

# 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° x 4.58°	2.0	2.59"/pix (Undersampled)

## How to use this document


**Sculptor Galaxy (NGC 253)**  
**Config: C11 | LF Corr | 128c**

Type: **Galaxy**  
 Peak: **Oct 02**  
 Constellation: **Sculptor**  
 Coordinates:  
**00hr 47' 33"**  
**-25° 17' 15"**

Close Star: SAO-147420  
 Catalog Objects: [NGC 253](#)

Imaging Window: \*10:44 – 02:44  
 Transit: **12:48**

Primary Focus



Sculptor Galaxy (NGC 253)  
Constellation: Sculptor

02

03

04

01

05

06



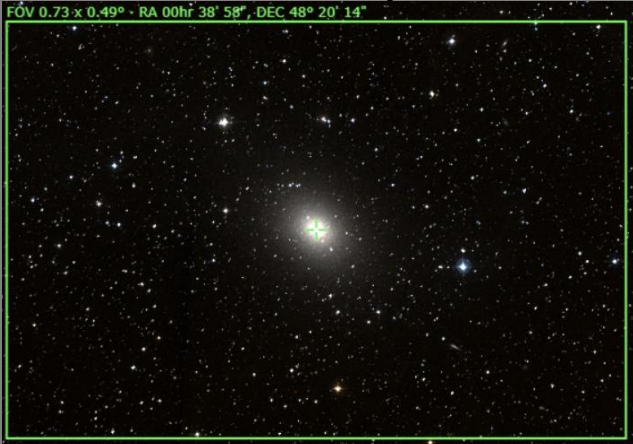
07

- 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

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


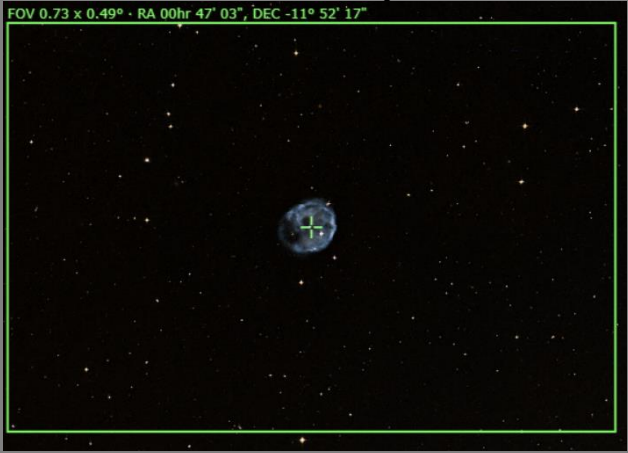

# Prospective Imaging Objects – December

<p><b>NGC-147 &amp; NGC-185</b>            Config: C11-HD   FR   ZWO6200MC</p> <p>Type: <b>Galaxy Pair</b></p> <p>Constellation: <b>Cassiopeia</b>            Coordinates:            Frame 01            RA: 00hr 38' 33" DEC: 48° 25' 44"            Frame 02            RA: 00hr 33' 21" DEC: 48° 25' 44"</p> <p>Close Star: SAO-21609 (Shedar)            Catalog Objects: <a href="#">NGC-147</a>            Imaging Window: 06:50 – 11:10            Transit: 07:18   75°</p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer Composite!</b></p>  <p style="font-size: small;">Dwarf Galaxies NGC-185, NGC-147            Constellation: Cassiopeia            RA = 00h 33m 21s DEC = 48° 25' 44" Size = 40" x 33.5 arcmin (Pixel scale = 0.579 arcsec/pixel)            Equipment Info: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Exposure Info: 2024.09.27            Location: Massachusetts, Great Falls, Tolland, CT            Config: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Equipment Info: 2024.09.27</p>
<p><b>NGC-147</b>            Config:  ZWO6200MC </p> <p>Type: <b>Galaxy</b>            Peak:            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>00h 33' 07.245"</b>  <b>48° 30' 18.030"</b></p> <p>Close Star: SAO-37375            Catalog Objects: <a href="#">NGC-147</a></p> <p>Imaging Window: 06:50 – 11:10            Transit: 07:18   75°</p>	<p style="text-align: center;"><b>Primary Focus</b></p>  <p style="font-size: small;">Dwarf Galaxy NGC-147            Constellation: Cassiopeia            RA = 00h 33m 07.245s DEC = 48° 30' 18.030" Size = 40" x 33.5 arcmin (Pixel scale = 0.579 arcsec/pixel)            Equipment Info: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Exposure Info: 2024.09.27            Location: Massachusetts, Great Falls, Tolland, CT            Config: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Equipment Info: 2024.09.27</p>
<p><b>NGC-185</b>            Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Dwarf Spheroidal Galaxy</b></p> <p>Constellation: <b>Cassiopeia</b>            Coordinates:  <b>00h 38' 58"</b>  <b>48° 20' 14"</b></p> <p>Close Star: SAO-21609 (Shedar)            Catalog Objects: <a href="#">NGC-185</a>            Imaging Window: 06:50 – 11:16            Transit: 07:24   75°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">FOV 0.73 x 0.49° - RA 00hr 38' 58" - DEC 48° 20' 14"            Dwarf Galaxy NGC-185            Constellation: Cassiopeia            RA = 00h 38m 58s DEC = 48° 20' 14" Size = 40" x 33.5 arcmin (Pixel scale = 0.579 arcsec/pixel)            Equipment Info: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Exposure Info: 2024.09.27            Location: Massachusetts, Great Falls, Tolland, CT            Config: C11   F1.4 Corrector   Rader Steglove Filter   QHY 128C            Equipment Info: 2024.09.27</p>



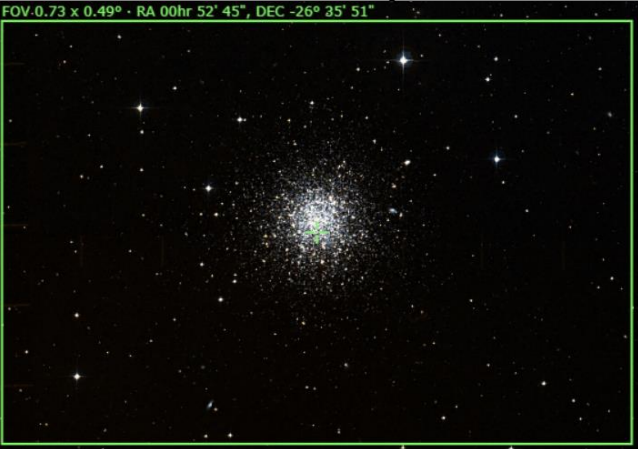
# Prospective Imaging Objects – December

<p><b>M-110</b> Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Elliptical Galaxy</b></p> <p>Constellation: <b>Andromeda</b> Coordinates: <b>00h 40' 22"</b> <b>41° 41' 07"</b></p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: <a href="#">M-110</a> Imaging Window: <b>06:50 – 11:14</b> Transit: <b>07:25   82°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">M-110 (NGC 205) Constellation: Andromeda RA = 00h 40m 22s DEC = +41° 41' 07" (Star = 41.2 x 27.5 arcsec; Orientation: 0 Mag E of N; Pixel scale = 0.46 arcsec/pixel; 11.573um)</p> <p style="font-size: x-small; text-align: right;">Astronomical Society of the Pacific (ASP) - 2024-11-01 Copyright © 2024 ASP. All rights reserved. (M-110) Equipment: C-11 HD, ZWO6200MC, ZWO CCD, ZWO CCD, ZWO CCD, ZWO CCD</p>
<p><b>M-32</b> Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Elliptical Galaxy</b></p> <p>Constellation: <b>Andromeda</b> Coordinates: <b>00h 42' 42"</b> <b>40° 51' 57"</b></p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: <a href="#">M-32</a> Imaging Window: <b>06:50 – 11:16</b> Transit: <b>07:27   83°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">The Andromeda Galaxy (M-31, M-32, NGC 224) Constellation: Andromeda RA = 00h 42m 42s DEC = +40° 51' 57" (Star = 42.2 x 27.5 arcsec; Orientation: 0 Mag E of N; Pixel scale = 0.46 arcsec/pixel; 11.573um)</p> <p style="font-size: x-small; text-align: right;">Astronomical Society of the Pacific (ASP) - 2024-11-01 Copyright © 2024 ASP. All rights reserved. (M-32) Equipment: C-11 HD, ZWO6200MC, ZWO CCD, ZWO CCD, ZWO CCD, ZWO CCD</p>
<p><b>M-31, M-32</b> Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Andromeda Galaxy</b></p> <p>Constellation: <b>Andromeda</b> Coordinates: <b>00h 42' 44"</b> <b>41° 16' 08"</b> Angle: <b>133° East</b></p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: <a href="#">M-31</a>, M-32 Imaging Window: <b>06:50 – 11:16</b> Transit: <b>07:27   82°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">The Andromeda Galaxy (M-31, M-32, NGC 224) Constellation: Andromeda RA = 00h 42m 44s DEC = +41° 16' 08" (Star = 42.2 x 27.5 arcsec; Orientation: 0 Mag E of N; Pixel scale = 0.46 arcsec/pixel; 11.573um)</p> <p style="font-size: x-small; text-align: right;">Astronomical Society of the Pacific (ASP) - 2024-11-01 Copyright © 2024 ASP. All rights reserved. (M-31) Equipment: C-11 HD, HyperStar v4, ZWO6200MC, ZWO CCD, ZWO CCD, ZWO CCD, ZWO CCD</p>

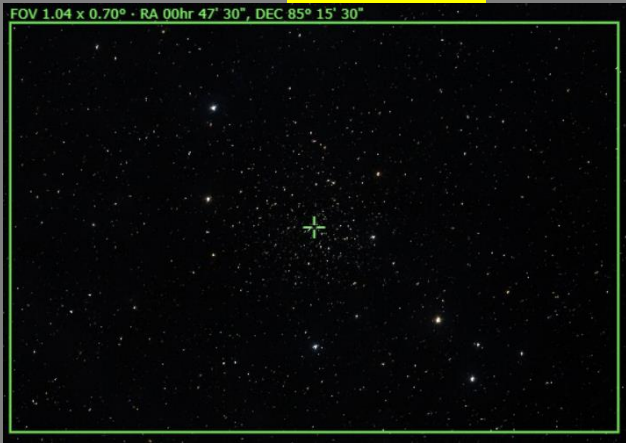


# Prospective Imaging Objects – December

<p><b>NGC246, NGC255, PGC 2689</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: Planetary Nebula, 2 Galaxies</p> <p>Constellation: Cetus            Coordinates:  <b>00h 47' 00"</b>  <b>-11° 40' 40"</b></p> <p>Close Star: SAO-147420 (Diphda)            Catalog Objects: <a href="#">NGC-246</a>            Imaging Window: *06:50 – 10:22            Transit: 07:32   45°</p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p>  <p style="font-size: small;">Skull Nebula (NGC-246) and Galaxy NGC-255            Constellation: Cetus the Whale            RA: 00h 47m 00s DEC: -11deg 40' 40" Size: 51.7 x 34.5 arcmin Orientation: 39Mag E of N   Pixel scale: 0.579 arcsec/pixel   FL: 1900mm            James Volder   Date: 2020-09-26   Location: Chandler, AZ            Config: C11-HD   Focal Reducer   Filter: Baader SkyLighter   Camera: QHY 238C            Exposure Info: 300frames   Gain: 1200   Offset: 100</p>
<p><b>Skull Nebula (NGC-246)</b>            Config: C11-HD   ZWO6200MC</p> <p>Type: Planetary Nebula</p> <p>Constellation: Cetus            Coordinates:  <b>00h 47' 03"</b>  <b>-11° 52' 17"</b></p> <p>Close Star: SAO-147420 (Diphda)            Catalog Objects: <a href="#">NGC-246</a>            Imaging Window: *06:50 – 10:22            Transit: 07:32   45°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">FOV 0.73 x 0.49° - RA 00hr 47' 03", DEC -11° 52' 17"            James Volder   Date: 2020-09-26   Location: Chandler, AZ            Config: C11-HD   Primary Focus   Filter: Baader SkyLighter   Camera: QHY 238C            Exposure Info: 300frames   Gain: 1200   Offset: 100</p>
<p><b>Needle's Eye Galaxy (NGC 247)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: Galaxy            Peak:            Constellation: Cetus            Coordinates:  <b>00hr 47' 12"</b>  <b>-20° 44' 38"</b></p> <p>Close Star: SAO-147420            Catalog Objects: <a href="#">NGC 247</a></p> <p>Imaging Window: *06:50 – 10:06            Transit: 07:32   36°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Needle's Eye Galaxy (NGC-247)            Constellation: Cetus            RA: 00h 47m 12s DEC: -20deg 44' 38" Size: 41.2 x 27.3 arcmin Orientation: 63Mag E of N   Pixel scale: 0.448 arcsec/pixel   FL: 2000mm            James Volder   Date: 2020-09-26   Location: Chandler, AZ            Config: C11-HD   Primary Focus   Filter: Baader SkyLighter   Camera: QHY 238C            Exposure Info: 300frames   Gain: 1200   Offset: 100</p>

# Prospective Imaging Objects – December

<p><b>NGC-288, NGC-253</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Globular and Galaxy</b></p> <p>Constellation: <b>Sculptor</b>            Coordinates:  <b>00h 50' 03"</b>  <b>-25° 54' 37"</b></p> <p>Close Star: SAO-147420 (Diphda)            Catalog Objects: <a href="#">NGC-288</a>, <a href="#">NGC-253</a>            Imaging Window: *06:50 – 09:28            Transit: 07:37   31°</p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Sculptor galaxy (NGC-253) and Globular Cluster (NGC-288)  <small>Constellation: Sculptor            RA = 00h 50m 03.7s, DEC = -25deg 54' 37.0" Size = 3.14 x 2.89 deg   Orientation: 86deg 8.47N   Pixel scale = 2.28 arcsec/pixel   FL=500mm</small></p> <p style="font-size: x-small; text-align: right;">James Yoder (Duxco) 2024.12.14   Location: Mountain View, AZ            Config: C-11HD   HyperStar V4   Bruder Skyglow   600x126x   Exposure Info: 21 (Holo) / 5min   Gain: 3200   Offset: 180</p>
<p><b>Sculptor Galaxy (NGC-253)</b>            Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Spiral Galaxy</b></p> <p>Constellation: <b>Sculptor</b>            Coordinates:  <b>00h 47' 33"</b>  <b>-25° 17' 15"</b></p> <p>Close Star: SAO-147420 (Diphda)            Catalog Objects: <a href="#">NGC-253</a>            Imaging Window: *06:50 – 09:28            Transit: 07:32   31°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Sculptor Galaxy (NGC 253)  <small>Constellation: Sculptor</small></p> <p style="font-size: x-small; text-align: right;">James Yoder 2024.08.21            Location: Chandler, AZ            Config: C11   Stationer L.F. Corrector   Bruder Moon Filter   600x126x   Exposure Info: (Holo) / 5min   Gain: 3200   Offset: 180</p>
<p><b>NGC-288</b>            Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Globular Cluster</b></p> <p>Constellation: <b>Sculptor</b>            Coordinates:  <b>00h 52' 45"</b>  <b>-26° 35' 51"</b></p> <p>Close Star: SAO-147420 (Diphda)            Catalog Objects: <a href="#">NGC-288</a>            Imaging Window: *06:50 – 09:20            Transit: 07:37   31°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: x-small; color: green;">FOV: 0.73 x 0.49° - RA 00hr 52' 45", DEC -26° 35' 51"</p>

