



LFC-050 Light Flux and Color Measurement Systems



The most economical and accurate solution for IESNA LM-79 and equivalent testing needs!

LightFluxColor Measurement Systems are the most affordable and accurate systems for testing LED lighting products per the LM-79 standard. Whether you are a manufacturer of LED luminaires, street lights, solar powered LED lanterns, LED bulbs, or any other type of LED lighting product, LightFluxColor systems will meet all your testing requirements. Test reports produced by following IESNA LM-79 or other equivalent standards not only make LED products comply with energy efficient lighting regulations but also provide confidence in quality of the product. LightFluxColor Measurement Systems allow luminaire manufacturers to test LED products per global testing standards, quickly launch their products to the market, and prove superior quality to their customers. The systems are not only required by manufacturers but are also essential for government labs, municipalities, and production facilities to ensure strict quality control and vendor qualifications.

The NIST traceable calibrated standard included with the system allows users to perform simple in-house system recalibration and verification without having to ship the system to our manufacturing facility. The system is available with 0.5 m, 1 m, 1.5 m and 2 m integrating sphere size options to accommodate LED chips as well as larger street lights. The integrating sphere is coated with Spectrafect® coating which has up to 98% reflectance with perfectly Lambertian properties. The integrating sphere coating is highly durable and extremely stable, does not yellow over time, and doesn't need periodic recoating. The integrating spheres are designed as per LM-79, BIS IS 16106:2012 and other equivalent standards to measure LED sources in both the 2 pi and 4 pi geometries.

Ideal For Flux & Color Characterization of:

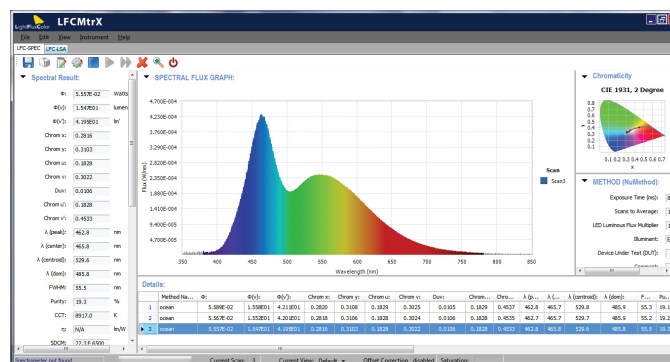
- LED Clusters Railway Lighting
- LED Chips Architectural Lighting
- LED Bulbs Automotive Lighting
- Traffic Lighting

LightFluxColor Measurement Systems also include highly sensitive mini-calibrated CCD Array Spectrometers with spectral ranges from 250 to 850 nm or 350 to 1000 nm. These low noise and broad spectral response spectrometers provide instantaneous measurement of radiometric, photometric, and color characteristics of the LED sources.

The fast results from the spectrometers help to increase the rate of product development, decrease the time to market, and reduce development costs.

Users of the systems are also able to perform absorption correction with standard LightFluxColor Systems and the system includes application specific software.

With ability to measure light source spectrum, luminous flux, radiant flux and complete color parameters with highest degree of accuracy and traceability, the LightFluxColor Systems have the best value of all the LED measurement systems in the market.



Why Choose LightFluxColor

- Calibrations are traceable to NIST (USA) which are accepted and recognized globally.
- Calibrated lamp standards NVLAP accreditation Lab Code 200951-0 (ISO 17025)
- Spectral flux standards (calibration performed at each wavelength) are supplied with each system for highest possible accuracy.
- Competitor's systems only provide luminous flux standards with CCT calibration which limits overall system accuracy.
- An auxiliary lamp is provided for absorption correction and auxiliary correction is applied at each wavelength. This improves overall measurement accuracy as compared to other systems on the market.
- The integrating sphere is coated with Labsphere® Spectrafect® coating that has up to 98% reflectance and is the highest Lambertian coating in the market.
- The sphere coating doesn't yellow over time and doesn't degrade in due course.
- The integrating spheres are designed per IESNA LM-79 standard and are capable of measuring in 2 pi and 4 pi geometries.
- Local support and training.

Light Measurement Software



Detailed Technical Specifications

LFC-050 0.5 meter System includes:

Light Measurement Sphere, 0.5 meter
Spectrally Calibrated Lamp
Auxiliary Lamp
Lamp Socket Assembly
Power Supply, M8811, 30V, 5A
CCD Array Spectrometer
Light Measurement Software
System Manual and Electrical Rack

LFC-050-60

Part # AA-90020-050
✓
✓
✓
✓
✓
✓
✓
✓

LFC-050-61

Part # AA-90030-050
✓
✓
✓
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✓
✓
✓
✓

*System can be upgraded to measure electrical properties of AC operated lamps.

System Properties and Specifications

Sphere	20 in (50 cm)	20 in (50 cm)
Sphere Coating Reflectance	98%	98%
Photometric Range(Illuminant A)	0.5 - 1800 lm	0.5 - 1800 lm
Spectral Range (Spectrometer)	250* - 850 nm	350 - 1000 nm
2 pi Port Size	6 in (15.24 cm)	6 in (15.24 cm)
Sphere & Crate Weight	60 kg	60 kg
Crate Dimension (W x D x H)	0.7 M x 1.45 M x 1.0 M	0.7 M x 1.45 M x 1.0 M

Spectrometer Detector

Spectral Range
Integration Time
Wavelength Accuracy
Optical Input Optical Fiber

Sony ILX511 linear silicon CCD array

250* - 850 nm
1 ms - 5 s
<+/- 0.5 nm
600 um, 3 m long,
(SMA Connection)

Sony ILX511 linear silicon CCD array

350 - 1000 nm
1 ms - 5 s
<+/- 0.5 nm
600 um, 3 m long,
(SMA Connection)

Lamp Standard

Power
Approximate Luminous Flux
Rated Life (Calibrated)
Calibration
Traceability

35 W
600 lm
50 hrs
Spectral Flux (W/nm)
350 - 1050 nm
NIST traceable

35 W
600 lm
50 hrs
Spectral Flux (W/nm)
350 - 1050 nm
NIST traceable

Power Supply (DC)

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

M8811, DC 30V, 5A

110/220 VAC, 50/60 Hz
0.1%
35 s
8.3 x 10.5 x 3.5 in
(21.1 x 26.7 x 8.9 cm)
CE

M8811, DC 30V, 5A

110/220 VAC, 50/60 Hz
0.1%
35 s
8.3 x 10.5 x 3.5 in
(21.1 x 26.7 x 8.9 cm)
CE

Compliance

Aux Lamp

AUX-50 (50W)

AUX-50 (50W)

*system calibration range 350 - 1050 nm

System Upgrades for AC lamp operation

LEX upgrade rack
LES upgrade rack

Part Number

AA-01165-900
AA-01166-900

System Optional Components

SCL 600 cal lamp
Replacement Aux-50 bulb

Part Number

6 in (15.24 cm)
LEW-00014-000

Key System Features

- Fully complies with IESNA LM-79 standard
- NIST traceable calibrated standards for in-house recalibration NVLAP accreditation Lab Code 200951-0 (ISO 17025)
- Measure absolute spectrum in milliseconds
- Comprehensive Light Measurement Software capable of measuring:
 - Total Spectral Flux (Watts/nm)
 - Luminous Flux (Lumens)
 - Luminous Efficacy (Lumens/Watt)
 - Radiant Flux (Watts)
 - Chromaticity (x, y, u, v)
 - CCT
 - CRI
 - Peak Wavelength
 - Dominant Wavelength
- Spectrafect® interior coating for sphere
- Absorption correction capabilities included
- DC power only