48	46	Rot90°Monoceros: Seagull Nebula

Prospective Imaging Objects – December

Imaging Summary November 01, 2024

Astronomical Dusk = 06:59 Astronomical Dawn = 05:23

HyperStar: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Broad Spectrum	Galaxies	NGC-147	06:50 – 11:10	07:18	02	Cassiopeia: Galaxy Pair
HyperStar	Broad Spectrum	Galaxy	M-31	06:50 – 11:16	07:37	04	Andromeda: Andromeda Galaxy
HyperStar	Broad Spectrum	Gal, GC	NGC-288	*06:50 -09:28	07:32	06	Sculptor: NGC-288 & NGC-253
HyperStar	Broad Spectrum	Galaxy	M-33	06:50 – 11:54	08:18	10	Triangulum: Triangulum Galaxy
HyperStar	Broad Spectrum	OC	NGC-869	06:50 – 12:54	09:03	12	Perseus: Hand chi Persei
HyperStar	Broad Spectrum	OC, BN	M-45	07:11 – 01:56	10:30	18	Taurus: Pleiades
HyperStar	Broad Spectrum	OC	Mel-25	08:10 – 02:24	11:14	21	Taurus: Hyades
HyperStar	Broad Spectrum	DN	IC-2118	*09:13-02:20	11:46	21	Eridanus: Witch Head Nebula
HyperStar	Broad Spectrum	DN	NGC-1788	10:04 – 01:44	11:51	22	Orion: Foxface Nebula
HyperStar	Broad Spectrum	DN, N	LDN-1622 R1	10:25 – 02:58	12:38	34	Comp2! Orion: DN Band
HyperStar	Broad Spectrum	DN, N	LDN-1622 R2	10:25 – 02:58	12:38	35	Orion: DN Band
HyperStar	Broad Spectrum	DN, N	LDN-1622 R3	10:25 – 02:58	12:38	35	Orion: DN Band
HyperStar	Broad Spectrum	OC	NGC-2632	12:14 – 05:55	03:23	52	Cancer: Beehive Cluster
HyperStar	Broad Spectrum	Galaxies	M-81 & M-82	01:29 – 05:55	04:39	53	Ursa Major: Bode's Cigar
HyperStar	Broad Spectrum	Galaxies	2574 Group	01:55 – 05:55	05:11	57	Leo: Galaxy Group 2574
HyperStar	Broad Spectrum	Galaxies	Leo Group	02:41 – 05:55	05:30	57	Leo: Leo Galaxy Group
HyperStar	Broad Spectrum	G, PN	M-108 & M-97	02:09 – 05:55	05:54	59	Ursa Major: Galaxy & Planetary Nebula

Prospective Imaging Objects – December

Imaging Summary December 15

Astronomical Dusk = 06:50 Astronomical Dawn = 05:55

Focal Reducer: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Nebula	Neb, Gx	NGC-246	*06:50-10:22	07:32	05	Cetus: Planetary and two Galaxies
Focal Reducer	Nebula	Nebula	NGC-281	06:50 – 11:28	07:37	07	Cassiopeia: Pack Man Nebula
Focal Reducer	Nebula	Nebula	IC-1795	06:50 – 12:54	09:10	13	Cassiopeia: Fish Head Nebula
Focal Reducer	Nebula	Nebula	IC-1805	06:50 – 01:02	09:17	14	Cassiopeia: Heart Nebula
Focal Reducer	Nebula	Nebula	IC-405	08:26 – 03:43	12:01	23	Auriga: Flaming Star Nebula
Focal Reducer	Nebula	Nebula	IC-410	08:31 – 03:47	12:06	24	Auriga: Tadpoles
Focal Reducer	Nebula	Nebula	M-77, NGC1055	08:36 – 03:54	12:12	25	Comp2! Auriga: The Spider and the Fly
Focal Reducer	Nebula	Nebula	NGC-2024	10:30 – 02:28	12:25	31	Orion: Flame Nebula
Focal Reducer	Nebula	Nebula	NGC-2170	11:26 – 02:24	12:51	37	Monoceros: Angel Nebula
Focal Reducer	Nebula	Nebula	SH 2-261	09:52 – 03:59	12:52	38	Orion: Lower's Nebula
Focal Reducer	Nebula	Nebula	NGC-2174	09:42 – 04:12	12:53	39	Orion: Monkey Head Nebula
Focal Reducer	Nebula	Nebula	IC-443	09:45 - 04:24	01:01	40	Gemini: Jellyfish Nebula
Focal Reducer	Nebula	Nebula	NGC-2237	10:48 – 03:48	01:14	42	Monoceros: Rosett Nebula Core
Focal Reducer	Nebula	Nebula	NGC-2264	10:41 – 04:15	01:24	44	Comp2! Monoceros: Xmas Tree and Cone Nebula
Focal Reducer	Nebula	Nebula	NGC-2264	10:41 – 04:15	01:24	44	Rot! Monoceros: Xmas Tree and Cone Nebula
Focal Reducer	Nebula	Nebula	NGC-2264	10:41 – 04:15	01:24	45	Monoceros: Xmas Tree and Cone Nebula

