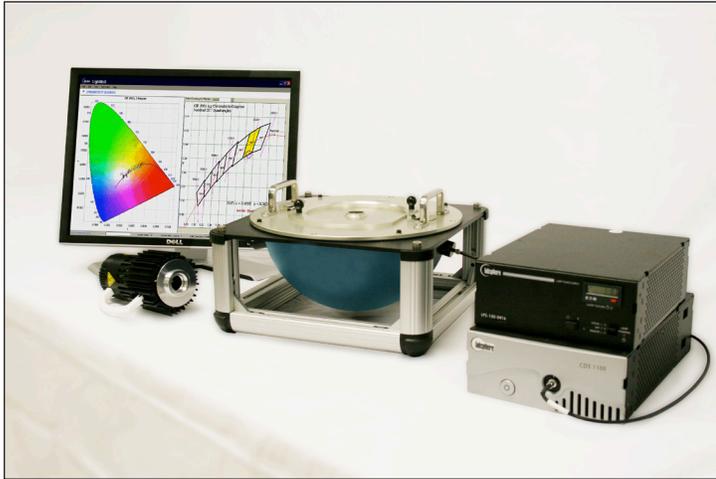


HalfMoon® Light Measurement Systems

Efficient forward flux measurement method in half the footprint



VALUE

Larger forward flux emitting light engines measured with half of the footprint of a regular integrating sphere system

Lamp standard of forward flux minimizes substitution errors between the lamp standard and DUT

Radiometric, photometric and colorimetric characterization capabilities

Easy mounting capabilities for DUTs

Spectralect® coated hemisphere

Out of the box operation

User friendly control software

Backed by ISO 9001:2000 Registered Quality Management System

APPLICATIONS

LEDs

LED light engines

SSL fixtures

Displays

Practical

This intuitively designed system allows for the same accurate, repeatable results as a traditional integrating sphere system in half the footprint. Designed to measure forward emitting lamps, LEDs, board mounted and heat-sunked LED Light Engines for Solid State Lighting (SSL), the HalfMoon System features a Spectralect® coated hemisphere capped with an interior mirrored surface. This mirrored surface creates a virtual integrating sphere within the interior. A centrally placed port in the mirrored surface allows for the Device Under Test (DUT) to be internally mounted in the center of the virtual sphere while keeping the electrical and thermal controls of the DUT outside, reducing absorption errors that can occur in a traditional sphere based system.

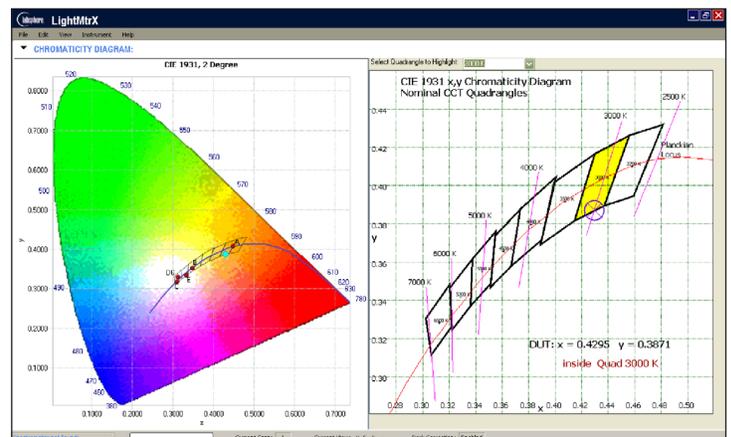
Simple

The central mounting of the HalfMoon sphere allows for users to easily mount the lamp in the center of the sphere with the lamp driving device remaining on the outside of the sphere, reducing absorption errors. The center mounting combined with the internal mirrored surface allows for symmetrical light distribution by the specular image minimizing integrating error within the sphere. The hemispherical design of the HalfMoon system also allows for a smaller footprint being only half the size of a traditional integrating sphere system.

Fast and accurate

With the MtrX-SPEC Spectral Light Measurement Software, and CDS 1100/2100, Labsphere's HalfMoon Systems offer users fast repeatable results. The CDS 1100/2100 spectrometers offer low noise, high dynamic range and a choice of broad spectral ranges through the UV-VIS-NIR with unparalleled ease of use. The NIST traceable calibration and validation for 2p spectral flux, lumens, electrical, and color characterization of the DUT are able to be done with minimal process tooling.

