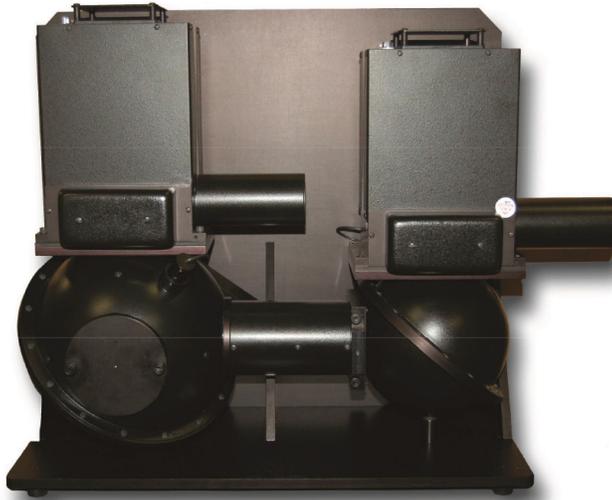


# OL 467-8 AUTOMATED

*Wide Dynamic Range Calibration Standard*



The OL 467-8 Automated Wide Dynamic Range Calibration Standard is designed for accurately calibrating very sensitive microphotometers, image intensifiers, telephotometers, and imaging spectroradiometers for photometric or spectroradiometric response at moderate to extremely low light levels. It serves as a highly accurate, uniform, diffusely radiating source with a luminance that can be varied over several decades with minimum changes to the color temperature.

In order to achieve very low luminance levels that can be tracked accurately with a monitor detector, the instrument is based on a dual integrating sphere design. The arrangements of these spheres are in series, with the exit port of the first sphere, or primary/intermediate sphere, producing a uniform beam into the entrance port of the secondary/exit sphere. The higher luminance levels are achieved with a separate lamp assembly attached to the secondary/exit sphere.

The primary sphere is 6 inches in diameter with a 1.5 inch exit port. A baffle tube connects the exit port of this sphere to the entrance port of the secondary, 8 inch diameter sphere. An optional aperture in the baffle tube determines how much light will be allowed into the secondary sphere.

The size of the aperture in the baffle tube between the primary and secondary spheres determines the attenuation between the spheres, and essentially this can range over many decades, depending on the size of the aperture installed. This aperture is not

used to determine the true radiance of the secondary sphere radiating port, but merely to scale it by the desired amount. The actual luminance of the secondary sphere radiating port is calibrated via measurements. Optional user interchangeable aperture slides at the exit port of the primary sphere can be supplied with a calibration for each aperture. This provides a very broad range of luminance/radiance levels that can be selected by insertion of the aperture slides.

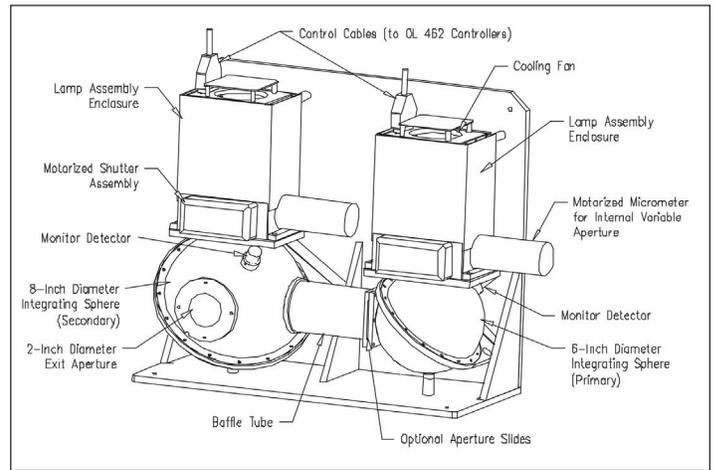
The photopic monitor detector on the primary sphere tracks the luminance in the primary sphere and its OL 462 Controller display is scaled to indicate the luminance at the exit port of the secondary/exit sphere by a calibration factor stored in memory. When optional aperture slides for the exit port of the primary sphere are supplied, unique calibration factors are supplied for each aperture. The photopic monitor detector on the secondary sphere tracks the luminance in the secondary sphere and its OL 462 Controller display is scaled to indicate the luminance at the exit port by a calibration factor stored in memory.

**THE OL 467-8 CALIBRATION OPTIONS INCLUDE LUMINANCE, COLOR TEMPERATURE, AND SPECTRAL RADIANCE:**

<b>OL 467-8</b>	Luminance and Color Temperature
<b>OL 467-8-1</b>	Luminance, Color Temperature, and Spectral Radiance (350 nm to 1100 nm)
<b>OL 467-8U</b>	Uncalibrated

**SPECIFICATIONS**

<b>Luminance Uncertainty</b> (@ 2856K, $k = 2$ )	$\pm 5\%$ (Relative to NIST)
<b>Spectral Radiance Calibration – optional</b> ( $k = 2$ )	$\pm 2\%$ to $\pm 3\%$ (Relative to NIST) 350 nm to 1100 nm
<b>Correlated Color Temperature Range</b>	2000 K to 2950 K ( $\pm 50$ K)
<b>Correlated Color Temperature Uncertainty</b> ( $k = 2$ )	$\pm 25$ K
<b>Luminance Stability</b>	$\pm 0.5\%$ (After 15 Minutes Warm-up) (Short Term) $\pm 2\%$ 100 Hours of Use or 1 Year (Long Term)
<b>Correlated Color Temperature Stability</b>	$\pm 25$ K, 100 Hours Use or 1 Year
<b>Uniformity</b> (Measured at Normal Incidence to the Exit Port)	$\pm 0.5\%$
<b>Sphere Coating</b> (Reflectance)	$>99\%$ (350 nm to 1100 nm)
<b>Sphere Luminance Monitor</b> (Built-In)	High accuracy silicon detector with Filtered CIE photopic response
<b>Primary Sphere Diameter</b>	6.0 Inches (15.24 cm)
<b>Secondary Sphere Diameter</b>	8.0 Inches (20.32 cm)
<b>Exit Aperture Size</b>	2.0 Inches (5.08 cm)
<b>Size</b>	20.0 Inches W x 9.0 Inches DP x 18.5 Inches H (50.8 cm W x 22.9 cm DP x 47.0 cm H)
<b>Weight</b>	43 lb. (19.5 kg)



**OPTRONIC™**  
LABORATORIES

**Data sheet: B106 Sept 2018**

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.