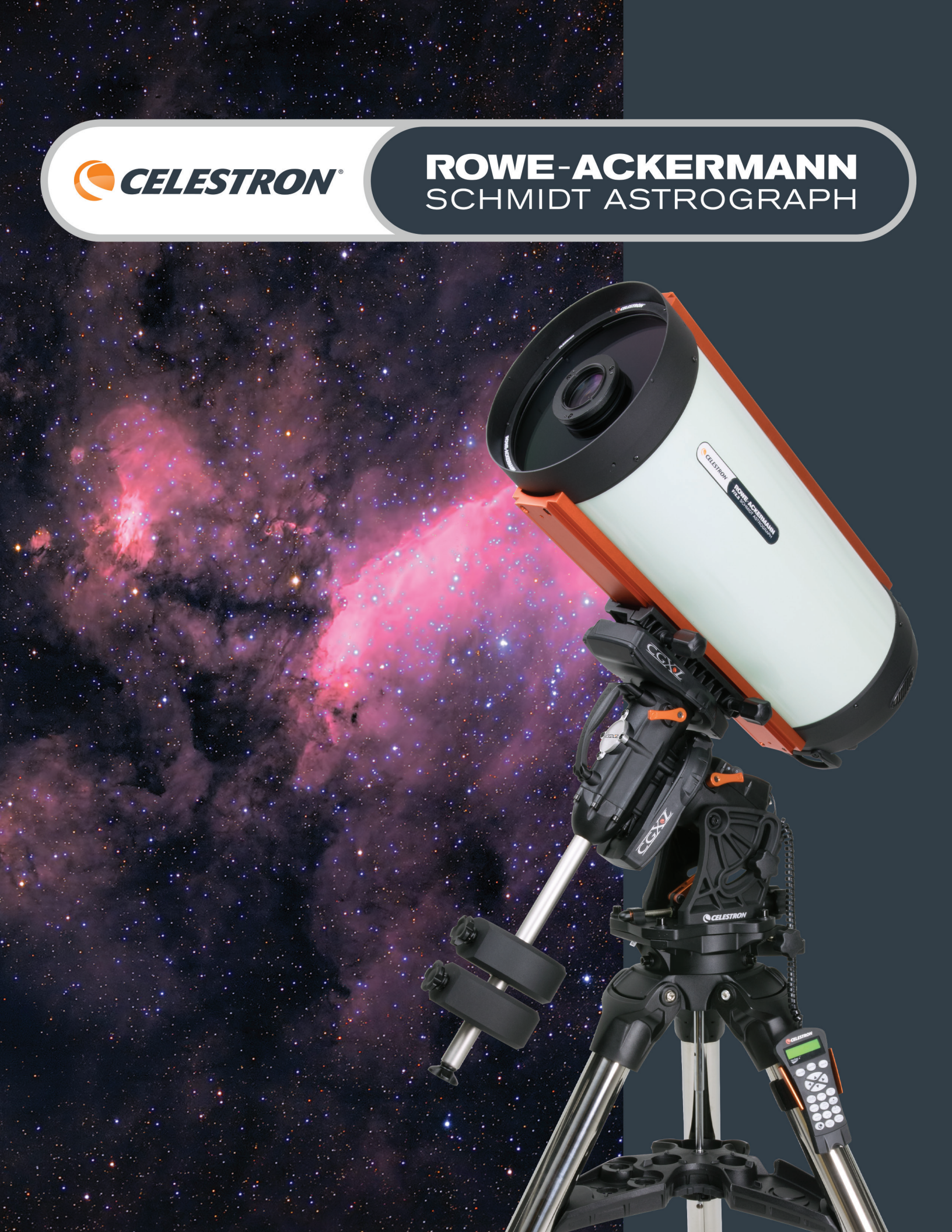
CELESTRON®

# ROWE-ACKERMANN SCHMIDT ASTROGRAPH



OBJECT: Barnard 33 & NGC 2024, Horsehead and Flame Nebulae
IMAGER: Michael Jäger
EQUIPMENT: RASA 8” f/2.0


COVER TELESCOPE: RASA 11”

COVER ASTROIMAGE
OBJECT: IC 4628, Prawn Nebula
IMAGER: Dylan O’Donnell
EQUIPMENT: RASA 11” f/2.2

RASA 8”


The Rowe-Ackermann Schmidt Astrograph (RASA) is a cost-effective ultra-fast optical system ideal for astronomical imaging, scientific, and surveillance applications. Leveraging Celestron's expertise in consumer telescopes, we can offer an outstanding value in aperture, speed, field of view, and optical performance. The RASA provides an external prime-focus image capture location with a perfectly flat focal plane, small spot sizes to the edge of a wide field, and ample back-focus distance to accommodate a wide variety of imaging sensors.