Prospective Imaging Objects – December

Imaging Summary December 15

Astronomical Dusk = 06:50 Astronomical Dawn = 05:55

Focal Reducer: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Broad Spectrum	Galaxies	NGC-147	06:50 – 11:10	07:18	03	Copmp2! Cassiopeia: Galaxy Pair NGC-147 & 185
Focal Reducer	Broad Spectrum	OC	NGC-188	*06:50-11:46	07:32	07	Cepheus: Open Cluster NGC-188
Focal Reducer	Broad Spectrum	Galaxy	M-33	06:50 – 11:54	08:18	11	Rot90 Triangulum: Triangulum Galaxy
Focal Reducer	Broad Spectrum	Galaxies	M-77	07:21 – 11:38	09:27	15	Cetus: Galaxies M-77 & NGC-1055
Focal Reducer	Broad Spectrum	DN, BN	NGC-1788	10:04 – 01:44	11:51	22	Orion: Foxface Nebula
Focal Reducer	Broad Spectrum	DN, BN	M-78	10:25 – 02:43	12:31	33	Comp2! Orion: Dark Nebula
Focal Reducer	Broad Spectrum	DN, BN	M-78	10:25 – 02:43	12:31	33	Orion: Dark Nebula
Focal Reducer	Broad Spectrum	DN	LDN-1622	10:25 – 02:58	12:38	36	Comp2! Rot90°Orion: Dark Nebula
Focal Reducer	Broad Spectrum	DN	LDN-1622	10:25 – 02:58	12:38	36	Orion: Dark Nebula
Focal Reducer	Broad Spectrum	OC	M-35, NGC-2158	09:33 – 04:19	12:53	38	Gemini: Open Cluster Pair
Focal Reducer	Borad Spectrum	BN	IC-2169	10:30 – 04:06	01:15	43	Monoceros: Reflection Nebula
Focal Reducer	Broad Spectrum	Galaxies	UGC-3697	11:00 – 04:57	01:55	47	Camelopardalis: Integral Sign Galaxy
Focal Reducer	Broad Spectrum	Galaxies	M-81 & M-82	01:29 – 05:55	04:39	53	Ursa Major: Bode's Cigar
Focal Reducer	Broad Spectrum	Galaxies	M-95 & M-96	12:04 – 05:44	02:58	58	Leo: Galaxy Pair M-95, M-96

