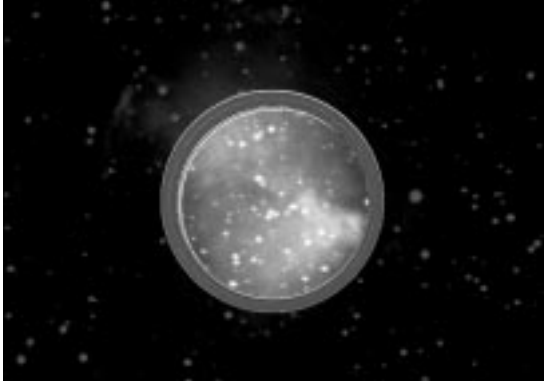


Deep-Sky Filters



One very useful weapon in the fight against light pollution is a light-pollution filter. So-called broadband filters like the Meade® Series 4000 Broadband Nebula Filter. They effectively block the wavelengths of light generated by incandescent, sodium, and mercury-vapour lights, which brighten the evening skies in cities and suburbs, while letting through the desirable wavelengths emitted by galaxies and emission nebulas (hydrogen alpha, hydrogen beta, and oxygen III).

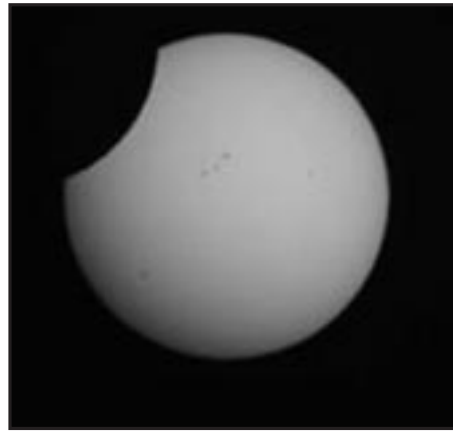
This type of filter is also popularly called a light-pollution-reduction, or LPR filter. Bright, light-polluted skies appear much darker and the contrast between object and sky is improved significantly.

Narrowband filters, such as the Meade® Series 4000 Narrowband Nebula Filter or the Orion UltraBlock, allow an even narrower range of wavelengths through. They block all forms of light pollution, including wavelengths from incandescent and fluorescent lighting, which broadband filters cannot stop. So they are effective in areas with severe light pollution and will transform a poor, milky-sky urban back garden into something useable for deep-sky observing.

Also, this type of filter is often called a "nebula filter" because it is particularly effective in enhancing detail and contrast of emission and planetary nebulas. Observing Galaxies and reflection nebulas do not benefit much with these filters.

Other deep-sky filters are "tuned" with bandpasses intended for the light of specific targets. Oxygen III, or O-III, filters are optimised for planetary nebulas. H-beta filters convey the blue-green luminescence of faint emission nebulas like the Horsehead or California Nebulas. And comet filters permit the passage of light given off by the glowing cyanogen gas that surrounds comets.

SUN WARNING ! NEVER, EVER...



...attempt to look at the sun with any optical instrument, including binoculars or even a magnifying glass. Instant and permanent eye damage, even permanent blindness will result.

Solar filters designed to fit an eyepiece should be avoided. They are extremely dangerous because they sit right where the sunlight is most concentrated. The heat generated at that spot is tremendous and will eventually cause the filter to crack, which can permanently damage your eyes. If you come across a filter like this, get rid of it.

Never attempt to align your telescope during the day by looking through it or the finder scope. Catching the sun in the optics for a mere fraction of a second is sufficient to cause permanent eye damage.

Never allow children to use a telescope during daylight hours unless they are supervised by a responsible adult who is fully aware of the potential danger.

Please always follow the instructions supplied with Full Aperture Solar Filters.

Solar observing is always an intrinsically dangerous pursuit!

Full Aperture Solar Filters

Solar filters come in two varieties: metal-coated Mylar, and glass. In both instances a metal alloy is electrostatically applied to a surface to filter out the Sun's blinding intensity and harmful infrared and ultraviolet radiation. These solar filters typically slip over a telescope's front aperture to block the light before it enters the scope.

Glass filters offer greater durability than foil-like Mylar. The type of metal coating applied to Mylar makes the Sun appear blue, while the coating on glass yields a more realistic yellow image.

Some manufacturers sell glass filters strictly for photographic use, which let slightly more sunlight through to accommodate slower films. Consequently, they are not recommended for visual observing.