

Astronomy

Filters and Filter Sets



Capabilities

Manufacturing wavelength range:

200 – 3000nm

Spectral evaluation:

Routine transmission measurements
expressed in %T across relevant
spectral range

Optical and surface quality:

Research grade optical quality

Coating process:

Reactive magnetron sputtering

Coating materials:

Metal oxides and metals
Silicon oxides and silicon

Engineering:

Customized thin film coating design
for custom filters

Key filter product lines:

Fluorescence microscopy
Biomedical instrumentation
Raman spectroscopy
Machine vision
Remote sensing



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Filters & Filter Sets

Extremely durable coatings withstand humidity changes and extreme temperature fluxes and remain spectrally accurate in center wavelength (CWL) and band pass adherence

No reflections leading to image distortions or "back reflections"

All Chroma Astronomy filters are coated on 3.0mm thick substrates and are parfocal with other Chroma Astronomy filters, with the exception of our LoGlow Light Pollution Filters (27030), which are manufactured on 1.1mm LCD.

All filters are manufactured with durable, sputtered hard coatings using single substrates of the best glass. All primary filter coatings are applied on the front surface and anti-reflection coatings on the rear surface to prevent ghosting and to maximize transmission.

All filters manufactured in Vermont.

Astrophotography

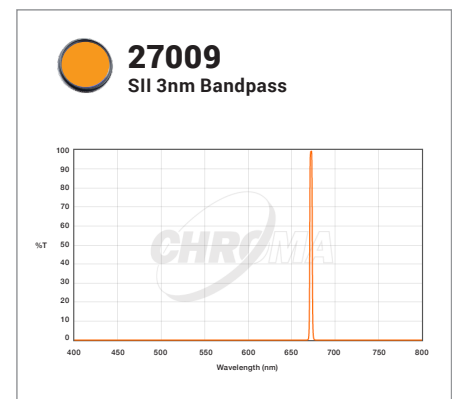
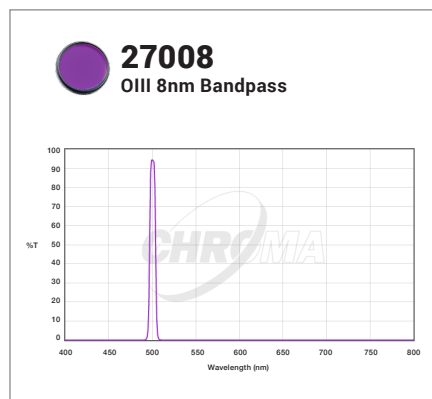
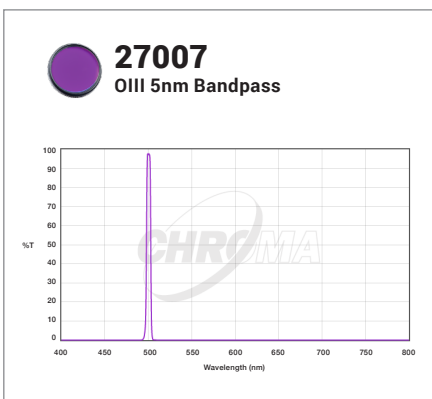
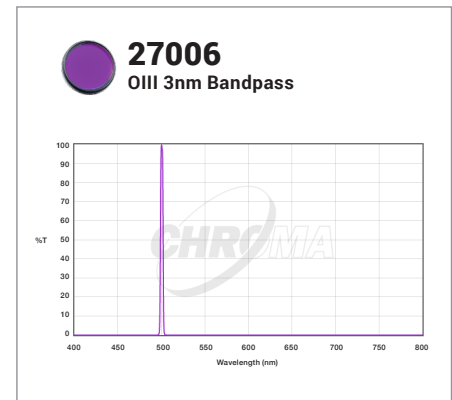
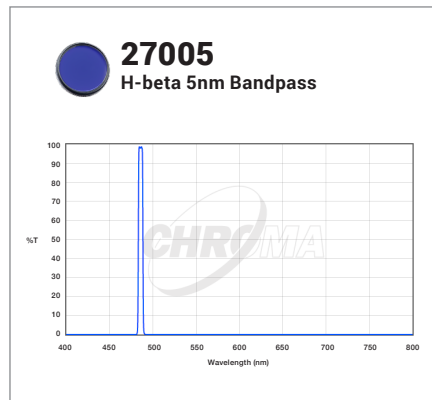
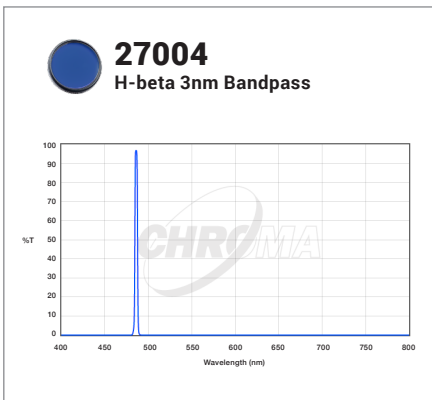
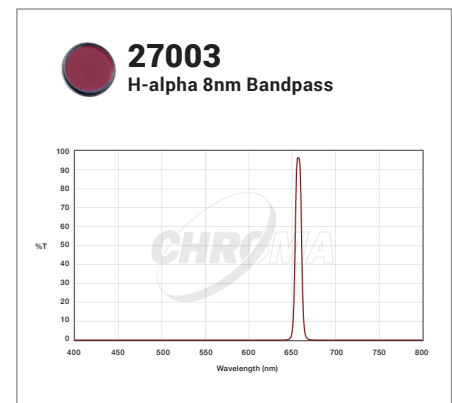
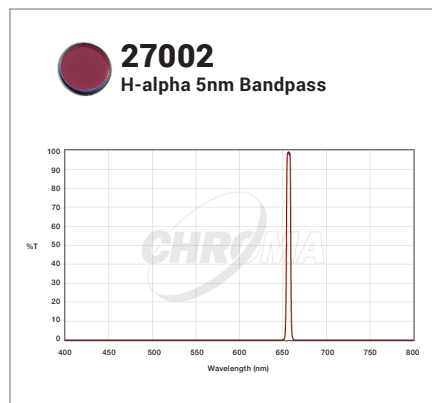
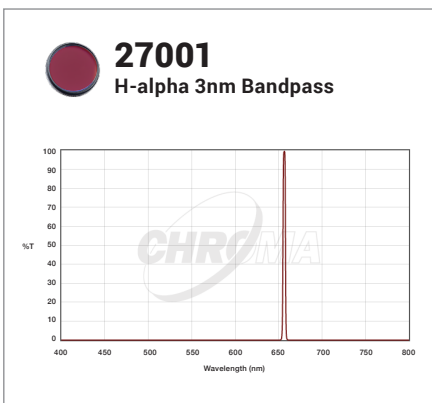
Filters & Filter Sets