# Prospective Imaging Objects – December




<p><b>NGC-188</b>            Config: C11-HD   FR   ZWO6200MC</p> <p>Type: Open Cluster</p> <p>Constellation: Cepheus            Coordinates:  <b>00h 47' 30"</b>  <b>85° 15' 30"</b></p> <p>Close Star: SAO-308 (Polaris)            Catalog Objects: <a href="#">NGC-188</a>            Imaging Window: *06:50 – 11:46            Transit: 07:32   38°</p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p> 
<p><b>NGC-281</b>            Config: C11-HD   FR   ZWO6200MC</p> <p>Type: Diffuse Nebula</p> <p>Constellation: Cassiopeia            Coordinates:  <b>00h 53' 00"</b>  <b>56° 37' 00"</b></p> <p>Close Star: SAO-11482 (Navi)            Catalog Objects: <a href="#">NGC-281</a>            Imaging Window: 06:50 – 11:28            Transit: 07:37   67°</p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p>  <p style="font-size: small; text-align: center;">Pinwheel Nebula (NGC-281)  <small>Copyright © 2024 by [unreadable] All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the publisher.</small></p>
<p><b>Gamma Cassiopeiae Nebula (SH2-185)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: Bright Nebula</p> <p>Constellation: Cassiopeia            Coordinates:  <b>01h 03' 11"</b>  <b>60° 42' 24"</b></p> <p>Close Star: SAO-11482 (Navi)            Catalog Objects: <a href="#">SH2-185</a>            Imaging Window: 06:50 – 11:30            Transit: 07:45   62°</p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small; text-align: center;">Gamma Cassiopeiae Nebula (SH2-185, I18N-620, IC-59 &amp; IC-163)  <small>Copyright © 2024 by [unreadable] All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the publisher.</small></p>

# Prospective Imaging Objects – December



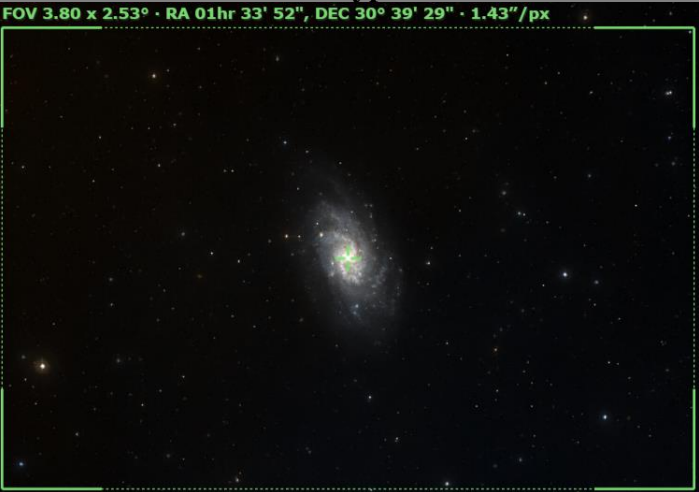
<p><b>Gamma Cassiopeiae Nebula</b> (SH2-185) Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Bright Nebula</b></p> <p>Constellation: <b>Cassiopeia</b> Coordinates: <b>00h 58' 48"</b> <b>61° 04' 02"</b></p> <p>Close Star: SAO-11482 (Navi) Catalog Objects: <a href="#">SH2-185</a> Imaging Window: <b>06:50 – 11:30</b> Transit: <b>07:45   62°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>
<p><b>IC-1613</b> Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Irregular Dwarf Galaxy</b></p> <p>Constellation: <b>Cetus</b> Coordinates: <b>01h 04' 48"</b> <b>02° 07' 07"</b></p> <p>Close Star: SAO-75151 (Hamal) Catalog Objects: <a href="#">IC-1613</a> Imaging Window: <b>06:50 – 10:10</b> Transit: <b>07:49   59°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>
<p><b>Mirach's Ghost (NGC-404)</b> Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Elliptical Galaxy</b></p> <p>Constellation: <b>Andromeda</b> Coordinates: <b>01h 09' 36"</b> <b>35° 40' 58"</b></p> <p>Close Star: SAO-544471 (Mirach) Catalog Objects: <a href="#">NGC-404</a> Imaging Window: <b>06:50 – 11:37</b> Transit: <b>07:54   88°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>



# Prospective Imaging Objects – December

<p><b>NGC-457 &amp; Dolphin Nebula</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Open Cluster &amp; Nebula</b></p> <p>Constellation: <b>Cassiopeia</b>            Coordinates:  <b>01° 23' 38"</b>  <b>58° 12' 54"</b></p> <p>Close Star: <b>SAO-22268 (Ruchbah)</b>            Catalog Objects: <a href="#">NGC-457</a>            Imaging Window: <b>06:50 – 11:54</b>            Transit: <b>08:04   65°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Firefox Nebula (SH-2-188), Owl Cluster(NGC-457), NGC-436  <small>Constellation: Cassiopeia            RA: 01h 23m 37.93s, DEC: 58° 12' 54.11" (Observation: 90p, 5.0"/s, Pixel scale: 2.21 arc/pixel, F1.5 filter)</small></p>
<p><b>Owl Cluster (NGC-457)</b>            Config: C11-HD   ZWO6200MC</p> <p>Type: <b>Open Cluster &amp; Nebula</b></p> <p>Constellation: <b>Cassiopeia</b>            Coordinates:  <b>01h 23' 38"</b>  <b>58° 12' 54"</b></p> <p>Close Star: <b>SAO-22268 (Ruchbah)</b>            Catalog Objects: <a href="#">NGC-457</a>            Imaging Window: <b>06:50 – 11:54</b>            Transit: <b>08:04   65°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> <p style="font-size: small; color: green;">FOV 0.73 x 0.49° - RA 01hr 19' 33", DEC 58° 17' 42"</p> 
<p><b>Minkowski's Object (Arp-133)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Galaxy Cluster</b>            Constellation: <b>Cetus</b>            Coordinates:  <b>01h 25' 27"</b>  <b>-01° 29' 03"</b></p> <p>Close Star: <b>SAO-75151 (Hamal)</b>            Catalog Objects: <a href="#">ARP-133</a>            Imaging Window: <b>06:50 – 10:14</b>            Transit: <b>08:10   55°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> <p style="font-size: small; color: green;">FOV 0.73 x 0.49° - RA 01hr 25' 27", DEC -01° 29' -3"</p> 

# Prospective Imaging Objects – December

<p><b>Firefox Nebula (Sh 2-188)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>01h 31' 37"</b>  <b>58° 21' 22"</b></p> <p>Close Star: <b>SAO-22268 (Ruchbah)</b>            Catalog Objects: <a href="#">Sh 2-188</a></p> <p>Imaging Window: <b>06:50 – 12:04</b>            Transit: <b>08:15   65°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Sh 2-188 (Sh 2-188)            Copyright © 2016 James Yoder            This image is a work of the author and is provided under a Creative Commons Attribution-NonCommercial-ShareAlike license.</p>
<p><b>M-103 (NGC-581)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b>            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>01h 33' 31"</b>  <b>60° 39' 44"</b></p> <p>Close Star: <b>ISO-22268 (Ruchbah)</b>            Catalog Objects: <a href="#">M-103</a>/NGC-581</p> <p>Imaging Window: <b>06:50 – 12:04</b>            Transit: <b>08:18   63°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">M-103            Open Cluster in Cassiopeia            James Yoder            2016.09.10</p>
<p><b>Triangulum Galaxy (M-33)</b>            Config: C11   HS   ZWO6200MC</p> <p>Type: <b>Galaxy</b>            Constellation: <b>Triangulum</b>            Coordinates:  <b>01h 33' 52"</b>  <b>30° 39' 29"</b></p> <p>Close Star: <b>SAO-74996</b>            Catalog Objects: <a href="#">M33</a>, NGC598</p> <p>Imaging Window: <b>06:50 – 11:54</b>            Transit: <b>08:18   87°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> <p style="font-size: x-small; color: green;">FOV 3.80 x 2.53° · RA 01hr 33' 52", DEC 30° 39' 29" · 1.43"/px</p> 

# 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



Triangulum Galaxy (M-33)  
Constellation: Triangulum  
Location: Messier 33 (NGC 604), AZ  
Config: |C11 HD|Focal Reducer|ZWO6200MC|  
Exposure Info: 1 x 300s @ 15.0 ISO (Total: 300s) | Filter: Clear | Gain: 100 | Offset: 0

## 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



Spiral Galaxy M-74 (NGC-628)  
Constellation: Pisces  
Location: Messier 74 (NGC 628), AZ  
Config: |C11 HD|Primary Focus|ZWO6200MC|  
Exposure Info: 2000s @ 15.0 ISO (Total: 2000s) | Filter: Clear | Gain: 100 | Offset: 0

## 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



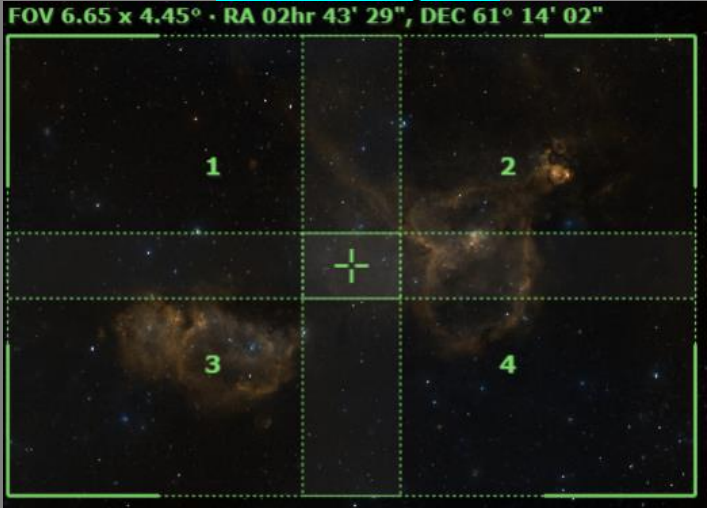


Little Dumbbell Nebula (M-76, NGC-650)  
Constellation: Perseus  
Location: Messier 76 (NGC 650), AZ  
Config: |C11 HD|Bladder|ZWO6200MC|  
Exposure Info: 4000s @ 15.0 ISO (Total: 4000s) | Filter: Clear | Gain: 100 | Offset: 0



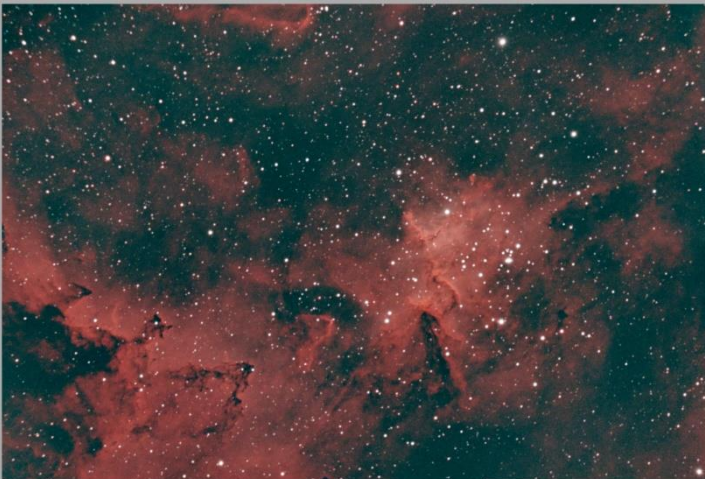
# Prospective Imaging Objects – December

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

# Prospective Imaging Objects – December

<p><b>NGC-925</b> (PGC 9332)            Config:  C11-HD ZWO6200MC </p> <p>Type: <b>Galaxy</b>            Constellation: <b>Triangulum</b>            Coordinates:  <b>02h 27' 17"</b>  <b>33° 34' 44"</b></p> <p>Close Star: <b>SAO-55306</b> (Beta Trianguli)            Catalog Objects: <a href="#">NGC925/PGC9332</a></p> <p>Imaging Window: <b>06:50 – 12:52</b>            Transit: <b>09:12   90°</b></p>	<p>Primary Focus</p>  <p>NGC-925</p>
<p><b>Fish Head Nebula</b> (IC-1795)            Config:  C11-HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Constellation: <b>Cassiopeia</b></p> <p>Coordinates:  <b>02h 27' 03"</b>  <b>62° 02' 31"</b></p> <p>Close Star: <b>SAO-38787</b> (Mirfak)            Catalog Objects: <a href="#">IC-1795</a></p> <p>Imaging Window: <b>06:50 – 12:54</b>            Transit: <b>09:10   87°</b></p>	<p>CH11-HD <b>Focal Reducer</b></p>  <p>Fish Head Nebula (IC-1795)</p>
<p><b>Heart and Soul Nebulas</b>            Config: C11   HS   ZWO6200MC</p> <p>Type: <b>Diffuse Nebula</b></p> <p>Constellation: <b>Cassiopeia</b>            Coordinates (RA, DEC):            Pane 1: <b>02hr 55' 41"</b>, <b>62° 09' 11"</b>            Pane 2, <b>02hr 31' 16"</b>, <b>62° 09' 11"</b>            Pane 3, <b>02hr 54' 58"</b>, <b>60° 15' 00"</b>            Pane 4, <b>02hr 31' 59"</b>, <b>60° 15' 00"</b></p> <p>Close Star: <b>SAO-38787</b> (Mirfak)            Catalog Objects: <a href="#">IC-1848</a></p> <p>Imaging Window: <b>06:50 – 01:02</b>            Transit: <b>09:17   62°</b></p>	<p>C-11 HD: HyperStar v4  <b>SUPER-4 Composite!</b></p>  <p>FOV 6.65 x 4.45° · RA 02hr 43' 29", DEC 61° 14' 02"</p>

# Prospective Imaging Objects – December

<p><b>Heart Nebula (IC 1805)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Diffuse Nebula</b>            Peak: <b>October 31</b>            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>02hr 31' 16"</b>  <b>61° 21' 36"</b></p> <p>Close Star: SAO-12031            Catalog Objects: <a href="#">IC 1805</a></p> <p>Imaging Window: <b>06:50 – 01:02</b>            Transit: <b>09:17   62°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Heart Nebula (IC 1805)            Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">James Yoder 2018.09.20            Location: Chandler, AZ            Config: C11   HyperStar   Astronomik CLS-CSD   QHY128c            Exposure Info: 250ms/Star (Gain: 3200)   Offset: 180</p>
<p><b>Heart Nebula (IC 1805)</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>02hr 26' 36"</b>  <b>62° 06' 53"</b></p> <p>Close Star: SAO-12031            Catalog Objects: <a href="#">IC 1805</a></p> <p>Imaging Window: <b>06:50 – 01:02</b>            Transit: <b>09:17   62°</b></p>	<p style="text-align: center;"><b>CH11-HD Focal Reducer</b></p>  <p style="font-size: small;">Heart Nebula core (IC-1805)            Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">James Yoder 2019.11.02            Location: Chandler, AZ            Config: C11   HD   Focal Reducer   Astronomik CLS-CSD   QHY128c            Exposure Info: 200ms/Star (Gain: 3200)   Offset: 180</p>
<p><b>Heart Nebula (IC-1805)</b>            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak: <b>October 31</b>            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>02hr 32' 42"</b>  <b>61° 27' 00"</b></p> <p>Close Star: SAO-12031            Catalog Objects: <a href="#">IC 1805</a></p> <p>Imaging Window: <b>06:50 – 01:02</b>            Transit: <b>09:17   62°</b></p>	<p style="text-align: center;"><b>Primary Focus</b></p>  <p style="font-size: small;">Heart Nebula Core (IC-1805)            Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">James Yoder 2018.09.14            Location: Chandler, AZ            Config: C11   Starizona LF Reducer   SFP Triad Filter   QHY128c            Exposure Info: 200ms/Star (Gain: 1100)   Offset: 170</p>

# 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



Galaxies NGC-1055, M-77, NGC-1072  
Constellation: Cetus  
RA=02h 42m 26.5s DEC=00deg 14' 13.5" Size=55.2 x 39.3 arcmin Orientation: 49.5deg E of N | Pixel scale = 0.579 arcsec/pixel | FL=1956mm  
James Yoder | Date(s) 2020-12-20, 21, 22 | Location: Chandler, AZ  
Config: C11-HD | 0.7 Reducer | Filter(s): Baader Skyglow, CLS-CCD (DAS-LP-02) Camera: OHV120C1  
Exposure Info: 414mm@5min | Gain: 3200 | Offset: 100

