Prospective Imaging Objects – November 13 2023

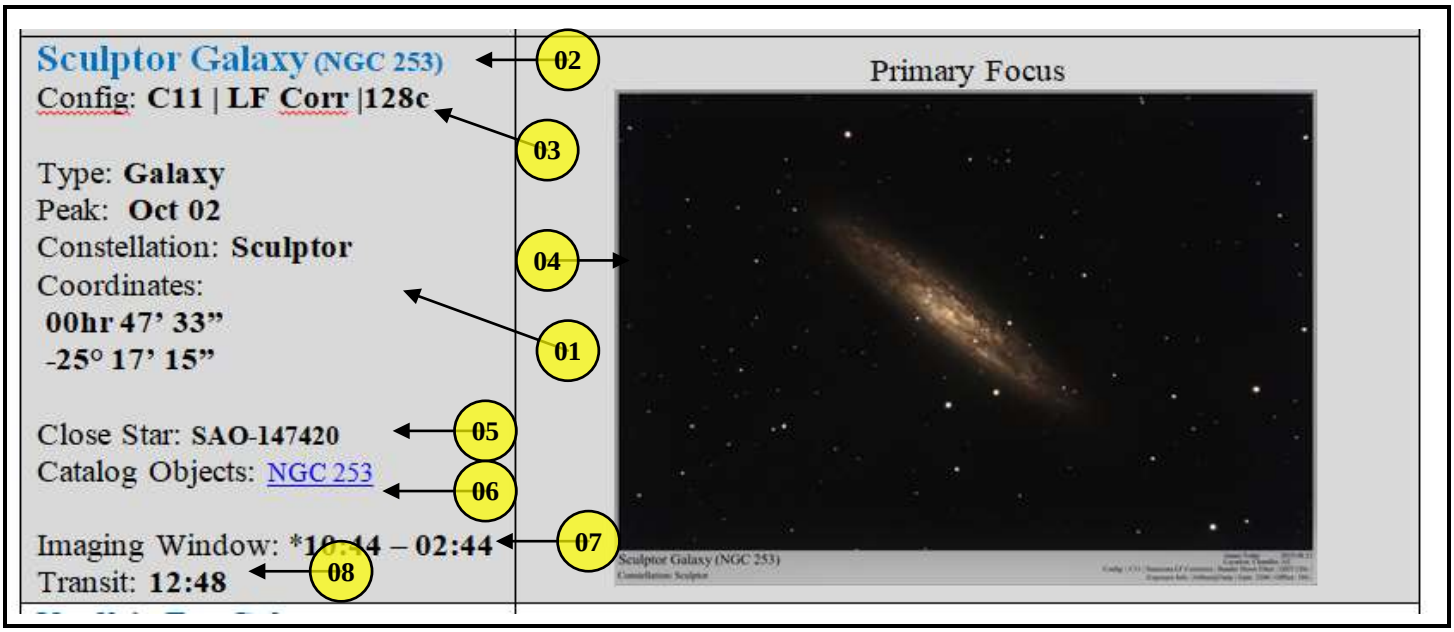
Astronomical Data

Sunrise	Sunset	Astronomical Dusk	Astronomical Dawn	Imaging	New Moon
06:57am	05:26 pm	06:52 pm	05:31 am	10:39	November 13

Hardware Info

Configuration	FL	FOV	FOV°	Image Scale (1 – 1.5) ideal
C11HD | ZWO ASI-6200 mono Pro	2800mm	45'x 30'	0.75° x 0.5°	0.280"/pix (Oversampled)
C11HD | 0.7xReducer | ZWO6200MCc	1960mm	60' x 45'	1.0° x 0.75°	0.393"/pix (Oversampled)
|C11HD|HS-v4|ZWO6200MCc|	540mm	228' x 150'	3.8° x 2.5°	1.4"/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.

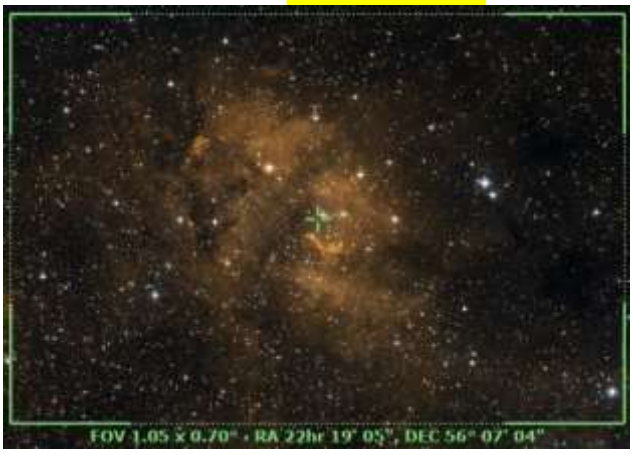
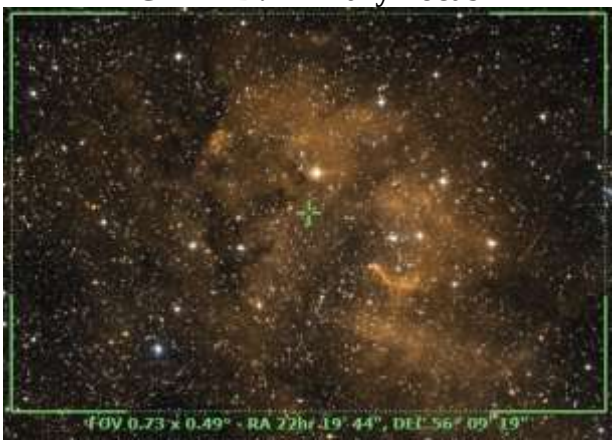
05: Close Star – A fairly bright star close to the target that can be used to check focus and sync the telescope before the imaging session begins.

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.

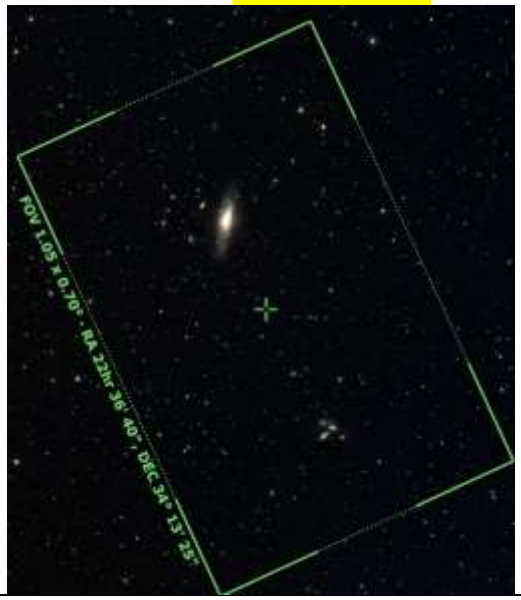
07: Imaging Window – Ideally the time the object is 45° above the horizon. Southern objects with negative DEC that do not peak above 45° are indicated with a *. Imaging window for these objects may be based on 30° or even 25° above horizon for the imaging window.

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 – November 13 2023

SH2-132 Config: **C11-HD | HS | ZWO6200MC** Type: **Bright Nebula** Constellation: **Cepheus** Coordinates: **22h 22’ 39”** **55° 38’ 22”** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-132 Imaging Window: **06:52 – 11:05** Transit: **07:16 | 67°**	**C-11 HD: HyperStar v4** 
SH2-132 Config: |C11-HD|FR|ZWO6200MC| Type: **Bright Nebula** Constellation: **Cepheus** Coordinates: **22h 19’ 05”** **56° 07’ 04”** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-132 Imaging Window: **06:52 – 11:05** Transit: **07:16 | 67°**	**C-11 HD: Focal Reducer** 
SH2-132 Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Constellation: **Cepheus** Coordinates: **22h 19’ 44”** **56° 09’ 19”** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-132 Imaging Window: **06:52 – 11:05** Transit: **07:16 | 67°**	**C-11 HD: Primary Focus** 

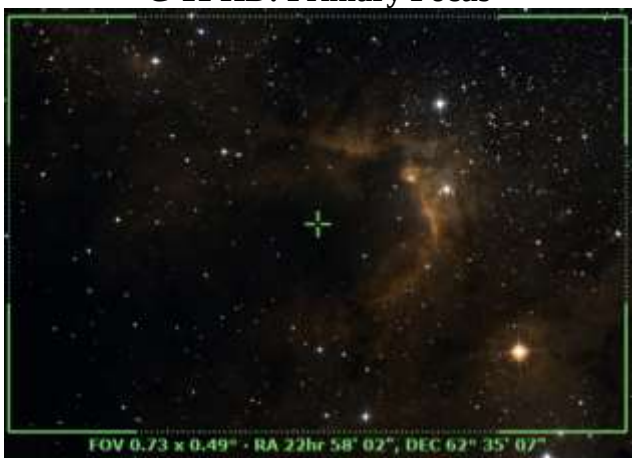
Prospective Imaging Objects – November 13 2023

Stephan's Quintet & NGC 7331 (NGC 7317, 7331) Config: |C11-HD|FR|ZWO6200MC| Type: **Bright Nebula** Constellation: **Pegasus** Coordinates: **22h 36' 40"** **34° 13' 25"** Camera Rotation = 115° East (-245) Close Star: **SAO-72191** (1 Lacertae) Catalog Objects: NGC7317, NGC7331 Imaging Window: **06:52 – 11:11** Transit: **07:33 | 89°**	**C-11 HD: Focal Reducer** 
Stephan's Quintet Config: |C11HD|ZWO6200MC| Type: **Bright Nebula** Constellation: **Pegasus** Coordinates: **22h 36' 06"** **33° 58' 01"** Close Star: **SAO-72191** (1 Lacertae) Catalog Objects: NGC7317 Imaging Window: **06:52 – 11:11** Transit: **07:33 | 89°**	**C-11 HD: Primary Focus** 
NGC-7331 Group (NGC-7331) Config: |C11HD|ZWO6200MC| Type: **Galaxy Cluster** Constellation: **Pegasus** Coordinates: **22h 37' 15"** **34° 24' 51"** Close Star: **SAO-72191** (1 Lacertae) Catalog Objects: NGC-7331 Imaging Window: **06:52 – 11:13** Transit: **07:34 | 89°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

Wizard Nebula (SH 2-142) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Cepheus** Coordinates: **22h 47' 26"** **58° 03' 03"** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-142 Imaging Window: **06:52 – 11:30** Transit: **07:42 | 89°**	**C-11 HD: Focal Reducer** 
Wizard Nebula (SH 2-142) Config: |C11HD|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Cepheus** Coordinates: **22h 47' 26"** **58° 03' 03"** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-142 Imaging Window: **06:52 – 11:30** Transit: **07:42 | 89°**	**C-11 HD: Primary Focus** 
Cave Nebula (SH2-155) Config: **C11-HD | HS | ZWO6200MC** Type: **Bright & Dark Nebula** Constellation: **Cepheus** Coordinates: **23h 00' 57"** **62° 04' 09"** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-155 Imaging Window: **06:52 – 11:34** Transit: **07:54 | 61°**	**C-11 HD: HyperStar v4** 