Durable sputtered coatings

Thickness: 3.0mm

Filters designed for use with CCD and for f/4.0 or slower

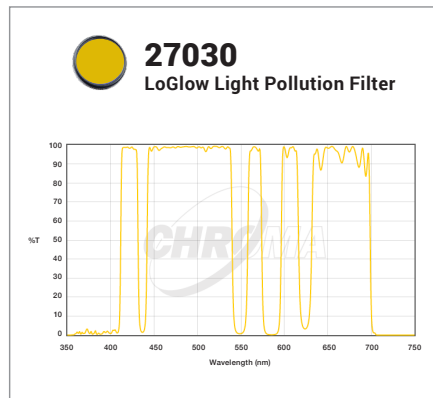
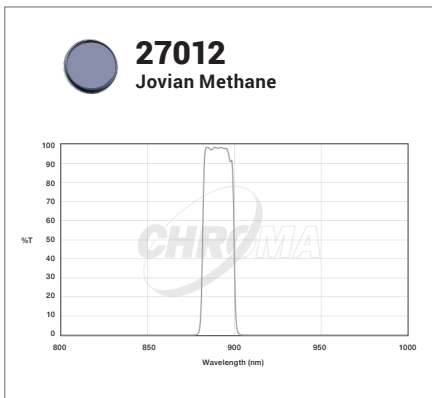
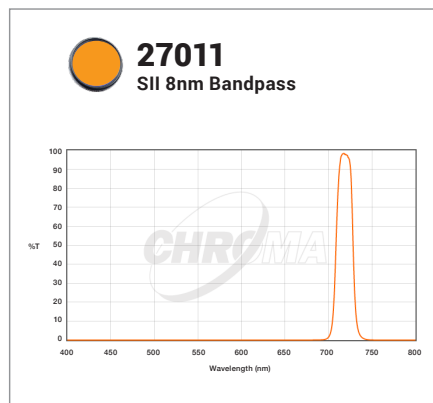
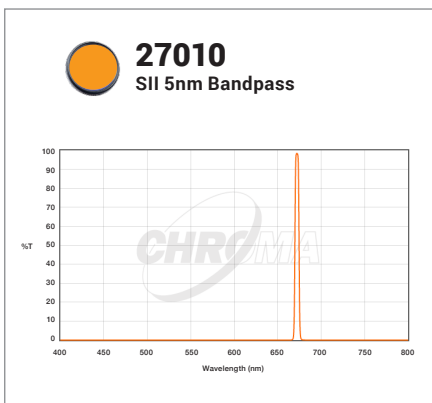
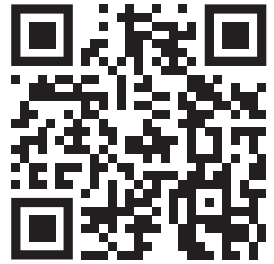
Transmitted wavefront better than 0.25 waves/inch



Sizing & Prices

For sizes and prices on all of our astronomy filters and sets, please visit:

<https://chroma.com/astronomy>
or call +1-800-824-7662



H-alpha filters are not for solar observation.

