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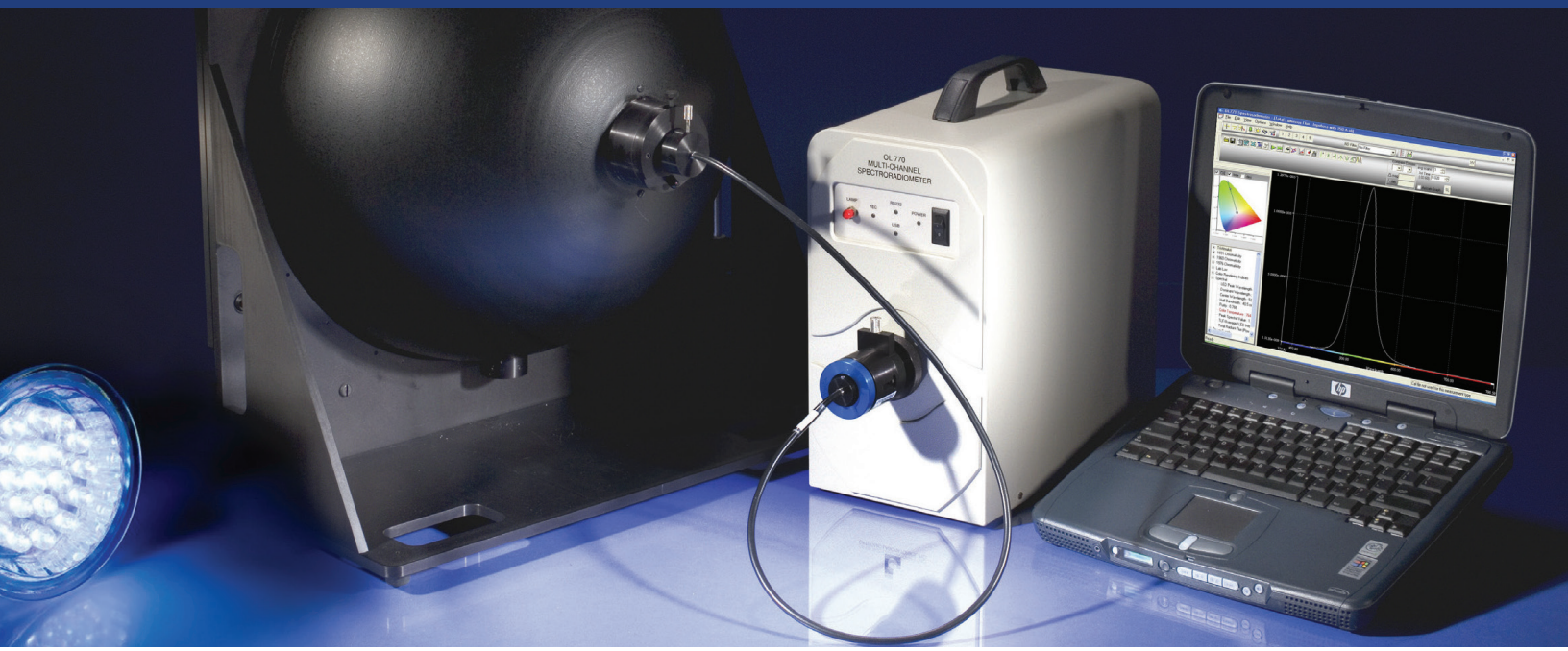
LABORATORIES

# OL 770-LED

The OL 770-LED High-speed LED Test and Measurement System provides high precision, research-grade measurements to meet your demanding production application within your budget.




## Design Features

- Convenient USB Interface
- Meets CIE 127 Guidelines, Conditions A & B, TLF
- Low Stray Light Performance
- High Spectral Resolution
- High Sensitivity
- High Dynamic Range
- 0.5 nm Wavelength Accuracy
- Research-grade Precision
- Compact, Lightweight, Portable Enclosure
- Rugged Strain Relief and Self-centering Adapter

The OL 770-LED is a high speed, CCD-based spectroradiometer system optimized to perform all critical measurements of light emitting diodes (LEDs), LED clusters and LED chips. Accessories are also available for testing finished packages from smaller MR-16, E14, E26/E27 medium screw base lamps to mediumsized E39/40 moguls all the way to 60+ linear fluorescent fixtures. The OL 770-LED was designed for customers who require fast measurement results but not at the expense of quality, color consistency, or precision. The OL 770-LED is accurate enough to characterize LED components for R&D purposes, but economical, lightweight, and portable enough for performing rapid QC checks on the production floor. The OL 770-LED is fully compliant with CIE Publication 127, as well as LM-79, LM-80 and C78.377.