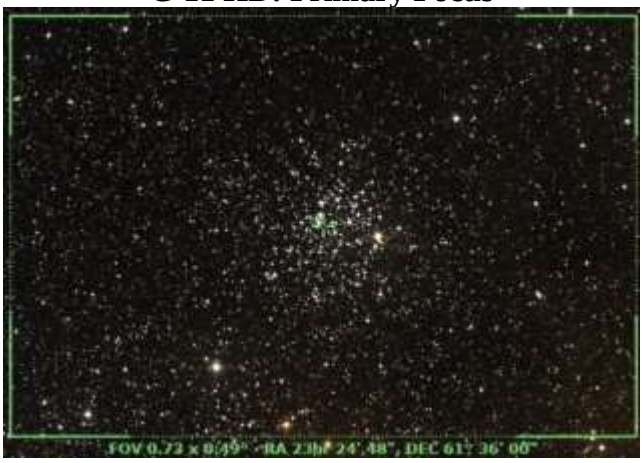
Prospective Imaging Objects – November 13 2023

Cave Nebula (SH2-155) Config: |C11-HD|FR|ZWO6200MC| Type: **Bright & Dark Nebula** Constellation: **Cepheus** Coordinates: **22h 56' 57"** **62° 31' 33"** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-155 Imaging Window: **06:52 – 11:34** Transit: **07:54 | 61°**	**C-11 HD: Focal Reducer** 
Cave Nebula (SH2-155) Config: |C11HD|ZWO6200MC| Type: **Bright & Dark Nebula** Constellation: **Cepheus** Coordinates: **22h 56' 57"** **62° 31' 33"** Close Star: **SAO-20268** (Iota Cephei) Catalog Objects: SH2-155 Imaging Window: **06:52 – 11:34** Transit: **07:54 | 61°**	**C-11 HD: Primary Focus** 
NGC-7479 (PGC-70419) Config: |C11HD|ZWO6200MC| Type: **Barred Spiral Galaxy** Constellation: **Pegasus** Coordinates: **23h 04' 58"** **12° 18' 37"** Close Star: **SAO-127340** (Baham) Catalog Objects: NGC-7479 Imaging Window: **06:52 – 10:56** Transit: **08:02 | 62°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

Lobster Claw and Bubble Nebula (SH2-157) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Constellation: **Cassiopeia** Coordinates: **23h 18' 25.8"** **60° 31' 17.8"** Close Star: **SAO-21133** (Caph) Catalog Objects: SH2-157, NGC-7635 Imaging Window: **06:52 – 11:58** Transit: **08:13 | 63°**	**C-11 HD: HyperStar v4** 
Lobster Claw (SH2-157) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Cassiopeia** Coordinates: **23h 16' 00"** **59° 57' 32"** Close Star: **SAO-21133** (Caph) Catalog Objects: SH2-157 Imaging Window: **06:52 – 11:58** Transit: **08:13 | 63°**	**C-11 HD: Focal Reducer** 
Bubble Nebula (NGC-7635) Config: |C11HD|ZWO6200MC| Type: **Bright & Dark Nebula** Constellation: **Cepheus** Coordinates: **23h 20' 12"** **61° 11' 00"** Close Star: **SAO-21133** (Caph) Catalog Objects: NGC-7635, SH2-162 Imaging Window: **06:52 – 12:00** Transit: **08:17 | 62°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

Pegasus Cluster (NGC-7619) Config: |C11-HD|FR|ZWO6200MC| Type: **Cluster of Galaxies** Constellation: **Pegasus** Coordinates: **23h 20' 13"** **08° 11' 08"** Close Star: **SAO-128085** (g Piscium) Catalog Objects: NGC-7619 Imaging Window: **06:52 – 10:59** Transit: **08:17 | 65°**	**C-11 HD: Focal Reducer** 
Pegasus Cluster (NGC-7619) Config: |C11HD|ZWO6200MC| Type: **Cluster of Galaxies** Constellation: **Pegasus** Coordinates: **23h 20' 13"** **08° 10' 57"** Close Star: **SAO-128085** (g Piscium) Catalog Objects: NGC-7619 Imaging Window: **06:52 – 10:59** Transit: **08:17 | 65°**	**C-11 HD: Primary Focus** 
M-52 (NGC-7654) Config: |C11HD|ZWO6200MC| Type: **Open Cluster** Constellation: **Cassiopeia** Coordinates: **23h 24' 48"** **61° 36' 00"** Close Star: **SAO-21133** (Caph) Catalog Objects: M-52 Imaging Window: **06:52 – 12:04** Transit: **08:22 | 62°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

Blue Match Nebula (SH2-155)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Reflection Nebula**

Constellation: **Andromeda**
Coordinates:
23h 39’ 24”
48° 51’ 37”
Nearby: NGC-7686
Close Star: **SAO-73765** (Alpheratz)
Catalog Objects: VdB 158/ LBN 534
Imaging Window: **06:52 – 12:18**
Transit: **08:27 | 81°**

C-11 HD: HyperStar v4

Caroline’s Rose (NGC-7789)
Config: |C11HD|ZWO6200MC|

Type: **Open Cluster**

Constellation: **Cassiopeia**
Coordinates:
23h 57’ 37”
56° 42’ 21”

Close Star: **SAO-21607** (Shedar)
Catalog Objects: NGC-7789
Imaging Window: **06:52 – 12:43**
Transit: **08:54 | 65°**

C-11 HD: Primary Focus

NGC-7822 (Ced-214)
Config: **C11-HD | HS | ZWO6200MC**

Type: **Emission Nebula**
Constellation: **Cepheus**

Coordinates:
Frame 01
RA: **00hr 03’ 42”** DEC: **67° 41’ 45”**
Frame 02
RA: **00hr 03’ 42”** DEC: **65° 35’ 15”**

Close Star: **SAO-10818**
Catalog Objects: Ced 214, NGC 7822, SH2-171

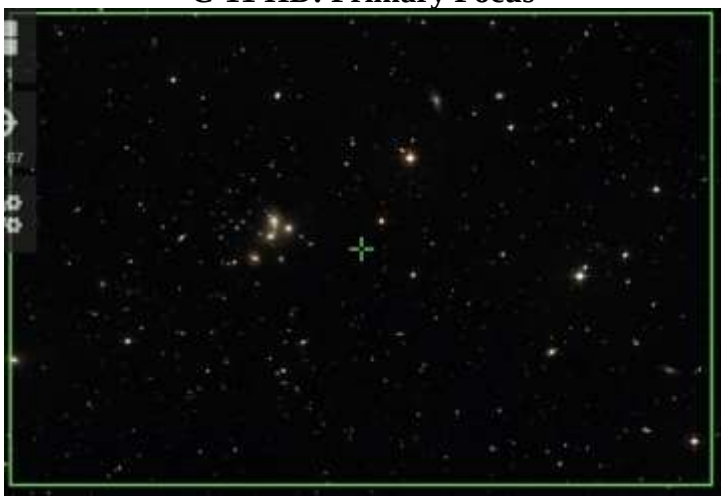
Imaging Window: **06:52 – 12:24**
Transit: **08:59 | 56°**

C-11 HD: HyperStar v4
Composite!

Prospective Imaging Objects – November 13 2023

NGC-7822 (CED-214) Config: **C11-HD | HS | ZWO6200MC** Type: **Diffuse Nebula** Constellation: **Cepheus** Coordinates: **00h 01' 27"** **67° 28' 37"** Close Star: **SAO-20268** Catalog Objects: NGC-7822/CED-214 Imaging Window: **06:52 – 12:24** Transit: **08:59 | 56°**	**C-11 HD: HyperStar v4** 
NGC-7822 (CED-214) Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Constellation: **Cepheus** Coordinates: **00h 03' 38"** **67° 14' 37"** Close Star: **SAO-20268** Catalog Objects: NGC-7822/CED-214 Imaging Window: **06:52 – 12:24** Transit: **08:59 | 56°**	**C-11 HD: Focal Reducer** 
NGC-7822 (CED-214) Config: |C11HD|ZWO6200MC| Type: **Emission Nebula** Constellation: **Cepheus** Coordinates: **00h 01' 56"** **67° 23' 05"** Close Star: **SAO-10818** Catalog Objects: Ced 214, NGC 7822, SH2-171 Imaging Window: **06:52 – 12:24** Transit: **08:59 | 56°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **06:52 – 12:02** Transit: **09:10 | 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: **06:52 – 12:48** Transit: **09:15 | 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: **06:52 – 01:20** Transit: **09:30 | 75°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – November 13 2023

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, NGC-185
Imaging Window: **06:52 – 01:20**
Transit: **09:30 | 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: **06:52 – 01:20**
Transit: **09:30 | 75°**

Primary Focus

NGC-185

Config: **C11-HD | ZWO6200MC**

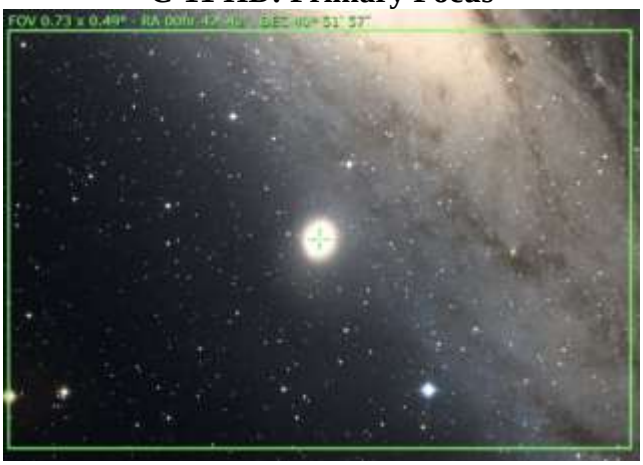
Type: **Dwarf Spheroidal Galaxy**

Constellation: **Cassiopeia**
Coordinates:
00h 38' 58"
48° 20' 14"

Close Star: **SAO-21609 (Shedar)**
Catalog Objects: NGC-185
Imaging Window: **06:52 – 01:26**
Transit: **09:36 | 75°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: **06:52 – 01:24** Transit: **09:37 | 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: **06:52 – 01:26** Transit: **09:40 | 82°**	**C-11 HD: Primary Focus** 
Andromeda Galaxy (M 31) Config: |C11|HS|ZWO6200MCc| Type: **Galaxy** Peak: **Oct 1** Constellation: **Andromeda** Coordinates: **00h 43’ 03.089”** **41° 18’ 37.05”** Close Star: **SAO-54281** Catalog Objects: M-31, M-32, M-110, NGC-224, NGC-206 Imaging Window: **06:52 – 01:26** Transit: **09:40 | 82°**	**Hyperstar** 

Prospective Imaging Objects – November 13 2023

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: **06:52 – 01:26** Transit: **09:40 | 82°**	**C-11 HD: HyperStar v4** 
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: ***07:28 – 11:54** Transit: **09:44 | 45°**	**C-11 HD: Focal Reducer** 
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: ***07:28 – 11:54** Transit: **09:44 | 45°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: ***07:11 – 12:11** Transit: **09:44 | 36°**	**C-11 HD: Primary Focus** 
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: ***08:01 – 11:37** Transit: **09:50 | 31°**	**C-11 HD: HyperStar v4** 
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: ***07:45 – 11:43** Transit: **09:44 | 30°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: ***08:01 – 11:37** Transit: **09:50 | 31°**	**C-11 HD: Primary Focus** 
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: ***06:52 – 02:29** Transit: **09:44 | 38°**	**C-11 HD: Focal Reducer** 
Packman Nebula (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: **06:52 – 01:38** Transit: **09:50 | 67°**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – November 13 2023

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: **11:50 – 04:22**
Transit: **03:36 | 62°**

C-11 HD: HyperStar v4

Gamma Cassiopeiae Nebula
(IC-59, IC-63)
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: **11:50 – 04:22**
Transit: **03:36 | 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”

