

## Medium Uniform Source Systems (USS)

**Exceptional 3000K uniform radiance for the testing and calibration of imaging and planer detectors**

### Accurate

The Medium Uniform Source Systems are designed to provide exceptional 3000K uniform radiance for the test and calibration of imaging and non-imaging detectors. The systems provide stepped luminance output, or continuous output with the addition of a variable attenuator. The USS-1200 produces zero to 63,000 cd/m<sup>2</sup> and the USS-2000 produces zero to 18,000 cd/m<sup>2</sup>. Each system monitors radiance levels in both cd/m<sup>2</sup> and foot-lamberts and all calibrations are traceable to the National Institute of Standards and Technology (NIST).

Sphere diameters of 12 or 20-inches are coated with Spectrafect® which combines a 98% reflective surface with nearly perfect Lambertian properties. Both durable and highly stable over time, this coating ensures the consistent integration of light over the lifetime of your sphere.

### Flexible Design

Four ports enable the system's radiance levels to be easily modified with the addition or removal of light sources. To customize your system or to maintain lower radiance levels without losing performance, the system's ports can be capped or reduced in size with Spectrafect accessories. The sphere comes with an extra detector port for expanded spectral monitoring and the electronics rack has room for additional motor controllers, power supplies, or a detector multiplexer.

### Easy to Use

The system ramps in just 20 seconds to provide stable radiance and increase the lifetime of the lamp. Lamp color temperatures ensure color shifts are eliminated when re-lamping the system and robust port frames allow for easy, repeatable mounting of devices under test. The systems offer rack mounted electronics for quick set-up and mobility for bench-top use.

### TEST AND CALIBRATE:

Electronic Imaging Cameras

Planar Arrays

Photometers

Spectroradiometers

Displays

### FEATURES:

Stepped or Continuous Radiance Variability

Better than 98% Radiance Uniformity

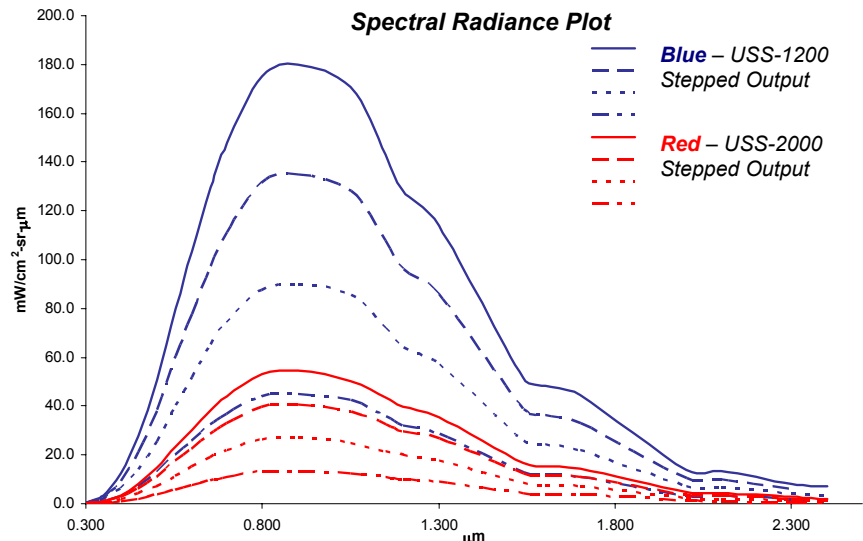
Spectrafect® Interior

Interchangeable Components

Radiometric and Photometric Calibration Reports

NIST Traceable Luminance Calibration

Backed by ISO 9001 Certified Quality Management System



# Specifications

## Model Number

Stepped Uniform Source System (S)  
Continuous Uniform Source System (C)