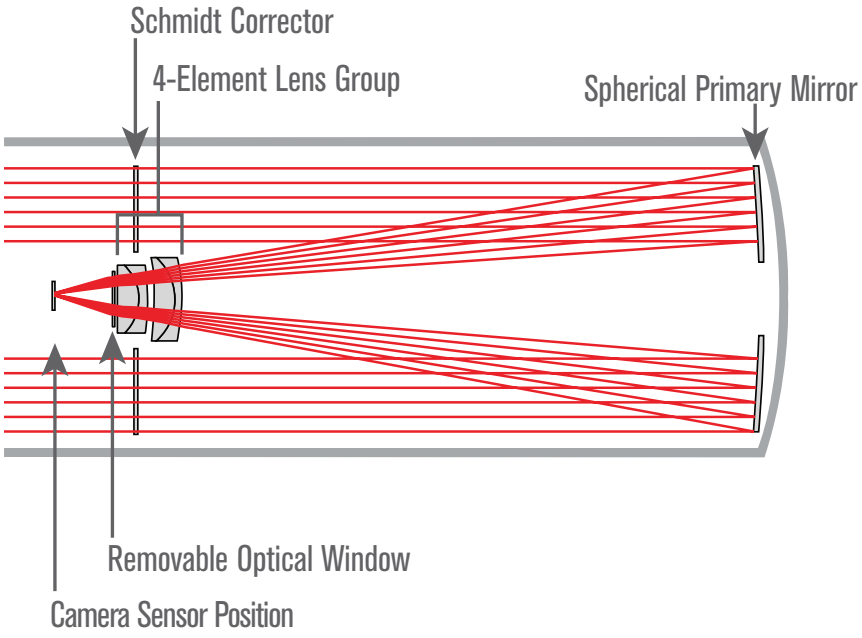
The RASA is available in three sizes: 8-inch aperture (F = 400 mm), 11-inch aperture (F = 620 mm) and 36 cm aperture (F = 790 mm). The 8" version is the most portable and affordable, a great choice for astronomical imaging in the field. The 11" version, works well in small observatories or as a survey/science camera lens for educational institutions. The 36 cm version is designed as a science-grade optical system for integration into fast, wide-angle surveillance activities.

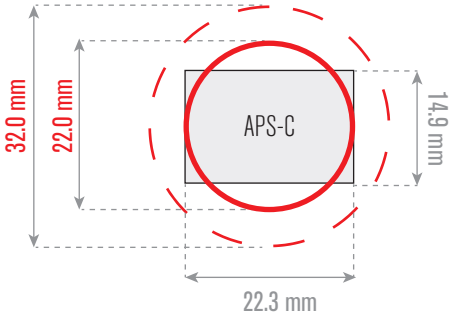
Visit our website at **celestron.com/RASA** for more information.


RASA 36cm

## RASA'S PROPIETARY OPTICAL DESIGN

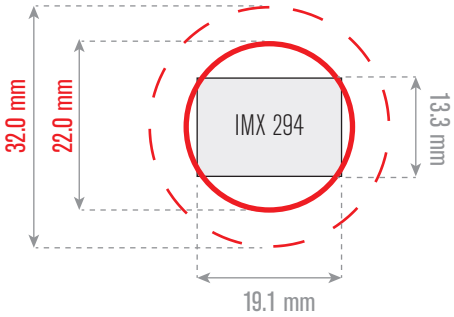
- 8-inch aperture
- f/2.0 focal ratio
- 3.2° field of view
- 22.0 mm image circle
- < 4.55 µm RMS spot size across field of view