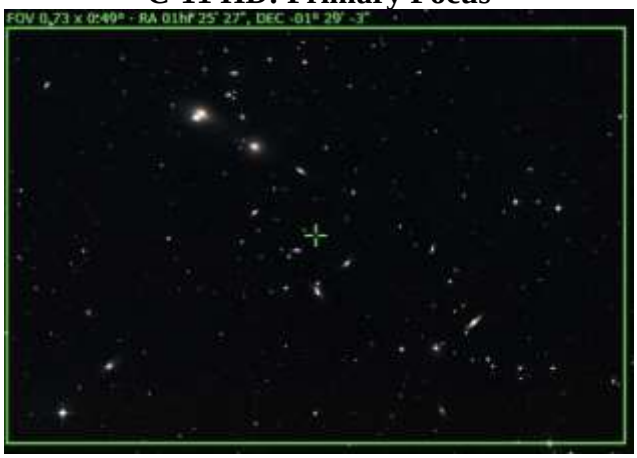
Close Star: **SAO-75151 (Hamal)**
Catalog Objects: IC-1613
Imaging Window: **06:52 – 12:20**
Transit: **10:02 | 59°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: **06:52 – 01:47** Transit: **10:06 | 88°**	**C-11 HD: Primary Focus** 
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: **06:52 – 02:03** Transit: **10:16 | 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: **06:52 – 02:03** Transit: **10:16 | 65°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **08:21 – 12:24** Transit: **10:22 | 55°**	**C-11 HD: Primary Focus** 
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: **06:52 – 02:14** Transit: **10:27 | 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: **06:52 – 02:14** Transit: **10:30 | 63°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **06:57 – 02:04**
Transit: **10:31 | 87°**

C-11 HD: HyperStar v4

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: **06:57 – 02:04**
Transit: **10:31 | 87°**

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

Triangulum Galaxy (M-33)

Config: |ZWO6200MC|

Type: **Galaxy**
Peak: **Oct 14**
Constellation: **Triangulum**
Coordinates:
01° 34’ 53.37”
30° 45’ 11.2”

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

Imaging Window: **06:57 – 02:04**
Transit: **10:31 | 87°**

Primary Focus

Prospective Imaging Objects – November 13 2023

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: **07:30 – 01:37** Transit: **10:33 | 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 Imaging Window: **06:52 – 10:39** Transit: **10:39 | 72°**	**C-11 HD: Primary Focus** 
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: **07:44 – 02:08** Transit: **10:56 | 76°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **07:31 – 03:07**
Transit: **11:19 | 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: **07:32 – 03:06**
Transit: **11:19 | 81°**

Primary Focus

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: **07:46 – 03:02**
Transit: **11:24 | 90°**

Primary Focus

Prospective Imaging Objects – November 13 2023

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: **07:41 – 03:04**
Transit: **11:22 | 61°**

CH11-HD Focal Reducer

Heart and Soul Nebulas

Config: **C11 | HS | ZWO6200MC**

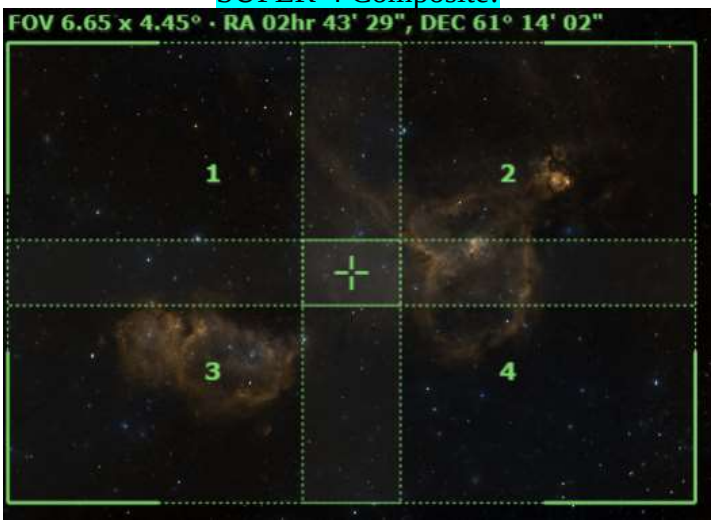
Type: **Diffuse Nebula**

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: **07:47 – 03:12**
Transit: **11:29 | 63°**

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



Heart Nebula (IC 1805)

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

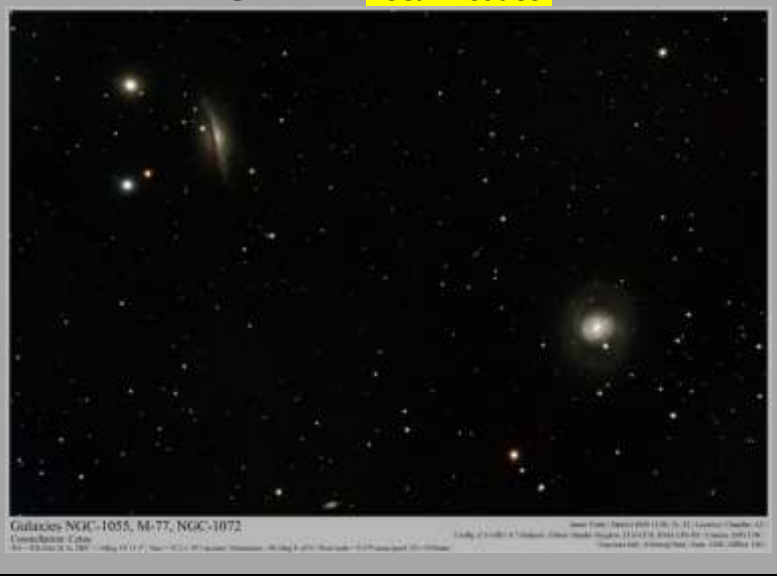
Type: **Diffuse Nebula**
Peak: **October 31**
Constellation: **Cassiopeia**
Coordinates:
02hr 31’ 16”
61° 21’ 36”

Close Star: SAO-12031
Catalog Objects: IC 1805

Imaging Window: **07:47 – 03:12**
Transit: **11:29 | 63°**

C-11 HD: HyperStar v4

Prospective Imaging Objects – November 13 2023

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: **07:47 – 03:12** Transit: **11:29 | 63°**	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: **07:47 – 03:12** Transit: **11:29 | 63°**	Primary Focus 
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: **09:28 – 01:49** Transit: **11:38 | 57°**	CH11-HD Focal Reducer 

Prospective Imaging Objects – November 13 2023

NGC-1055

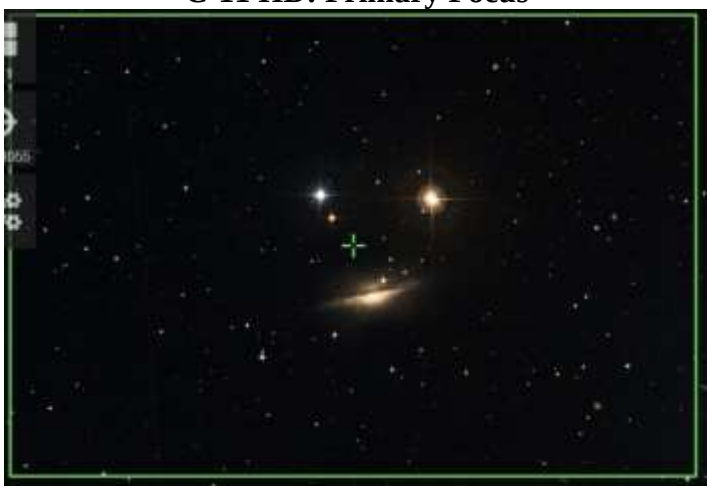
Config: |C11HD|ZWO6200MC|

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

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

Imaging Window: **09:28 – 01:49**
Transit: **11:38 | 57°**

C-11 HD: Primary Focus



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: **09:31 – 01:48**
Transit: **11:39 | 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: **07:51 – 03:26**
Transit: **11:39 | 81°**

Primary Focus

Prospective Imaging Objects – November 13 2023

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: **08:04 – 03:32** Transit: **11:48 | 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: **08:04 – 03:32** Transit: **11:48 | 63°**	Primary Focus 
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: **08:30 – 04:02** Transit: **12:16 | 82°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **08:51 – 04:00**
Transit: **12:26 | 88°**

C-11 HD: Primary Focus

Robins Egg Nebula (NGC-1360)

Config: |C11HD|ZWO6200MC|

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

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

Imaging Window: ***10:36 – 02:23**
Transit: **12:30 | 31°**

C-11 HD: Primary Focus

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: **09:05 – 04:17**
Transit: **12:41 | 89°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: **09:21 – 04:05**
Transit: **12:43 | 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: **09:21 – 04:06**
Transit: **12:43 | 81°**

C-11 HD: HyperStar v4

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

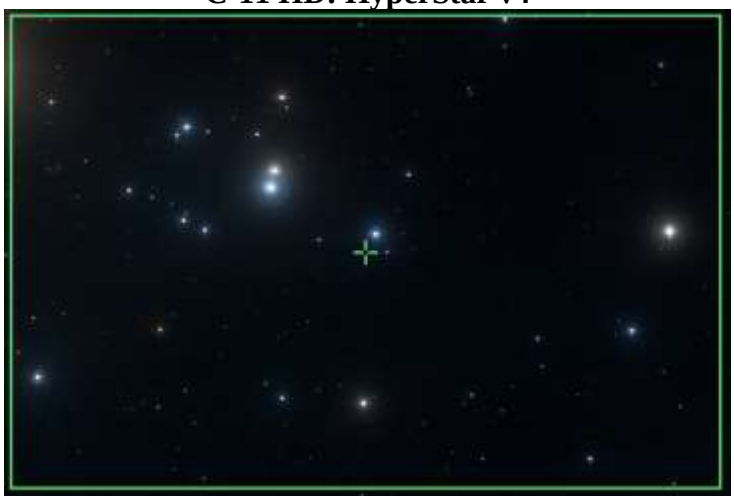
Imaging Window: **09:21 – 04:06**
Transit: **12:43 | 81°**

Primary Focus

Prospective Imaging Objects – November 13 2023

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: **09:18 – 04:41** Transit: **12:59 | 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: **09:20 – 04:47** Transit: **01:03 | 62°**	**C-11 HD: Primary Focus** 
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: **09:32 – 04:39** Transit: **01:06 | 87°**	**C-11 HD: Primary Focus** 

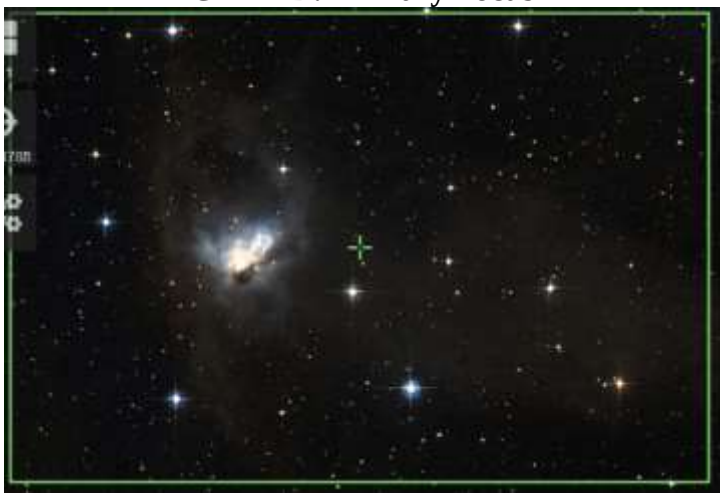
Prospective Imaging Objects – November 13 2023

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: ***11:43 – 02:29** Transit: **01:10 | 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: **10:05 – 04:31** Transit: **01:18 | 76°**	**C-11 HD: Primary Focus** 
Hyades (C 41,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: **10:19 – 04:28** Transit: **01:23 | 73°**	**C-11 HD: HyperStar v4** 

