



# LFC-100 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:

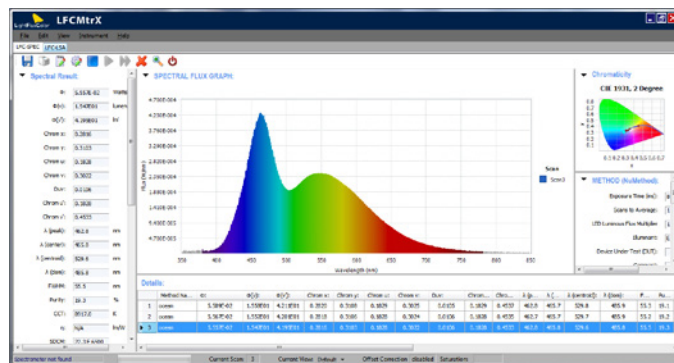
- LED Clusters      Railway Lighting
- LED Chips        Architectural Lighting
- LED Bulbs        Automotive Lighting
- Traffic Lighting

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-100 1 meter System includes:

	LFC-100-60	LFC-100-61
Light Measurement Sphere, 1 meter	Part # AA-90020-100	Part # AA-90030-100
Spectrally Calibrated Lamp	✓	✓
Auxiliary Lamp	✓	✓
Lamp Socket Assembly	✓	✓
Power Supply, M8811, 30V, 5A	✓	✓
CCD Array Spectrometer	✓	✓
Light Measurement Software	✓	✓
System Manual and Electrical Rack	✓	✓

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

## System Properties and Specifications

Sphere	40 in (100 cm)	40 in (100 cm)
Sphere Coating Reflectance	98%	98%
Photometric Range(Illuminant A)	5 - 15,000 lm	5 - 15,000 lm
Spectral Range (Spectrometer)	250* - 850 nm	350 - 1000 nm
2 pi Port Size	12 inch (30cm)	12in (30cm)
Sphere Weight	110 kg	110 kg

### Spectrometer Detector

Spectral Range	<b>Sony ILX511 linear silicon CCD array</b>	<b>Sony ILX511 linear silicon CCD array</b>
Integration Time	250* - 850 nm	350 - 1000 nm
Wavelength Accuracy	1 ms - 5 s	1 ms - 5 s
Optical Input Optical Fiber	<+/- 0.5 nm	<+/- 0.5 nm
	600 um, 3 m long, (SMA Connection)	600 um, 3 m long, (SMA Connection)

### Lamp Standard

Power	35 W	35 W
Approximate Luminous Flux	600 lm	600 lm
Rated Life (Calibrated)	50 hrs	50 hrs
Calibration	Spectral Flux (W/nm)	Spectral Flux (W/nm)
Traceability	350 - 1050 nm	350 - 1050 nm
	NIST traceable	NIST traceable

### Power Supply (DC)

Power Requirements	<b>M8811, DC 30V, 5A</b>	<b>M8811, DC 30V, 5A</b>
Current Stability	110/220 VAC, 50/60 Hz	110/220 VAC, 50/60 Hz
Current Rise Time	0.1%	0.1%
Dimension (W x D x H)	35 s	35 s
	8.3 x 10.5 x 3.5 in (21.1 x 26.7 x 8.9 cm)	8.3 x 10.5 x 3.5 in (21.1 x 26.7 x 8.9 cm)
Compliance	CE	CE

### Aux Lamp

**AUX-50 (50W)**      **AUX-50 (50W)**

\*system calibration range 350 - 1050 nm

## System Upgrades for AC lamp operation

LEX upgrade rack	<b>Part Number</b>
LES upgrade rack	AA-01165-900
	AA-01166-900

## System Optional Components

SCL 600 cal lamp	<b>Part Number</b>
Replacement Aux-50 bulb	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