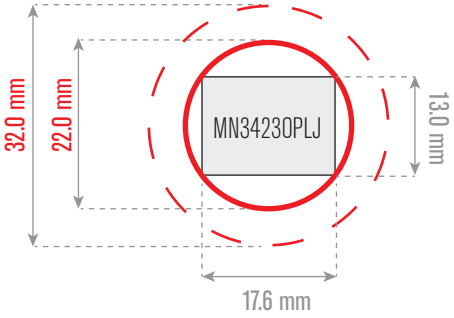


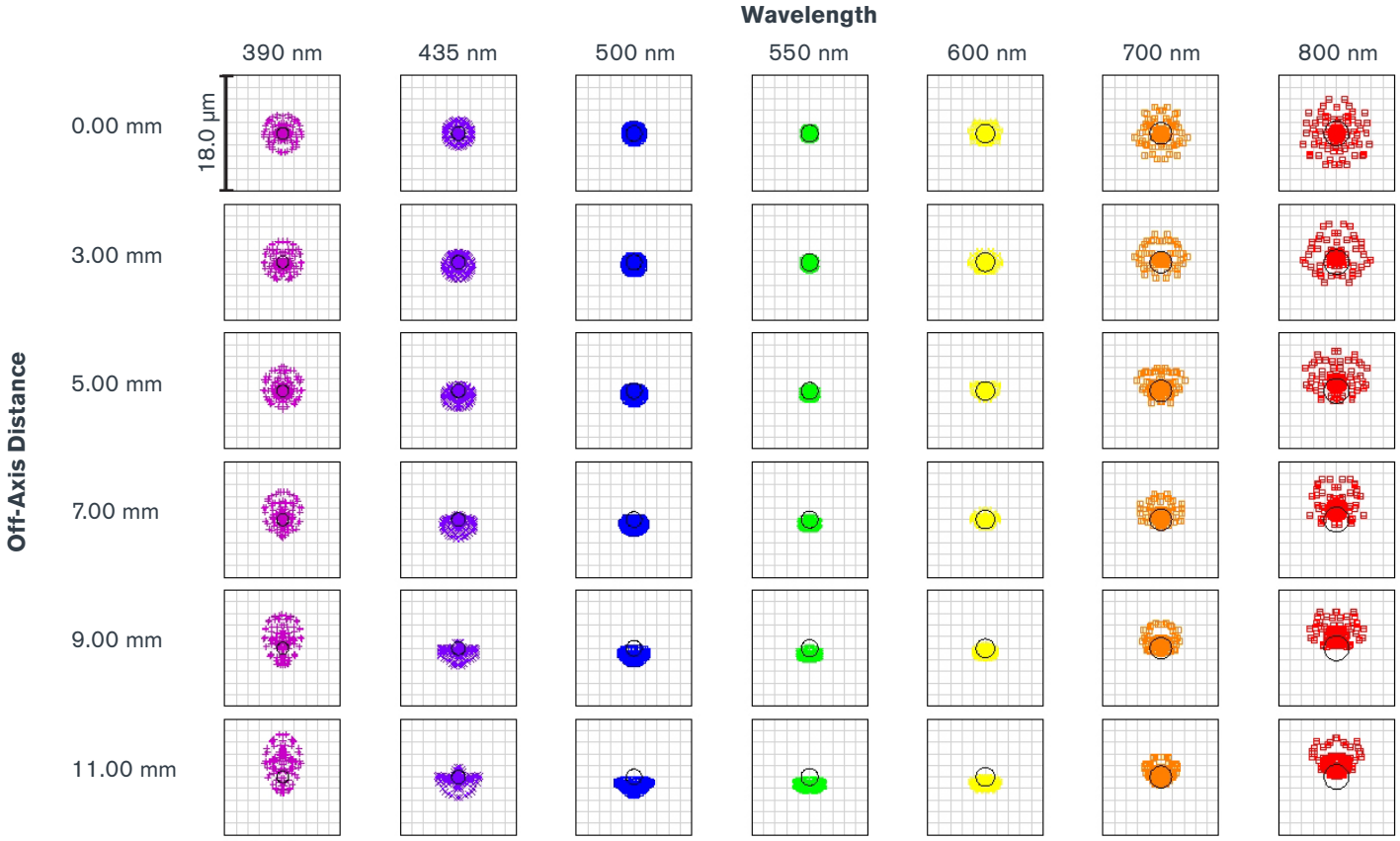

Usable Field (32.0 mm)

Image Circle (22.0 mm)