## 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

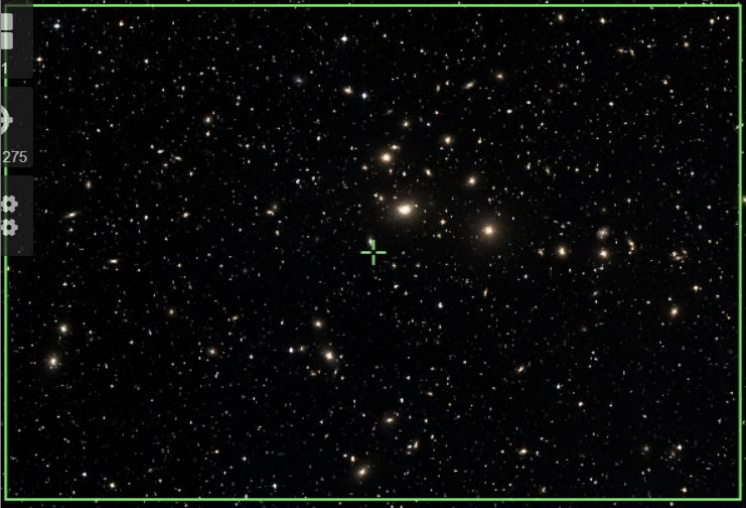




# Prospective Imaging Objects – December


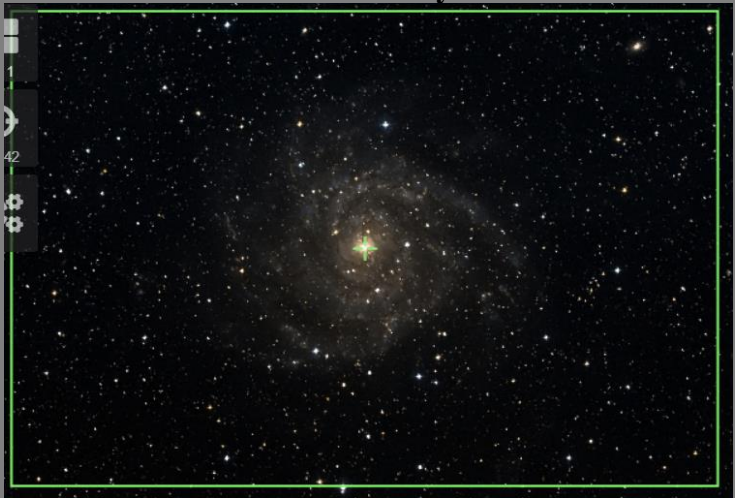

<p><b>M 77 (NGC 1068)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b>            Peak:            Constellation: <b>Cetus</b>            Coordinates:  <b>02hr 42' 34"</b>  <b>00° 02' 07"</b></p> <p>Close Star: <b>SAO-110665</b>            Catalog Objects: M 77, <a href="#">NGC-1068</a></p> <p>Imaging Window: <b>07:21 – 11:38</b>            Transit: <b>09:27   57°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Soul Nebula (IC-1848)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>02hr 57' 16"</b>  <b>60° 37' 37"</b></p> <p>Close Star: <b>SAO-38787 (Mirfak)</b>            Catalog Objects: <a href="#">IC 1848</a></p> <p>Imaging Window: <b>06:50 – 01:23</b>            Transit: <b>09:36   63°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Soul Nebula (IC-1848)            Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">             James Yoder - 2018-08-20              Location: Chandler, AZ              Config:  C11 HyperStar Astronomik 128C C11HY128C               Exposure Info: 240min@5min   Gain: 3200   Offset: 180           </p>
<p><b>Soul Nebula (IC-1848)</b>            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Cassiopeia</b>            Coordinates:  <b>02hr 57' 16"</b>  <b>60° 37' 37"</b></p> <p>Close Star: <b>SAO-38787 (Mirfak)</b>            Catalog Objects: <a href="#">IC 1848</a></p> <p>Imaging Window: <b>06:50 – 01:23</b>            Transit: <b>09:36   63°</b></p>	<p style="text-align: center;"><b>Primary Focus</b></p>  <p style="font-size: small;">Soul Nebula (IC-1848)            Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">             James Yoder - 2018-11-09              Location: Chandler, AZ              Config:  C11 Seymour 128C 128C C11HY128C               Exposure Info: 270min@5min   Gain: 3200   Offset: 180           </p>



# Prospective Imaging Objects – December

<p><b>Perseus Galaxy Cluster</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy Cluster</b> Peak: Constellation: <b>Perseus</b> Coordinates: <b>03hr 19' 58"</b> <b>41° 29' 13"</b></p> <p>Close Star: <b>SAO-38592</b> (Algol) Catalog Objects: <a href="#">Abell-426</a>, NGC1275, 1278, 1272, Et. El.</p> <p>Imaging Window: <b>06:50 – 01:53</b> Transit: <b>10:04   82°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>NGC-1333</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b> Peak: <b>November 13</b> Constellation: <b>Perseus</b> Coordinates: <b>03hr 29' 15"</b> <b>31° 20' 12"</b></p> <p>Close Star: <b>SAO-56799</b> Catalog Objects: <a href="#">NGC 1333</a></p> <p>Imaging Window: <b>06:50 – 01:51</b> Transit: <b>10:13   88°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>NGC-1360</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b> Peak: Constellation: <b>Fornax</b> Coordinates: <b>03hr 33' 15"</b> <b>-25° 52' 16"</b></p> <p>Close Star: <b>SAO-168460</b> Catalog Objects: <a href="#">NGC-1360</a></p> <p>Imaging Window: <b>*08:30 – 12:13</b> Transit: <b>10:17   31°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 

# Prospective Imaging Objects – December

<p><b>IC-348</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Perseus</b>            Coordinates:  <b>03hr 44' 26"</b>  <b>32° 10' 54"</b></p> <p>Close Star: <b>SAO-147420</b>            Catalog Objects: <a href="#">IC-348</a></p> <p>Imaging Window: <b>06:56 – 02:07</b>            Transit: <b>10:29   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>IC-342</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Barred Spiral Galaxy</b>            Peak:            Constellation: <b>Camelopardalis</b>            Coordinates:  <b>03hr 46' 48"</b>  <b>68° 05' 44"</b></p> <p>Close Star: <b>SAO-12031 (Segin)</b>            Catalog Objects: <a href="#">IC-342</a></p> <p>Imaging Window: <b>07:12 – 01:56</b>            Transit: <b>10:31   55°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Pleiades (M 45)</b>            Config: <b>C11-HD   HS   ZWO6200MC</b></p> <p>Type: <b>Bright Nebula</b>            Peak: <b>November 16</b>            Constellation: <b>Taurus</b>            Coordinates:  <b>03hr 46' 07"</b>  <b>24° 11' 18"</b></p> <p>Close Star: <b>SAO-56799</b>            Catalog Objects: <a href="#">M45</a></p> <p>Imaging Window: <b>07:11 – 01:56</b>            Transit: <b>10:30   81</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p><small>The Pleiades (M-45)            Constellation: Taurus</small></p> <p><small>Image taken: 2018-10-08            Location: Mountain View, California, CA            Config: C11 HyperStar (HS) v4            Exposure: 10s, 2000000000, Gain: 1188, 100000, 1.7x</small></p>

# 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



The Pleiades (M-45)  
Constellation: Taurus  
RA = 03h 46m 15.932s DEC = +24deg 12' 07.154" Size = 49.9 x 33.6 arcmin | Pixel scale = 0.582 arcsec/pixel  
James Yoder - 2019 09 27  
Location: Phoenix Greenh. Trailhead, AZ  
Config: |C11|LF|ZWO6200MC|  
Exposure Info: 200img/5min | Gain: 3200 | Offset: 100

## 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



California Nebula (NGC-1499)  
Constellation: Perseus  
James Yoder - 2019 08 31  
Location: Chandler, AZ  
Config: |C11|HyperStar|Astronomik C11-C11-D|GOTO12K|  
Exposure Info: 220img/5min | Gain: 3200 | Offset: 100

## 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

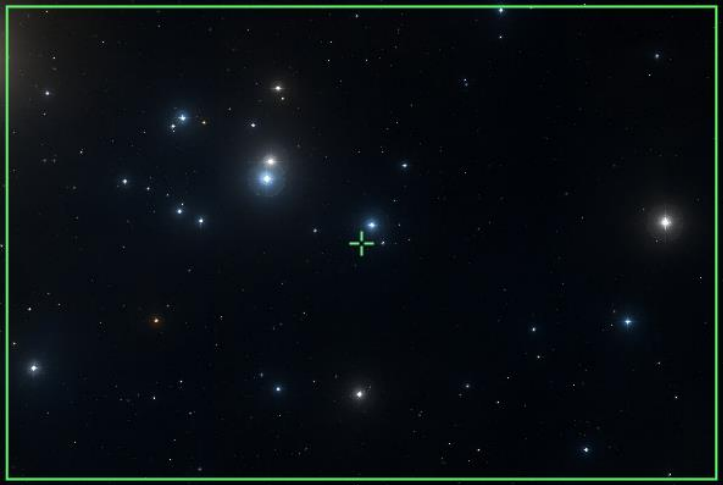


NGC-1501 (Oyster Nebula)  
Constellation: Camelopardalis  
RA = 04h 06m 58.2s DEC = +60deg 55' 03.5" Size = 18.5 x 13.9 arcmin | Orientation: -0.5deg E of N | Pixel scale = 0.227 arcsec/pixel | FL=300mm |  
James Yoder | Dates: 2021-12-10 | Location: Chandler, AZ  
Config: |C-11 HD|EPT Third Rainier Ultra |ZWO 6200MC|  
Exposure Info: 162 img/20min | Gain: 100 | Offset: 50

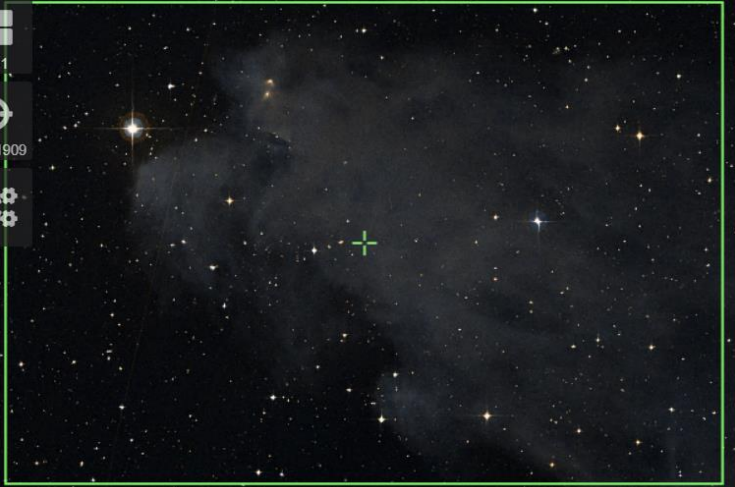


# Prospective Imaging Objects – December

<p><b>Crystal Ball Nebula (NGC 1514)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Constellation: <b>Taurus</b>            Coordinates:  <b>04hr 09' 17"</b>  <b>30° 46' 35"</b></p> <p>Close Star: <b>SAO-56799</b>            Catalog Objects: <a href="#">NGC-1514</a></p> <p>Imaging Window: <b>07:22 – 10:53</b>            Transit: <b>10:53   87°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">NGC-1514 (Crystal Ball Nebula)            Constellation: Taurus            RA = 04h 09m 17.0s, DEC = +30deg 46' 35.0", Size = 18.5 x 11.9 arcmin, Orientation: 0.4deg E of N, Pixel scale = 0.278 arcseconds (FL = 2000mm)</p> <p style="font-size: x-small; text-align: right;">James Yoder   Date: 2020-12-09   Location: Chandler, AZ            Config: C-11 HD (SFF) Trawl Unit (ZWO6200MC)            Exposure Info: 44 6000/2min   Gain: 100   Offset: 50</p>
<p><b>Cleopatra's Eye (NGC 1535)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Constellation: <b>Eridanus</b>            Coordinates:  <b>04hr 14' 16"</b>  <b>-12° 44' 20"</b></p> <p>Close Star: <b>SAO-131907</b> (Rigel)            Catalog Objects: <a href="#">NGC-1535</a></p> <p>Imaging Window: <b>*08:57 – 01:07</b>            Transit: <b>10:58   44°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Planetary Nebula NGC-1535 (Cleopatra's Eye)            Constellation: Eridanus            RA = 04h 14m 16.0s, DEC = -12deg 44' 20.0", Distance to Ring E of N, Pixel Scale = 0.278 arcseconds (FL = 2000mm)</p> <p style="font-size: x-small; text-align: right;">James Yoder   Date: 2020-12-09   Location: Chandler, AZ            Config: C-11 HD (SFF) Trawl Unit (ZWO6200MC)            Exposure Information: 10min @ 100   Offset: 50</p>
<p><b>Hind's Variable Nebula (NGC 1555)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Constellation: <b>Taurus</b>            Coordinates:  <b>04hr 21' 54"</b>  <b>19° 32' 00"</b></p> <p>Close Star: <b>SAO-94027</b> (Aldebaran)            Catalog Objects: <a href="#">NGC-1555</a></p> <p>Imaging Window: <b>07:56 – 02:22</b>            Transit: <b>11:06   76°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> <p style="text-align: center; color: green; font-weight: bold;">FOV 0.73 x 0.48° · RA 04hr 21' 54", DEC 19° 32' 00"</p> 




# Prospective Imaging Objects – December

<p><b>Hyades</b> (Mel 25)            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Open Cluster</b>            Constellation: <b>Taurus</b>            Coordinates:  <b>04hr 26' 34"</b>  <b>15° 31' 39"</b></p> <p>Close Star: SAO-56840            Catalog Objects: <a href="#">Mel 25</a></p> <p>Imaging Window: <b>08:10 – 02:24</b>            Transit: <b>11:14   73°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> 
<p><b>Trifid of the North</b> (NGC 1579)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Perseus</b>            Coordinates:  <b>04hr 30' 12"</b>  <b>35° 16' 60"</b></p> <p>Close Star: SAO-56799            Catalog Objects: <a href="#">NGC-1579</a></p> <p>Imaging Window: <b>07:37 – 02:57</b>            Transit: <b>11:14   88°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Witch Head Nebula</b> (IC 2118)            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Eridanus</b>            Coordinates:  <b>05hr 05' 19.872"</b>  <b>-06° 56' 00.365"</b></p> <p>Close Star: SAO-131794            Catalog Objects: <a href="#">IC 2118</a></p> <p>Imaging Window: <b>*09:13 – 02:20</b>            Transit: <b>11:46   49°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;"> <span style="float: left;">Witch Head Nebula (IC-2118)            Constellation: Eridanus              RA = 05h 05m 19.872s DEC = -06deg 56' 00.365"   Size = 2.66 x 1.78 deg   Pixel scale = 2.27 arcsec/pixel  </span> <span style="float: right; text-align: right;">             James Yoder 2019.09.28              Location: Chandler, AZ              Config:   C11   HyperStar   Baader Skyliner   QHY 236                Exposure Info:   54fms @ 90s   Gain: 3200   Offset: 180             </span> </p>




# Prospective Imaging Objects – December

<p><b>Witch Head Nebula (IC 2118)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Eridanus</b>            Coordinates:  <b>05hr 07' 07"</b>  <b>-06° 20' 07"</b></p> <p>Close Star: SAO-131794            Catalog Objects: <a href="#">IC 2118</a></p> <p>Imaging Window: *09:13 – 02:20            Transit: 11:46   49°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Foxface Nebula (NGC 1788)</b>            Config:  C11 HS ZWO6200MCc </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 06' 10"</b>  <b>-04° 04' 26"</b></p> <p>Close Star: SAO-131794            Catalog Objects: <a href="#">NGC 1788</a></p> <p>Imaging Window: 10:04 – 01:44            Transit: 11:51</p>	<p style="text-align: center;"><b>Hyperstar</b></p> <p style="text-align: center;">FOV 3.80 x 2.54° · RA 05hr 06' 10", DEC -04° 04' 26"</p> 
<p><b>Foxface Nebula (NGC 1788)</b>            Config:  C11-            HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 05' 52"</b>  <b>-03° 22' 22"</b></p> <p>Close Star: SAO-131794            Catalog Objects: <a href="#">NGC 1788</a></p> <p>Imaging Window: 10:04 – 01:44            Transit: 11:51</p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p> 