Optical filters are angle-sensitive and shift to the blue with fast focal ratios. 3nm filters shift enough to compromise transmission at the wavelength line of interest. Chroma has made a set of Ha, OIII and SII 3nm that are optimized for F/3 beams by moving the center wavelength slightly into the red so they will shift to the blue when used in an F/3 beam, thus maximizing transmission at the nominal wavelength. For beams faster than F/3, we recommend using 5nm-wide or wider bands.

LRGB/HaLRGB

Filters & Filter Sets

Durable sputtered coatings

Thickness: 3.0mm

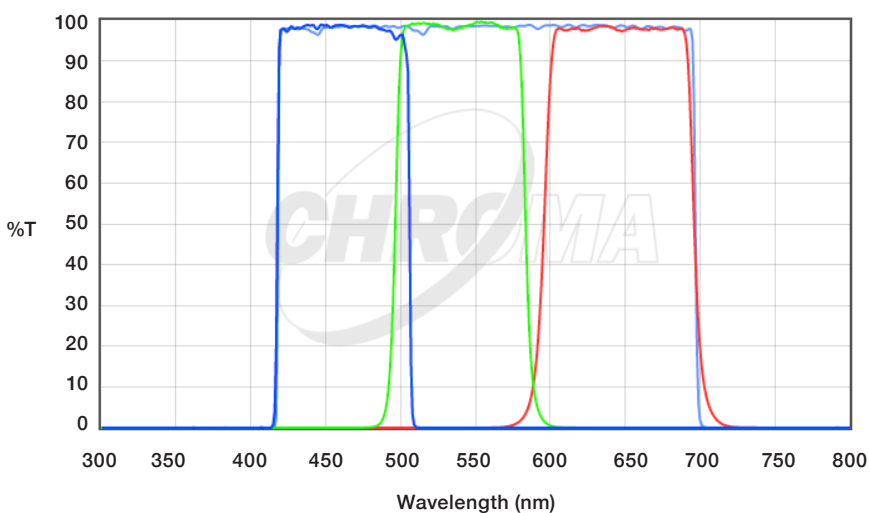
Filters designed for use with CCD and for f/4.0 or slower

Transmitted wavefront better than 0.25 waves/inch



27101 LRGB

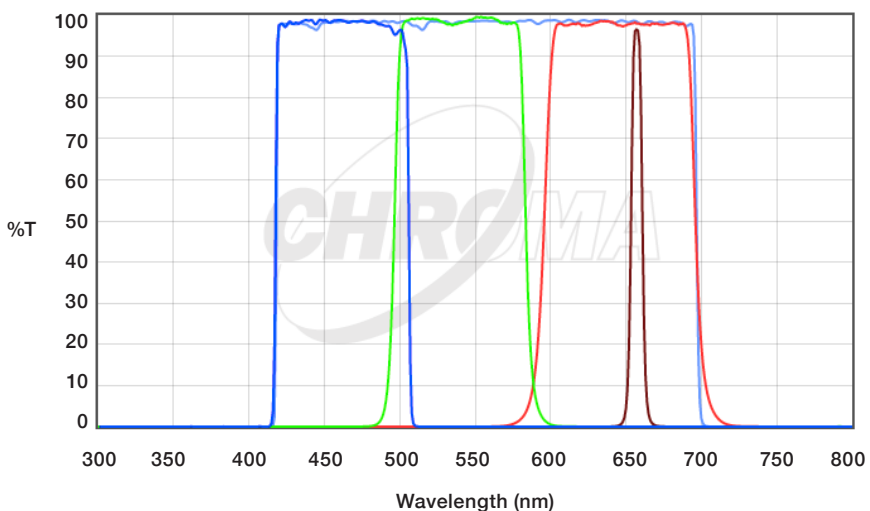
Chroma's complete LRGB filter sets include four individual filters: luminance, red, green and blue.



27102 HaLRGB

Chroma's complete HaLRGB filter sets include five individual filters: H-alpha, luminance, red, green and blue.

