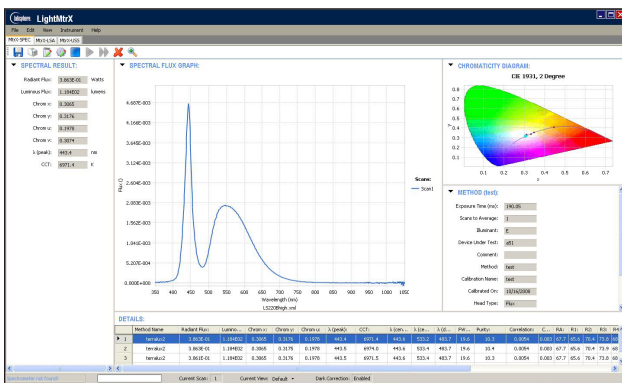
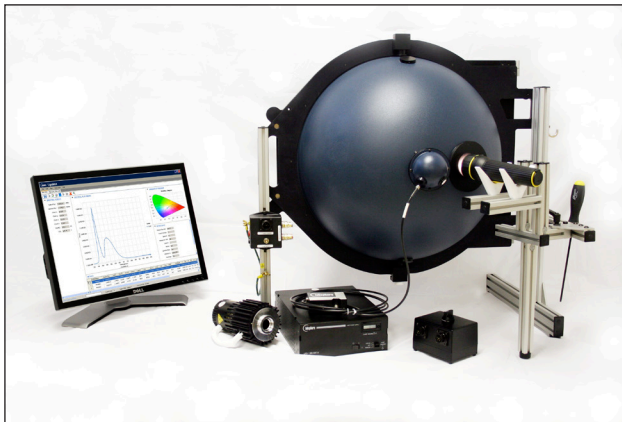


FS2 Flashlight Measurement Systems

Turnkey systems meet ANSI test requirements for LED, tungsten, krypton, and xenon lamp assemblies



VALUE (with MtrX-SPEC Software)

Unique V-block sample holder ensures device mates with the measurement port the same way, every time

MtrX-SPEC software provides a user-friendly, intuitive platform for calibrating the system and analyzing measurements

Capture results instantly with real time graphics and the ability to generate and export reports

Sphere design delivers exceptional spatial integration resulting in uniform, repeatable and reproducible measurements

Pass/fail testing for production

Temporal plots for life performance

NIST traceable lamp standard of forward spectral flux

Software includes one year of free support and upgrades

MEASURES

Total Luminous Flux (lumens)

Total Forward Spectral Flux (watts/nm)

Total Radiant Flux (watts)

Color (CCT)

Lamp Performance vs. Time

Peak and Dominant Wavelength

Spectral Purity

Color Rendering Index (CRI)

Chromaticity Coordinates

Half-Bandwidth

Fast and accurate

Labsphere's FS2 Measurement Systems facilitate accurate spectroradiometric, photometric and colorimetric characterization meeting ANSI standard FL 1-2009 requirements for conditions, run time and light output measurements. Designed specifically for this application, the systems evaluate lamp efficiency for development and manufacture of LED, tungsten, xenon and krypton lamp assemblies.

Easy to use

These turnkey systems include Labsphere's fast and accurate mini spectrometers, flashlight measurement integrating sphere photometers, lamp standard of forward spectral flux, absorption correction lamp and switch box for directing electrical current to either the FFS-100-400 or auxiliary illuminator using the same lamp power supply.

The FS2's unique V-block sample holder ensures the device mates with the measurement port the same way every time complying with the requirement that the device to sensor distance be identical for initial and end point measurements. Coated with Labsphere's Spectrafect®

highly diffuse reflectance coating, the sphere design offers exceptional spatial integration critical for uniform, repeatable and reproducible measurements of these directional sources. Labsphere offers spectral flux standards for on-site calibration with each system.

MtrX-SPEC Spectral Light Measurement Software (sold separately) is the most intuitive platform for calibrating and analyzing spectral radiometric, photometric and colorimetric properties of flashlights including LED, tungsten, krypton, and xenon. The system software gathers periodic light measurements and records corresponding time values during the Run Time testing. The MtrX-SPEC temporal feature allows users to monitor optical and electrical performance versus elapsed operating time.

DLL drivers are standard with the MtrX-SPEC platform including examples written for today's most popular programming languages. When users are ready to increase their capacity, the integral design and user graphical interface makes it easy to transition from research to production.