# Prospective Imaging Objects – December



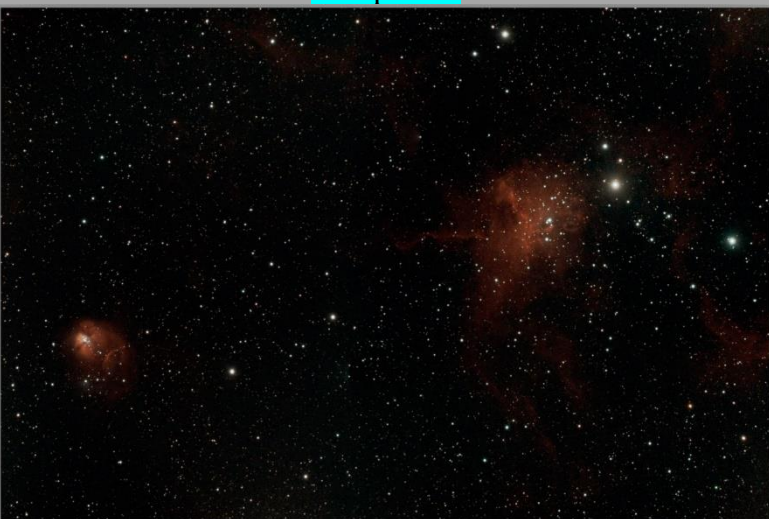
<p><b>Foxface Nebula</b> (NGC 1788)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 06' 26"</b>  <b>-03° 20' 13"</b></p> <p>Close Star: SAO-131794            Catalog Objects: <a href="#">NGC 1788</a></p> <p>Imaging Window: <b>10:04 – 01:44</b>            Transit: <b>11:51</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Flaming Star Nebula</b> (IC-405)            Config: C11-HD   HS              ZWO6200MC</p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 19' 38"</b>  <b>33° 49' 10"</b></p> <p>Close Star: SAO-77168 (Elnath)            Catalog Objects: <a href="#">IC 405</a>, <a href="#">IC 410</a></p> <p>Imaging Window: <b>08:26 – 03:43</b>            Transit: <b>12:01   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Flaming Star Nebula (IC-405, IC-410, IC-417)            Constellation: Auriga</p> <p style="font-size: x-small;">Image Date: 2024-11-01            Config: C-11HD HyperStar v4 Atomswork C15.4 CCD QHY170C            RA=05h19m35.62s DEC=-33deg49'10.29" Mag 0.7 Filter: HS v4.2.28 Ang. Pixel scale: 2.28 arcsec/pix            Exposure Info: 47x300s/Frame Gain: 2000 (Offset: 100)</p>
<p><b>Flaming Star Nebula</b> (IC 405)            Config:  C11-            HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 15' 55"</b>  <b>34° 29' 08"</b></p> <p>Close Star: SAO-77168 (Elnath)            Catalog Objects: <a href="#">IC 405</a></p> <p>Imaging Window: <b>08:26 – 03:43</b>            Transit: <b>12:01   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: <b>Focal Reducer</b></b></p>  <p style="font-size: small;">Flaming Star Nebula (IC-405)            Constellation: Auriga</p> <p style="font-size: x-small;">Image Date: 2024-11-01            Location: Chandler, AZ            Config: C-11 HD (0.7 Reducer) Filter: Optolong L-Extreme Camera: QHY170C            RA=05h15m55.102s DEC=34deg29'08.17" Size=58.8 x 41.7 arcmin Orientation: Mag E of N Pixel scale=0.629 arcsec/pix (FL=1907mm)            Exposure Info: 10x300s/Frame Gain: 2000 (Offset: 100)</p>

# Prospective Imaging Objects – December




<p><b>Flaming Star Nebula (IC 405)</b>            Config:  C11-HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 16' 37"</b>  <b>34° 23' 47"</b></p> <p>Close Star: SAO-77168 (Elnath)            Catalog Objects: <a href="#">IC 405</a></p> <p>Imaging Window: <b>08:26 – 03:43</b>            Transit: <b>12:01   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Tadpoles (IC 410)</b>            Config:  C11-HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 22' 54"</b>  <b>33° 23' 31"</b></p> <p>Close Star: SAO-77168 (Elnath)            Catalog Objects: <a href="#">IC 410</a></p> <p>Imaging Window: <b>08:31 – 03:47</b>            Transit: <b>12:06   90°</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p>  <p><small>Tadpole Nebula (IC-410)            Constellation: Auriga            RA = 05h 22m 54.355s, DEC = +33deg 23' 32.44" Size = 78.3 x 58.8 arcsec - Orientation: Along E of N   Pixel scale = 0.61 arcsec/pixel   FL=1095mm</small></p> <p><small>Image taken: 2023-11-01 Location: Chandler AZ            Config: C-11 HD (8.7 Reducer) Filter: Optolong L-Extreme   Camera: QHY128C            Exposure Info: 210sec/Frame (Gain: 3200) Offset: 100</small></p>
<p><b>Tadpoles (IC 410)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 22' 37"</b>  <b>33° 23' 03"</b></p> <p>Close Star: SAO-77168 (Elnath)            Catalog Objects: <a href="#">IC 410</a></p> <p>Imaging Window: <b>08:31 – 03:47</b>            Transit: <b>12:06   90°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p><small>Tadpole Nebula (IC-410)            Constellation: Auriga            RA = 05h 22m 37.0197s, DEC = +33deg 23' 03.197" Size = 42.4 x 28.8 arcsec - Pixel scale = 0.402 arcsec/pixel</small></p> <p><small>Image taken: 2023-11-02 Location: Chandler, AZ            Config: C-11 HD (Antares) CS-ACCU   QHY128C            Exposure Info: 210sec/Frame (Gain: 3200) Offset: 100</small></p>



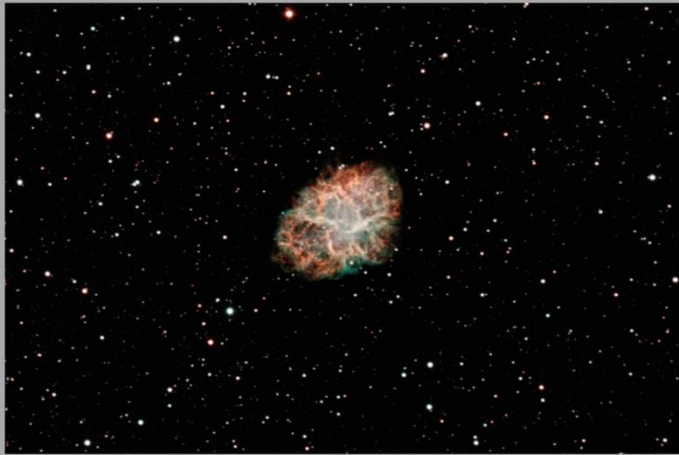

# Prospective Imaging Objects – December

<p><b>M-79 (NGC-1904)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Globular Cluster</b> Peak: Constellation: <b>Lepus</b> Coordinates: <b>05hr 24' 11"</b> <b>-24° 31' 25"</b></p> <p>Close Star: SAO-170457 Catalog Objects: <a href="#">M 79</a></p> <p>Imaging Window: *10:10 – 02:16 Transit: 12:11   32°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Spirograph Nebula (IC 418)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b> Constellation: <b>Lepus</b> Coordinates: <b>05hr 27' 28"</b> <b>-12° 41' 48"</b></p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: <a href="#">IC-418</a></p> <p>Imaging Window: *10:06 – 02:16 Transit: 12:11   44°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>The Spider and the Fly (M-77, NGC-1055, NGC-1931)</b> Config:  C11- HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b> Peak: Constellation: <b>Auriga</b></p> <p><b>Camera Rotation - 90°</b> Frame 01 RA: <b>05hr 30' 44"</b>DEC: <b>34° 20' 41"</b> Frame 02 RA: <b>05hr 27' 55"</b>DEC: <b>34° 20' 41"</b></p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: <a href="#">IC-417</a>, <a href="#">NGC-1931</a></p> <p>Imaging Window: <b>08:36 – 03:54</b> Transit: 12:12   89°</p>	<p style="text-align: center;"><b>C-11 HD: <b>Focal Reducer</b> Composite!</b></p>  <p><small>The Spider and the Fly (IC-417 &amp; NGC-1931) Constellation: Auriga RA: 05h 29m 17.51s DEC: -15deg 27' 34.90" Star: 68.0 x 45.3 arcsec Observation: 6.5Mag E-oTV, Pixel scale: 6.625 arcsec/pixel FL: 1978mm Image Stack: (Stacks) 300 (1,10, 21, 32) (Landscape Orientation, 61) Config: C11HD   F1 Filter   Star Optimizing   e-Xtreme   Camera: QHY 285C Exposure: 30s, Process: DSS, Orientation: Standard, MirrorLock: On, Gain: 2000, Offset: 100</small></p>

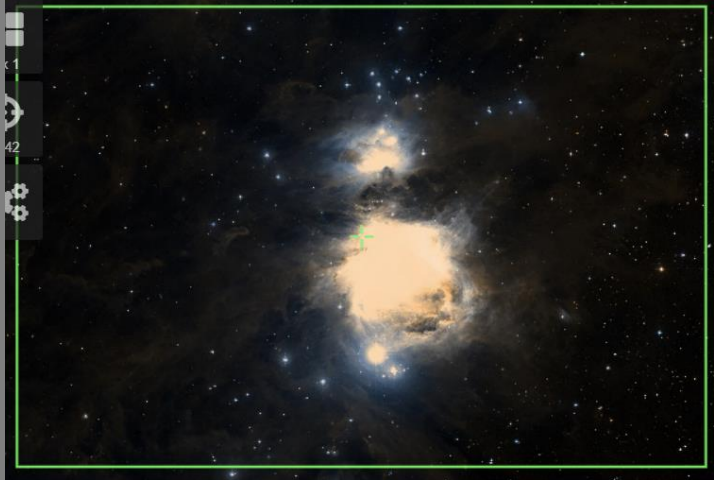


# Prospective Imaging Objects – December

<p><b>The Spider (IC 417)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b> Peak: Constellation: <b>Auriga</b> Coordinates: <b>05hr 28' 03"</b> <b>34° 22' 58"</b></p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: <a href="#">IC 417</a></p> <p>Imaging Window: <b>08:36 – 03:54</b> Transit: <b>12:12   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Starfish Cluster (M-38)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b> Constellation: <b>Auriga</b> Coordinates: <b>05hr 28' 43"</b> <b>35° 51' 18"</b></p> <p>Close Star: <b>SAO-77168</b> (Elnath) Catalog Objects: <a href="#">M-38</a></p> <p>Imaging Window: <b>08:35 – 03:56</b> Transit: <b>12:12   88°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p><small>M-38 Starfish Cluster</small></p> <p><small>James Yoder 2019.09.30</small></p>
<p><b>The Fly (NGC 1931)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b> Peak: Constellation: <b>Auriga</b> Coordinates: <b>05hr 31' 24"</b> <b>34° 15' 00"</b></p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: <a href="#">NGC 1931</a></p> <p>Imaging Window: <b>08:40 – 03:57</b> Transit: <b>12:15   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 



# Prospective Imaging Objects – December

<p><b>Crab Nebula (M 1)</b>            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Peak:            Constellation: <b>Taurus</b>            Coordinates:  <b>05hr 34' 30"</b>  <b>22° 00' 59.9"</b></p> <p>Close Star: SAO-77336            Catalog Objects: <a href="#">M 1</a></p> <p>Imaging Window: <b>09:03 – 03:40</b>            Transit: <b>12:18   79°</b></p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Crab Nebula (Messier-1)            James Yoder   Date(s) 2022-02-05, 07, 08, 09, 10   Location: Chandler, AZ              Constellation: Taurus   Config: C-11 HD 7 Blue OPT Kamin Ultra (QHY128K)              RA = 05 34m 31.5s DEC = +22deg 00' 34.4"   Size = 31.5 x 21.0 arcmin   Orientation: -0.34deg   Pixel scale = 0.447 arcsec/pixel   FL=2756mm   Exposure Info: 1756ms@4min   Gain: 3200   OBST: 180</p>
<p><b>The Orion Complex</b>            Config: C11   HS   ZWO6200MC</p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:            Frame 01            RA: <b>05hr 43' 42"</b> DEC: <b>-01° 01' 06"</b>            Frame 02            RA: <b>05hr 31' 05"</b> DEC: <b>-01° 01' 06"</b>            Frame 03            RA: <b>05hr 43' 42"</b> DEC: <b>-03° 07' 35"</b>            Frame 04            RA: <b>05hr 31' 04"</b> DEC: <b>-03° 07' 35"</b>            Frame 05            RA: <b>05hr 43' 43"</b> DEC: <b>-05° 14' 05"</b>            Frame 06            RA: <b>05hr 31' 04"</b> DEC: <b>-05° 14' 05"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">M-42</a></p> <p>Imaging Window: <b>10:46 – 01:59</b>            Transit: <b>12:19</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b>  <b>SUPER-6 Composite!</b></p>  <p style="font-size: small;">FOV 6.95 x 6.76° - RA 05hr 37' 23", DEC -03° 07' 40"</p>

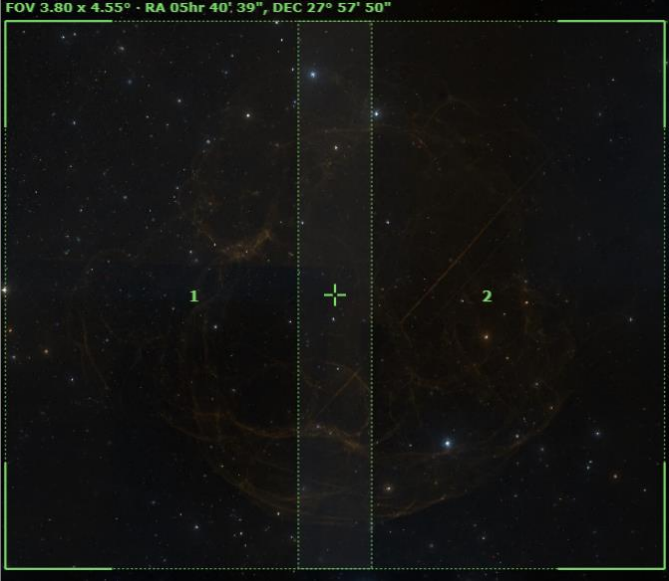
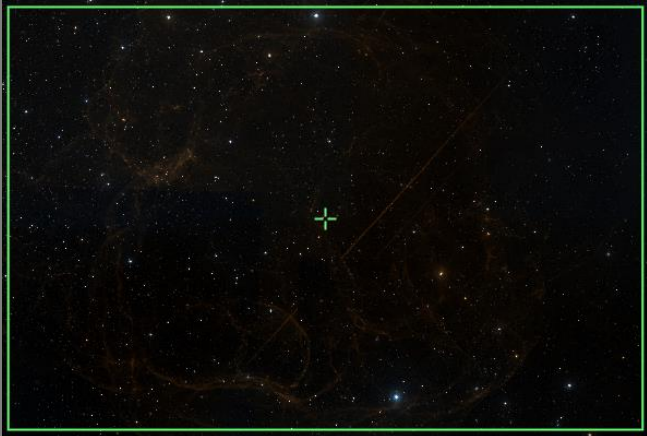
# Prospective Imaging Objects – December