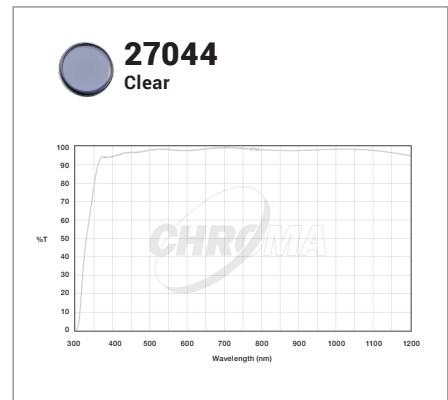
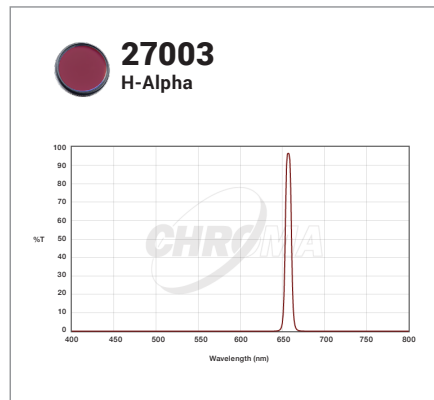
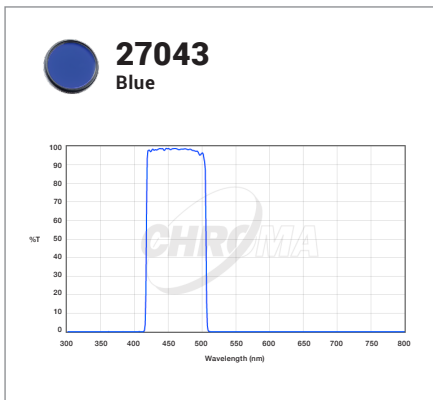
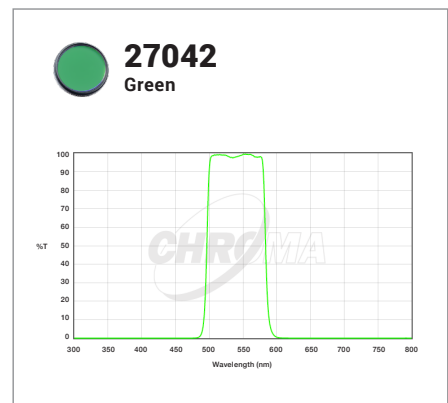
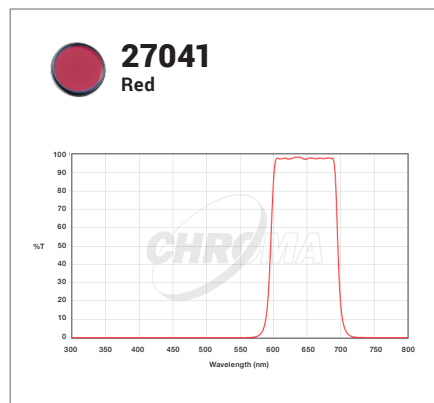
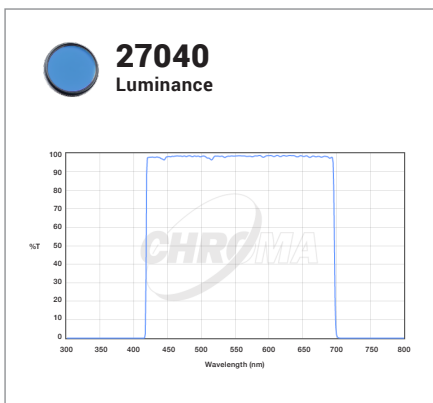
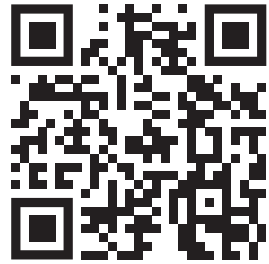
Graph shows 8nm H-alpha. Set is also available with 5nm and 3nm H-alpha filter



