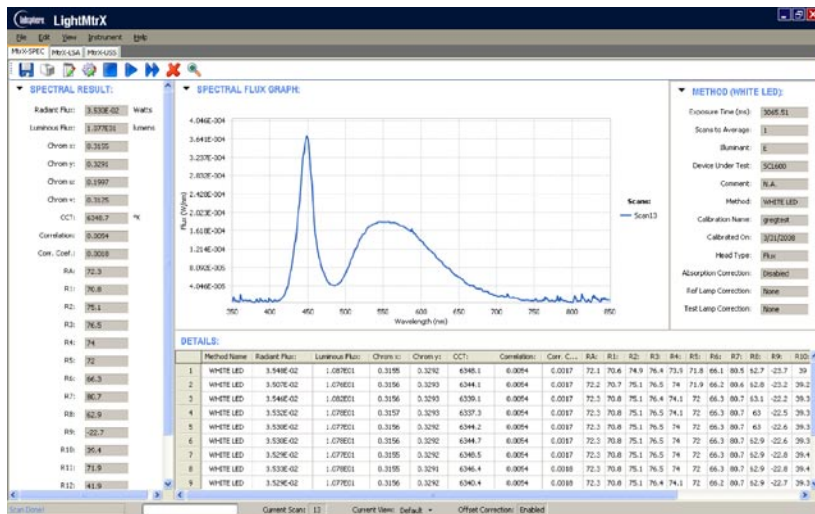


# MEDIUM SPECTRAL LED MEASUREMENT SYSTEMS

Fast, practical, and easy-to-use systems for LED and lamp characterization



## LABSPHERE LIGHT MEASUREMENT SOFTWARE MTRX-SPEC

### EASY-TO-USE

The Windows®-based LightMtrX software guides users through testing, providing straight-forward testing procedures and repeatable results to meet the needs of both new users and experienced researchers.

The light measurement sphere has a latch-free clamshell design for easy access to the device under test (DUT). The base port admits additional cables for assembled fixtures while the external port provides for the unobstructed positioning of board-mounted or heat-sinked devices for forward and partial flux measurements. Quick connect internal and external electrical contacts allow for effortless substitution between DUTs.

### FEATURES:

- NIST Traceable Standards for In-house Recalibration
- Spectral Results in Milliseconds
- Comprehensive Light Measurement Software
  - Total Spectral Flux
  - Luminous Flux
  - Radiant Flux
  - Chromaticity
  - CCT
  - CRI
  - Peak Wavelength
  - Dominant Wavelength

Spectrafect® Interior

CIE Recommended Geometry

Backed by an ISO 9001:2000 Registered Quality Management System

### BEST FOR MEASURING:

- LEDs
- LED Sourced Systems
- Miniature Lamps

### ACCURATE

The CSLMS LED Systems are affordably priced and easily customized through a variety of interchangeable light measurement accessories. NIST traceable total spectral flux standards enable simple in-house system recalibration and verification from 200 to 1100 nm. The systems can be expanded to include an auxiliary lamp for the correction of absorption errors to ensure accurate test results.

Sphere diameters of 10 or 20-inches are coated with Spectrafect® which combines a 98% reflective surface with nearly perfect Lambertian reflectance. Both durable and highly stable over time, this coating provides consistent integration of light over the lifetime of your sphere.

### FAST

The CSLMS LED Systems combine intuitive software with high-speed hardware to simplify complex measurements. The coupling of application specific software with a CCD-based spectrometer, integrating sphere, and cosine receiver, makes it possible to deliver total spectral flux, luminous flux, radiometric flux, and colorimetric results in milliseconds. Designed with the user in mind, the LED Starter Solution is easy enough for you to use, even if it is your first time using light measurement systems.



STARTER PACKAGE FOR TOTAL SPECTRAL FLUX

# Specifications

**CSLMS LED**  
LED Spectral Light Measurement System

**CSLMS LED 1060**  
AS-02477-800

**CSLMS LED 1061**  
AS-02477-900

## System Includes

Light Measurement Sphere, LMS 100 & 200 Spectrometer, CDS 600 & 610  
Lamp Standard SCL-600  
Power Supply, LPS-100-0260

AS-02477-000  
AS-02767-000  
AS-01335-000  
AS-02600-260

AS-02477-000  
AS-02767-100  
AS-01335-000  
AS-02600-260

Required, Sold Separately  
Light Measurement Software, Light MtrX-SPEC

MtrX-SPEC

MtrX-SPEC

## System Properties and Performance

### Sphere Diameter

Sphere Coating Reflectance  
Radiometric Range  
Photometric Range (Illuminant A)  
Red LED Range  
Green LED Range  
Blue LED Range  
Max Recommended DUT dimension  
Sphere Dimension (W x D x H)