Prospective Imaging Objects – December

Imaging Summary December 15

Astronomical Dusk = 06:50 Astronomical Dawn = 05:55

Primary Focus: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	PN	NGC-40	06:50 – 09:52	06:58	02	Cepheus: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-246	*06:50-10:22	07:32	05	Cetus: Skull Nebula
Primary Focus	Nebula	Nebula	SH2-185	06:50 – 11:30	07:45	08	Cassiopeia: Gamma Cassiopeiae Nebula
Primary Focus	Nebula	Nebula	SH2-188	06:50 – 12:04	08:15	10	Cassiopeia: Firefox Nebula
Primary Focus	Nebula	PN	M-76	06:50 – 12:20	08:27	11	Perseus: Little Dumbbell Nebula
Primary Focus	Nebula	Nebula	IC-1805	06:50 – 01:02	09:17	14	Cassiopeia: Heart Nebula Core
Primary Focus	Nebula	Nebula	IC-1848	06:50 – 01:23	09:36	16	Cassiopeia: Soul Nebula Core
Primary Focus	Nebula	Nebula	NGC-1333	06:50 – 01:51	10:13	17	Perseus: Bright Nebula
Primary Focus	Nebula	Nebula	NGC-1360	*08:30-12:13	10:17	17	Fornax: Egg shaped Nebula
Primary Focus	Nebula	Nebula	IC-348	06:56 – 02:07	10:29	18	Perseus: Bright Nebula
Primary Focus	Nebula	Nebula	M-45	07:11 – 01:56	10:30	19	Taurus: Pleiades
Primary Focus	Nebula	Nebula	NGC-1501	07:11 – 02:37	10:51	19	Camelopardalis: Oyster Nebula
Primary Focus	Nebula	Nebula	NGC-1514	07:22 – 10:53	10:53	20	Taurus: Crystal Ball Nebula
Primary Focus	Nebula	Nebula	NGC-1535	*08:57-01:07	10:58	20	Eridanus: Cleopatra’s Eye
Primary Focus	Nebula	Nebula	NGC-1555	07:56 – 02:22	11:06	20	Taurus: Hind’s Variable Nebula
Primary Focus	Nebula	Nebula	NGC-1579	07:37 – 02:57	11:14	21	Perseus: Trifid of the North
Primary Focus	Nebula	Nebula	IC-2118	*09:13-02:20	11:46	22	Eridanus: Witch Head Nebula
Primary Focus	Nebula	Nebula	NGC-1788	10:04 – 01:44	11:51	23	Orion: Foxface Nebula
Primary Focus	Nebula	Nebula	IC-405	08:26 – 03:43	12:01	24	Auriga: Flaming Star Nebula
Primary Focus	Nebula	Nebula	IC-410	08:31 – 03:47	12:06	24	Auriga: Tadpoles
Primary Focus	Nebula	Nebula	IC-418	*10:06-02:16	12:11	25	Lepus: Spirograph Nebula
Primary Focus	Nebula	Nebula	IC-417	08:36 – 03:54	12:12	26	Auriga: The Spider
Primary Focus	Nebula	Nebula	NGC-1931	08:40 – 03:57	12:15	26	Auriga: The Fly
Primary Focus	Nebula	Nebula	M-1	09:03 – 03:40	12:18	27	Taurus: Crab Nebula

Prospective Imaging Objects – December

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	Nebula	M-42	10:46 – 01:59	12:19	28	Orion: The Orion Nebula
Primary Focus	Nebula	Nebula	NGC-1977	10:42 – 02:03	12:19	29	Orion: Running Man Nebula (C-6)
Primary Focus	Nebula	Nebula	NGC-1977	10:42 – 02:03	12:19	29	Orion: Running Man Nebula
Primary Focus	Nebula	Nebula	NGC-2024	10:30 -02:28	12:25	31	Orion: Flame Nebula
Primary Focus	Nebula	Nebula	B-33	10:33 – 02:23	12:25	32	Orion: Horsehead Nebula
Primary Focus	Nebula	Nebula	NGC-2022	09:45 – 03:14	12:26	32	Orion: Planetary Nebula
Primary Focus	Nebula	Nebula	NGC-2170	11:26 – 02:24	12:51	37	Monoceros: Angle Nebula
Primary Focus	Nebula	Nebula	SH 2-261	09:52 – 03:59	12:52	38	Orion: Lower's Nebula
Primary Focus	Nebula	Nebula	NGC-2174	09:42 – 04:12	12:53	39	Orion: Monkey Head Nebula
Primary Focus	Nebula	Nebula	IC-2162	09:51 – 04:09	12:57	39	Orion: Nebula
Primary Focus	Nebula	Nebula	IC-443	09:45 – 04:24	01:01	40	Gemini: Jellyfish Nebula
Primary Focus	Nebula	Nebula	IC-2165	*10:29-03:48	01:05	41	Canis Major: Small Planetary Nebula
Primary Focus	Nebula	Nebula	SH 2-249	09:49 – 04:30	901:06	41	Gemini: Nebula
Primary Focus	Nebula	Nebula	NGC-2237	10:48 – 03:48	01:14	42	Monoceros: Rosette Nebula Core
Primary Focus	Nebula	Nebula	NGC-2261	10:43 – 04:10	01:23	43	Monoceros: Hubble's Variable Nebula
Primary Focus	Nebula	Nebula	NGC-2264	10:41 – 04:15	01:24	44	Monoceros: Xmas Tree Cluster
Primary Focus	Nebula	Nebula	NGC-2264	10:41 – 04:15	01:24	45	Monoceros: Cone Nebula
Primary Focus	Nebula	Nebula	IC-2177	*11:31-04:07	01:48	46	Monoceros: Seagull Nebula head
Primary Focus	Nebula	Nebula	NGC-2346	*11:19-04:30	01:53	47	Monoceros: Hourglass Nebula
Primary Focus	Nebula	Nebula	NGC-2359	*10:56-05:12	02:02	48	Canis Major: Thor's Helmet
Primary Focus	Nebula	Nebula	NGC-2371	10:41 – 05:44	02:09	48	Gemini: Candy Wrapper Nebula
Primary Focus	Nebula	Nebula	Abell-21	11:19 – 05:13	02:13	48	Gemini: Medusa Nebula
Primary Focus	Nebula	Nebula	NGC-2392	11:00 – 05:32	02:13	49	Gemini: Eskimo Nebula
Primary Focus	Nebula	Nebula	M-46	*11:23-05:28	02:25	50	Puppis: Open Cluster and Planetary
Primary Focus	Nebula	Nebula	NGC-2440	*11:42-05:12	02:25	50	Puppis: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-2610	12:59 – 05:43	03:17	51	Hydra: NGC-2610 Small PN
Primary Focus	Nebula	PN	NGC-3242	*03:02-05:55	05:08	56	Hydra: Ghost of Jupiter
Primary Focus	Nebula						
Primary Focus	Nebula						