## Matrix Spot Diagram (18 µm box size)

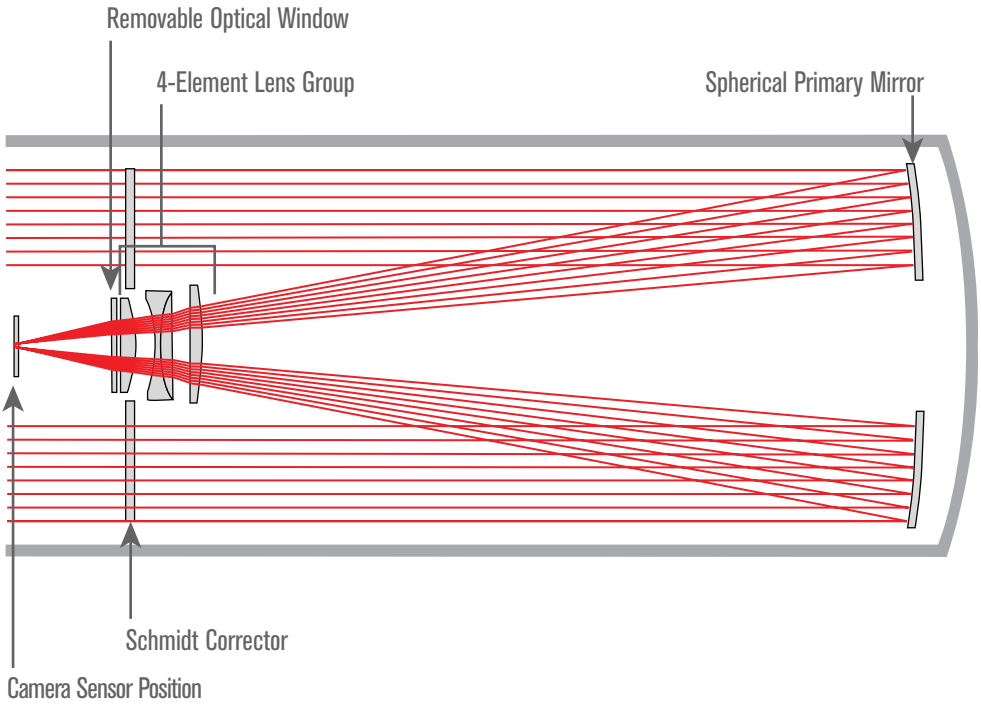


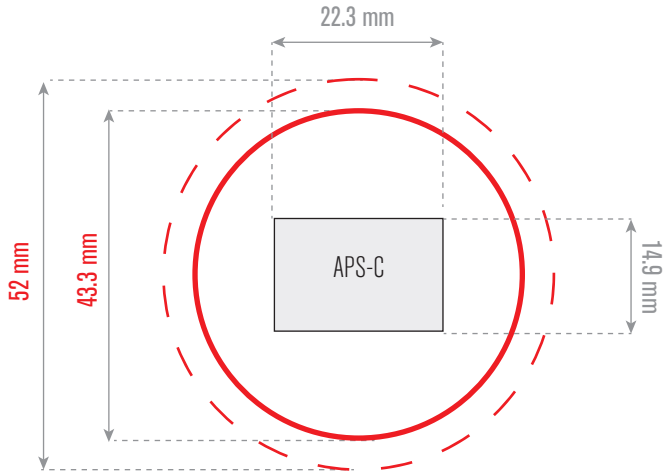

## Mechanical and Optical Parameters

| | |
|---|---|
| Clear aperture | 203 mm |
| Focal length | 400 mm |
| Focal ratio | f/2.0 |
| Central obscuration | 93 mm (46% of aperture diameter) |
| Optical design | Rowe-Ackermann Schmidt Astrograph |
| Image circle | 22.0 mm Ø, 3.2 degrees |
| Image scale | 7.0 mm/degree, 514 arcsec/mm |
| Wavelength range | 390–800 nm |
| Spot size | < 4.55 µm RMS across FOV |
| Optical coatings | Enhanced aluminum, XLT multi-coatings used throughout |
| Off-axis Illumination | 93% at 11 mm off-axis |
| Optical filter | 46 mm Ø |
| Back focus (with included adapter) | 25 mm |
| Back focus (from filter) | 29 mm |
| Tube material | Aluminum |
| Tube dimensions | 24.7 inches length, 9.3 inches diameter, 17 pounds |
| Focuser | Ultra-Stable Focus System |
| Other features | Ventilation fan, CGE dovetail mounting bar |

## RASA'S PROPIETARY OPTICAL DESIGN

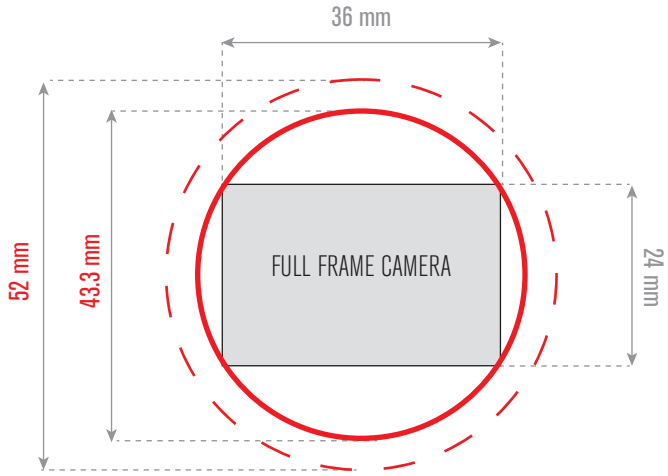
- 11-inch aperture
- f/2.2 focal ratio
- 4.0° field of view
- 43.3 mm image circle
- < 4.4 µm RMS spot size across field of view