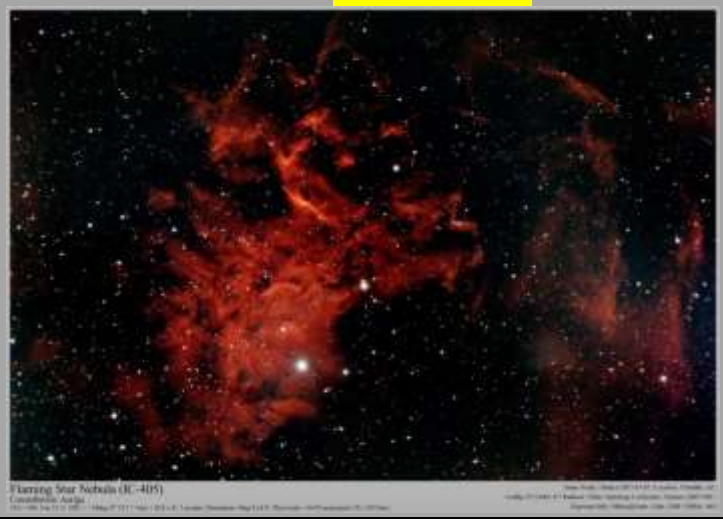
Prospective Imaging Objects – November 13 2023

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: **09:46 – 05:06** Transit: **01:26 | 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: ***12:00 – 04:03** Transit: **02:01 | 49°**	**C-11 HD: HyperStar v4** 
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: ***12:00 – 04:03** Transit: **02:01 | 49°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **12:13 – 03:53** Transit: **02:03 | 53°**	**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: **12:13 – 03:53** Transit: **02:03 | 53°**	**C-11 HD: Focal Reducer** 
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: **12:13 – 03:53** Transit: **02:03 | 53°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **10:34 – 05:31** Transit: **02:13 | 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: **10:34 – 05:31** Transit: **02:13 | 89°**	**C-11 HD: Focal Reducer** 
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: **10:34 – 05:31** Transit: **02:13 | 89°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **10:41 – 05:31** Transit: **02:19 | 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: **10:41 – 05:31** Transit: **02:19 | 90°**	**C-11 HD: Primary Focus** 
M-79 (NGC-1904) Config: |C11HD|Barlow x2|ZWO6200MC| Type: **Globular Cluster** Peak: Constellation: **Lepus** Coordinates: **05hr 24' 11"** **-24° 31' 25"** Close Star: SAO-170457 Catalog Objects: M 79 Imaging Window: ***12:16 – 04:25** Transit: **02:20 | 32°**	**C-11 HD: Primary Focus** *x2 

Prospective Imaging Objects – November 13 2023

Spirograph Nebula (IC 418)

Config: |C11HD|Barlow x2|ZWO6200MC|

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

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

Imaging Window: ***12:16 – 04:25**
Transit: **02:23 | 44°**

C-11 HD: Primary Focus *x2

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: **10:45 – 05:31**
Transit: **02:24 | 89°**

C-11 HD: Focal Reducer
Composite!

The Spider (IC 417)

Config: |C11HD|ZWO6200MC|

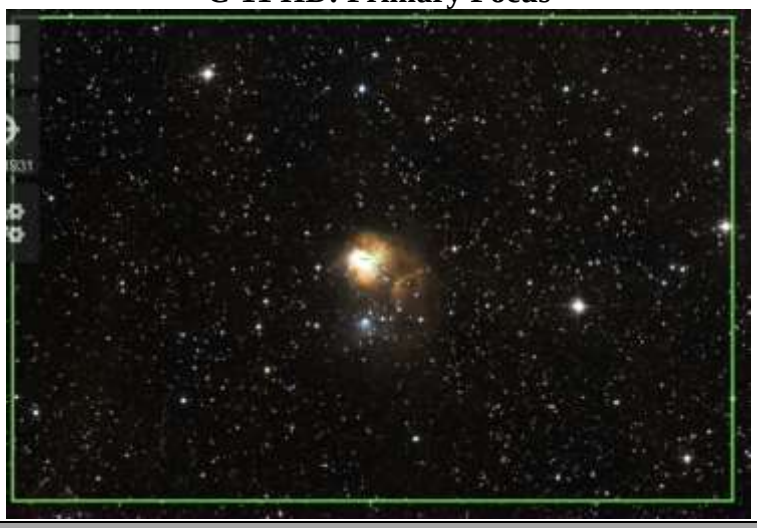
Type: **Diffuse Nebula**
Peak:
Constellation: **Auriga**
Coordinates:
05hr 28’ 03”
34° 22’ 58”

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

Imaging Window: **10:45 – 05:31**
Transit: **02:24 | 89°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: **10:44 – 05:31** Transit: **02:25 | 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: **10:49 – 05:31** Transit: **02:27 | 89°**	**C-11 HD: Primary Focus** 
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: **11:12 – 05:31** Transit: **02:31 | 79°**	Primary Focus 

Prospective Imaging Objects – November 13 2023

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: **12:51 – 04:12**
Transit: **02:31 | 52°**

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

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: **12:51 – 04:12**
Transit: **02:31 | 52°**

C-11 HD: HyperStar v4

Prospective Imaging Objects – November 13 2023

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: **12:51 – 04:12** Transit: **02:31 | 52°**	Primary Focus 
Running Man Nebula (NGC 1977) Config: |C11-HD|FR|ZWO6200MC| Type: **Bright Nebula** Peak: Constellation: **Orion** Coordinates: **05hr 35' 16"** **-04° 41' 47"** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 1977 Imaging Window: **12:51 – 04:12** Transit: **02:31 | 52°**	**C-11 HD: Focal Reducer** 
Pinwheel Cluster (M-36) 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: **10:54 – 05:31** Transit: **02:32 | 89°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **11:06 – 05:31** Transit: **02:35 | 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: **11:06 – 05:31** Transit: **02:35 | 85°**	**C-11 HD: HyperStar v4** 

Prospective Imaging Objects – November 13 2023

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: **12:39 – 04:36** Transit: **02:38 | 54°**	**C-11 HD: HyperStar v4** 
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: **12:39 – 04:36** Transit: **02:38 | 54°**	**C-11 HD: Primary Focus** 
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: **12:42 – 04:32** Transit: **02:37 | 54°**	Primary Focus 

Prospective Imaging Objects – November 13 2023

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: **11:53 – 05:23** Transit: **02:38 | 66°**	**C-11 HD: Primary Focus** 
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: **11:22 – 05:31** Transit: **02:38 | 54°**	**C-11 HD: Primary Focus** 
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: **12:34 – 04:52** Transit: **02:43**	**C-11 HD: Focal Reducer** Composite! 

Prospective Imaging Objects – November 13 2023

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: **12:34 – 04:52**
Transit: **02:43**

C-11 HD: Focal Reducer

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: **12:34 – 04:52**
Transit: **02:43**

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: **11:12 – 05:31**
Transit: **02:48 | 89°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

LDN-1622 Complex Config: |C11HD|ZWO6200MC| Type: **Dark Nebula & Nebula** Peak: Constellation: **Orion** Coordinates: Pane 1: **05hr 50' 40"**, **01º 46' 30"** Pane 2, **05hr 50' 40"**, **00º 14' 57** Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN 1622 Imaging Window: **12:33 – 05:08** Transit: **02:51 | 59°**	**C-11 HD: HyperStar v4** Composite! 
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: **12:33 – 05:08** Transit: **02:51 | 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: **12:33 – 05:08** Transit: **02:51 | 59°**	HyperStar 

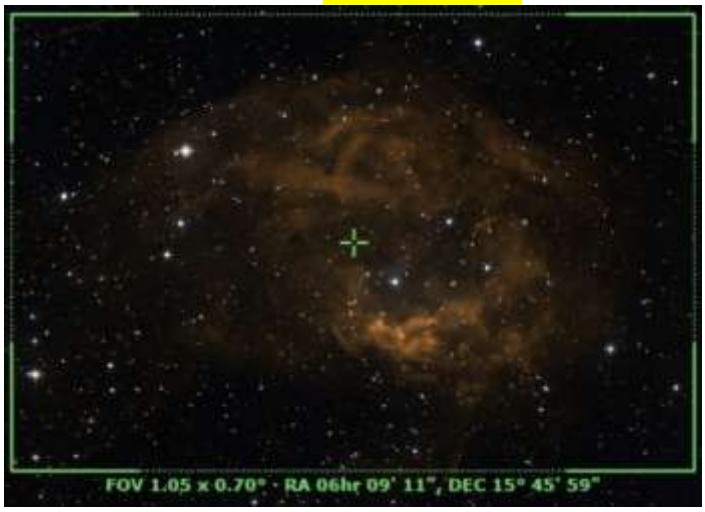
Prospective Imaging Objects – November 13 2023

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: **12:33 – 05:08** Transit: **02:51 | 59°**	**C-11 HD: HyperStar v4** 
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: **12:33 – 05:08** Transit: **02:51**	**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: **12:33 – 05:08** Transit: **02:51**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – November 13 2023

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: 1**2:33 – 05:08** Transit: **02:51**	**C-11 HD: Primary Focus** 
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: **01:34 – 05:31** Transit: **03:03**	**C-11 HD: Focal Reducer** 
Angel Nebula (NGC 2170) Config: |C11HD|ZWO6200MC| Type: **Bright and Dark Nebula** Peak: Constellation: **Monoceros** Coordinates: **06hr 08' 23"** **-06° 19' 23"** Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 2170 Imaging Window: **01:34 – 05:31** Transit: **03:03**	**C-11 HD: Primary Focus** 

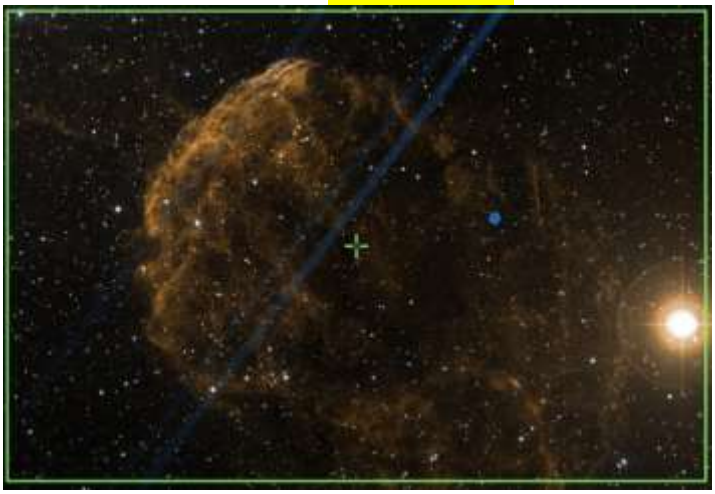
Prospective Imaging Objects – November 13 2023

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: **12:01 – 05:31** Transit: **03:04 | 72°**	**C-11 HD: HyperStar v4** 
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: **12:01 – 05:31** Transit: **03:04 | 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: **12:01 – 05:31** Transit: **03:04 | 72°**	**C-11 HD: Primary Focus** 

