

OL IS-670-LED

Integrating Sphere



The OL IS-670-LED Integrating Sphere is designed specifically for use with the OL 770-LED High-speed LED Test and Measurement System to provide accurate measurements of many properties of light emitting diodes, and permits the user to make color measurements in accordance with recommendations by NIST and CIE Publication 127.

The OL IS-670-LED provides an accurate means of measuring the total spectral luminous flux and total radiant flux of “forward-looking” LEDs. The OL 770-LED Windows[®] software provides instant measurement data reduction for such quantities as:

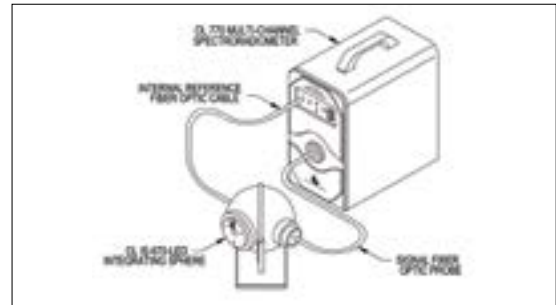
- Total Radiant Flux (*watts*)
- Total Luminous Flux (*lumens*)
- Total Spectral Flux (*watts/nm*)
- Dominant Wavelength
- Peak Wavelength
- Half-bandwidth
- Color Purity
- Correlated Color Temperature
- Color Rendering Indices
- Chromaticity Coordinates

The OL 770-LED/IS-670-LED combination incorporates features such as an internal reference/auxiliary lamp and a nearly perfect cosine response to eliminate major sources of error.

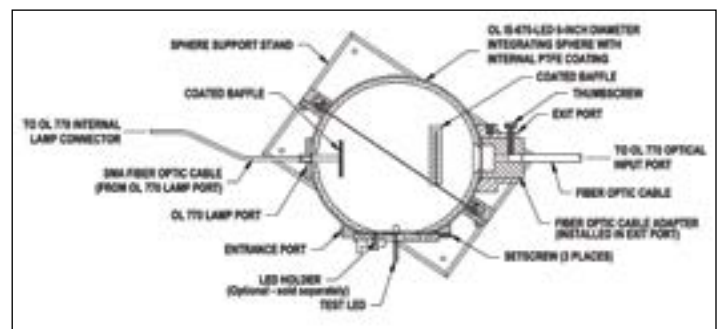
The OL IS-670-LED consists of a 6-inch diameter, PTFE coated, high reflectance integrating sphere. It is mounted in a convenient, rugged stand for tabletop or laboratory benchtop use, eliminating the need for mounting rods or fixtures. The sphere has a 90° entrance port to exit port configuration and includes a SMA connector for connection of the auxiliary lamp incorporated into the OL 770-LED via an optical fiber.

The OL IS-670-LED yields spectral reflectance properties > 99% in the 300 nm to 1700 nm wavelength range. A coated internal baffle in front of the exit port prevents non-integrated light from exiting the sphere. The exit port of the sphere is coupled to the OL 770-LED via a fiber optic cable. A wide range of off the shelf LED holders are available, as well as custom LED holders for specific device configurations.

SPECIFICATIONS	
Entrance Port Diameter	1.250" (31.75 mm)
Exit Port Diameter	0.750" (19.05 mm)
Auxiliary Lamp Port	0.250" (6.35 mm)
Reflectivity	> 98% @ 380 – 780 nm
Internal Coated Surface Area (Less Ports)	98.87 in ² (637.94 cm ²)



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A unique feature of the OL 770-LED/IS-670-LED combination is that it includes an internal reference/auxiliary lamp not found in systems available from other manufacturers. This built-in reference/auxiliary lamp is used to calibrate the integrating sphere and compensate for changes in the spectral efficiency of the integrating sphere due to self-absorption and reflectance properties of LEDs. This provides for accurate on-site calibrations and is so easy to use that inexperienced personnel can perform them. It sharply contrasts with competitor's systems that need to be shipped back for calibration since:

- It eliminates system downtime.
- It eliminates costly recalibrations.
- It provides assurance that calibrations do not change during transport.
- It eliminates possible damage during transport.
- It provides calibration history, rather than annual ‘panics’ and wasted results if the calibration has changed.
- It is specific to users’ LED holders, eliminating all major sources of error.

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