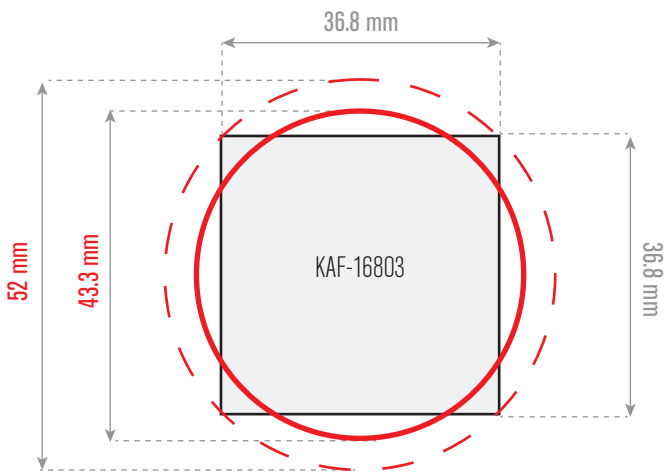


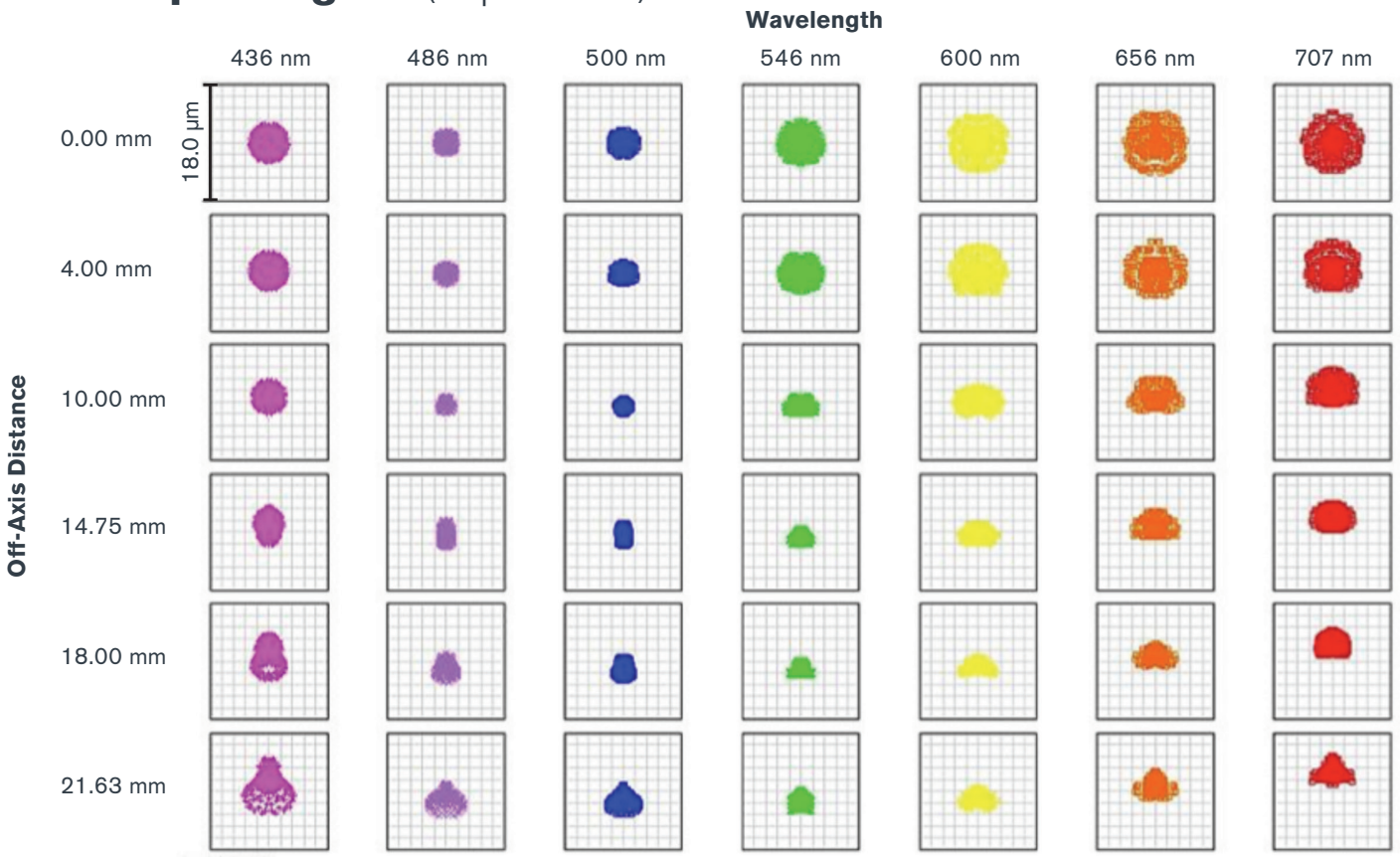

Usable Field (52 mm)

Image Circle (43.3 mm)