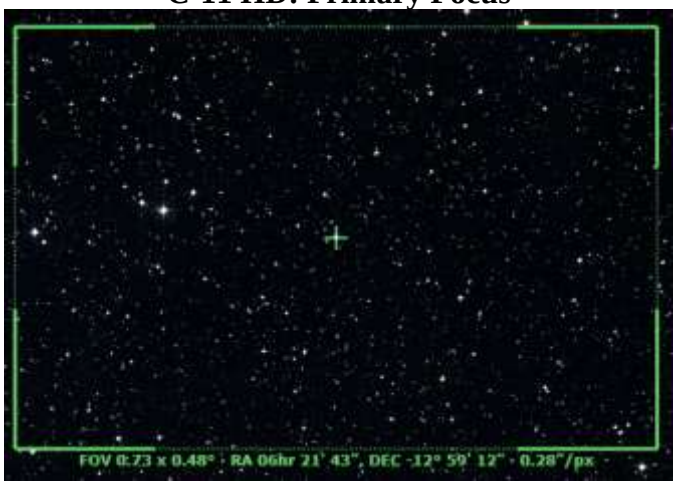
Prospective Imaging Objects – November 13 2023

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: **11:42 – 05:31** Transit: **03:05 | 81°**	**C-11 HD: Focal Reducer** 
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: **11:50 – 05:31** Transit: **03:05 | 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: **11:50 – 05:31** Transit: **03:05 | 77°**	**C-11 HD: Primary Focus** 

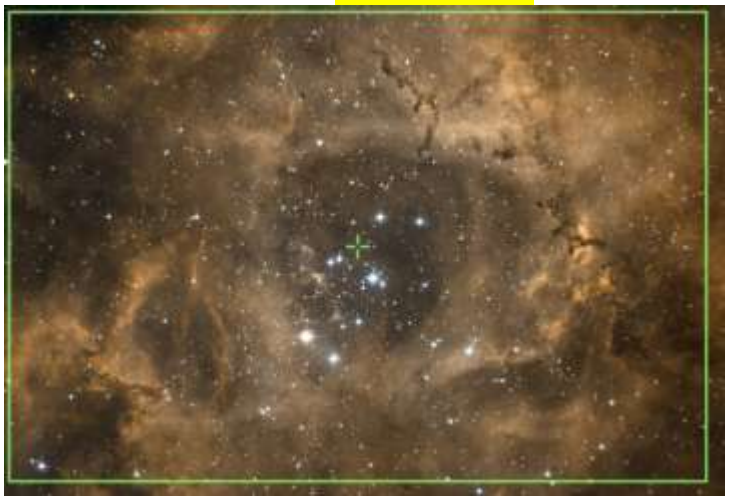
Prospective Imaging Objects – November 13 2023

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: **12:00 – 05:31** Transit: **03:09 | 75°**	**C-11 HD: Primary Focus** 
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: **11:53 – 06:32** Transit: **03:12 | 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: **11:53 – 06:32** Transit: **03:12 | 79°**	C11-HD: Focal Reducer 

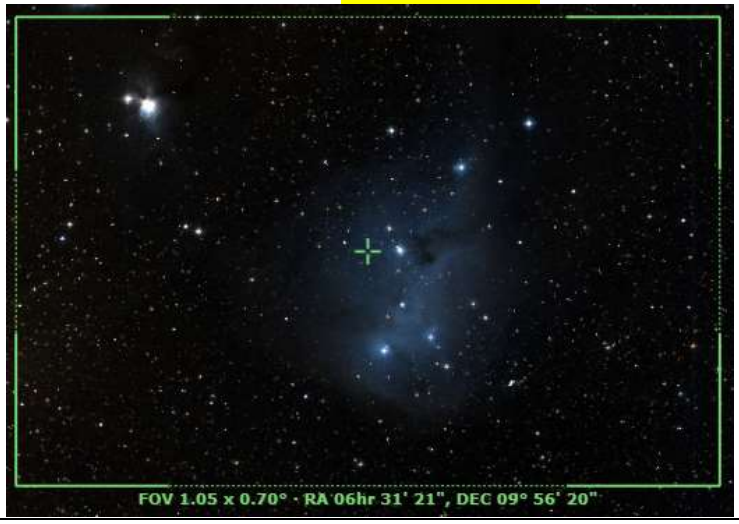
Prospective Imaging Objects – November 13 2023

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: **11:53 – 06:32** Transit: **03:12 | 79°**	Primary Focus 
Sh 2-249 (IC-444) 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: **11:55 – 05:31** Transit: **03:15 | 80°**	**C-11 HD: Primary Focus** 
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: ***01:11 – 05:26** Transit: **03:18 | 44°**	**C-11 HD: Primary Focus** 

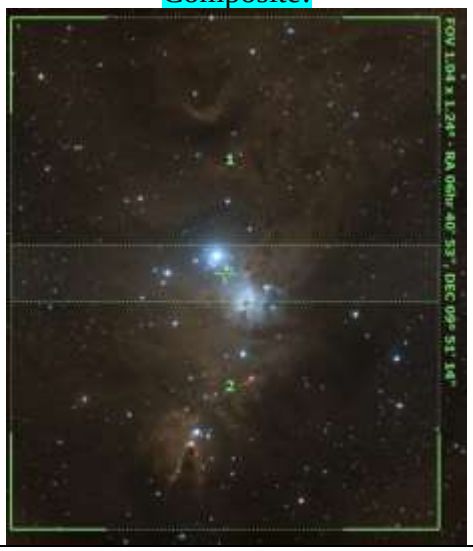
Prospective Imaging Objects – November 13 2023

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: **12:56 – 05:31** Transit: **03:27 | 62°**	**C-11 HD: HyperStar v4** 
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: **12:56 – 05:31** Transit: **03:27 | 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: **12:56 – 05:31** Transit: **03:27 | 62°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **12:40 – 05:31** Transit: **03:27 | 67°**	**C-11 HD: HyperStar v4** 
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: **12:40 – 05:31** Transit: **03:27 | 67°**	**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: **12:40 – 05:31** Transit: **03:27 | 67°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **12:52 – 05:31** Transit: **03:35 | 65°**	**C-11 HD: Primary Focus** 
Christmas Tree & Cone Config: |C11-HD|FR|ZWO6200MC| Type: **Diffuse Nebula** Coordinates: Pane 1: **06hr 40' 53"**, **10° 07' 47"** Pane 2, **06hr 40' 53"**, **09° 34' 40** Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2264/Sh 2-273 Imaging Window: **12:50 – 05:31** Transit: **03:37 | 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: **12:50 – 05:31** Transit: **03:37 | 67°**	**C-11 HD: Focal Reducer** 

Prospective Imaging Objects – November 13 2023

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: **12:50 – 05:31** Transit: **03:37 | 67°**	Primary Focus 
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 Imaging Window: **12:50 – 05:31** Transit: **03:37 | 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: ***01:56 – 05:26** Transit: **03:42 | 36°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: ***01:28 – 05:31**
Transit: **03:59 | 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: ***01:39 – 05:31**
Transit: **04:01 | 46°**

C-11 HD: HyperStar v4 - 90° Rotation

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

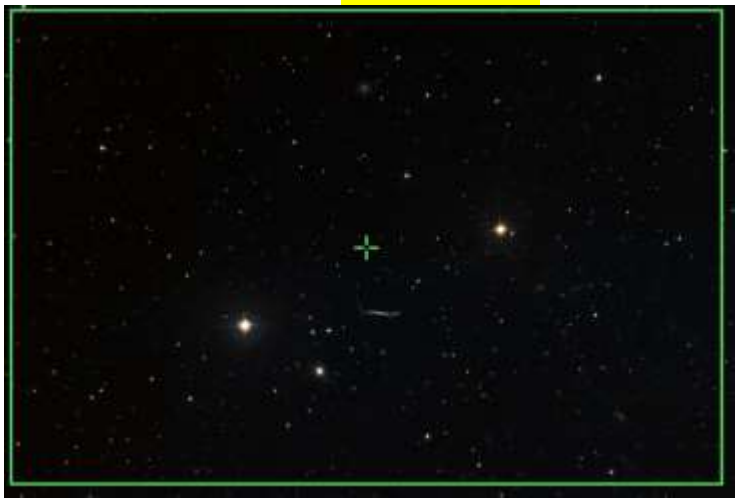
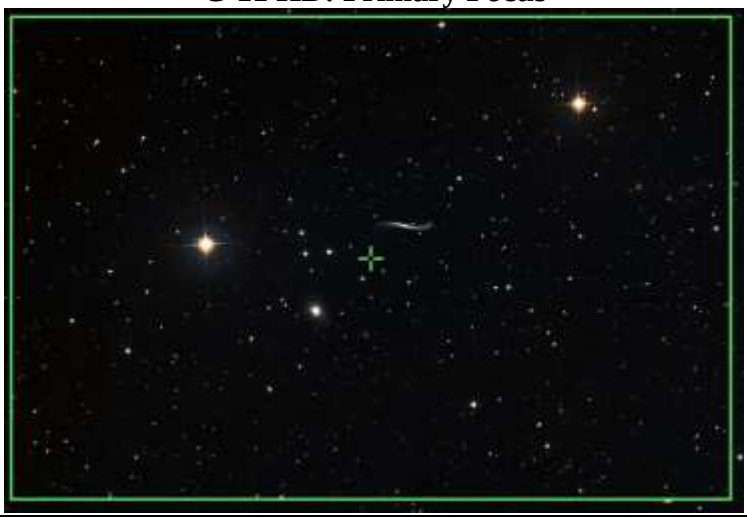
Type: **Diffuse Nebula**
Peak:
Constellation: **Monoceros**
Coordinates:
07hr 04’ 47”
-10° 27’ 49”

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

Imaging Window: ***01:39 – 05:31**
Transit: **04:01 | 46°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: ***01:28 – 05:31** Transit: **04:05 | 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: **11:54 – 05:31** Transit: **04:07 | 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 Imaging Window: **11:54 – 05:31** Transit: **04:07 | 52°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: ***02:07 – 05:31** Transit: **04:14 | 43°**	**C-11 HD: Primary Focus** 
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: **12:49 – 05:31** Transit: **04:21 | 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: **01:28 – 05:31** Transit: **04:25 | 70°**	**C-11 HD: Primary Focus** 

Prospective Imaging Objects – November 13 2023

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: **01:09 – 05:31**
Transit: **04:25 | 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: ***02:35 – 05:31**
Transit: **04:32 | 42°**

C-11 HD: Primary Focus

NGC-2403
Config: |C11HD|ZWO6200MC|

Type: **Barred Spiral Galaxy**

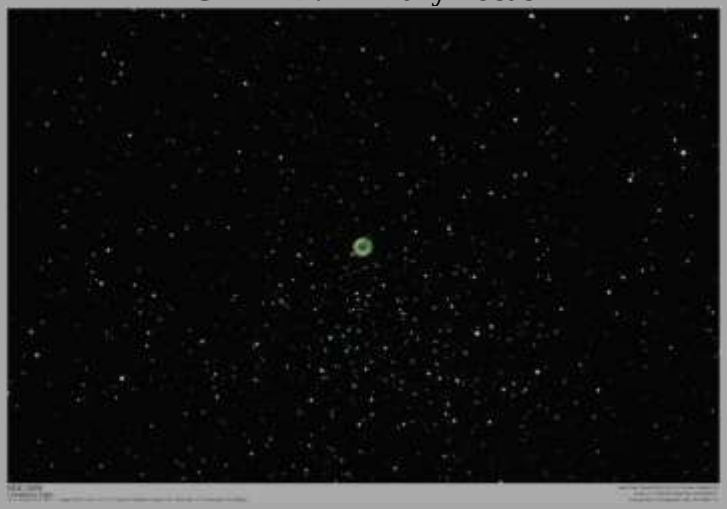
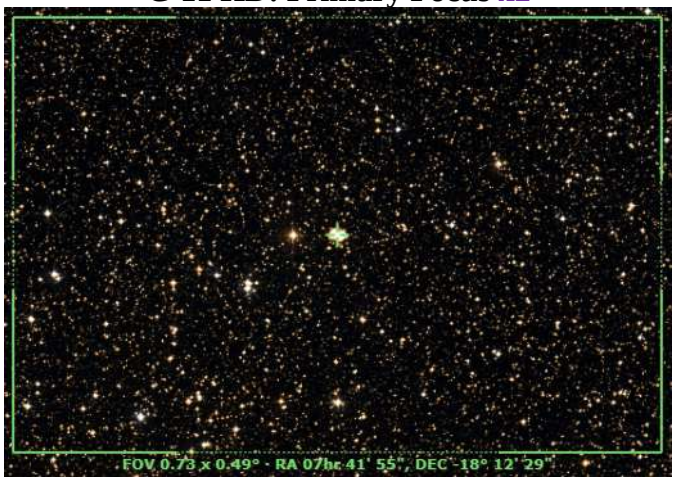
Constellation: **Camelopardalis**
Coordinates:
07h 36’ 51”
65° 36’ 06”