**10 in (25 cm)**  
98%  
100 W (max)  
0.4 - 13,000 lm  
0.06 - 4,600 lm  
0.12 - 5,700 lm  
0.04 - 1,900 lm  
1 x 1 in (3 x 3 cm)  
16.7 x 11.9 x 15.5 in  
(42.4 x 30.2 x 39.4 cm)

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### Spectrometer

Dimensions:  
Detector range:  
Pixels:  
Pixel size:  
Pixel well depth:  
Sensitivity:

**CDS 600**  
89.1 mm x 63.3 mm x 34.4 mm  
200-1100 nm  
2048 pixels  
14 µm x 200 µm  
~62,500 electrons  
75 photons/count at 400 nm;  
41 photons/count at 600 nm  
42 mm input; 68 mm output  
100 µm  
200-850 nm  
250:1 (at full signal)  
16 bit  
2 x 10<sup>8</sup> (system)  
8 ms to 20 seconds  
<0.05% at 600 nm;  
<0.10% at 435 nm  
>99.8%

**CDS 610**  
89.1 mm x 63.3 mm x 34.4 mm  
350-1050 nm  
2048 pixels  
14 µm x 200 µm  
~62,500 electrons  
75 photons/count at 400 nm;  
41 photons/count at 600 nm  
42 mm input; 68 mm output  
100 µm  
350-1000 nm  
250:1 (at full signal)  
16 bit  
2 x 10<sup>8</sup> (system)  
8 ms to 20 seconds  
<0.05% at 600 nm;  
<0.10% at 435 nm  
>99.8%

Focal length:

Entrance aperture:

Wavelength range:

Signal-to-noise ratio:

A/D resolution:

Dynamic range:

Integration time:

Stray light:

Corrected linearity:

### Lamp Standard

Power  
Approximate Luminous Flux  
Rated Life  
Calibration

**SCL-600**  
35 W  
450 lm  
300 hrs  
Spectral Flux (W/nm)  
350 - 1050 nm

**SCL-600**  
35 W  
450 lm  
300 hrs  
Spectral Flux (W/nm)  
350 - 1050 nm

### Power Supply

Power Requirements  
Current Stability  
Current Rise Time  
Regulated Current  
Dimension (W x D x H)  
Compliance

**LPS-100-0260, 2.60 A, 35 W**  
110/220 VAC, 50/60 Hz  
0.1%  
20 s  
2.60 A +/- 0.1%  
8.3 x 10.5 x 3.5 in (21.1 x 26.7 x 8.9 cm)  
CE

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CE

### Optional Accessories

LS Series LED Sockets  
I 1000 Condition B Intensity Head  
I 2000 Condition A & B Intensity Head  
E 1000 Spectral Irradiance Head  
IES 1000 Intensity/Irradiance Calibration Lamp Standard  
CAL-LX-IRR Calibration of E 1000 with Light MtrX and Spectrometer  
CAL-LX-INT Spectral Intensity Calibration  
Absorption Correction Lamp, AUX-35  
Preset Power Supply, LPS-100-0307, 3.07 A 35 W  
Calibrated Spectral Flux Set, CSFS-600  
50 mm Precision Aperture, PA-200-050 MM  
Horizontal Lamp Mount Bracket  
Temperature Probe, TP-100  
Temperature Probe and Monitor, TPM-100

Choose your own  
AS-02700-100  
AS-02700-316  
AS-02700-000  
AS-02700-602  
CAL-LX-IRR  
CAL-LX-INT  
AS-02639-000  
AS-02600-307  
AS-01336-000  
AS-02487-050  
AS-02477-003  
AS-02637-100  
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Radiometric Range

Photometric Range (Illuminant A)

Red LED Range

Green LED Range

Blue LED Range

Max Recommended DUT dimension

Sphere Dimension (W x D x H)

20 in (50 cm)

98%

400 W (max)

0.6 – 18,000 lm

0.10 – 6,500 lm

0.15 – 7,300 lm

0.05 – 2,100 lm

2 x 2 in (5 x 5 cm)

28.5 x 23.7 x 29.4 in  
(72.4 x 60.2 x 74.7cm)

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AS-02637-100

AS-02638-100