## Matrix Spot Diagram (18 µm box size)

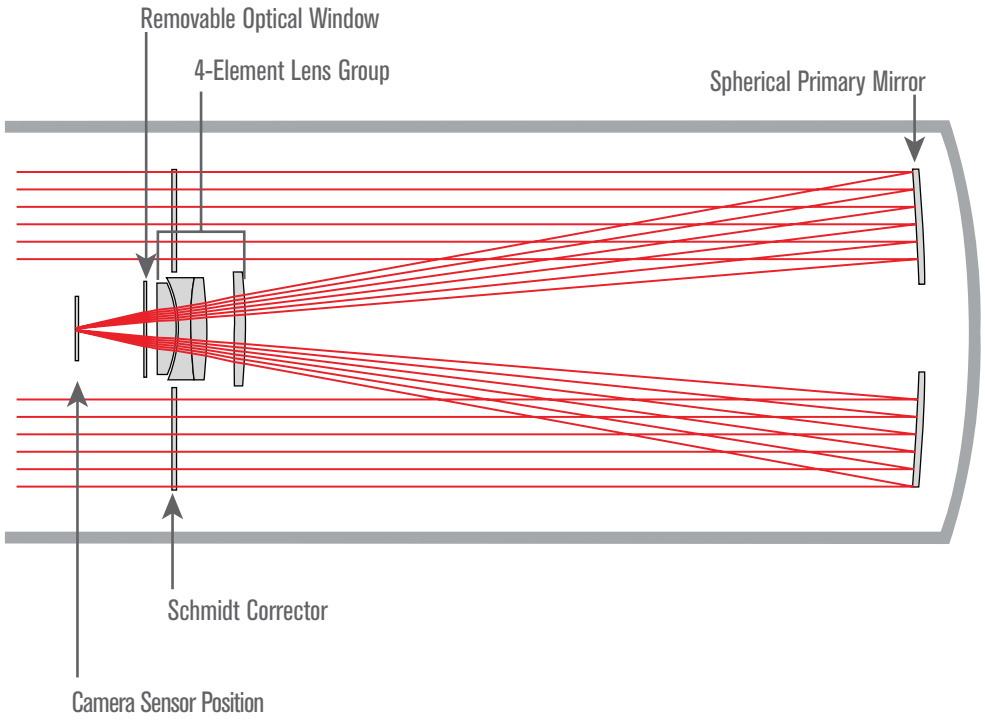


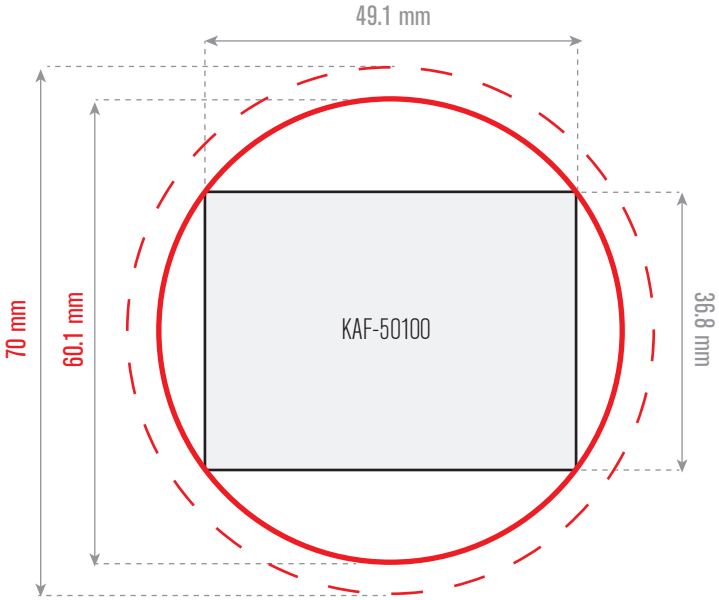

## Mechanical and Optical Specifications

| | |
|---|---|
| Clear aperture | 280 mm |
| Focal length | 620 mm |
| Focal ratio | f/2.2 |
| Central obscuration | 114 mm (41% of aperture diameter) |
| Optical design | Rowe-Ackermann Schmidt Astrograph |
| Image circle | 43.3 mm Ø , 4.0 degrees |
| Image scale | 10.8 mm/degree, 332 arcsec/mm |
| Wavelength range | 400-700 nm |
| Spot size | < 4.4 µm RMS across FOV |
| Optical coatings | Enhanced aluminum, XLT multi-coatings used throughout |
| Off-axis Illumination | 83% at 21 mm off-axis |
| Optical filter | 68 mm Ø |
| Back focus (with included adapter) | 55 mm |
| Back focus (from filter) | 81 mm |
| Tube material | Aluminum |
| Tube dimensions | 33 inches length, 13 inches diameter, 43 pounds |
| Focuser | Ultra-Stable Focus System |
| Other features | Ventilation fan, dual CGE dovetail mounting bars |

## RASA'S PROPIETARY OPTICAL DESIGN

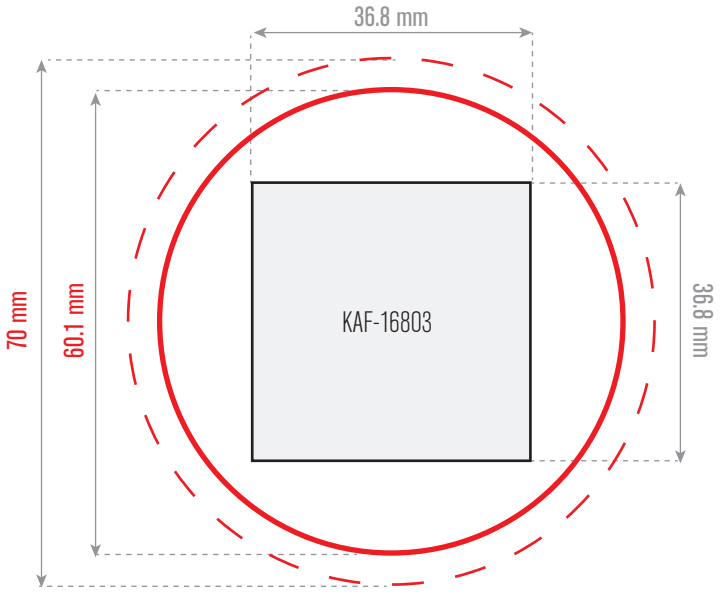
- 36 cm aperture
- f/2.2 focal ratio
- 4.3° field of view
- 60.1 mm image circle
- < 6.3 µm RMS spot size across field of view