Prospective Imaging Objects – December

Imaging Summary December 15

Astronomical Dusk = 06:50 Astronomical Dawn = 05:55

Primary Focus: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxies	NGC 67-72	06:50 – 10:38	07:03	02	Andromeda: Andromeda Galaxy Group
Primary Focus	Broad Spectrum	Galaxy	NGC-147	06:50 – 11:10	07:18	03	Cassiopeia: Dwarf Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-185	06:50 – 11:16	07:24	03	Cassiopeia: Dwarf Spheroidal Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-110	06:50 – 11:14	07:25	04	Andromeda: Elliptical Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-32	06:50 – 11:16	07:27	04	Andromeda: Companion to M-31
Primary Focus	Broad Spectrum	Galaxy	NGC-247	*06:50-10:06	07:32	05	Cetus: Needle's Eye Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-253	*06:50-09:28	07:32	06	Sculptor: Sculptor Galaxy
Primary Focus	Broad Spectrum	Globular	NGC-288	*06:50-09:20	07:37	06	Sculptor: Med Globular Cluster
Primary Focus	Broad Spectrum	Galaxy	IC-1613	06:50 – 10:10	07:49	08	Cetus: Irregular Dwarf Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-404	06:50 – 11:37	07:54	08	Andromeda: Mirachs Ghost
Primary Focus	Broad Spectrum	OC	NGC-457	06:50 – 11:54	08:04	09	Cassiopeia: Owl Cluster
Primary Focus	Broad Spectrum	Galaxies	Arp-133	06:50 – 10:14	08:10	09	Cetus: Minkowski's Object
Primary Focus	Broad Spectrum	OC	M-103	06:50 – 12:04	08:18	10	Cassiopeia: Open Cluster NGC-581
Primary Focus	Broad Spectrum	Galaxy	M-74	06:50 – 11:28	08:21	11	Pisces: Med Face On Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-772	06:50 – 11:58	08:44	12	Aries: Nautilus Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-891	06:50 – 12:57	09:07	12	Andromeda: Edge On Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-925	06:50 – 12:52	09:12	13	Triangulum: Face on Galaxy PGC-9332
Primary Focus	Broad Spectrum	Galaxy	NGC-1055	07:18 - 11:39	09:26	15	Cetus: Edge On galaxy
Primary Focus	Broad Spectrum	OC	M-34	06:50 – 01:16	09:26	15	Perseus: Open Cluster NGC-1039
Primary Focus	Broad Spectrum	Galaxy	M-77	07:21 – 11:38	09:27	16	Cetus: Galaxy NGC-1068
Primary Focus	Broad Spectrum	Galaxies	Abell-426	06:50 – 01:51	10:04	17	Perseus: Perseus Galaxy Cluster
Primary Focus	Broad Spectrum	Galaxy	IC-342	07:12 – 01:56	10:31	18	Camelopardalis: Large Face-On
Primary Focus	Broad Spectrum	Globular	M-79	*10:10-02:16	12:11	25	Lepus: Med Globular