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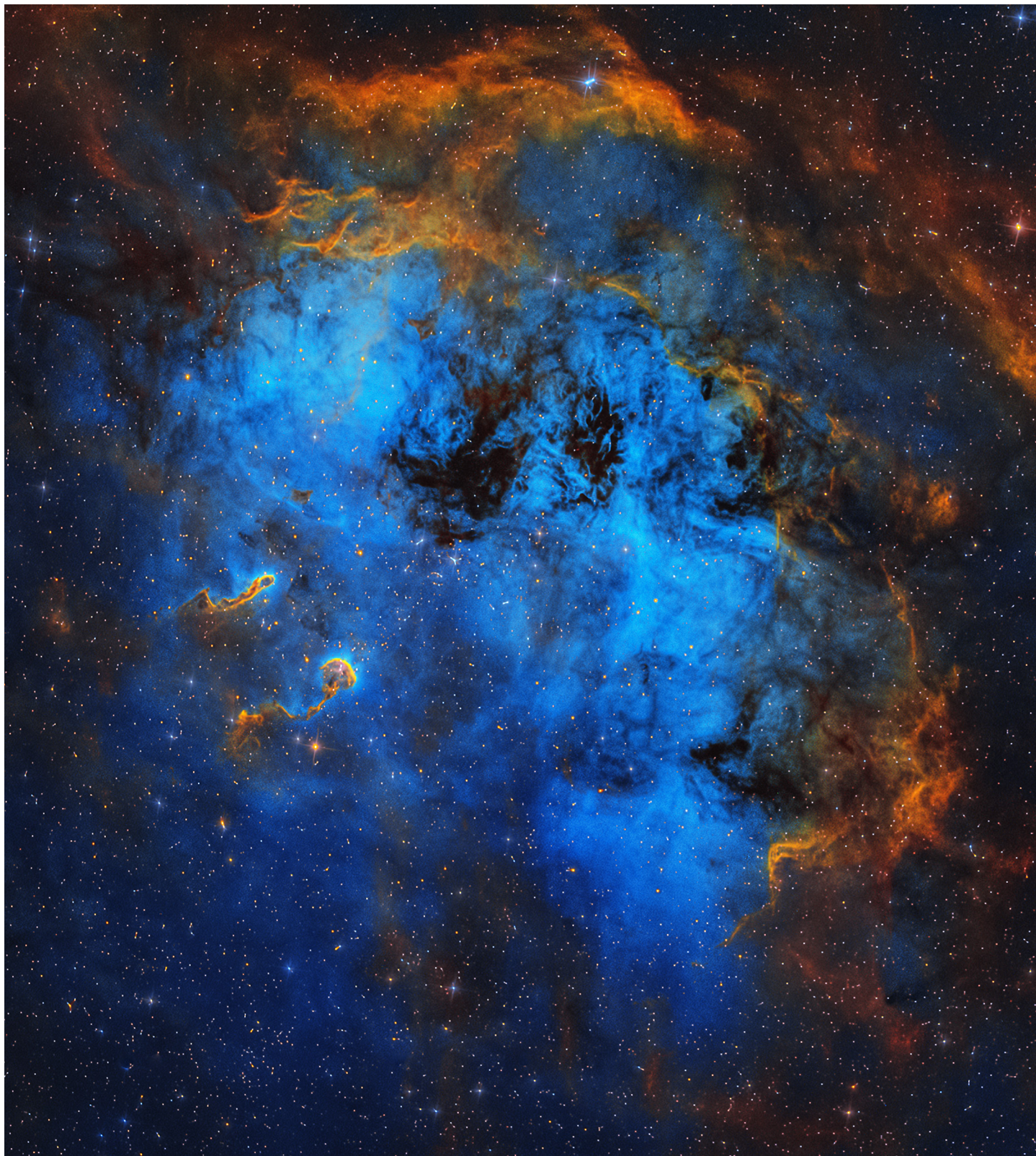
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Running Man Nebula: The Orion Nebula is the brightest nebula visible from the Northern Hemisphere. It's located in the sword of Orion, just below the belt, and lies 1,344 light-years from Earth. This two-panel mosaic was photographed under northern skies in Valencia. Integration four nights; Chroma Filter LRGB filters; AG14 Newtonian astrograph; camera: Starlight Xpress Trius SX-814

Photo courtesy of Paul Swift. Optical filters by Chroma Technology Corp.



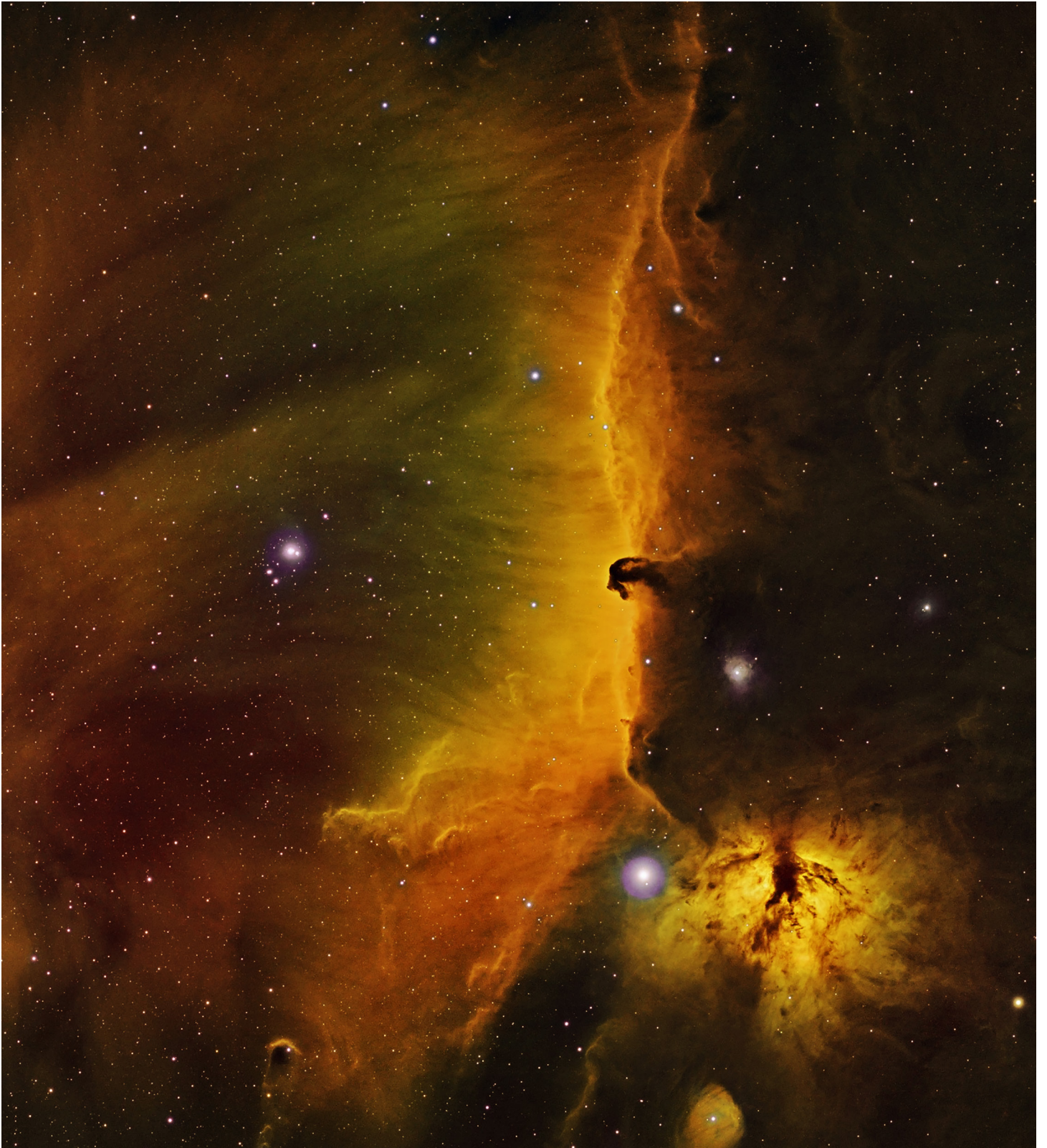
Tadpoles Nebula: Located in the constellation Auriga, this is a nebula complex is visible in the Northern Hemisphere in fall and winter. Acquiring this image with RGB would create an all red image from the ionized hydrogen gas in the nebula. But narrowing down the light into the OIII (blue) and the H-alpha (orange) bandpass produces the image as seen. An LRGB image of this area was acquired for the star colors and general information, then exposures were taken with the Chroma 5nm OIII and H-alpha filters.