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

Imaging Window: **01:00 – 05:31**
Transit: **04:32 | 58°**

C-11 HD: Primary Focus

Prospective Imaging Objects – November 13 2023

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: **12:50 – 05:31** Transit: **04:34 | 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: ***02:46 – 05:31** Transit: **04:37 | 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: ***02:29 – 05:31** Transit: **04:38 | 38°**	**C-11 HD: Primary Focus x2** 

Prospective Imaging Objects – November 13 2023

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: ***02:29 – 05:31** Transit: **04:40 | 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: **02:57 – 05:31** Transit: **05:09 | 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: **03:08 – 05:31** Transit: **05:29 | 41°**	**C-11 HD: Primary Focus** x2 

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Page

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

HyperStar: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Nebula	Nebula	SH2-132	06:52 – 11:05	07:16	02	Cepheus: Bright Nebula
HyperStar	Nebula	Nebula	SH2-155	06:52 – 11:34	07:54	04	Cepheus: Cave Nebula
HyperStar	Nebula	Nebula	SH2-157	06:52 – 11:58	08:13	06	Cassiopeia: Lobster Claw and Bubble Nebula
HyperStar	Nebula	Nebula	NGC-7822	06:52 – 12:24	08:59	08	Composite2! Cepheus: Nebula
HyperStar	Nebula	Nebula	NGC-7822	06:52 – 12:24	08:59	09	Cepheus: Nebula
HyperStar	Nebula	Neb, OC	NGC-457	06:52 – 02:03	10:16	17	Cassiopeia: Open Cluster NGC-457 & Dolphin Neb
HyperStar	Nebula	Nebula	IC-1848, 1805	07:47 – 03:12	11:29	22	Composite4! Cassiopeia: Heart and Soul Nebulas
HyperStar	Nebula	Nebula	IC-1805	07:47 – 03:12	11:29	22	Cassiopeia: Heart Nebula
HyperStar	Nebula	Nebula	IC-1848	08:04 – 03:32	11:48	25	Cassiopeia: Soul Nebula
HyperStar	Nebula	Nebula	NGC-1499	09:18 – 04:41	12:59	28	Perseus: California Nebula
HyperStar	Nebula	Nebula	IC-405	10:34 – 05:31	02:13	32	Auriga: Flaming Star Nebula
HyperStar	Nebula	Nebula	M-42	12:51 – 04:12	02:31	36	Composite6! Orion: Orion Complex
HyperStar	Nebula	Nebula	M-42	12:51 – 04:12	02:31	36	Orion: Orion Nebula
HyperStar	Nebula	Nebula	SH2-240	11:06 – 05:31	02:35	38	Composite2! Taurus: Simeis 147 Bubble
HyperStar	Nebula	Nebula	SH2-240	11:06 – 05:31	02:35	38	Taurus: Simeis 147 Bubble
HyperStar	Nebula	Nebula	NGC-2024, B33	12:39 – 04:36	02:38	39	Orion: Flame and Horsehead Nebula
HyperStar	Nebula	Nebula	LDN-1622	12:33 – 05:08	02:51	42	Composite2! Orion: Band Complex
HyperStar	Nebula	Nebula	LDN-1622	12:33 – 05:08	02:51	42	Orion: Band Complex
HyperStar	Nebula	Nebula	LDN-1622 R1	12:33 – 05:08	02:51	42	Orion: Band Region 1
HyperStar	Nebula	Nebula	LDN-1622 R2	12:33 – 05:08	02:51	42	Orion: Band Region 2
HyperStar	Nebula	Nebula	LDN-1622 R3	12:33 – 05:08	02:51	43	Orion: Band Region 3
HyperStar	Nebula	Nebula	IC-2162, SH2-261	12:01 – 05:31	03:04	45	Rotation Orion: Interesting Composition
HyperStar	Nebula	Nebula	IC-443	11:53 – 06:32	03:12	47	Gemini: Jellyfish Nebula
HyperStar	Nebula	Nebula	NGC-2237	12:56 - 05:31	03:27	49	Monoceros: Rosette Nebula

Prospective Imaging Objects – November 13 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Nebula	Nebula	IC-2169	12:40 – 05:31	03:27	50	Monoceros: Bright Nebula, & Dark Nebula Region
HyperStar	Nebula	Nebula	IC-2177	*01:39-05:31	04:01	53	Monoceros: Seagull Nebula
HyperStar	Nebula	Nebula					

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

HyperStar: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Broad Spectrum	Galaxies	NGC-147	06:52 – 01:20	09:30	10	Cassiopeia: Galaxy Pair NGC-147 & NGC-185
HyperStar	Broad Spectrum	Galaxy	M-31	06:52 – 01:26	09:40	12	Andromeda: The Great Andromeda Galaxy
HyperStar	Broad Spectrum	Galaxy	M-31	06:52 – 01:26	09:40	13	Rotation! Andromeda: Andromeda Galaxy
HyperStar	Broad Spectrum	Gal & GC	NGC-288, 253	*08:01-11:37	09:50	14	Sculptor: Galaxy and Globular pair
HyperStar	Broad Spectrum	Ref Neb	IC-59	06:52 – 01:37	09:54	16	Cassiopeia: Bright Nebula
HyperStar	Broad Spectrum	Galaxy	M-33	06:57 – 02:04	10:31	19	Triangulum: Triangulum Galaxy
HyperStar	Broad Spectrum	OC	NGC-869, 884	07:31 – 03:07	11:19	21	Perseus: Hand chi Persei
HyperStar	Broad Spectrum	Refl Neb	M-45	09:21 – 04:06	12:43	27	Taurus: Pleiades Open Cluster
HyperStar	Broad Spectrum	OC	C-41	10:19 – 04:28	01:23	29	Taurus: Hyades Star Cluster
HyperStar	Broad Spectrum	DN	IC-2118	*12:00-04:03	02:01	30	Eridanus: Witch Head Nebula
HyperStar	Broad Spectrum	BN	NGC-1788	12:13 – 03:53	02:03	31	Orion: Foxface Nebula

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Focal Reducer: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Nebula	Nebula	SH2-132	06:52 – 11:05	07:16	02	Cepheus: Bright Nebula
Focal Reducer	Nebula	Nebula	SH2-142	06:52 – 11:30	07:42	04	Cepheus: Wizard Nebula
Focal Reducer	Nebula	Nebula	SH2-155	06:52 – 11:34	07:54	05	Cepheus: Cave Nebula
Focal Reducer	Nebula	Nebula	SH2-157	06:52 – 11:58	08:13	06	Cassiopeia: Lobster Claw
Focal Reducer	Nebula	Nebula	NGC-7822	06:52 – 12:24	08:59	09	Cepheus: Diffuse Nebula
Focal Reducer	Nebula	Nebula	NGC-246, 255	*07:28-11:54	09:44	13	Cetus: Planetary Nebula & 2 Galaxies
Focal Reducer	Nebula	Nebula	NGC-281	06:52 – 01:38	09:50	15	Cassiopeia: Pack Man Nebula
Focal Reducer	Nebula	Nebula	IC-1795	07:41 – 03:04	11:22	22	Cassiopeia: Fish Head Nebula
Focal Reducer	Nebula	Nebula	IC-1805	07:47 – 03:12	11:29	23	Cassiopeia: Heart Nebula
Focal Reducer	Nebula	Nebula	IC-405	10:34 – 05:31	02:13	32	Auriga: Flaming Star Nebula
Focal Reducer	Nebula	Nebula	IC-410	10:41 – 05:31	02:19	33	Auriga: Tadpoles
Focal Reducer	Nebula	Nebula	NGC1055,1931	10:45 – 05:31	02:24	34	Composit2! Rotation! Auriga: Spider & Fly
Focal Reducer	Nebula	Nebula	NGC-1977	12:51 – 04:12	02:31	37	Orion: Running Man Nebula
Focal Reducer	Nebula	Nebula	M-78	12:34 – 04:52	02:43	40	Composit2! Orion: Dark Nebula Region
Focal Reducer	Nebula	Nebula	M-78	12:34 – 04:52	02:43	41	Orion: Dark Nebula Region
Focal Reducer	Nebula	Nebula	NGC-2170	01:34 – 05:31	03:03	44	Monoceros: Angel Nebula
Focal Reducer	Nebula	Nebula	SH 2-261	12:01 – 05:31	03:04	45	Orion: Lower's Nebula
Focal Reducer	Nebula	Nebula	NGC-2174	11:50 – 05:31	03:05	46	Orion: Monkey Head Nebula
Focal Reducer	Nebula	Nebula	IC-443	11:53 – 06:32	03:12	47	Gemini: Jellyfish Nebula
Focal Reducer	Nebula	Nebula	NGC-2237	12:56 – 05:31	03:27	49	Monoceros: Rosette Nebula Core
Focal Reducer	Nebula	Nebula	IC-2169	12:40 – 05:31	03:27	50	Monoceros: Blue Nebula
Focal Reducer	Nebula	Nebula	NGC-2264	12:50 – 05:31	03:37	51	Composite2! Monoceros: Xmas Tree & Cone
Focal Reducer	Nebula	Nebula	NGC-2264	12:50 – 05:31	03:37	51	Rotation! Monoceros: Xmas Tree & Cone

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Focal Reducer: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Broad Spectrum	Galaxies	NGC-7331 et. El.	06:52 – 11:11	07:33	03	Rotation! Pegasus: Stephan's Quintet & NGC 7331
Focal Reducer	Broad Spectrum	Galaxies	NGC-7619 et. El.	06:52 – 10:59	08:17	07	Pegasus: Pegasus Cluster of Galaxies
Focal Reducer	Broad Spectrum	Galaxies	NGC-147, 185	06:52 – 01:20	09:30	11	Composite 2! Cassiopeia: Galaxy Pair
Focal Reducer	Broad Spectrum	Open Cl	NGC-188	*06:52-02:29	09:44	15	Cepheus: Open Star Cluster NGC-188
Focal Reducer	Broad Spectrum	Galaxy	M-33	06:57 – 02:04	10:31	19	Rotation! Triangulum: Triangulum Galaxy
Focal Reducer	Broad Spectrum	Galaxies	M-77, NGC-1055	09:28 – 01:49	11:38	23	Cetus: Galaxy Pair
Focal Reducer	Broad Spectrum	DN/RN	NGC-1788	12:13 – 03:53	02:03	31	Orion: Foxface Nebula
Focal Reducer	Broad Spectrum	DN	LDN-1622	12:33 – 05:08	02:51	43	Composite2! Rotation Orion: Dark Nebula Region
Focal Reducer	Broad Spectrum	DN	LDN-1622	12:33 – 05:08	02:51	43	Orion: Dark Nebula Region
Focal Reducer	Broad Spectrum	OC	M-35, NGC-2158	11:42 – 05:31	03:05	46	Gemini: Open Cluster Pair
Focal Reducer	Broad Spectrum	Galaxies	UGC-3697	11:54 – 05:31	04:07	54	Camelopardalis: Integral Sign Galaxy et. El.