Prospective Imaging Objects – December

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	OC	M-38	08:35 – 03:56	12:12	26	Auriga: Starfish Cluster
Primary Focus	Broad Spectrum	OC	M-36	08:45 – 04:02	12:20	29	Auriga: Open Star Cluster NGC-1960
Primary Focus	Broad Spectrum	Galaxy	NGC-1961	09:14 – 03:45	12:26	32	Camelopardalis: Galaxies
Primary Focus	Broad Spectrum	DN	M-78	10:25 – 02:43	12:31	34	Orion: Dark and Bright Nebula
Primary Focus	Broad Spectrum	OC	M-37	09:03 – 04:16	12:36	34	Auriga: Salt and Pepper Cluster
Primary Focus	Broad Spectrum	DN	LDN-1622	10:25 – 02:58	12:38	36	Orion: Dark Nebula
Primary Focus	Broad Spectrum	RN	IC-2169	10:30 – 04:06	01:15	43	Monoceros: Reflection Nebula
Primary Focus	Broad Spectrum	OC	M-41	*11:38-03:25	01:30	45	Canis Major: Open Star Cluster NGC-2287
Primary Focus	Broad Spectrum	OC	M-50	*11:19-04:19	01:46	46	Monoceros: Open Star Cluster NGC-2323
Primary Focus	Broad Spectrum	Galaxy	UGC-3697	11:00 – 04:57	01:55	47	Camelopardalis: Galaxy Cluster
Primary Focus	Broad Spectrum	OC	M-47	*11:15-05:28	02:20	49	Puppis: Open Cluster NGC-2422
Primary Focus	Broad Spectrum	Galaxy	NGC-2403	10:52 – 05:55	02:20	49	Camelopardalis: Med Barred Spiral Galaxy
Primary Focus	Broad Spectrum	GC	NGC-2419	10:41 – 05:55	02:22	50	Lynx: Intergalactic Wanderer
Primary Focus	Broad Spectrum	OC	M-93	*12:17-04:38	02:28	51	Puppis: Butterfly Cluster
Primary Focus	Broad Spectrum	OC	M-48	01:26 – 04:35	02:57	51	Hydra: M-48 (NGC-2548)
Primary Focus	Broad Spectrum	OC	M-67	12:45 – 05:55	03:35	52	Cancer: M-67 (NGC-2682)
Primary Focus	Broad Spectrum	Galaxy	NGC-2685	11:56 – 05:55	03:39	52	Ursa Major: Helix Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-2903	01:02 – 05:55	04:15	53	Leo: Med Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-81	01:25 – 05:55	04:39	54	Ursa Major: Bode's Nebula
Primary Focus	Broad Spectrum	Galaxy	M-82	01:29 – 05:55	04:39	54	Ursa Major: Cigar Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-3115	*11:43-04:48	02:20	54	Sextans: Spindel Galaxy
Primary Focus	Broad Spectrum	Galaxy	UGC-5470	02:01 – 05:55	04:51	55	Leo: Powder Keg Galaxy
Primary Focus	Broad Spectrum	Galaxies	NGC-3166, 3169	02:37 – 05:55	04:57	55	Sextans: Galaxy Pair
Primary Focus	Broad Spectrum	Galaxies	Hickson 44	01:47 – 05:55	05:01	55	Leo: Galaxy Cluster
Primary Focus	Broad Spectrum	Galaxy	NGC-3184	01:19 – 05:55	05:01	56	Ursa Major: Face On galaxy
Primary Focus	Broad Spectrum	Galaxies	NGC 3227, 3226	01:57 – 05:55	05:06	56	Leo: Interacting galaxy pair
Primary Focus	Broad Spectrum	Galaxy	IC-2574	01:55 – 05:55	05:11	57	Leo: Coddington's Nebula
Primary Focus	Broad Spectrum	Galaxies	Leo Trio 2	02:40 – 05:55	05:31	58	Leo: NGC-3379, 3384, 3389

Prospective Imaging Objects – December

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxies	NGC-3561 et. El.	02:28 – 05:55	05:54	58	Ursa Major: Ambartsumian's Knot
Primary Focus	Broad Spectrum	Galaxy	M-108	02:09 -= 05:55	05:54	59	Ursa Major: Med Galaxy NGC-3556