Photo courtesy of Tony Hallas. Optical filters by Chroma Technology Corp.



Soul Nebula (IC 1848): Located in the Cassiopeia constellation, this is an emission nebula. The strongest signal is hydrogen alpha at 656 nm, the weaker emissions are SII (672 nm) and OIII (501 nm). The image consists of three emissions, but all structural information is in the hydrogen alpha channel with the SII and OIII adding color and contrast. It is presented in the Hubble Palette, with H-alpha mapped to green, sulfur to red, and oxygen to blue, and was acquired as a nine-hour integration.

Photo courtesy of Arun Hegde. Optical filters by Chroma Technology Corp.



Horsehead Nebula: Acquired at the Grand Mesa Observatory in western Colorado using the Holloway Takahashi 130 FSQ and QHY367C Full Frame CMOS camera. Data acquired in color + H-alpha, OIII and SII over four nights. Total integration time 20.5 hours.

Photo courtesy of Terry Hancock. Optical filters by Chroma Technology Corp.

Photometry

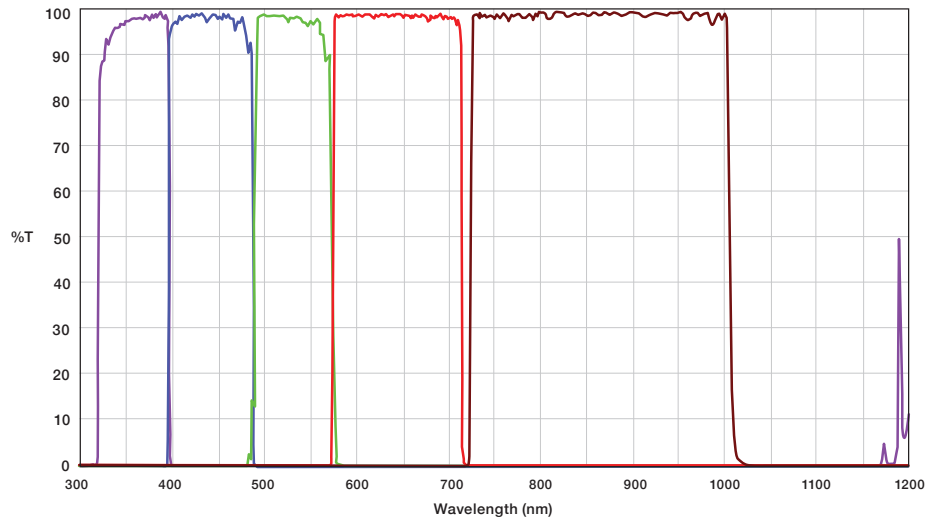
Bessell Filters for Standard Photometric Surveys

High-T Bessell Filters and Set

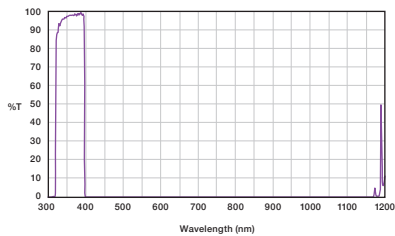


27103 Bessell UBVRI Filter Set

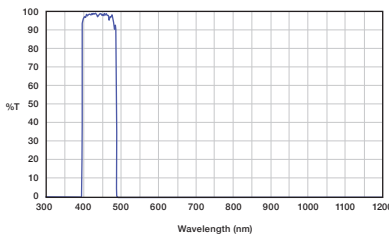
Chroma's complete Bessell UBVRI filter sets include five individual filters:
U-Bessell, B-Bessell, V-Bessell,
R-Bessell, I-Bessell.