Specifications

Model and Description	FS2-1060	FS2-2060	FS2-4060
Flashlight Measurement System	AA-00911-100	AA-00911-200	AA-00911-400
System Includes			
Light Measurement Sphere	AS-02477-005	AS-02478-005	AS-02479-005
Forward Flux Standard	AS-02768-100	AS-02768-100	AS-02768-200
Preset Power Supply	AS-02656-416	AS-02656-416	AS-02600-833
CCD Array Spectrometer	AS-02767-000	AS-02767-000	AS-02767-000
50 W Absorption Correction Lamp	AS-02737-050	AS-02737-050	AS-02737-050
Lamp Switch Box	AS-02776-000	AS-02776-000	AS-02776-000
Required, Sold Separately			
LightMtrX Light Measurement Software	MtrX-SPEC	MtrX-SPEC	MtrX-SPEC

System Properties and Performance

Sphere Specifications	10 inch	20 inch	40 inch
Sphere Coating Reflectance:	98%	98%	98%
Radiometric Range:	100 W (max)	400 W (max)	1,500 W (max)
Photometric Range: (Illuminant A)	560 mlm – 12500 lm	2.25 lm - 50000	9.0 lm - 200000
Spectral Range:	350 - 850 nm	350 - 850 nm	350 - 850 nm
Max Recommended DUT Dimension:	2 x 2 in (5 x 5 cm)	4 x 4 in (10 x 10 cm)	7 x 7 in (18 x 18 cm)
Sphere Weight:	8 lbs (3.6 kg)	21 lbs (9.5 kg)	187 lbs (84.7 kg)
Sphere Dimension: (W x D x H)	16.7 x 11.9 x 15.5 in (42.4 x 30.2 x 39.4 cm)	28.5 x 23.7 x 29.4 in (72.4 x 60.2 x 74.7 cm)	48.9 x 42.3 x 68.5 in (1.24 x 1.07 x 1.74 m)
Spectrometer	CDS 600	CDS 600	CDS 600
Dimensions:	89.1 mm x 63.3 mm x 34.4 mm	89.1 mm x 63.3 mm x 34.4 mm	89.1 mm x 63.3 mm x 34.4 mm
Detector Range:	200 - 1100 nm	200 - 1100 nm	200 - 1100 nm
Pixels:	2048 pixels	2048 pixels	2048 pixels
Pixel Size:	14 µm x 200 µm	14 µm x 200 µm	14 µm x 200 µm
Pixel Well Depth:	~62,500 electrons	~62,500 electrons	~62,500 electrons
Sensitivity:	75 photons/count at 400 nm 41 photons/count at 600 nm	75 photons/count at 400 nm 41 photons/count at 600 nm	75 photons/count at 400 nm 41 photons/count at 600 nm
Focal Length:	42 mm input; 68 mm output	42 mm input; 68 mm output	42 mm input; 68 mm output
Entrance Aperture:	100 µm	100 µm	100 µm
Wavelength Range:	200 - 850 nm	200 - 850 nm	200 - 850 nm
Signal-to-Noise Ratio:	250:1 (at full signal)	250:1 (at full signal)	250:1 (at full signal)
A/D Resolution:	16 bit	16 bit	16 bit
Dynamic Range:	2 x 10 ⁸ (system)	2 x 10 ⁸ (system)	2 x 10 ⁸ (system)
Integration Time:	8 ms to 20 seconds	8 ms to 20 seconds	8 ms to 20 seconds
Stray Light:	<0.05% at 600 nm; <0.10% at 435 nm	<0.05% at 600 nm; <0.10% at 435 nm	<0.05% at 600 nm; <0.10% at 435 nm
Corrected Linearity:	>99.8%	>99.8%	>99.8%
Lamp Standard	FFS-100-400	FFS-100-400	FFS-100-1000
Number of Lamps:	1	1	1
Approx. Luminous Flux: (lumens)	400	400	1000
Lamp Current: (amps.)	4.167	4.167	8.333
Rated Voltage: (volts)	12	12	12
Rated Life: (hours)	2000	2000	2000
Power Supply	LPS-150-0416	LPS-150-416	LPS-100-833
Power Requirements:	110/220 VAC, 50/60 Hz	110/220 VAC, 50/60 Hz	110./220 VAC, 50/60 Hz
Current Stability:	0.1%	0.1%	+/- 0.01%
Current Rise Time:	20 s	20 s	20 +/- 5 seconds
Regulated Current:	4.17 A +/- 0.1%	4.17 A +/- 0.1%	8.33 A +/- 0.1%
Weight:	6.5 lbs (2.9 kg)	6.5 lbs (2.9 kg)	6.5 lbs (2.9 kg)
Dimension: (W x D x H)	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)	8.3 x 10.5 x 3.5 in (21.1 x 26.7 x 8.9 cm)
Compliance:	CE	CE	CE
Optional Accessories			
Center Mount Lamp Holder:	AS-02477-002	AS-02478-001	AS-02479-001