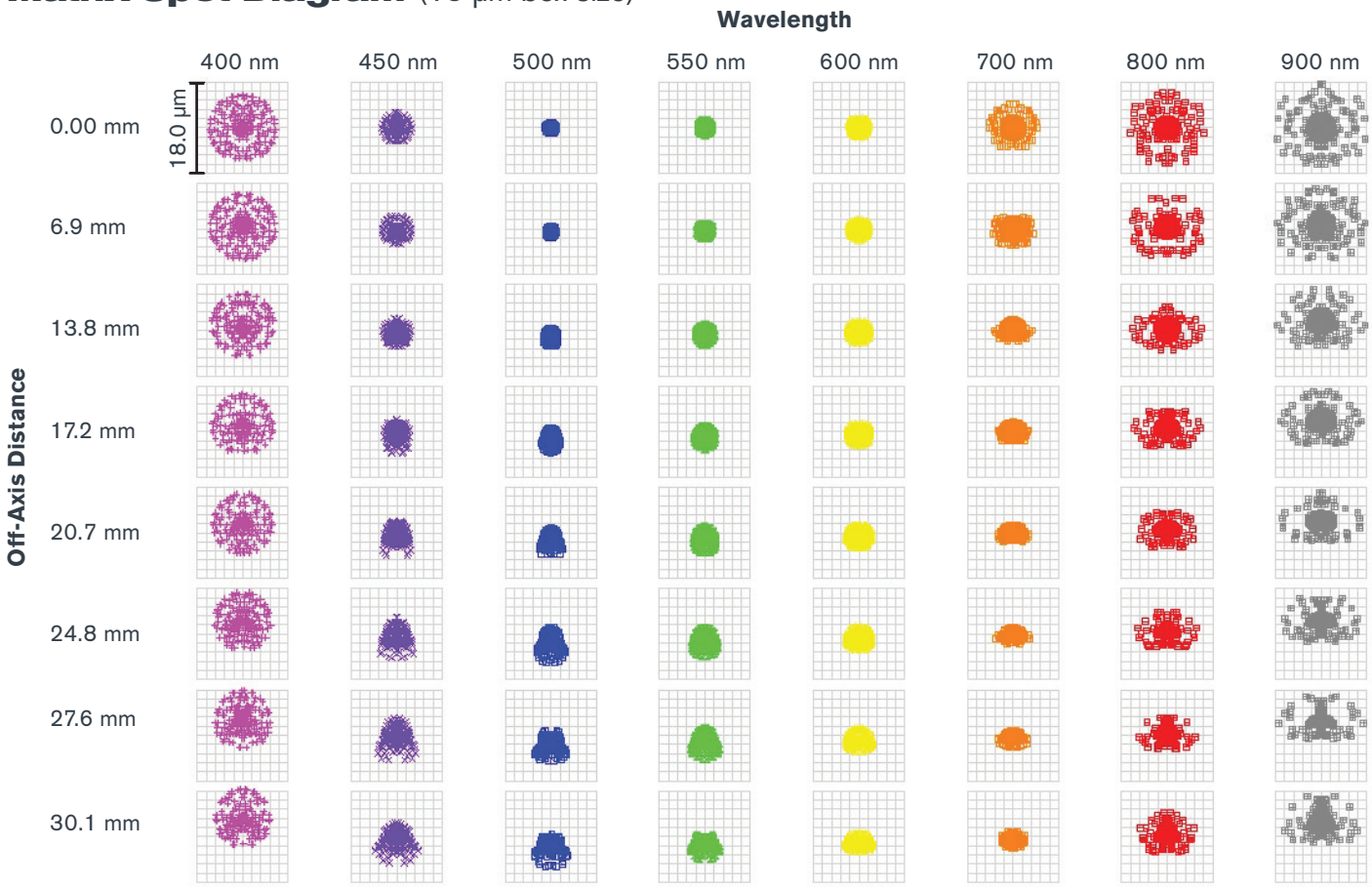




Usable Field (70 mm)

Image Circle (60.1 mm)