<p><b>The Orion Nebula (M 42)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 35' 46"</b>  <b>-05° 15' 34"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">M-42</a></p> <p>Imaging Window: <b>10:46 – 01:59</b>            Transit: <b>12:19</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> 
<p><b>The Orion Nebula (M 42)</b>            Config: C6-SE   HS   ZWO6200MC (Cropped)</p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 35' 18.4"</b>  <b>-05° 23' 51.0"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">M-42</a></p> <p>Imaging Window: <b>10:46 – 01:59</b>            Transit: <b>12:19</b></p>	<p style="text-align: center;"><b>C6-SE: HyperStar v4</b></p>  <p style="font-size: small;">Orion Nebula (M-42)            Constellation: Orion the Hunter            RA = 05h 35m 18.40s - 200deg 27' 03.0" - Size = 4.41 x 3.97 deg (Distance = 1540ly R.A.N. Peak-bands = 3.1) unsharp (1) - 100ms</p> <p style="font-size: x-small; text-align: right;">James VanDer... 2018 01 23            Location: Chandler AZ            Config: C-6-SE HyperStar V4 OPT Filter 1040 3000 2400 200000            Exposure Ids: 112-0001101; Gain: 100</p>
<p><b>The Orion Nebula (M 42)</b>            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 35' 09"</b>  <b>-05° 24' 32"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">M-42</a></p> <p>Imaging Window: <b>10:46 – 01:59</b>            Transit: <b>12:19</b></p>	<p style="text-align: center;"><b>Primary Focus</b></p>  <p style="font-size: small;">Orion Nebula (M-42)            Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">James VanDer... 2018 01 23            Location: Chandler AZ            Config: C-11 Starizona LF Reducer 1780AD Filter 1040 3000            Exposure Ids: 518ms(100); Gain: 5200; Offset: 180</p>

# Prospective Imaging Objects – December

<p><b>Running Man Nebula (NGC 1977)</b>            Config:  C6-HD FR ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 35' 18.1"</b>  <b>-04° 41' 25.9"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">NGC-1977</a></p> <p>Imaging Window: <b>10:42 – 02:03</b>            Transit: <b>12:19   52°</b></p>	<p style="text-align: center;"><b>C-6SE: Primary Focus</b></p>  <p style="font-size: small;">Running Man Nebula (NGC-1977)            Constellation: Orion the Hunter            RA = 05h 35m 18.1s Dec = -04deg 41' 25.9" Orientation: 0 deg E of N. Pixel scale = 0.51 arcsecond (E=1935nm)</p> <p style="font-size: x-small; text-align: right;">James Webb   Date: 2024-11-01   Location: Canada, AZ            Config: C-6SE EP7 Radau Triad 18x ZWO6200MC            Exposure: 10 (29 9990/300) Gain: 100</p>
<p><b>Running Man Nebula (NGC 1977)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 35' 27"</b>  <b>-04° 53' 09"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">NGC-1977</a></p> <p>Imaging Window: <b>10:42 – 02:03</b>            Transit: <b>12:19   52°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>M-36 (NGC-1960)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b>            Constellation: <b>Auriga</b>            Coordinates:  <b>05hr 36' 18"</b>  <b>34° 08' 27"</b></p> <p>Close Star: <b>SAO-77168</b> (Elnath)            Catalog Objects: <a href="#">M-36</a>/NGC-1960</p> <p>Imaging Window: <b>08:45 – 04:02</b>            Transit: <b>12:20   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: x-small;">Pleiades Cluster (M-36, NGC-1960)            Constellation: Auriga            RA = 05h 36m 18.1s Dec = 34deg 08' 27.0" Orientation: 0 deg E of N. Pixel scale = 0.51 arcsecond (E=1935nm)</p> <p style="font-size: x-small; text-align: right;">James Webb   Date: 2024-11-01   Location: Canada, AZ            Config: C-11 HD EP7 Radau Triad 18x ZWO6200MC            Exposure: 10 (29 9990/300) Gain: 100</p>

# Prospective Imaging Objects – December

<p><b>Simeis 147</b> (SH2-240) Config: <b>C11-HD   HS   ZWO6200MC</b></p> <p>Type: <b>Diffuse Nebula</b> Constellation: <b>Taurus</b></p> <p><b>Camera Rotation - 90°</b> Coordinates: Frame 01 RA: <b>05hr 45' 38"</b> DEC: <b>27° 56' 31"</b> Frame 02 RA: <b>05hr 36' 28"</b> DEC: <b>27° 56' 31"</b></p> <p>Close Star: <b>SAO-77168</b> (Elnath) Catalog Objects: <a href="#">SH2-240</a></p> <p>Imaging Window: <b>08:59 – 03:58</b> Transit: <b>12:25   85°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b> <b>Composite-2</b></p> 
<p><b>Simeis 147</b> (SH2-240) Config: <b>C11-HD   HS   ZWO6200MC</b></p> <p>Type: <b>Diffuse Nebula</b> Constellation: <b>Taurus</b> Coordinates: <b>05hr 39' 04"</b> <b>28° 00' 00"</b></p> <p>Close Star: <b>SAO-77168</b> (Elnath) Catalog Objects: <a href="#">SH2-240</a></p> <p>Imaging Window: <b>08:59 – 03:58</b> Transit: <b>12:25   85°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> 

# 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

<p><b>Horsehead Nebula (B 33)</b>            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Dark Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 40' 59"</b>  <b>-02° 31' 47"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">B 33</a></p> <p>Imaging Window: <b>10:33 – 02:23</b>            Transit: <b>12:25   54°</b></p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Horsehead Nebula (IC-434)            Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">James Yoder - 2018-12-06            Location: Mountain View, AZ            Config:  C1 Starizona L.F.Reducer / Focal Filter / QHY7726c             Exposure Info: 200x30sec/Frame Gain: 0200 / Offset: 100</p>
<p><b>NGC 2022</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>05hr 42' 07"</b>  <b>09° 04' 55"</b></p> <p>Close Star: SAO-112740 (Bellatrix)            Catalog Objects: <a href="#">NGC-2022</a></p> <p>Imaging Window: <b>09:45 – 03:14</b>            Transit: <b>12:26   66°</b></p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">NGC-2022            Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">James Yoder   Date(s) 2020-12-09, 10   Location: Chandler, AZ            Config:  C-11 HD EXP1 Third Ultra   ZWO6200MC             Exposure Info: 5x30sec/20min/Frame Gain: 100 / Offset: 50</p>
<p><b>NGC 1961</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Spiral Galaxy</b>            Peak:            Constellation: <b>Camelopardalis</b>            Coordinates:  <b>05hr 43' 27"</b>  <b>69° 20' 48"</b></p> <p>Close Star: SAO-40750 (Menkalinan)            Catalog Objects: <a href="#">NGC-1961</a></p> <p>Imaging Window: <b>09:14 – 03:45</b>            Transit: <b>12:26   54°</b></p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Galaxy Cluster (NGC-1961 et al.)            Constellation: Camelopardalis</p> <p style="font-size: x-small; text-align: right;">James Yoder - 2019-10-25            Location: Mountain View, Arizona, AZ            Config:  C-11 HD  QHY7726c             Exposure Info: 10x30sec/30min/Frame Gain: 2000 / Offset: 100</p>



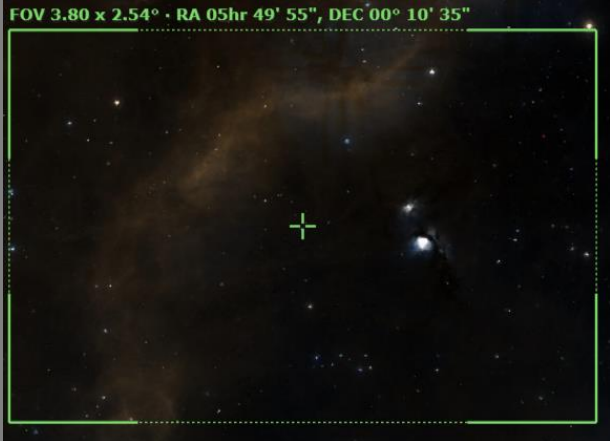

# Prospective Imaging Objects – December

<p><b>M-78</b>          Config:  C11-          HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Dark Nebula</b>          Peak:          Constellation: <b>Orion</b></p> <p>Frame 01          RA: <b>05hr 47' 05"</b>DEC: <b>00° 20' 09"</b></p> <p>Frame 02          RA: <b>05hr 47' 05"</b>DEC: <b>-00° 14' 43"</b></p> <p>Close Star: SAO-132346 (Annilam)          Catalog Objects: <a href="#">M-78</a></p> <p>Imaging Window: <b>10:25 – 02:43</b>          Transit: <b>12:31</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b>  <b>Composite!</b></p> 
<p><b>M-78</b>          Config:  C11-          HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Bright and Dark Nebula</b>          Peak:          Constellation: <b>Orion</b>          Coordinates:  <b>05hr 46' 59"</b>  <b>00° 08' 59"</b></p> <p>Close Star: SAO-132346 (Annilam)          Catalog Objects: <a href="#">M-78</a></p> <p>Imaging Window: <b>10:25 – 02:43</b>          Transit: <b>12:31</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p> 


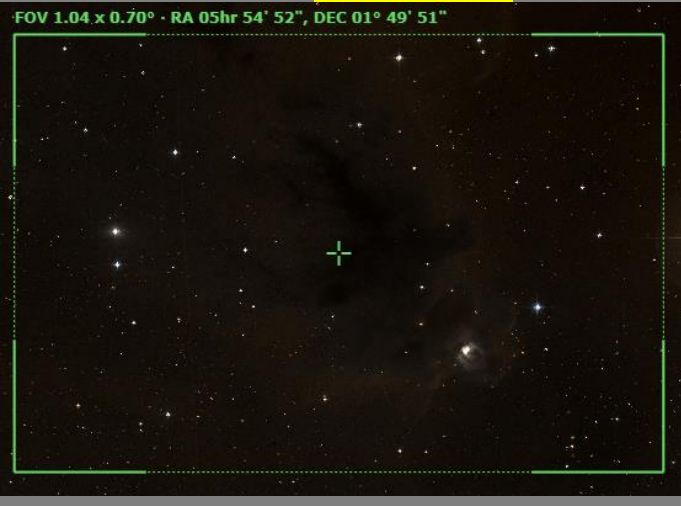

# Prospective Imaging Objects – December

<p><b>M-78</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright and Dark Nebula</b> Peak: Constellation: <b>Orion</b> Coordinates: <b>05hr 47' 03"</b> <b>00° 09' 46"</b></p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: <a href="#">M-78</a></p> <p>Imaging Window: <b>10:25 – 02:43</b> Transit: <b>12:31</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Salt and Pepper Cluster (M-37)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b> Constellation: <b>Auriga</b> Coordinates: <b>05hr 52' 18"</b> <b>32° 33' 11"</b></p> <p>Close Star: <b>SAO-77168</b> (Elnath) Catalog Objects: <a href="#">M-37</a>/NGC-2099</p> <p>Imaging Window: <b>09:03 – 04:16</b> Transit: <b>12:36   89°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>LDN-1622 (Region 01)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Dark Nebula &amp; Nebula</b> Peak: Constellation: <b>Orion</b></p> <p>Coordinates: Pane 1: <b>05hr 50' 40", 01° 46' 30"</b> Pane 2, <b>05hr 50' 40", 00° 14' 57"</b></p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: <a href="#">LDN-1622</a> Imaging Window: <b>10:25 – 02:58</b> Transit: <b>12:38   59°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b> <b>Composite!</b></p> 

# Prospective Imaging Objects – December

<p><b>LDN-1622 (Region 01)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Dark Nebula &amp; Nebula</b>            Peak:            Constellation: <b>Orion</b></p> <p>Coordinates:  <b>05hr 51' 00"</b>  <b>00° 59' 47"</b></p> <p>Close Star: SAO-132346 (Annilam)            Catalog Objects: <a href="#">LDN-1622</a>            Imaging Window: <b>10:25 – 02:58</b>            Transit: <b>12:38   59°</b></p>	<p style="text-align: center;">HyperStar</p> 
<p><b>LDN-1622 (Region 02)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Dark Nebula &amp; Nebula</b>            Peak:            Constellation: <b>Orion</b></p> <p>Coordinates:  <b>05hr 49' 55"</b>  <b>00° 10' 35"</b></p> <p>Close Star: SAO-132346 (Annilam)            Catalog Objects: <a href="#">LDN-1622</a>            Imaging Window: <b>10:25 – 02:58</b>            Transit: <b>12:38   59°</b></p>	<p style="text-align: center;">HyperStar</p> 
<p><b>LDN-1622 (Region 03)</b>            Config: C11-HD   HS              ZWO6200MC</p> <p>Type: <b>Bright and Dark Nebula</b>            Peak:            Coordinates:  <b>05hr 54' 51"</b>  <b>01° 47' 10"</b></p> <p>Close Star: SAO-112740(Bellatrix)            Catalog Objects: <a href="#">LDN-1622</a></p> <p>Imaging Window: <b>10:25 – 02:58</b>            Transit: <b>12:38   59°</b></p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 

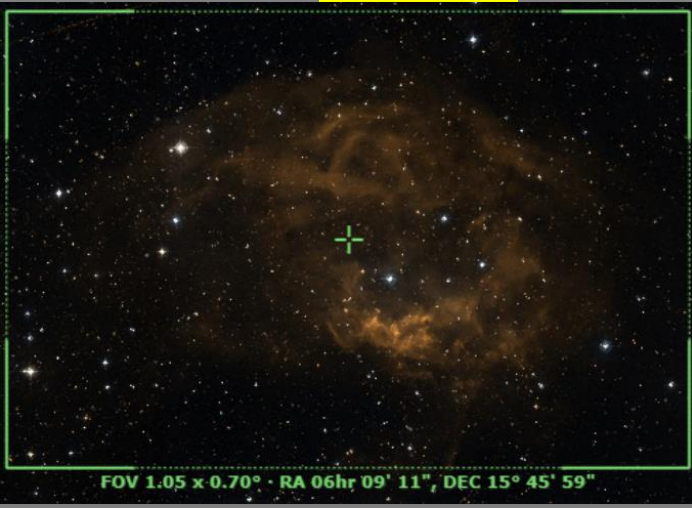
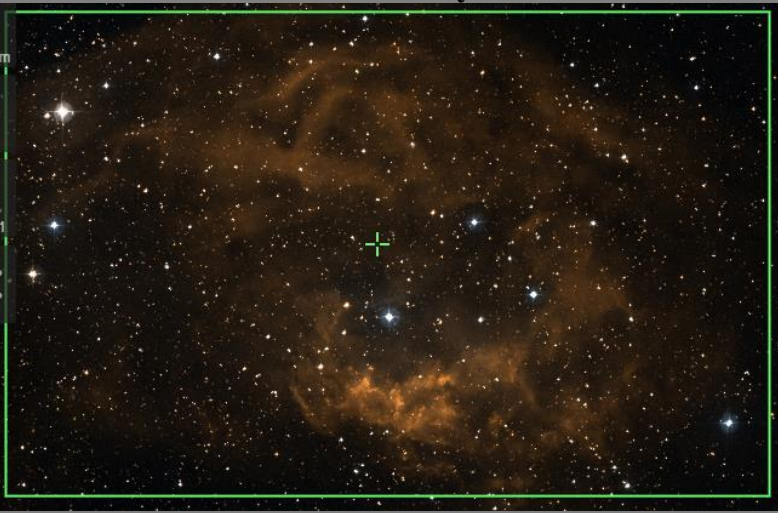

# Prospective Imaging Objects – December

<p><b>LDN 1622</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Dark Nebula</b> Peak: Constellation: <b>Orion</b></p> <p><b>Camera Rotation - 90°</b> Frame 01 RA: <b>05hr 56' 28"</b>DEC: <b>01° 58' 32"</b> Frame 02 RA: <b>05hr 54' 08"</b>DEC: <b>01° 58' 35"</b></p> <p>Close Star: SAO-132346 (Annilam) Catalog Objects: <a href="#">LDN-1622</a></p> <p>Imaging Window: <b>10:25 – 02:58</b> Transit: <b>12:38   59°</b></p>	<p><b>C-11 HD: Focal Reducer</b> <b>Composite!</b></p> 
<p><b>LDN-1622</b> Config:  C11HD FR ZWO6200MC </p> <p>Type: <b>Bright and Dark Nebula</b> Peak: Constellation: <b>Orion</b> Coordinates: <b>05hr 54' 52"</b> <b>01° 49' 51"</b></p> <p>Close Star: SAO-112740(Bellatrix) Catalog Objects: <a href="#">LDN-1622</a></p> <p>Imaging Window: <b>10:25 – 02:58</b> Transit: <b>12:38   59°</b></p>	<p><b>C-11 HD: Focal Reducer</b></p> 
<p><b>LDN 1622</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Dark Nebula</b> Peak: Constellation: <b>Orion</b> Coordinates: <b>05hr 54' 55"</b> <b>01° 49' 49"</b></p> <p>Close Star: SAO-132346 (Annilam) Catalog Objects: <a href="#">LDN-1622</a></p> <p>Imaging Window: <b>10:25 – 02:58</b> Transit: <b>12:38   59°</b></p>	<p><b>C-11 HD: Primary Focus</b></p> 