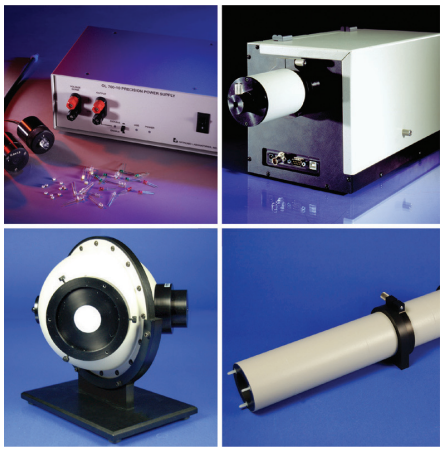
The OL 770-LED's control electronics, internal spectrograph, and detector are housed in one rugged, portable enclosure. Its lightweight and small footprint design, relative to larger scanning spectroradiometers, makes it an ideal instrument for use in production environments, especially where portability is needed. The instrument is equipped with both RS-232 and Universal Serial Bus (USB) interfaces, thus a plug-in card for the PC host is not required. The USB interface provides for extremely fast measurements and allows laptops to be utilized.

The OL 770-LED sets up quickly with a simple flip of the on/off switch. The fiber optic plugs into the entrance port on the front of the unit, enabling the user to place the test module in a convenient location.

The unique internal spectrograph is based on an aberration corrected, concave, flat field diffraction grating. The precision optics of the spectrograph delivers low stray light performance, high spectral resolution, and excellent wavelength accuracy. The standard grating operates over the 380 to 780 nm wavelength range. Other wavelength ranges are available for the ultraviolet and near infrared regions.

Optical input to the spectrograph is made via a fiber optic cable. An interchangeable slit (100 microns standard) is provided in the entrance port on the front panel of the OL 770-LED. Other slit sizes for varying the optical bandwidth are available.

Whether you manufacture discrete LED components, LED traffic signals, moving LED displays, or design LED lighting that requires quality, consistency, and continuity, the OL 770-LED is an absolute must.



## Software Features

The OL 770-LED Application Software is a highly intuitive Windows-based software package, which combines utility programs and data reduction routines with specific application software for a completely integrated operating system. The software operates on any Microsoft Windows® compatible computer utilizing mouse and/or keyboard control for menu selection. Because the software is Windows® compatible, it provides you with a computing environment consistent with your every day computer activity. Measurement windows can be minimized, resized, and opened multiple times allowing you to configure the application environment to suit your individual style.

- Windows® 10 Compatible
- Real-time Graphics Utility
- Custom Report Templates
- MS Excel and Word Compatible Direct Reporting
- Display, Log, and Store Resultant Data
- Comparison Cursors
- Value Monitor for Real Time Pass/ Fail Display of Any Calculated Values
- Software Level Triggering for Data Acquisition
- Dominant Wavelength
- Peak Wavelength
- Spectral Bandwidth (FWHM)
- Spectral Purity
- Power
- Color Temperature
- Intensity Profile Polar Plots
- Color Rendering Index
- Total Luminous Flux
- Averaged LED Intensity
- Tristimulus – 2° XYZ, 10° XYZ
- 1931 Chromaticity – 2° xyz, 10° xyz
- 1960 Chromaticity – 2° uv, 10° uv
- 1976 Chromaticity – 2° u'v', 10° u'v'
- Lab Luv – Illuminants A,B,C,D65; 2° Lab Luv, 10° Lab Luv
- Cursor Snap to Peak/ Valley
- High Resolution CIE Plots with Accumulating Coordinates, Zooming, and Dominant Wavelength Tracking
- Accumulation Graphs for Time Studies
- Optional .NET DLL and LabVIEW Software Development Kit utilizing .NET

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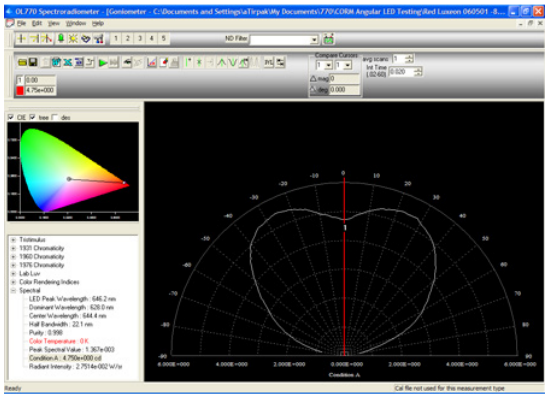
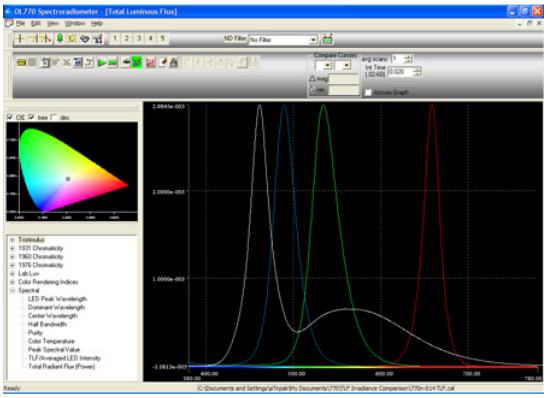
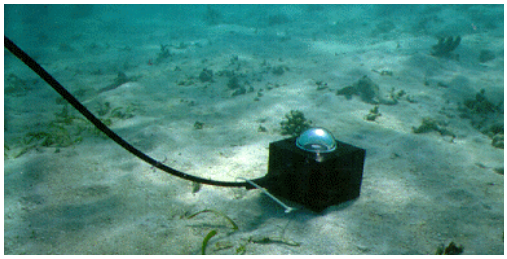