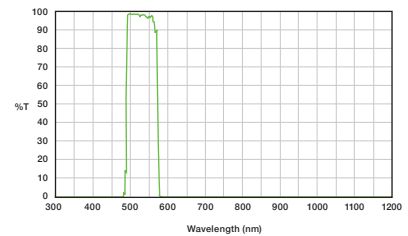
27050 U - Bessell



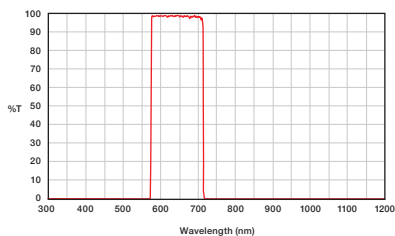
27052 B - Bessell



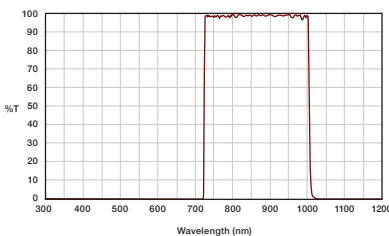
27051 V - Bessell



27053 R - Bessell



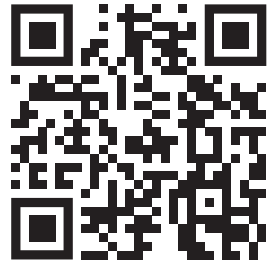
27054 I - Bessell



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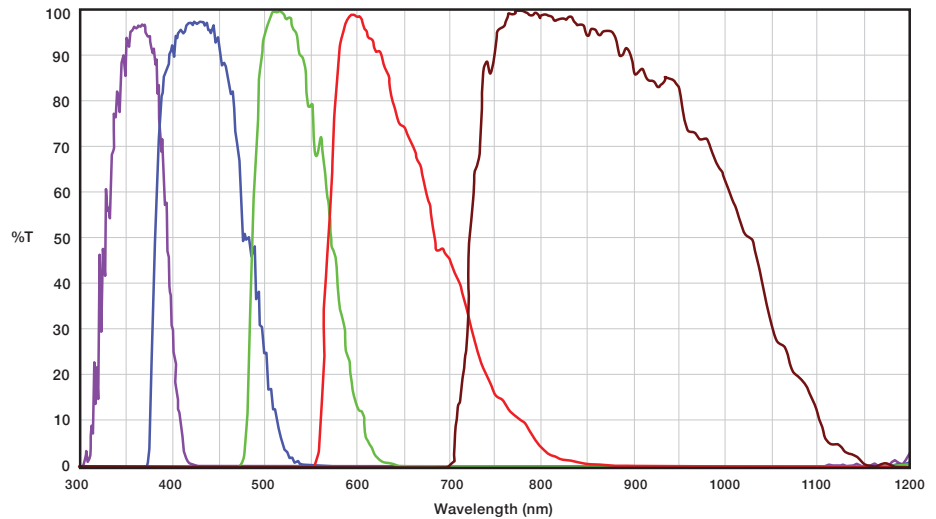


Classic Bessel Filters and Sets

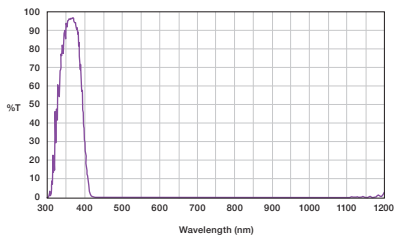


27105 Classic Bessel UBVRI Filter Set

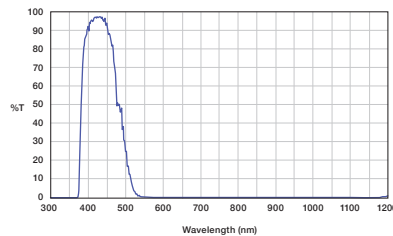
Chroma's complete Classic Bessel UBVRI filter sets include five individual filters: U-Bessel, B-Bessel, V-Bessel, R-Bessel, I-Bessel.