# Prospective Imaging Objects – December

<p><b>Angel Nebula (NGC 2170)</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Bright and Dark Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 08' 26"</b>  <b>-06° 25' 24"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">NGC-2170</a></p> <p>Imaging Window: <b>11:26 – 02:24</b>            Transit: <b>12:51</b></p>	<p><b>C-11 HD: Focal Reducer</b></p> <p>FOV 1.04 x 0.70° · RA 06hr 08' 26", DEC -06° 25' 24"</p> 
<p><b>Angel Nebula (NGC 2170)</b>            Config:  C11-HD  ZWO6200MC </p> <p>Type: <b>Bright and Dark Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 08' 26"</b>  <b>-06° 25' 24"</b></p> <p>Close Star: SAO-132542 (Saiph)            Catalog Objects: <a href="#">NGC-2170</a></p> <p>Imaging Window: <b>11:26 – 02:24</b>            Transit: <b>12:51</b></p>	<p><b>C-11 HD: Primary Focus</b></p>  <p><small>Angel Nebula (NGC-2170)            Constellation: Monoceros            SAO-132542 (Saiph) · RA = 06h 08m 26.1s · Dec = -06° 25' 24.1" · Orientation: Edge of N · Pixel scale = 0.445 arc/pixel [1] · 0.90mm</small></p> <p><small>Janis Votav   Linnakoski   Massimo   Giovanni   DSO 16 111   Chandra   DSO 16 121   AZ            Config: C-11 HD   ZWO6200MC   ZWO6200MC            Exposure: 1.0s · 47mmHg · Gain: 2000 · DSOs: 1.0s</small></p>
<p><b>IC-2162 &amp; SH 2-261</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>06hr 10' 56"</b>  <b>16° 32' 17"</b>            Angle: <b>90° East</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">IC-2162</a> <a href="#">Sh 2-261</a></p> <p>Imaging Window: <b>09:52 – 03:59</b>            Transit: <b>12:52   72°</b></p>	<p><b>C-11 HD: HyperStar v4</b></p>  <p>FOV 3.80 x 2.53° · RA 06hr 10' 56", DEC 16° 32' 17"</p>


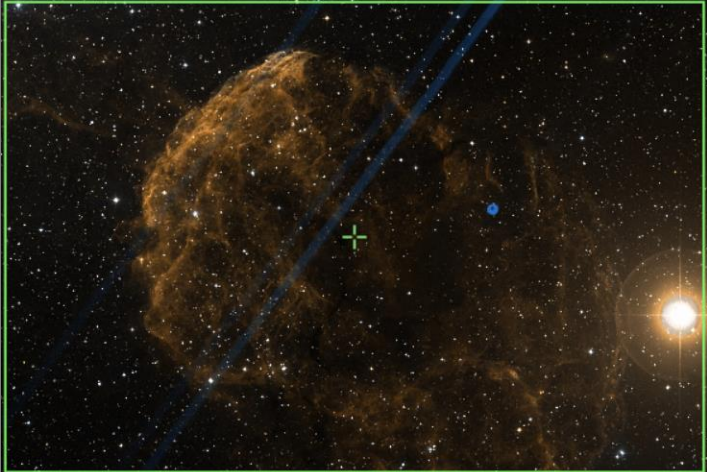

# Prospective Imaging Objects – December

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

# Prospective Imaging Objects – December

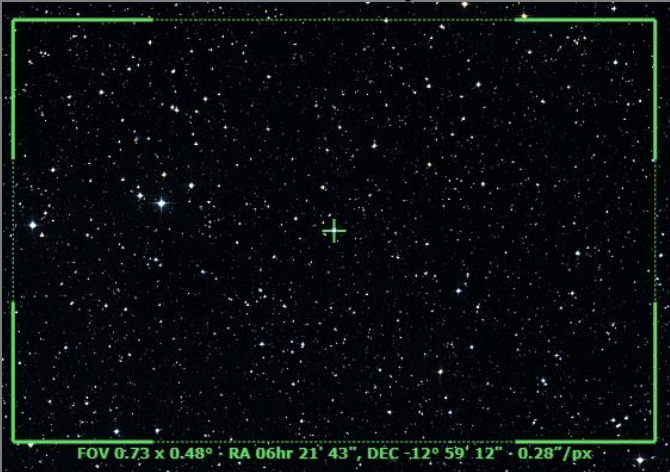


<p><b>Monkey Head (NGC-2174)</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>06hr 09' 50"</b>  <b>20° 29' 50"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">NGC-2174</a>/Sh 2-252</p> <p>Imaging Window: <b>09:42 – 04:12</b>            Transit: <b>12:53   77°</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p> <p style="text-align: center;">FOV 1.04 x 0.69° · RA 06hr 09' 55", DEC 20° 33' 45"</p> 
<p><b>Monkey Head (NGC 2174)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>06hr 09' 50"</b>  <b>20° 29' 50"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">NGC-2174</a>/Sh 2-252</p> <p>Imaging Window: <b>09:42 – 04:12</b>            Transit: <b>12:53   77°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Monkey Head Nebula (NGC-2174)            Constellation: Orion            RA = 06h 09m 49.31s, DEC = +20deg 29' 52.18"   Size = 33.1 x 26.8 arcmin   Pixel scale = 0.446 arcsec/pixel   F1 = 2.72mm            James Yoder 2024-12-14 Location: Chandler, AZ            Config:  C-11 HD Astromaster C11ACD QHY135L1            Exposure Info: 27Times/Frame   Gain: 3200   ISO/Sec: 180</p>
<p><b>IC 2162</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Orion</b>            Coordinates:  <b>06hr 12' 25"</b>  <b>17° 59' 26"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">IC-2162</a></p> <p>Imaging Window: <b>09:51 – 04:09</b>            Transit: <b>12:57   75°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Bright Nebula IC-2162            Constellation: Orion            RA = 06h 12m 18.46s, DEC = +17deg 59' 18.23"   Size = 42.3 x 23.87 arcmin   Pixel scale = 0.441 arcsec/pixel            James Yoder 2024-12-25 Location: Chandler, AZ            Config:  C-11 HD Astromaster C11ACD QHY135L1            Exposure Info: 220Times/Frame   Gain: 3200   ISO/Sec: 180</p>

# Prospective Imaging Objects – December




<p><b>Jellyfish Nebula (IC 443)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Supernova Remnant</b>            Peak:            Constellation: <b>Gemini</b>            Coordinates:  <b>06hr 19' 56"</b>  <b>23° 06' 17"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">IC-443</a></p> <p>Imaging Window: <b>09:45 – 04:24</b>            Transit: <b>01:01   79°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: small;">Jellyfish Nebula (IC-443)            Constellation: Gemini            JAA = 23h 18m 25.0s DEC = +06deg 31' 18.6" Size = 3.34 x 2.89 deg   Orientation: obj E of N   Pixel scale = 2.28 arcsec/pixel   FL = 540mm            James Taylor   Date: 2023-10-21   Location: Chandler, AZ            Config: C-11HD   HyperStar V4   Astromomik CLS-CDD   QHY128c            Exposure info: 25frames@2min   Gain: 3200   Offset: 100</p>
<p><b>Jellyfish Nebula (IC 443)</b>            Config:  C11-HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Supernova Remnant</b>            Peak:            Constellation: <b>Gemini</b>            Coordinates:  <b>06hr 16' 59"</b>  <b>22° 37' 29"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">IC-443</a></p> <p>Imaging Window: <b>09:45 – 04:24</b>            Transit: <b>01:01   79°</b></p>	<p style="text-align: center;">C11-HD: <b>Focal Reducer</b></p>  <p style="font-size: small;">Jellyfish nebula (IC 443)            Constellation: Gemini            James Taylor   Date: 2023-10-21   Location: Chandler, AZ            Config: C11   Starizona L4 Corrector   QHY128C   QHY128c            Exposure info: 10frames@2min   Gain: 3200   Offset: 100</p>
<p><b>Jellyfish Nebula (IC 443)</b>            Config:  C11 LF ZWO6200MC </p> <p>Type: <b>Supernova Remnant</b>            Peak:            Constellation: <b>Gemini</b>            Coordinates:  <b>06hr 16' 51"</b>  <b>22° 36' 34"</b></p> <p>Close Star: SAO-78297 (Calix)            Catalog Objects: <a href="#">IC-443</a></p> <p>Imaging Window: <b>09:45 – 04:24</b>            Transit: <b>01:01   79°</b></p>	<p style="text-align: center;"><b>Primary Focus</b></p>  <p style="font-size: small;">Jellyfish nebula (IC 443)            Constellation: Gemini            James Taylor   Date: 2023-10-21   Location: Chandler, AZ            Config: C11   Starizona L4 Corrector   QHY128C   QHY128c            Exposure info: 10frames@2min   Gain: 3200   Offset: 100</p>



# Prospective Imaging Objects – December

<p><b>IC-2165</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b> Peak: Constellation: <b>Canis Major</b> Coordinates: <b>06hr 21' 43"</b> <b>-12° 59' 12"</b></p> <p>Close Star: Catalog Objects: <a href="#">IC-2165</a></p> <p>Imaging Window: *10:29 – 03:48 Transit: <b>01:05</b>   44°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>SH 2-249</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b> Peak: Constellation: <b>Gemini</b> Coordinates: <b>06hr 19' 15"</b> <b>23° 24' 58"</b></p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: <a href="#">SH 2-249</a></p> <p>Imaging Window: 09:49 – 04:30 Transit: <b>01:06</b>   80°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Rosette Nebula (NGC 2237)</b> Config: <b>C11-HD   HS   ZWO6200MC</b></p> <p>Type: <b>Diffuse Nebula</b> Constellation: <b>Monoceros</b> Coordinates: <b>06hr 31' 53.37"</b> <b>04° 50' 45.29"</b></p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: <a href="#">NGC-2237</a> ,NGC-2244</p> <p>Imaging Window: 10:48 – 03:48 Transit: <b>01:14</b>   62°</p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> 

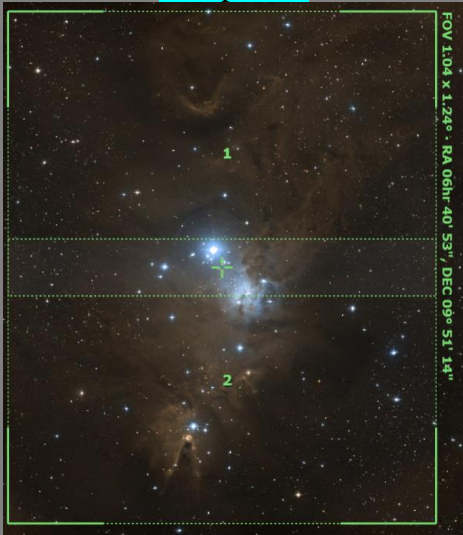
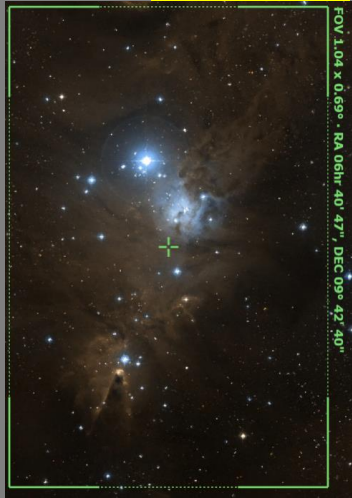
# Prospective Imaging Objects – December

<p><b>Rosette Nebula (NGC 2237)</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 32' 01"</b>  <b>04° 59' 28"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2237</a></p> <p>Imaging Window: <b>10:48 – 03:48</b>            Transit: <b>01:14   62°</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p> 
<p><b>Rosette Nebula (NGC 2237)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 32' 02"</b>  <b>04° 58' 14"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2237</a></p> <p>Imaging Window: <b>10:48 – 03:48</b>            Transit: <b>01:14   62°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>IC-2169</b>            Config: C11   HS   ZWO6200MC</p> <p>Type: <b>Bright Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 36' 00"</b>  <b>10° 16' 17"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">IC-2169</a></p> <p>Imaging Window: <b>10:30 – 04:06</b>            Transit: <b>01:15   80°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> <p style="text-align: center;">FOV 3.80 x 2.53° : RA 06hr 36' 00", DEC 10° 16' 17"</p> 



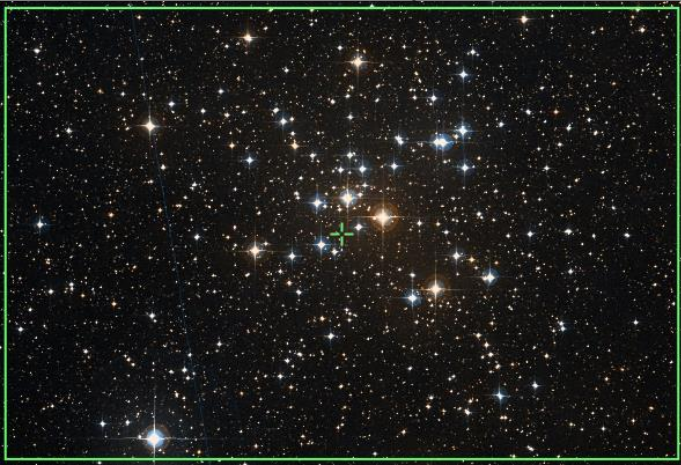
# Prospective Imaging Objects – December

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




# Prospective Imaging Objects – December

<p><b>Christmas Tree &amp; Cone</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b></p> <p>Coordinates:            Pane 1: <b>06hr 40' 53", 10° 07' 47"</b>            Pane 2, <b>06hr 40' 53", 09° 34' 40"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2264</a>/Sh 2-273</p> <p>Imaging Window: <b>10:41 – 04:15</b>            Transit: <b>01:24   67°</b></p>	<p><b>C-11 HD: Focal Reducer</b>  <b>Composite!</b></p> 
<p><b>Christmas Tree &amp; Cone</b>            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b></p> <p>Coordinates:  <b>06hr 40' 47"</b>  <b>09° 42' 40"</b>            Angle: <b>90° East</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2264</a>/Sh 2-273</p> <p>Imaging Window: <b>10:41 – 04:15</b>            Transit: <b>01:24   67°</b></p>	<p><b>C-11 HD: Focal Reducer</b></p> 
<p><b>Christmas Tree Cluster</b> (<a href="#">NGC 2264</a>)            Config:  C1 LF ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b></p> <p>Coordinates:  <b>06hr 40' 58.74"</b>  <b>09° 53' 32.69"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2264</a>/Sh 2-273</p> <p>Imaging Window: <b>10:41 – 04:15</b>            Transit: <b>01:24   67°</b></p>	<p><b>Primary Focus</b></p> 




