

USS-800S Stepped Uniform Source Systems

Exceptional uniform radiance for the test and calibration of imaging and non-imaging devices



VALUE

Stepped radiance output of 70500, 31000 or 3000 cd/m²

Spectrafect® interior provides >98% radiance uniformity

Radiometric and photometric calibration reports

NIST Traceable luminance calibration

Backed by an ISO 9000:2001 registered quality management system

APPLICATIONS

Ideal for calibrating:

Imaging radiometers

Cameras

Telespectroradiometers

Small-area remote sensing devices

Displays

Accurate

The USS-800S systems are sensor calibration systems designed to provide stepped exceptional luminance output values of 70500, 31000 or 3000 cd/m² depending on the system configuration, for imaging and non-imaging systems. A built-in photopic response photodetector monitors the source luminance. Each system provides calibrations that are traceable to the National Institute of Standards and Technology (NIST).

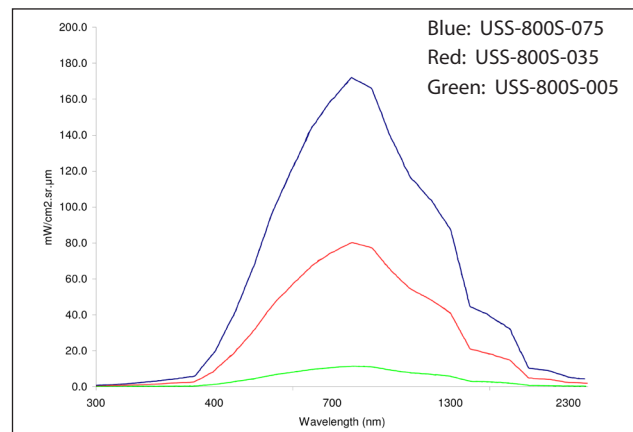
The USS-800S Systems feature an 8 inch diameter integrating sphere with a 2 inch exit port suitable for portable imaging systems and arrays. The sphere is coated with highly reflective Spectrafect® coated interior that provides a better than 98% uniformity. Both durable and highly stable over time, Spectrafect coating ensures the consistent integration of light over the lifetime of your sphere.

Flexible design

The USS-800S Systems yield high returns on investment by facilitating system modifications, upgrades and enhancements. A broad choice of light sources allow users to swap lamps in order to choose the appropriate configuration to meet their radiance performance requirement. Spectrafect coated port accessories allow users to reduce the port size of their sphere to match their applications.

Easy to use

A durable port framed exit port allows for the repetitious mounting of devices under test. The USS-800 systems are operated through a control chassis that features a regulated DC constant current power supply and an SC 6000 radiometer/controller that provides accurate monitoring and control of the exit port luminance. Digital readout of the source output is displayed on an LCD display located on the front panel of the SC 6000. Ethernet ports are included for optional computer interface.



Spectral Radiance Plot

Specifications

Model and Description

USS-800S 8 inch Stepped Uniform Source System

USS-800S-005
AS-02710-100

USS-800S-035
AS-02710-200

USS-800S-075
AS-02710-300

System Includes

8 inch Uniform Source Sphere, USS-800-SF
Internal Halogen Lamp Supply, IHLS-100-005, 035, 075
Preset Power Supply, LPS-100-0042, 0307, 0625
Photopic Detector, SDA-050-P-RTA-CX
Radiometer/Photometer, SC 6000
Luminance Calibration, SCC-LU

AS-02465-000
AS-02631-005
AS-02600-042
AS-02522-301
AS-02702-000
SCC-LU

AS-02465-000
AS-02631-035
AS-02600-307
AS-02522-301
AS-02702-000
SCC-LU

AS-02465-000
AS-02631-075
AS-02600-625
AS-02522-301
AS-02702-000
SCC-LU

System Properties and Performance

System Specifications

Sphere Diameter:
Exit Port Diameter:
Sphere Coating Reflectance:
Luminance Range: (cd/m²)
Luminance Range: (ft-L)
Illuminance Range: (lux)
Peak Radiance: (mW/cm²-sr-μm at 0.9 μm)
Luminance Uniformity*:

USS-800S-005
8 in (20 cm)
2 in (5 cm)
98%
3000
850
9400
11
>98%

USS-800S-035
8 in (20 cm)
2 in (5 cm)
98%
31000
9200
97000
77
>98%

USS-800S-075
8 in (20 cm)
2 in (5 cm)
98%
70500
20600
220000
166
>98%

* Applies at maximum radiance, uniformity may vary at lower radiance levels.

Detector

Active Area:
Range:
f1':
Connector:

VI Filter Silicon Photodiode
5.7 mm²
Visible
4%
BNC

Radiometer/Photometer

Power Requirements:
Current Dynamic Range:
Voltage Dynamic Range:
Computer Interface:

SC 6000
110./220 VAC, 50/60 Hz
1 pA – 1 mA
10 mVdc – 50 Vdc-
Ethernet

Lamp Assemblies

Power:
Color Temperature:

IHLS-100-005
Qty 1, 5 W
3000K

IHLS-100-035
Qty 1, 35 W
3000K

IHLS-100-075
Qty 1, 75 W
3000K

Power Supplies

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

LPS-100-0042
110./220 VAC, 50/60 Hz
0.42 A +/- 0.1%
20 s
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-100-0307
110./220 VAC, 50/60 Hz
3.07 A +/- 0.1%
20 s
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-100-0625
110./220 VAC, 50/60 Hz
6.25 A +/- 0.1%
20 s
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:

Recommended Computer Requirements

Operating System:
Drives:
Ports:

XP Pro
CD-ROM Drive
TCP/IP

Optional Calibrations

Standard Spectral Radiance Calibrations:
Radiance Calibration:
Exit Port Luminance Uniformity Mapping:
Illuminance Calibration:
Custom Spectral Radiance Calibrations Optional

USC-SR (300-2400 nm)
SCC-RA
USC-PM
SCC-IL