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Primary Focus: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	Nebula	SH2-132	06:52 – 11:05	07:16	02	Cepheus: Bright Nebula
Primary Focus	Nebula	Nebula	SH2-142	06:52 – 11:30	07:42	04	Cepheus: Wizard Nebula
Primary Focus	Nebula	Nebula	SH2-155	06:52 – 11:34	07:54	05	Cepheus: Cave Nebula
Primary Focus	Nebula	Nebula	NGC-7635	06:52 – 12:00	08:17	06	Cepheus: Bubble Nebula
Primary Focus	Nebula	Nebula	NGC-7822	06:52 – 12:24	08:59	09	Cepheus: Emission Nebula
Primary Focus	Nebula	PN	NGC-40	06:52 – 12:02	09:10	10	Cepheus: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-246	*07:28-11:54	09:44	13	Cetus: Skull Nebula
Primary Focus	Nebula	Nebula	IC-59	06:52 – 01:37	09:54	16	Cassiopeia: Reflection Nebula
Primary Focus	Nebula	Nebula	SH2-188	06:52 – 02:14	10:27	18	Cassiopeia: Firefox Nebula
Primary Focus	Nebula	PN	M-76	06:52 – 10:39	10:39	20	Perseus: Little Dumbbell Nebula
Primary Focus	Nebula	Nebula	IC-1805	07:47 – 03:12	11:29	23	Cassiopeia: Heart Nebula
Primary Focus	Nebula	Nebula	IC-1848	08:04 – 03:32	11:48	25	Cassiopeia: Soul Nebula
Primary Focus	Nebula	Nebula	NGC-1333	08:51 – 04:00	12:26	26	Perseus: Reflection Nebula
Primary Focus	Nebula	Nebula	NGC-1360	*10:36-02:23	12:30	26	Fornax: Robins Egg Nebula
Primary Focus	Nebula	Nebula	IC-348	09:05 – 04:17	12:41	26	Perseus: Reflection Nebula
Primary Focus	Nebula	Nebula	NGC-1501	09:20 – 04:47	01:03	28	Camelopardalis: Oyster Nebula
Primary Focus	Nebula	Nebula	NGC-1514	09:32 – 04:39	01:06	28	Taurus: Crystal Ball Nebula
Primary Focus	Nebula	Nebula	NGC-1535	*11:43-02:29	01:10	29	Eridanus: Cleopatra's Eye
Primary Focus	Nebula	Nebula	NGC-1555	10:05 – 04:31	01:18	29	Taurus: Hind's Variable Nebula
Primary Focus	Nebula	Nebula	NGC-1579	09:46 – 05:06	01:26	30	Perseus: Trifid of the North
Primary Focus	Nebula	Nebula	IC-405	10:34 – 05:31	02:13	32	Auriga: Flaming Star Nebula
Primary Focus	Nebula	Nebula	IC-410	10:41 – 05:31	02:19	33	Auriga: Tadpoles
Primary Focus	Nebula	PN	IC-418	*12:16-04:25	02:23	34	Lepus: Spirograph Nebula
Primary Focus	Nebula	Nebula	IC-417	10:45 – 05:34	02:24	34	Auriga: The Spider

Prospective Imaging Objects – November 13 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	Nebula	NGC-1931	10:49 – 05:31	02:27	35	Auriga: The Fly
Primary Focus	Nebula	Nebula	M-1	11:12 – 05:31	02:31	35	Taurus: Crab Nebula
Primary Focus	Nebula	Nebula	M-42	12:51 – 04:12	02:31	37	Orion: The Orion Nebula
Primary Focus	Nebula	Nebula	NGC-2024	12:39 – 04:36	02:38	39	Orion: Flame Nebula
Primary Focus	Nebula	Nebula	B-33	12:42 – 04:32	02:37	39	Orion: Horsehead Nebula
Primary Focus	Nebula	Nebula	NGC-2022	11:53 – 05:23	02:38	40	Orion: Planetary Nebula
Primary Focus	Nebula	Nebula	M-78	12:34 – 04:52	02:43	41	Orion: Bright and Dark Nebula
Primary Focus	Nebula	Nebula	NGC-2170	01:34 – 05:31	03:03	44	Monoceros: Angel Nebula
Primary Focus	Nebula	Nebula	SH 2-261	12:01 – 05:31	03:04	45	Orion: Lower's Nebula
Primary Focus	Nebula	Nebula	NGC-2174	11:50 – 05:31	03:05	46	Orion: Monkey Head Nebula
Primary Focus	Nebula	Nebula	IC-2162	12:00 – 05:31	03:09	47	Orion: Bright Nebula
Primary Focus	Nebula	Nebula	IC-443	11:53 – 06:32	03:12	48	Gemini: Jellyfish Nebula
Primary Focus	Nebula	Nebula	SH 2-249	11:55 - 05:31	03:15	48	Gemini: IC-444
Primary Focus	Nebula	PN	IC-2165	*01:11-05:26	03:18	48	Canis Major: Small Planetary Nebula
Primary Focus	Nebula	DN	NGC-2237	12:56 – 05:31	03:27	49	Monoceros: Rosette Nebula Core
Primary Focus	Nebula	BN	IC-2169	12:40 – 05:31	03:27	50	Monoceros: Bright Blue Nebula
Primary Focus	Nebula	RN	NGC-2261	12:52 – 05:31	03:35	51	Monoceros: Hubble's Variable Nebula
Primary Focus	Nebula	Nebula	NGC-2264	12:50 – 05:31	03:37	52	Monoceros: Christmas Tree Cluster
Primary Focus	Nebula	Nebula	NGC-2264 R1	12:50 – 05:31	03:37	52	Monoceros: Cone Nebula
Primary Focus	Nebula	Nebula	IC-2177	*01:39-05:31	04:01	53	Monoceros: Seagull Nebula
Primary Focus	Nebula	Nebula	NGC-2346	*01:28-05:31	04:05	54	Monoceros: Planetary Nebula
Primary Focus	Nebula	Nebula	NGC-2359	*02:07-05:31	04:14	55	Canis Major: Thor's Helmet
Primary Focus	Nebula	Nebula	NGC-2371	12:49 – 05:31	04:21	55	Gemini: Planetary Nebula
Primary Focus	Nebula	Nebula	Abell-21	01:28 – 05:31	04:25	55	Gemini: Medusa Nebula
Primary Focus	Nebula	Nebula	NGC-2392	01:09 – 05:31	04:25	56	Gemini: Eskimo Nebula
Primary Focus	Nebula	PN	M-46	*02:46-05:31	04:37	57	Puppis: Open Cluster and Planetary Nebula
Primary Focus	Nebula	Nebula	NGC-2440	*02:29-05:31	04:38	57	Puppis: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-2610	03:08 – 05:31	05:29	58	Hydra: Small Planetary Nebula

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Primary Focus: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxies	NGC-7317	06:52 – 11:11	07:33	03	Pegasus: Stephan's Quintet
Primary Focus	Broad Spectrum	Galaxies	NGC-7331	06:52 – 11:13	07:34	03	Pegasus: Galaxy Group NGC-7331
Primary Focus	Broad Spectrum	Galaxy	NGC-7479	06:52 – 10:56	08:02	05	Pegasus: Galaxy PGC-70419
Primary Focus	Broad Spectrum	Galaxies	NGC-7619 Et. El.	06:52 – 10:59	08:17	07	Pegasus: Pegasus Cluster of galaxies
Primary Focus	Broad Spectrum	OC	M-52	06:52 – 12:04	08:22	07	Cassiopeia: Open Cluster NGC-7654
Primary Focus	Broad Spectrum	OC	NGC-7789	06:52 – 12:43	08:54	08	Cassiopeia: Caroline's Rose
Primary Focus	Broad Spectrum	Galaxies	NGC 67-72 et. El.	06:52 – 12:48	09:15	10	Andromeda: Andromeda Galaxy Group
Primary Focus	Broad Spectrum	Galaxy	NGC-147	06:52 – 01:20	09:30	11	Cassiopeia: Med Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-185	06:52 – 01:26	09:36	11	Cassiopeia: Sm Elipical Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-110	06:52 – 01:24	09:37	12	Andromeda: Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-32	06:52 – 01:26	09:40	12	Andromeda: Companion to M-31
Primary Focus	Broad Spectrum	Galaxy	NGC-247	*07:11-12:11	09:44	14	Cetus: Needle's Eye Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-253	*07:45-11:43	09:44	14	Sculptor: Sculptor Galaxy
Primary Focus	Broad Spectrum	Globular	NGC-288	*08:01-11:37	09:50	15	Sculptor: Med-Large Globular
Primary Focus	Broad Spectrum	Galaxy	IC-1613	06:52 – 12:20	10:02	16	Cetus: Irregular Dwarf Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-404	06:52 – 01:47	10:06	17	Andromeda: Mirachs Ghost
Primary Focus	Broad Spectrum	OC	NGC-457	06:52 – 02:03	10:16	17	Cassiopeia: Owl Cluster
Primary Focus	Broad Spectrum	Galaxies	Arp-133	08:21 – 12:24	10:22	18	Cetus: Minkowski's Object
Primary Focus	Broad Spectrum	OC	M-103	06:52 – 02:14	10:30	18	Cassiopeia: Open Cluster
Primary Focus	Broad Spectrum	Galaxy	M-33	06:57 – 02:04	10:31	19	Triangulum: Triangulum Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-74	07:30 – 01:37	10:33	20	Pisces: Med Face on Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-772	07:44 – 02:08	10:56	20	Aries: Nautilus Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-891	07:32 – 03:06	11:19	21	Andromeda: Edge on Galaxy

Prospective Imaging Objects – November 13 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxy	NGC-925	07:46 – 03:02	11:24	21	Triangulum: Small Galaxy PGC-9332
Primary Focus	Broad Spectrum	Galaxy	NGC-1055	09:28 – 01:49	11:38	24	Cetus: Edge on Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-77	09:31 – 01:48	11:39	24	Cetus: Galaxy NGC-1068
Primary Focus	Broad Spectrum	OC	M-34	07:51 – 03:26	11:39	24	Perseus: Open Cluster NGC-1039
Primary Focus	Broad Spectrum	Galaxies	Abell-426	08:30 – 04:02	12:16	25	Perseus: Perseus Galaxy Cluster
Primary Focus	Broad Spectrum	Galaxy	IC-342	09:21 – 04:05	12:43	27	Camelopardalis: Large Face-On Galaxy
Primary Focus	Broad Spectrum	OC	M-45	09:21 – 04:06	12:43	27	Taurus: Pleiades
Primary Focus	Broad Spectrum	DN	IC-2118	*12:00-04:03	02:01	30	Eridanus: Witch Head Nebula
Primary Focus	Broad Spectrum	DN	NGC-1788	12:13 – 03:53	02:03	31	Orion: Foxface Nebula
Primary Focus	Broad Spectrum	GC	M-79	*12:16-04:25	02:20	33	Lepus: Med Globular
Primary Focus	Broad Spectrum	OC	M-38	10:44 – 05:31	02:25	35	Auriga: Starfish Cluster
Primary Focus	Broad Spectrum	OC	M-36	10:54 – 05:31	02:32	37	Auriga: Pinwheel Cluster
Primary Focus	Broad Spectrum	Galaxy	NGC-1961	11:22 – 05:31	02:38	40	Camelopardalis: Galaxy Group
Primary Focus	Broad Spectrum	OC	M-37	11:12 – 05:31	02:48	41	Auriga: Salt and Pepper Cluster
Primary Focus	Broad Spectrum	DN	LDN-1622	12:33 – 05:08	02:51	44	Orion: Dark Nebula LDN1622
Primary Focus	Broad Spectrum	OC	M-41	*01:56-05:26	03:42	52	Canis Major: NGC-2287
Primary Focus	Broad Spectrum	OC	M-50	*01:28-05:31	03:59	53	Monoceros: Open Cluster NGC-2323
Primary Focus	Broad Spectrum	Galaxies	UGC-3697	11:54 – 05:31	04:07	54	Camelopardalis: Integral Sign Galaxy Et. El.
Primary Focus	Broad Spectrum	OC	M-47	*02:35-05:31	04:32	56	Puppis: Open Cluster NGC-2422
Primary Focus	Broad Spectrum	Galaxy	NGC-2403	01:00 – 05:31	04:32	56	Camelopardalis: Med Face on Galaxy
Primary Focus	Broad Spectrum	GC	NGC-2419	12:50 – 05:31	04:34	57	Lynx: Intergalactic Wanderer
Primary Focus	Broad Spectrum	OC	M-93	*02:29-05:31	04:40	58	Puppis: Butterfly Cluster
Primary Focus	Broad Spectrum	OC	M-48	02:57 – 05:31	05:09	58	Hydra: Open Cluster NGC-2548