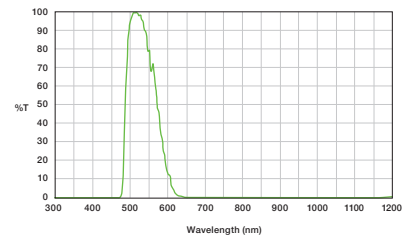
27060 U - Bessel



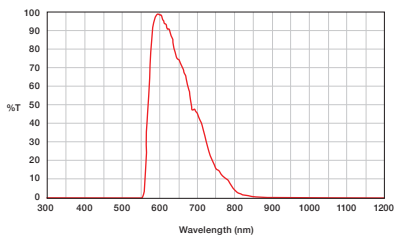
27061 B - Bessel



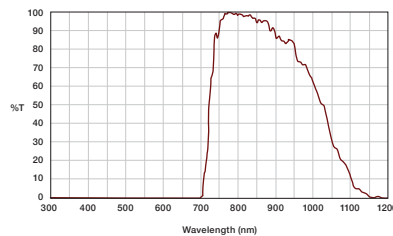
27062 V - Bessel



27063 R - Bessel



27064 I - Bessel



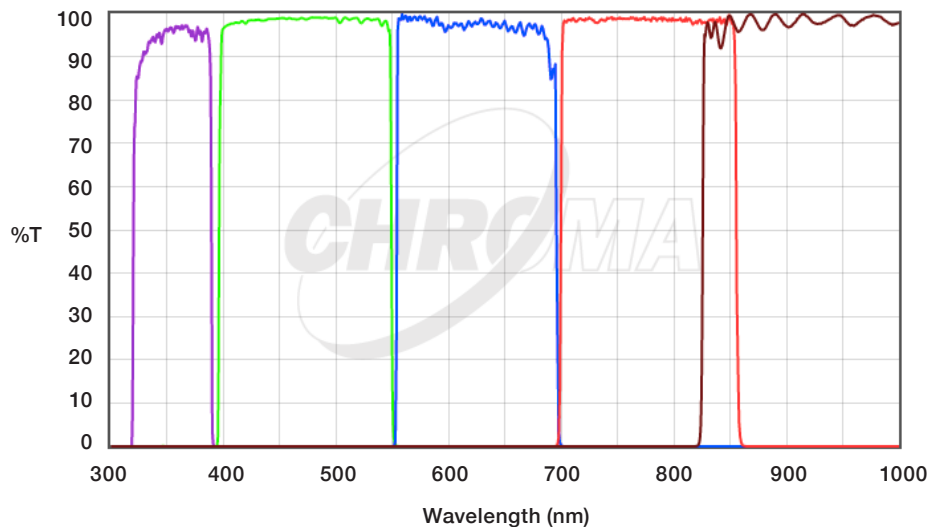
Photometry

Sloan ugriz Filters for Standard Photometric Surveys

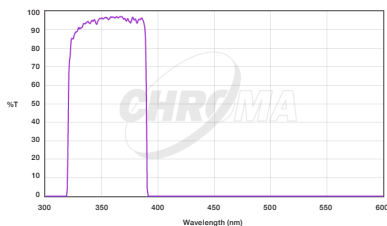


27104 Sloan ugriz Filter Set

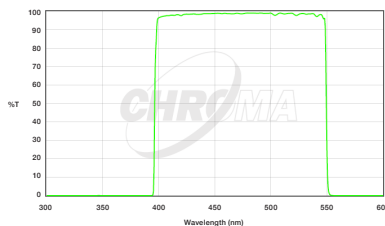
Sloan ugriz filter set for imaging based on the Sloan photometric survey



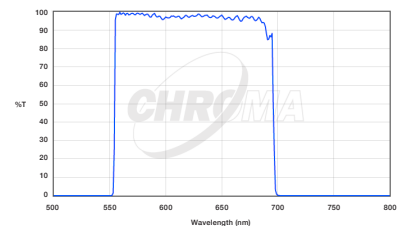
27055 Sloan-u



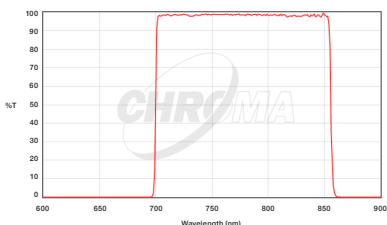
27056 Sloan-g



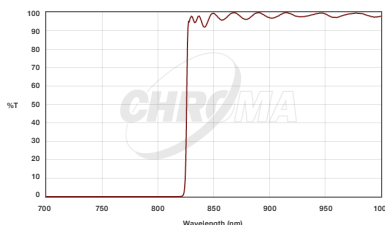
27057 Sloan-r



27058 Sloan-i



27059 Sloan-z



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About Chroma

Founded in 1991 as a 100% employee-owned company, Chroma Technology is a leading manufacturer and OEM supplier of highly precise optical filters using thin-film coating technology. Our reputation is built on our dedicated customer service, including free technical and applications support. We remain committed to serving the scientific and technical communities in their pursuit of the scientific endeavor.

Easy Online Ordering

Visit www.chroma.com to order online.

Ordering by Phone

Call +1-802-428-2500 or +1-800-824-7662

Lifetime Warranty

Terms:

Net 30 days

FOB: Chroma Technology, Bellows Falls, VT



An Employee-Owned Company
Producing the World's Finest Optical
Filters and Filter Sets

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