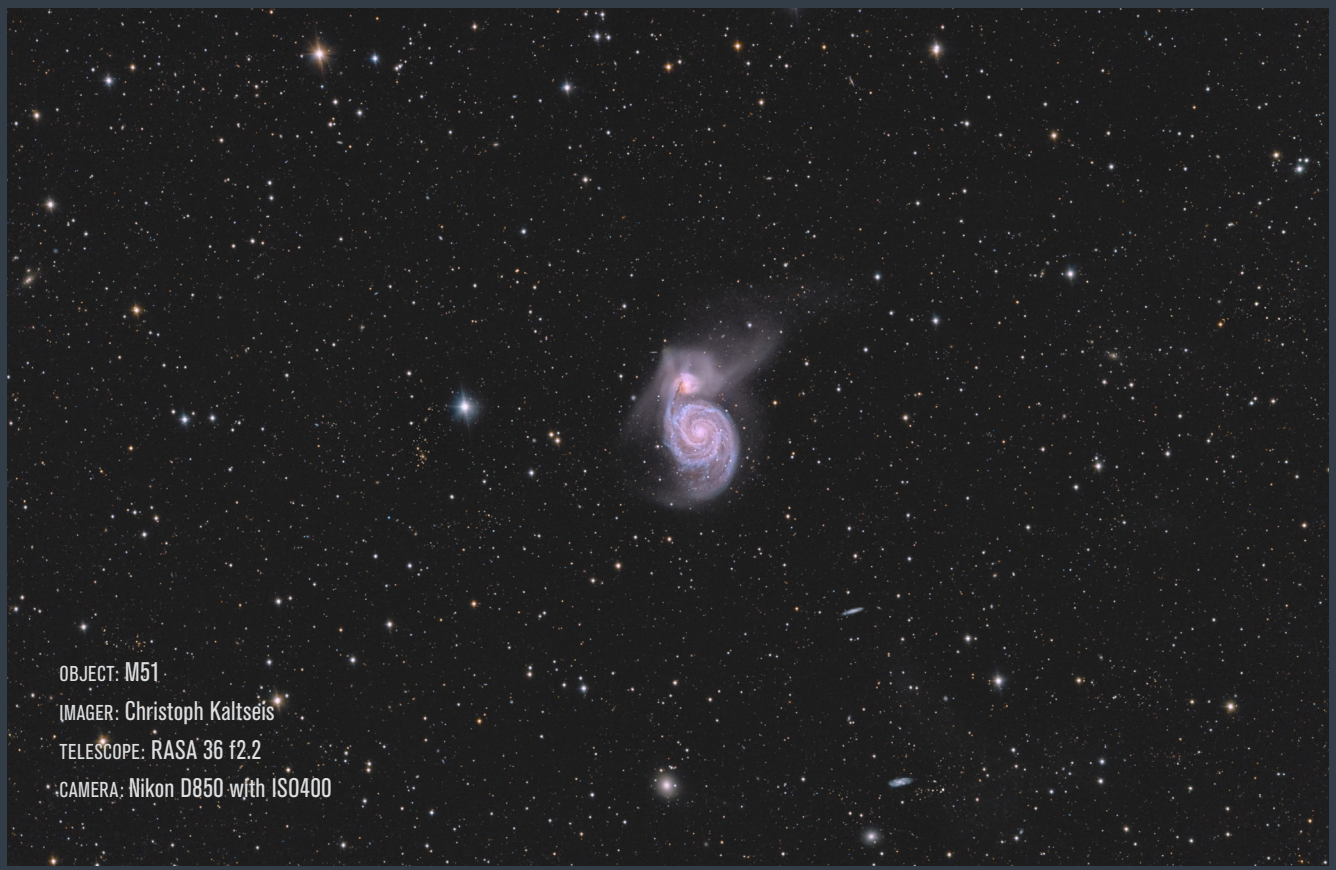
## Matrix Spot Diagram (18 µm box size)




## Mechanical and Optical Specifications

| | |
|---|---|
| Clear aperture | 355.6 mm |
| Focal length | 790 mm |
| Focal ratio | f/2.2 |
| Central obscuration | 158 mm (44% of aperture diameter) |
| Optical design | Rowe-Ackermann Schmidt Astrograph |
| Image circle | 60.1 mm Ø , 4.3 degrees |
| Image scale | 13.8 mm/degree, 261 arcsec/mm |
| Wavelength range | 400 – 900 nm |
| Spot size | < 6.3 µm RMS across FOV |
| Optical coatings | Enhanced aluminum, XLT multi-coatings used throughout |
| Off-axis Illumination | 83% at 30 mm off-axis |
| Optical filter | 104 mm Ø |
| Back focus (with included adapter) | 55 mm |
| Back focus (from filter) | 82.5 mm |
| Tube material | Aluminum |
| Tube dimensions | 42.5 inches length, 16 inches diameter, 75 pounds |
| Focuser | Ultra-Stable Focus System |
| Other features | Ventilation fan, dual CGE dovetail mounting bars |

OBJECT: Pleiades Star Cluster, M45
IMAGER: Richard Berry
TELESCOPE: RASA 11 f2.2
CAMERA: Nightscape CCD camera



OBJECT: M51
IMAGER: Christoph Kaltseis
TELESCOPE: RASA 36 f2.2
CAMERA: Nikon D850 wfth ISO400

**ROWE-ACKERMANN**
SCHMIDT ASTROGRAPH

CELESTRON


**For more information:**
VISIT: celestron.com/RASA
OR EMAIL: RASA@celestron.com

OBJECT: M8, M20 & NGC 6559
EQUIPMENT: RASA 11" f/2.2
SENSOR: KAI-11002
EXPOSURE: 45 x 60 second exposures
DETAILS: Uncropped full frame, without flat field calibration

US Patent Number: US 9,635,223 B2


2835 Columbia Street
Torrance, CA 90503 U.S.A.

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