# Accessories

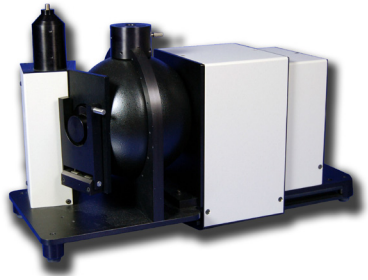
## OL IS-470-WP

Submersible Sphere Assembly is a sealed, 4-inch diameter integrating sphere suitable for shallow depth underwater measurements up to a depth of 20 meters.



## OL 700-71

Diffuse Reflectance Transmittance Attachment enables the user to make diffuse spectral reflectance measurements of various materials over all or part of the wavelength range from 250 nm to 1100 nm.



## OL 770-LFOV

Large Field-of-View (FOV) Adapter is used for measuring the spectral radiance of displays and other fixed light sources.

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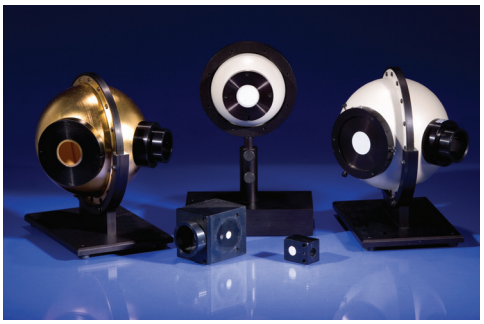
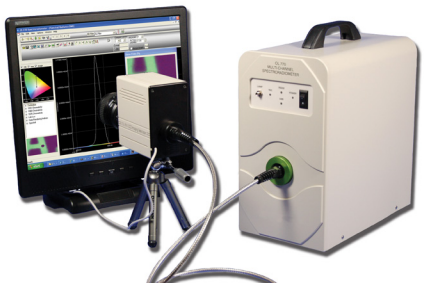
The OL 700-80 series of LED holders, adapters and alignment jigs, interface a large range of leaded and surface mount LEDs with state of the art photometers and spectroradiometers.

The horizontally-mounted seam of the OL 1800H 18" Integrating Sphere (w/ vertical opening) allows for an optional port to be placed on top of the hemisphere for testing downlights.



We offer spheres in a range of integrating sphere sizes, as well as a multitude of baffle and port configurations, to meet any source or input optic requirement.



The OL 770-DMS Display Measurement System offers a complete solution for modern display measurement requirements, including R&D, production, and quality assurance, giving accurate color, luminance and spectral information instantly at the click of a button.

| OL 770-LED SPECTRORADIOMETER SPECIFICATIONS | |
|---|---|
| **Wavelength Range** *(Standard)* | Photometric (f1'<4%) |
| **Optional Wavelength** | Consult Factory |
| **Wavelength Accuracy** | ± 0.3 nm |
| **Optical Bandwidth** *(with 100 Micron Slit)* | 3.5 nm |
| **Spectral Resolution** | ≈ 0.4 (VIS); ≈ 0.6 nm (UV); ≈ 0.7 (IR) |
| **Slits** *(User Interchangeable)* | 100 micron *(Standard)*<br>50, 200, & 350 micron *(Optional)* |
| **Optical Focal Length** | 140 mm |
| **Optical Input** | Fiber Optic |
| **Optical Aperture** | f/2 |
| **Operating Temperature** | 0 to 30°C |
| **Operating Humidity** | 0 to 90% *(Non-condensing)* |
| **Detector Technology** | TE-cooled back-thinned 2-dimensional CCD array |
| **Detector Cooling Temperature** | - 10°C |
| **Quantum Efficiency** | > 90% at 650 nm |
| **Chromaticity Accuracy** | ± 0.0015 x,y |
| **Chromaticity Repeatability** *(Temp. Stabilized Blue LED)* | ± 0.00015 x,<br>± 0.0002 y |
| **Stray Light** *(Tungsten Source)* | $2.5E^{-4}$ |
| **Integration Time** | 20 ms – 60 s |
| **A/D Resolution** | 16 bits |
| **A/D Rate** | 250 kHz |
| **Power Input** | 100/115/220/230 Vac |
| **Interface** | USB, RS-232 |
| **Dimensions** | 7" W x 13" H x 13" D<br>*(18.4 cm W x 33.6 cm H x 33.0 cm D)* |
| **Weight** | 22.5 lbs *(10.2 kg)* |

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**For more information visit OptronicLabs.com or contact Info@OptronicLabs.com**