# Prospective Imaging Objects – December

<p><b>Christmas Tree &amp; Cone</b>            Config:  C6FR ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 40' 51.6"</b>  <b>09° 40' 25.2"</b>            Angle: <b>90° East</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2264</a>/Sh 2-273</p> <p>Imaging Window: <b>10:41 – 04:15</b>            Transit: <b>01:24   67°</b></p>	<p style="text-align: center;"><b>C-6 HD: Focal Reducer</b></p>  <p style="font-size: small;">NGC-2264 (Cone &amp; Christmas Tree Nebula)  <small>Constellation: Monoceros            [RA = 06h 40m 51.6s DEC = +09deg 40' 25.2" Size = 55.0 x 36.7 arcmin   Orientation: 270deg E of N   Pixel scale = 0.667 arcsec/pixel   FL = 1166mm]</small></p> <p style="font-size: x-small; text-align: right;">Name: Video   Date(s): 2024-01-26-27   Location: Chandler, AZ            Config:  C-6SE 0.63 Focal Reducer OPT Reducer Triad Ultra ZWO6200MC             Exposure Info:  133.frm@2min Gain: 100 </p>
<p><b>Cone Nebula-1 (NGC 2264)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>06hr 41' 07"</b>  <b>09° 27' 52"</b></p> <p>Close Star: SAO-95912 (Alhena)            Catalog Objects: <a href="#">NGC-2264</a>/Sh 2-273</p> <p>Imaging Window: <b>10:41 – 04:15</b>            Transit: <b>01:24   67°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>M-41 (NGC 2287)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b>            Constellation: <b>Canis Major</b>            Coordinates:  <b>06hr 46' 09"</b>  <b>20° 47' 35"</b></p> <p>Close Star: <b>SAO-151881</b> (Sirius)            Catalog Objects: <a href="#">M-41</a>/NGC 2287</p> <p>Imaging Window: <b>*11:38 – 03:25</b>            Transit: <b>01:30   36°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 




# Prospective Imaging Objects – December

<p><b>M-50</b> (NGC 2323)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b>            Constellation: <b>Monoceros</b>            Coordinates:  <b>07hr 02' 48"</b>  <b>-08° 22' 33"</b></p> <p>Close Star: SAO-151881 (Sirius)            Catalog Objects: <a href="#">M-50</a>/NGC 2323</p> <p>Imaging Window: *11:19 – 04:19            Transit: 01:46   48°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Seagull Nebula</b> (IC-2177)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>07hr 06' 20"</b>  <b>-11° 06' 56"</b></p> <p>Close Star: SAO-151881 (Sirius)            Catalog Objects: <a href="#">IC-2177</a></p> <p>Imaging Window: *11:31 – 04:07            Transit: 01:48   46°</p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4 - 90° Rotation</b></p>  <p style="font-size: small;">Seagull Nebula (IC-2177, NGC-2327, NGC-2335, NGC-2343)            Constellation: Monoceros            RA = 07h 06m 17.6s DEC = -11deg 02' 21.2" Size = 210 x 140 pixels Orientation = 80deg E of N Pixel scale = 2.27x arcsecond (1.541mas)            James Van Der Meer © 2021 01, 06, 10, 11, 15, 17   Location: Chandler, AZ            Config: C-11HD   HyperStar V4   Optolong L-1100mm   QHY128K              Exposure: 160   107Frames/Stream   Gain: 5200   140Sec   180"</p>
<p><b>Seagull Nebula</b> (IC 2177)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>07hr 04' 47"</b>  <b>-10° 27' 49"</b></p> <p>Close Star: SAO-151881 (Sirius)            Catalog Objects: <a href="#">IC-2177</a></p> <p>Imaging Window: *11:31 – 04:07            Transit: 01:48   46°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 

# Prospective Imaging Objects – December


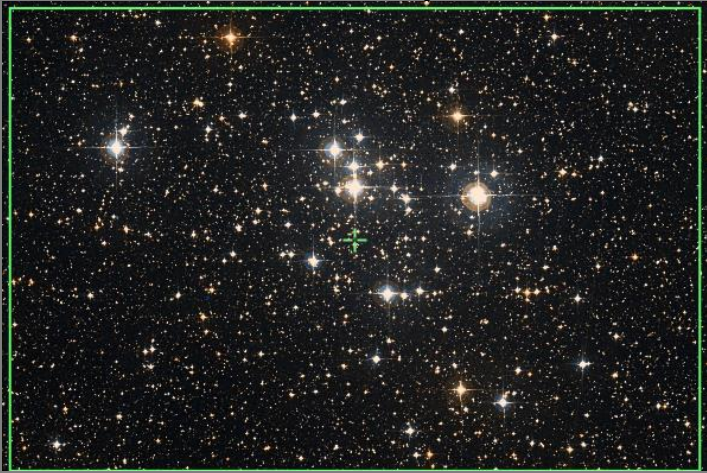

<p><b>Hourglass Nebula</b> (NGC-2346)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Peak:            Constellation: <b>Monoceros</b>            Coordinates:  <b>07hr 09' 23"</b>  <b>00° 48' 22"</b></p> <p>Close Star: SAO-115756 (Procyon)            Catalog Objects: <a href="#">NGC-2346</a></p> <p>Imaging Window: *<b>11:19 – 04:30</b>            Transit: <b>01:53   56°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus x2</b></p>  <p style="font-size: small; text-align: center;">Planetary Nebula NGC-2346  <small>Constellation: Monoceros            RA: 07h 09m 23s DEC: 00° 48' 22" Size: 25" x 17" scale: 0.8mm/arcsec Foc: 2700mm - 0.27 arcsec/pixel TE: 200mm            Date: 2024-11-05 19:53:56 Filter: H-alpha 400nm Gain: 2000000</small></p>
<p><b>Integral Sign Galaxy</b> (UGC 3697)            Config:  C11HD <b>FR</b> ZWO6200MC </p> <p>Type: <b>Galaxy Group</b>            Constellation: <b>Camelopardalis</b>            Coordinates:  <b>07hr 11' 40"</b>  <b>71° 56' 04"</b></p> <p>Close Star: <b>SAO-40186</b> (Capella)            Catalog Objects: <a href="#">UGC-3697</a>, UGC-3714, UGC-3701</p> <p>Imaging Window: <b>11:00 – 04:57</b>            Transit: <b>01:55   52°</b></p>	<p style="text-align: center;"><b>C-11 HD: <b>Focal Reducer</b></b></p> 
<p><b>Integral Sign Galaxy</b> (UGC 3697)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b>            Constellation: <b>Camelopardalis</b>            Coordinates:  <b>07hr 11' 50"</b>  <b>71° 48' 14"</b></p> <p>Close Star: <b>SAO-40186</b> (Capella)            Catalog Objects: <a href="#">UGC-3697</a>, UGC-3714, UGC-3701</p> <p>Imaging Window: <b>11:00 – 04:57</b>            Transit: <b>01:55   52°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 

# Prospective Imaging Objects – December


<p><b>Thor's Helmet (NGC-2359)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Diffuse Nebula</b>            Constellation: <b>Canis Major</b>            Coordinates:  <b>07h 18' 26.223"</b>  <b>-13° 15' 29.563"</b></p> <p>Close Star: SAO-151881 (Sirius)            Catalog Objects: <a href="#">NGC-2359</a>/            Sh2-298/ LBN1041</p> <p>Imaging Window: *10:56 – 05:12            Transit: 02:02   43°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Thor's Helmet (NGC 2359)            Constellation: Canis Major</p> <p style="font-size: x-small; text-align: right;">James Yoder   Direct   2023.01.25, 26, 27, 28 2023.02.02, 03   Location: Chandler, AZ            Config:  C11 HD  ZWO6200MC   QHY170M              Exposure Info:  H900s F56   Gain: 3200   Offset: 100</p>
<p><b>Candy Wrapper (NGC-2371)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b>            Constellation: <b>Gemini</b>            Coordinates:  <b>07° 25' 34"</b>  <b>29° 29' 18"</b></p> <p>Close Star: SAO-151881 (Sirius)            Catalog Objects: <a href="#">NGC-2371</a></p> <p>Imaging Window: 10:41 – 05:44            Transit: 02:09   86°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus x2</b></p>  <p style="font-size: x-small;">Candy Wrapper (NGC 2371)            Constellation: Gemini</p> <p style="font-size: x-small; text-align: right;">James Yoder   Direct   2023.01.25, 26, 27, 28 2023.02.02, 03   Location: Chandler, AZ            Config:  C11 HD  ZWO6200MC   QHY170M              Exposure Info:  H900s F56   Gain: 3200   Offset: 100</p>
<p><b>Medusa Nebula (Abell 21)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b></p> <p>Constellation: <b>Gemini</b>            Coordinates:  <b>07h 29' 00"</b>  <b>13° 15' 00"</b></p> <p>Close Star: SAO-115756 (Procyon)            Catalog Objects: <a href="#">Abell 21</a></p> <p>Imaging Window: 11:19 – 05:13            Transit: 02:13   70°</p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: x-small;">Abell-21 (Medusa Nebula)            Constellation: Gemini            RA = 7h 29m 54.9s, DEC = +13deg 15' 20.8", Size = 38.7 x 26.1 arcmin   Orientation: 0.8deg E of N   Pixel scale = 0.579 arcsec/pixel   FL=1720mm</p> <p style="font-size: x-small; text-align: right;">James Yoder   Direct   2023.01.25, 26, 27, 28 2023.02.02, 03   Location: Chandler, AZ            Config:  C11 HD  ZWO6200MC   QHY170M              Exposure Info:  H900s F56   Gain: 3200   Offset: 100</p>






# Prospective Imaging Objects – December

<p><b>Eskimo Nebula (NGC-2392)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b></p> <p>Constellation: <b>Gemini</b> Coordinates: <b>07h 29' 11"</b> <b>20° 54' 45"</b></p> <p>Close Star: <b>SAO-79666</b> (Pollux) Catalog Objects: <a href="#">NGC-2392</a></p> <p>Imaging Window: <b>11:00 – 05:32</b> Transit: <b>02:13   70°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">NGC-2392 (Eskimo Nebula) James Yoder   Date(s) 2020.12.09   Location: Chandler, AZ   Constellation: Gemini   Config:  C-11 HD (OPT) Triad Ultra   ZWO6200MC   Exposure Info: 144 frames/Stack   Gain: 100   Offset: 50   RA = 07h 29m 11.5s   DEC = +20deg 54' 33.6"   Size = 18.5 x 13.9 arcmin   Orientation: 0.5deg E of N   Pixel scale = 0.278 arcsec/pixel   F1=2000mm  </p>
<p><b>M-47 (NGC-2422)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b></p> <p>Constellation: <b>Puppis</b> Coordinates: <b>07h 36' 36"</b> <b>-14° 32' 19"</b></p> <p>Close Star: <b>SAO-79666</b> (Pollux) Catalog Objects: <a href="#">M-47</a>/NGC-2422</p> <p>Imaging Window: *<b>11:15 – 05:28</b> Transit: <b>02:20   42°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>NGC-2403</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Barred Spiral Galaxy</b></p> <p>Constellation: <b>Camelopardalis</b> Coordinates: <b>07h 36' 51"</b> <b>65° 36' 06"</b></p> <p>Close Star: <b>SAO-79666</b> (Pollux) Catalog Objects: <a href="#">NGC-2403</a></p> <p>Imaging Window: <b>10:52 – 05:55</b> Transit: <b>02:20   58°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Galaxy NGC-2403 (Calwell 7) James Yoder   Date(s) 2020.12.09   Location: Chandler, AZ   Constellation: Camelopardalis   Config:  C-11 HD (OPT) Triad Ultra   ZWO6200MC   Exposure Info: 144 frames/Stack   Gain: 100   Offset: 50   RA = 07h 36m 51.5s   DEC = +65deg 36' 06"   Size = 18.5 x 13.9 arcmin   Orientation: 0.5deg E of N   Pixel scale = 0.278 arcsec/pixel   F1=2000mm  </p>

# Prospective Imaging Objects – December

<p><b>Intergalactic Wanderer (NGC-2419)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Globular Cluster</b></p> <p>Constellation: <b>Lynx</b>            Coordinates:  <b>07h 38' 09"</b>  <b>38° 52' 57"</b></p> <p>Close Star: <b>SAO-79666</b> (Pollux)            Catalog Objects: <a href="#">NGC-2419</a></p> <p>Imaging Window: <b>10:41 – 05:55</b>            Transit: <b>02:22   84°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">Intergalactic Wanderer (NGC-2419)  <small>© 2024 Starizona LLC. All rights reserved. This image is for personal use only. No part of this image may be reproduced without the written permission of Starizona LLC.</small></p>
<p><b>M-46 (NGC-2437)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster with PN</b></p> <p>Constellation: <b>Puppis</b>            Coordinates:  <b>07h 41' 45"</b>  <b>-14° 46' 43"</b></p> <p>Close Star: <b>SAO-151881</b> (Sirius)            Catalog Objects: <a href="#">M-46</a>/NGC-2437,            NGC-2438</p> <p>Imaging Window: <b>*11:23 – 05:28</b>            Transit: <b>02:25   42°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">NGC-2438  <small>© 2024 Starizona LLC. All rights reserved. This image is for personal use only. No part of this image may be reproduced without the written permission of Starizona LLC.</small></p>
<p><b>Bow-Tie Nebula (NGC-2440)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b></p> <p>Constellation: <b>Puppis</b>            Coordinates:  <b>07° 41' 55"</b>  <b>-18° 12' 29"</b></p> <p>Close Star: <b>SAO-151881</b> (Sirius)            Catalog Objects: <a href="#">NGC-2440</a></p> <p>Imaging Window: <b>*11:42 – 05:12</b>            Transit: <b>02:25   38°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus x2</b></p>  <p style="font-size: small; text-align: center;">FOV 0.73 x 0.49° • RA 07hr 41' 55", DEC -18° 12' 29"</p>




# Prospective Imaging Objects – December

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




# Prospective Imaging Objects – December

<p><b>Beehive Cluster</b> (NGC-2632) Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Open Cluster</b></p> <p>Constellation: <b>Cancer</b> Coordinates: <b>08h 39' 59"</b> <b>19° 39' 01"</b></p> <p>Close Star: <b>SAO-115756</b> (Procyon) Catalog Objects: <a href="#">M-44</a>/NGC-2632</p> <p>Imaging Window: <b>12:14 – 05:55</b> Transit: <b>03:23   76°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p> 
<p><b>M-67</b> (NGC-2682) Config:  C11HD ZWO6200MC </p> <p>Type: <b>Open Cluster</b></p> <p>Constellation: <b>Cancer</b> Coordinates: <b>08h 51' 18"</b> <b>11° 48' 60"</b></p> <p>Close Star: <b>SAO-115756</b> (Procyon) Catalog Objects: <a href="#">M-67</a>/NGC-2682</p> <p>Imaging Window: <b>12:45 – 05:55</b> Transit: <b>03:35   68°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Helix Galaxy</b> (NGC-2685) Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b></p> <p>Constellation: <b>Ursa Major</b> Coordinates: <b>08h 55' 14"</b> <b>58° 42' 24"</b></p> <p>Close Star: <b>SAO-27876</b> (Merak) Catalog Objects: <a href="#">NGC-2685</a></p> <p>Imaging Window: <b>11:56 – 05:55</b> Transit: <b>03:39   65°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 