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Primary Prospects

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HS2a	HyperStar	Broadband	Nebula	SH 2-132	06:52 – 11:05	07:16	02	Cepheus: Bright Nebula
	HyperStar	Broadband	Galaxies	M-31, M-32	06:52 – 01:26	09:40	13	Rotation Andromeda: Andromeda Galaxy
	HyperStar	Nebula	Nebula	IC-59	06:52 – 01:37	09:54	16	Cassiopeia: IC-59, IC-63
	HyperStar	Broadband	Galaxy	M-33	06:57 – 02:04	10:31	19	Triangulum: Triangulum Galaxy
HS1a	HyperStar	Nebula	Nebula	IC-1848	07:47 – 03:12	11:29	22	Comp4! Cassiopeia: Heart & Soul Nebulas
	HyperStar	Nebula	Nebula	NGC-1788	12:13 – 03:53	02:03	31	Orion: Foxface Nebula
	HyperStar	Nebula	Nebula	M-42	12:51 – 04:12	02:31	36	Orion: The Orion Nebula
HS2b	HyperStar	Nebula	Nebula	SH2-240	11:06 – 05:31	02:35	38	Rot-Comp2 Taurus: Simeis 147
	HyperStar	Nebula	Nebula	LDN-1622	12:33 – 05:08	02:51	42	Comp2! LDN 1622 Complex
	HyperStar	Nebula	Nebula	IC-2162, SH2-261	12:01 – 05:31	03:04	45	Rotation Orion: Nebula Pair
HS1b	HyperStar	Nebula	Nebula	IC-2169	12:40 – 05:31	03:27	50	Monoceros: IC-2169 Nebula
FR1a	Focal Reducer	Nebula	Nebula	SH2-132	06:52 – 11:05	07:16	02	Cepheus: Bright Nebula
	Focal Reducer	Broadband	Galaxies	NGC-7331*	06:52 - 11:11	07:33	03	Rot Pegasus: Stephan's Quin & NGC7331
	Focal Reducer	Nebula	Nebula	SH 2-142	06:52 – 11:30	07:42	04	Cepheus: Wizard Nebula
FR2a	Focal Reducer	Nebula	Nebula	SH 2-155	06:52 – 11:34	07:54	05	Cepheus: Cave Nebula
	Focal Reducer	Broadband	Galaxies	NGC-7619	06:52 – 10:59	08:17	07	Pegasus: Pegasus Galaxy Cluster
	Focal Reducer	Nebula	Nebula	NGC-281	06:52 – 01:38	09:50	15	Cassiopeia: Packman Nebula
	Focal Reducer	Broadband	Galaxy	M-33	06:57 – 02:04	10:31	19	Rotation Triangulum: Triangulum Galaxy
	Focal Reducer	Nebula	Nebula	NGC-1788	12:13 – 03:53	02:03	31	Orion: Foxface Nebula
FR2b	Focal Reducer	Nebula	Nebula	NGC-1977	12:51 – 04:12	02:31	37	Orion: Running Man Nebula
	Focal Reducer	Nebula	Nebula	M-78	12:34 – 04:52	02:43	40	Comp2! Orion: Dark & Bright Nebula
	Focal Reducer	Nebula	Nebula	LDN-1622	12:33 – 05:08	02:51	43	Rot-Comp2 Orion: Dark Nebula
	Focal Reducer	Nebula	Nebula	SH 2-61	12:01 – 05:31	03:04	45	Orion: Lower's Nebula

Prospective Imaging Objects – November 13 2023

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
FR1b	Focal Reducer	Nebula	Nebula	NGC-2174	11:50 – 05:31	03:05	46	Orion: Monkey Head Nebula
	Focal Reducer	Nebula	Nebula	IC-443	11:53 – 06:32	03:12	47	Gemini: Jellyfish Nebula
	Focal Reducer	Nebula	Nebula	NGC-2237	12:56 – 05:31	03:27	49	Monoceros: Rosette Nebula Core
	Focal Reducer	Nebula	Nebula	IC-2169	12:40 – 05:31	03:27	50	Monoceros: Blue Nebula
	Focal Reducer	Nebula	Nebula	NGC-2264	12:50 -05:31	03:37	51	Comp2 Monoceros: Xmas Tree & Cone
PF2a	Primary Focus	Broadband	Galaxies	NGC-7317	06:52 – 11:11	07:33	03	Pegasus: Stephan's Quintet
PF1a	Primary Focus	Nebula	Nebula	SH 2-155	06:52 – 11:34	07:54	05	Cepheus: Cave Nebula
	Primary Focus	Broadband	Galaxies	NGC-7619	06:52 – 10:59	08:17	07	Pegasus: Pegasus Galaxy Cluster
	Primary Focus	Broadband	Galaxies	NGC 67-72	06:52 – 12:48	09:15	10	Andromeda: Andromeda Galaxy Group
PN1a	Primary Focus	Nebula	PN	NGC-40	06:52 – 12:02	09:10	10	Cepheus: Bow-Tie Nebula (Sm/Med)
	Primary Focus	Nebula	PN	NGC-246	*07:28-11:54	09:44	13	Cetus: Skull Nebula (Large)
	Primary Focus	Broadband	GC	NGC-288	*08:01-11:37	09:50	15	Sculptor: Med/Large Globular
	Primary Focus	Broadband	Galaxy	IC-1613	06:52 – 12:20	10:02	16	Cetus: Irregular Dwarf Galaxy
	Primary Focus	Broadband	Galaxies	Arp-133	08:21 – 12:24	10:22	18	Cetus: Minkowski's Object
	Primary Focus	Broadband	Galaxy	NGC-772	07:44 – 02:08	10:56	20	Aries: Nautilus Galaxy
	Primary Focus	Broadband	Galaxies	Abell-426	08:30 – 04:02	12:16	25	Perseus: Perseus Galaxy Cluster
PN1b	Primary Focus	Nebula	PN	NGC-1360	*10:36-02:23	12:30	26	Fornax: Robins Egg Nebula
	Primary Focus	Nebula	Nebula	IC-348	09:05 – 04:17	12:41	26	Perseus: Bright Nebula
PF2b	Primary Focus	Broadband	Galaxy	IC-342	09:21 – 04:05	12:43	27	Camelopardalis: Large Face On galaxy
	Primary Focus	Nebula	PN	NGC-1555	10:05 – 04:31	01:18	29	Taurus: Hind's Variable Nebula (Sm)
PF1b	Primary Focus	Nebula	Nebula	NGC-1579	09:46 – 05:06	01:26	30	Perseus: Trifid of the North
	Primary Focus	Nebula	Nebula	IC-405	10:34 – 05:31	02:13	32	Auriga: Flaming Star Nebula
	Primary Focus	Broadband	GC	M-79	*12:16-04:25	02:20	33	Lepus: Med Globular NGC-1904
	Primary Focus	Nebula	PN	IC-418	*12:16-04:25	02:23	34	Lepus: Spirograph Nebula (Sm)
	Primary Focus	Nebula	Nebula	NGC-1931	10:49 – 05:31	02:27	35	Auriga: The Fly
PN1c	Primary Focus	Nebula	PN	NGC-2261	12:52 – 05:31	03:35	51	Monoceros: Hubble's Variable Nebula
	Primary Focus	Nebula	Nebula	NGC-2265	12:50 – 05:31	03:37	52	Monoceros: Cone Nebula-1

Prospective Imaging Objects – November 13 2023

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
	Primary Focus	Nebula	Nebula	IC-2177	*01:39-05:31	04:01	53	Monoceros: Seagull Nebula head
	Primary Focus	Nebula	PN	NGC-2440	*02:29-05:31	04:38	57	Puppis: Bow-tie Nebula
	Primary Focus	Nebula	PN	NGC-2610	03:08 – 05:31	05:29	58	Hydra: Sm/Med Planetary

Prospective Imaging Objects – November 13 2023

Imaging Summary November 13, 2023

Astronomical Dusk = 06:52 Astronomical Dawn = 05:31

Imaging Plans

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Imaging Schedule
HS1a	HyperStar	Nebula	Nebula	IC-1848,1805	07:47 – 03:12	11:29	22	C1-C4 | 07:30 – 03:30 (Composite4!)
HS1b	HyperStar	Nebula	Nebula	IC-2169	12:40 – 05:31	03:27	50	3:30 – 5:30
HS2a	HyperStar	Nebula	Nebula	SH 2-132	06:52 – 11:05	07:16	02	07:00 – 11:00
HS2b	HyperStar	Nebula	Nebula	SH 2-240	11:06 – 05:31	02:35	38	11:00 – 05:30(Rot-Comp2)
FR1a	Focal Reducer	Nebula	Nebula	SH 2-132	06:52 – 11:05	07:16	02	07:00 – 11:30
FR1b	Focal Reducer	Nebula	Nebula	NGC-2174	11:50 – 05:31	03:05	46	11:30 – 05:31
FR2a	Focal Reducer	Nebula	Nebula	SH 2-155	06:52 – 11:34	07:54	05	07:00 – 11:30
FR2b	Focal Reducer	Nebula	Nebula	NGC-1977	12:51 – 04:12	02:31	37	01:00 – 04:00
PN1a	Primary Focus	Nebula	PN	NGC-40	06:52 – 12:02	09:10	10	07:00 – 11:00
PN1b	Primary Focus	Nebula	PN	NGC-1360	*10:36-02:23	12:30	26	11:00 – 02:00
PN1c	Primary Focus	Nebula	PN	NGC-2261	12:52 – 05:31	03:35	51	02:00 – 05:30
PF1a	Primary Focus	Nebula	Nebula	SH 2-155	06:52 – 11:33	07:54	05	07:00 – 11:00
PF1b	Primary Focus	Nebula	Nebula	NGC-1579	09:46 – 05:06	01:26	30	11:30 – 5:00
PF2a	Primary Focus	Broad Spectrum	Galaxies	NGC-7317	06:52 – 11:11	07:33	03	07:00 – 11:00
PF2b	Primary Focus	Broad Spectrum	Galaxy	IC-342	09:21 – 04:05	12:43	27	11:00 – 04:00