These results help increase the rate of product development, decrease time to market and reduce development costs.



Specifications

Model and Description

HalfMoon Light Measurement System

HMS-4011

AS-02780-405

HMS-4021

AS-02780-406

System Includes

HalfMoon Sphere, HM-400-SF
Preset Power Supply, LPS-100-0833
Calibrated Forward Spectral Flux Standard
CCD Array Spectrometer, CDS 1100 or CDS 2100
100 W Absorption Correction Lamp, AUX-100

40 inch

AS-02780-400
AS-02600-833
AS-02768-200
AS-02746-100
AS-02737-100

40 inch

AS-02780-400
AS-02600-833
AS-02768-200
AS-02746-100
AS-02737-100

Sold Separately

MtrX-SPEC Spectral Light Measurement Software

MtrX-SPEC

MtrX-SPEC

Product Properties and Performance

HalfMoon Sphere

Coating Reflectance:
Radiometric Range:
Photometric Range: (Illuminant A)
Red LED Range:
Green LED Range:
Blue LED Range:
Spectral Range:
Max Recommended DUT Dimension: *

40 inch (1.02 m)

98%
1,500 W (max)
5 lm - 111111 lm
1 lm - 18611 lm
2.98 lm - 66389 lm
1.22 lm - 27222 lm
350 - 850 nm
13 x 13 in (33 x 33 cm)

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Spectrometer

Detector:
Spectral Range:
Resolution:
Integration Time:
Cooling:
TE Temp Drift:
Linearity:
Wavelength Accuracy:
Stray Light Broadband:

CDS 1100

TE Cooled 1044 x 64
CCD (back thinned)
250 - 850 nm
1.5 FWHM
8 ms - 60 s
10 +/- 0.05 C
+/- 1 C
+/- 0.5%
<+/- 0.4 nm
<10⁻⁴ at 400 nm
w/ III A source
<10⁻⁵ at 500 nm
w/633 nm laser
100 mm
600 mm, 3 m long
(SMA Connection)
0.1 scans /sec
30000:1
0.25 nm
Yes
16 bit
USB 2.0
11.3 lbs (5.04 kg)
8.3 x 13.0 x 3.5 in
(21.1 x 32.9 x 8.9 cm)

CDS 2100

TE Cooled 1044 x 64
CCD (back thinned)
350 - 1050 nm
1.5 FWHM
8 ms - 60 s
10 +/- 0.05 C
+/- 1 C
+/- 0.5%
<+/- 0.4 nm
<10⁻⁴ at 400 nm
w/ III A source
<10⁻⁵ at 500 nm
w/633 nm laser
100 mm
600 mm, 3 m long
(SMA Connection)
0.1 scans /sec
30000:1
0.25 nm
Yes
16 bit
USB 2.0
11.3 lbs (5.04 kg)
8.3 x 13.0 x 3.5 in
(21.1 x 32.9 x 8.9 cm)

Stray Light LED/Laser:

Focal Length:
Optical Input:

Speed:
Dynamic Range: (Single Scan)
Spectral Sample Interval:
Mechanical Shutter:
AD Converter:
PC Interface:
Trigger:
Dimensions: (W x D x H)

Lamp Standard

Lamp Current: (Amps)
Approximate Luminous Flux:
Rated Life:
Rated Voltage: (Volts)

FFS-100-1000

8.333
1000 lm
2000 hrs
12

FFS-100-1000

8.333
1000 lm
2000 hrs
12

Power Supply

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

LPS-100-0833, 8.33 A, 100 W

110/220 VAC, 50/60 Hz
0.1%
20 s
8.33 A +/- 0.1%
6.5 lbs. (2.9 kg)
8.3 x 10.5 x 3.5 in
(21.1 x 26.7 x 8.9 cm)
CE

LPS-100-0833, 8.33 A, 100 W

110/220 VAC, 50/60 Hz
0.1%
20 s
8.33 A +/- 0.1%
6.5 lbs. (2.9 kg)
8.3 x 10.5 x 3.5 in
(21.1 x 26.7 x 8.9 cm)
CE

Compliance:

* With custom adapter