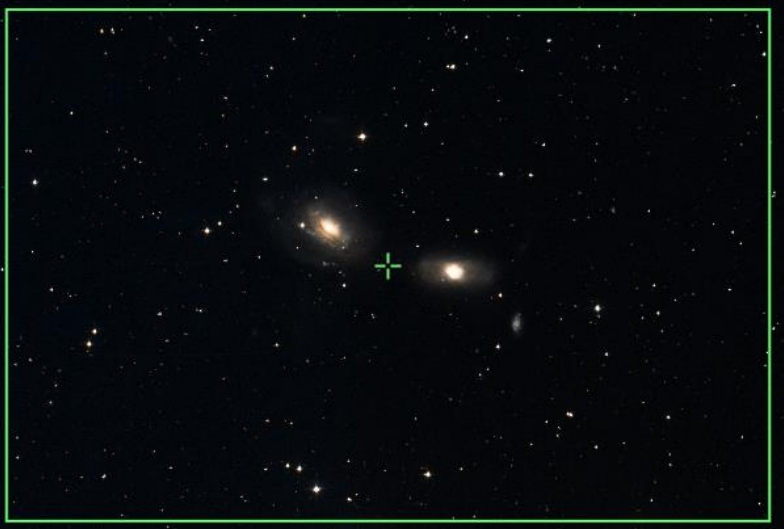

# Prospective Imaging Objects – December

<p><b>NGC-2903</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b></p> <p>Constellation: <b>Leo</b> Coordinates: <b>09h 32' 08.949"</b> <b>21° 30' 37.772"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">NGC-2903</a></p> <p>Imaging Window: <b>01:02 – 05:55</b> Transit: <b>04:15   78°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small;">NGC-2903 Barred Spiral Galaxy in Leo</p> <p style="text-align: right; font-size: small;">James Yoder 2017.02.24</p>
<p><b>Bode's Cigar (M81 &amp; M82)</b> Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Galaxy Pair</b> Peak:</p> <p>Constellation: <b>Ursa Major</b> Coordinates: <b>09hr 54' 02"</b> <b>68° 53' 32"</b></p> <p>Close Star: <b>SAO-15384</b> Catalog Objects: M-81 &amp; <a href="#">M-82</a></p> <p>Imaging Window: <b>01:29 – 05:55</b> Transit: <b>04:39   54°</b></p>	<p style="text-align: center;"><b>C-11 HD: HyperStar v4</b></p>  <p style="font-size: x-small;">Cigar galaxy (M-82), Bode's galaxy (M-81), NGC-2976</p> <p style="font-size: x-small;">James Yoder   Date(s) 2020.12.01, 2020.12.01   Location: Chandler, AZ Config: C-11HD   HyperStar v4   1.2p-03, C11-SCD   GH1 LDC Exposure Info: 9/50ms@f8.0, 240ms@f8.0 (Gain: 5200)   QBSer: 180</p>
<p><b>Bode's Cigar (M81 &amp; M82)</b> Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Galaxy Pair</b> Constellation: <b>Ursa Major</b> Coordinates: RA: <b>09hr 55' 40"</b> DEC: <b>69° 18' 39"</b> <b>90° Rotation</b></p> <p>Close Star: <b>SAO-15384</b> Catalog Objects: M-81 &amp; <a href="#">M-82</a></p> <p>Imaging Window: <b>01:29 – 05:55</b> Transit: <b>04:39   54°</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p>  <p style="font-size: x-small; transform: rotate(-90deg); position: absolute; left: -50px; top: 50%;">FOV 1.04 x 0.69° · RA 09hr 55' 40" · DEC 69° 18' 39" · 0.39" / px</p>




# Prospective Imaging Objects – December

<p><b>Bode's Nebula (M-81)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b> Constellation: <b>Ursa Major</b> Coordinates: <b>09h 55' 24.184"</b> <b>69° 05' 18.969"</b></p> <p>Close Star: <b>SAO-15384</b> Catalog Objects: M-81/<a href="#">NGC-3031</a></p> <p>Imaging Window: <b>01:25 – 05:55</b> Transit: <b>04:39   54°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="text-align: center;">M-081 Bode's Galaxy</p> <p style="text-align: right;">James Yoder 2015.11.14</p>
<p><b>Cigar Galaxy (M-82)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b></p> <p>Constellation: <b>Ursa Major</b> Coordinates: <b>09h 55' 57.451"</b> <b>69° 42' 37.646"</b></p> <p>Close Star: <b>SAO-15384</b> Catalog Objects: <a href="#">M-82</a>/NGC-3034</p> <p>Imaging Window: <b>01:29 – 05:55</b> Transit: <b>04:39   54°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="text-align: center;">M-082 Cigar Galaxy</p> <p style="text-align: right;">James Yoder 2017.03.24</p>
<p><b>Spindle Galaxy (NGC-3115)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b></p> <p>Constellation: <b>Sextans</b> Coordinates: <b>10h 05' 21"</b> <b>-07° 47' 09"</b></p> <p>Close Star: <b>SAO-98967 (Regulus)</b> Catalog Objects: <a href="#">NGC-3115</a></p> <p>Imaging Window: <b>*11:43 – 04:48</b> Transit: <b>02:20   49°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="text-align: center;">Spindle Galaxy (NGC-3115)</p> <p style="text-align: right;">James Yoder 2017.03.24</p>

# Prospective Imaging Objects – December




<p><b>Powder keg Galaxy (UGC-5470)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy</b></p> <p>Constellation: <b>Leo</b> Coordinates: <b>10h 08' 27"</b> <b>12° 19' 49"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">UGC-5470</a></p> <p>Imaging Window: <b>02:01 – 05:55</b> Transit: <b>04:51   69°</b></p>	<p><b>C-11 HD: Primary Focus</b></p>  <p><small>Dwarf Galaxy Leo I (UGC-5470) Constellation: Leo (Leo) RA: 10h 08m 27.00s   Dec: 12° 19' 49.00"   Size: 97.0"   Type: SA(s)   Distance: 10Mly   Filter: RGB   FWHM: 1.07"   Exposure: 15.00min</small></p> <p><small>Star: SAO-98967 (Regulus)   RA: 10h 08m 00.00s   Dec: 12° 19' 49.00"   Size: 1.00"   Type: G   Distance: 10Mly   Filter: RGB   FWHM: 1.00"   Exposure: 15.00min</small></p>
<p><b>NGC-3166 &amp; NGC-3169</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy pair</b></p> <p>Constellation: <b>Sextans</b> Coordinates: <b>10h 14' 01"</b> <b>03° 25' 51"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">NGC-3166</a>, <a href="#">NGC-3169</a></p> <p>Imaging Window: <b>02:37 – 05:55</b> Transit: <b>04:57   60°</b></p>	<p><b>C-11 HD: Primary Focus</b></p>  <p><small>NGC-3166 (Leo)   RA: 10h 14m 01.00s   Dec: 03° 25' 51.00"   Size: 100.0"   Type: SA(rs)   Distance: 10Mly   Filter: RGB   FWHM: 1.00"   Exposure: 15.00min</small></p> <p><small>NGC-3169 (Leo)   RA: 10h 14m 01.00s   Dec: 03° 25' 51.00"   Size: 100.0"   Type: SA(rs)   Distance: 10Mly   Filter: RGB   FWHM: 1.00"   Exposure: 15.00min</small></p>
<p><b>Hickson 44 (NGC-3190, 3189,)</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy Group</b></p> <p>Constellation: <b>Leo</b> Coordinates: <b>10h 17' 57"</b> <b>21° 49' 11"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">NGC-3189</a>, 3190, 3185, 3193, 3187, <a href="#">PGC-2806871</a></p> <p>Imaging Window: <b>01:47 – 05:55</b> Transit: <b>05:01   79°</b></p>	<p><b>C-11 HD: Primary Focus</b></p>  <p><small>Hickson-44 Galaxy Cluster (Aip-316) Constellation: Leo RA: 10h 17m 57.00s   Dec: 21° 49' 11.00"   Size: 100.0"   Type: SA(rs)   Distance: 10Mly   Filter: RGB   FWHM: 1.00"   Exposure: 15.00min</small></p> <p><small>Star: SAO-98967 (Regulus)   RA: 10h 08m 00.00s   Dec: 12° 19' 49.00"   Size: 1.00"   Type: G   Distance: 10Mly   Filter: RGB   FWHM: 1.00"   Exposure: 15.00min</small></p>

# Prospective Imaging Objects – December




<p><b>NGC-3184</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Face-on Spiral Galaxy</b></p> <p>Constellation: <b>Ursa Major</b> Coordinates: <b>10h 18' 17"</b> <b>41° 25' 24"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">NGC-3184</a></p> <p>Imaging Window: <b>01:19 – 05:55</b> Transit: <b>05:01   82°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small; text-align: center;">Barred Spiral Galaxy NGC-3184 Constellation: Ursa Major Coordinates: RA=10h 18m 16.97s, DEC=41° 25' 24.00" (Orientation: 0°) Pixel scale=0.278 arc/pixel FL=200mm</p>
<p><b>NGC-3227 &amp; NGC-3226</b> Config:  C11HD ZWO6200MC </p> <p>Type: <b>Interacting Galaxies</b></p> <p>Constellation: <b>Leo</b> Coordinates: <b>10h 23' 29"</b> <b>19° 53' 07"</b></p> <p>Close Star: <b>SAO-60178</b> (Castor) Catalog Objects: <a href="#">NGC-3227</a>, <a href="#">NGC-3226</a></p> <p>Imaging Window: <b>01:57 – 05:55</b> Transit: <b>05:06   76°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 
<p><b>Ghost of Jupiter</b> (NGC-3242) Config:  C11HD ZWO6200MC </p> <p>Type: <b>Planetary Nebula</b></p> <p>Constellation: <b>Hydra</b> Coordinates: <b>10h 24' 46"</b> <b>-18° 38' 31"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus) Catalog Objects: <a href="#">NGC-3242</a></p> <p>Imaging Window: <b>*03:02 – 05:55</b> Transit: <b>05:08   38°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: x-small;">NGC-3242 (Ghost of Jupiter) Constellation: Hydra Coordinates: RA=10h 24m 44.7s, DEC=-18deg 38' 31.4" Size=18.3 x 13.9 arcmin (Orientation: -0.6deg E of N) Pixel scale=0.278 arc/pixel FL=200mm</p> <p style="font-size: x-small; text-align: right;">James Volder   Dates: 2020.12.09.10   Location: Chandler, AZ Config:  C-11 HD XPT Triad Ultra   ZWO6200MC  Exposure Info:   36 frames @ 2min   Gain: 100   OffSet: 50  </p>



# Prospective Imaging Objects – December

<p><b>Galaxy Group 2574</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Galaxy Group</b></p> <p>Constellation: <b>Leo</b>            Coordinates:  <b>10h 28' 40"</b>  <b>68° 26' 14"</b></p> <p>Close Star: <b>SAO-27876</b> (Merak)            Catalog Objects: <a href="#">IC-2574</a></p> <p>Imaging Window: <b>01:55 – 05:55</b>            Transit: <b>05:11   55°</b></p>	<p><b>C-11 HD: HyperStar v4</b></p>  <p><b>FOV 3.81 x 2.54° · RA 10hr 12' 10\", DEC 69° 02' 51"</b></p>
<p><b>Coddington's Nebula (IC-2574)</b>            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Barred Spiral Galaxy</b></p> <p>Constellation: <b>Leo</b>            Coordinates:  <b>10h 28' 40"</b>  <b>68° 26' 14"</b></p> <p>Close Star: <b>SAO-27876</b> (Merak)            Catalog Objects: <a href="#">IC-2574</a></p> <p>Imaging Window: <b>01:55 – 05:55</b>            Transit: <b>05:11   55°</b></p>	<p><b>C-11 HD: Primary Focus</b></p>  <p><small>Coddington Nebula (IC-2574)            Constellation: Ursa Major            RA = 10h 28m 41.9s, DEC = +68deg 26' 48.2\"</small></p>
<p><b>Leo Galaxy Group (M-96, M95 et al.)</b>            Config: C11-HD   HS   ZWO6200MC</p> <p>Type: <b>Galaxy Grouping</b></p> <p>Constellation: <b>Leo</b>            Coordinates:  <b>10h 47' 23"</b>  <b>12° 23' 59"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus)            Catalog Objects: <a href="#">M-96</a>, M95, NGC3389, NGC3384, M105</p> <p>Imaging Window: <b>02:41 – 05:55</b>            Transit: <b>05:30   68°</b></p>	<p><b>C-11 HD: HyperStar v4</b></p>  <p><small>Galaxy Cluster in Leo            James Yoder, 2018.04.17</small></p>

# Prospective Imaging Objects – December

<p><b>M-95, M-96</b> (NGC-3351, 3368)            Config:  C11-            HD FR ZWO6200MC </p> <p>Type: <b>Galaxy Pair</b></p> <p>Constellation: <b>Leo</b>            Coordinates:  <b>10h 45' 20"</b>  <b>11° 44' 30"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus)            Catalog Objects: <a href="#">M-95</a>, M-96</p> <p>Imaging Window: <b>12:04 – 05:44</b>            Transit: <b>02:58   68°</b></p>	<p style="text-align: center;"><b>C-11 HD: Focal Reducer</b></p>  <p style="font-size: small; text-align: center;">Galaxy pair M-95(NGC-3351) &amp; M-96(NGC-3368)            Constellation: Leo the Lion            RA: 10h 45m 20.0s DEC: +11deg 44' 30.0" Size: 79.3 x 48 arcmin (Pixel scale = 0.178 arcsec/pixel)            James Yoder (2024-04-27) Location: Mountain View, CA            Imaging: C-11 HD/760mm f/8.3            Exposure: 30x300s/Frame (Gain: 520e) Offset: 180</p>
<p><b>Leo Trio 2</b> (NGC-3379, 3384, 3389)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Trio of Galaxies</b></p> <p>Constellation: <b>Leo</b>            Coordinates:  <b>10h 48' 07.227"</b>  <b>12° 33' 52.943"</b></p> <p>Close Star: <b>SAO-98967</b> (Regulus)            Catalog Objects: <a href="#">M-105</a>/NGC3379,            NGC-3384, NGC-3389</p> <p>Imaging Window: <b>02:40 – 05:55</b>            Transit: <b>05:31   69°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p>  <p style="font-size: small; text-align: center;">Trio of Galaxies            NGC 3389            NGC 3384            NGC 3379 (M105)            James Yoder 2015.03.22</p>
<p><b>Ambartsumian's Knot et al.</b>            (NGC-3561, 3558, 3553, 3550, etc.)            Config:  C11HD ZWO6200MC </p> <p>Type: <b>Galaxy Cluster</b></p> <p>Constellation: <b>Ursa Major</b>            Coordinates:  <b>11h 10' 43"</b>  <b>28° 41' 41"</b></p> <p>Close Star: <b>SAO-81727</b> (Zosma)            Catalog Objects: <a href="#">NGC-3561</a></p> <p>Imaging Window: <b>02:28 – 05:55</b>            Transit: <b>05:54   85°</b></p>	<p style="text-align: center;"><b>C-11 HD: Primary Focus</b></p> 

# 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) and Owl Nebula (M-97, NGC-3587)  
Constellation: Ursa Major  
[RA = 11h 12m 51.217s DEC = +55deg 21' 46.196"] Size = 1.91 x 1.28 deg | Pixel scale = 2.28 arcsec/pixel

James Yoder 2020 04 03  
Config: |C-11HD|HyperStar V4|AstroNominik CLS-CCD QHY129c-|  
Exposure Info: |147frames@1min |Gain: 3200 |Offset: 180 |  
Location: Chandler, AZ

## M-108 (NGC-3556)

Config: |C11HD|ZWO6200MC|

Type: **Irregular Galaxy**

Constellation: **Ursa Major**

Coordinates:  
**11h 11' 29"**  
**55° 40' 22"**

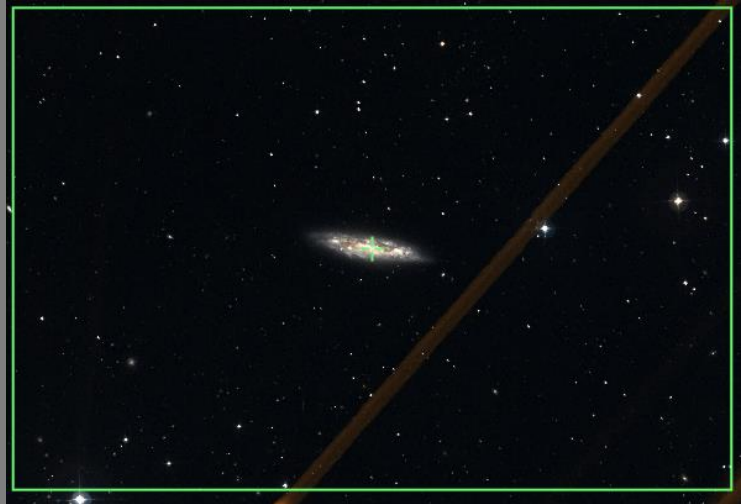
Close Star: **SAO-27876** (Merak)

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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Page

# 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	<b>Copmp2!</b> 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	<b>Rot90</b> 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	<b>Comp2!</b> 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	<b>Comp2! Rot90°</b> 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	Broad 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

<b>Configuration</b>	<b>Class</b>	<b>Type</b>	<b>Object</b>	<b>Imaging Window</b>	<b>Transit</b>	<b>Page Ref</b>	<b>Comments</b>
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