## USS-1200

AS-02448-201  
AS-02448-301

## USS-2000

AS-02444-201  
AS-02444-301

## System Includes

Uniform Source Sphere, US-120-SF or US-200-SF  
Internal Halogen Lamp Assembly\*, IHLS-100-035  
Preset Power Supply\*, LPS-100-0307  
External Halogen Lamp Assembly\*, EHLS-100-100R  
Preset Power Supply\*, LPS-100-0833  
Photopic Detector, SDA-050-P-RTA-CE  
Variable Attenuator (C Series), VA-100-SC  
Motor Controller\* (C Series), MC-1000  
Radiometer/Photometer\*, SC-5500

## USS-1200

AS-02448-000  
AS-02631-035  
AS-02600-307  
AS-02630-100  
AS-02600-833  
AS-02522-101  
AS-02450-100  
AS-02609-000  
AS-01636-100

## USS-2000

AS-02444-000  
AS-02631-035  
AS-02600-307  
AS-02630-100  
AS-02600-833  
AS-02522-101  
AS-02450-100  
AS-02609-000  
AS-01636-100

\*Product sheet available for additional information

## Technical Specification Differences

**USS-1200S**  
Luminance Range (x1000 cd/m<sup>2</sup>) 15.8, 31.5, 47.3, 63  
Peak Radiance 180  
(mW/cm<sup>2</sup>-sr-μm at 0.9μm)

## USS-1200C

0 - 63  
180

## USS-2000S

4.6, 9.2, 13.8, 18  
55

## USS-2000C

0 - 18  
55

## System Configuration

Sphere Diameter  
Exit Port  
Lamp Assemblies\* Power

## USS-1200S

12 in. (30 cm)  
4 in. (10 cm)  
Qty 4, 35W

## USS-1200C

12 in. (30 cm)  
4 in. (10 cm)  
Qty 3, 35W  
Qty 1, 100W  
Qty 3, for 35W lamps  
Qty 1, for 100W lamp  
8.33 A +/- 0.1%

## USS-2000S

20 in. (50 cm)  
8 in. (20 cm)  
Qty 4, 35W  
Qty 4, for 35W lamps  
3.07 A +/- 0.1%

## USS-2000C

20 in. (50 cm)  
8 in. (20 cm)  
Qty 3, 35W  
Qty 1, 100W  
Qty 3, for 35W lamps  
Qty 1, for 100W lamp  
3.07 A +/- 0.1%  
8.33 A +/- 0.1%

Power Supplies

Current Stability

## System Dimensions

Sphere Dimension (W x D x H)

Rack Dimension (W x D x H)

17.1 x 11.3 x 19.7 in.  
(43.4 x 28.7 x 50.0 cm)  
19.7 x 21.7 x 21.9 in.  
(50 x 55 x 56 cm)

24 x 18.5 x 23.8 in.  
(61 x 47 x 60 cm)  
19.7 x 21.7 x 21.9 in.  
(50 x 55 x 56 cm)

## For all systems

### Integrating Sphere

Sphere Coating  
Sphere Coating Reflectance  
Luminance Uniformity

### Uniform Source Integrating Sphere

Spectrafect®  
98%  
>98%

### Detector

Active Area  
Range  
f1'  
Connector

V<sub>λ</sub> Filter Silicon Photodiode  
5.7 mm<sup>2</sup>  
Visible  
4%  
Triax

### Radiometer/Photometer

Power Requirements  
Current Dynamic Range  
Voltage Dynamic Range  
Computer Interface  
Weight  
Dimension W x D x H

SC-5500  
110./220 VAC, 50/60 Hz  
1pA - 1mA  
10mVdc - 50Vdc-  
IEEE-488 and RS-232C  
6.5 lbs (2.9 kg)  
8.3 x 10.5 x 3.5 in.  
(21.1 x 26.7 x 8.9 cm)

### For Lamp Assemblies

Color temperature  
Power Requirements  
Current Rise Time

3000K  
110./220 VAC, 50/60 Hz  
20 s

### Compliance

CE

## Optional Accessories/Calibrations

Internal & External Light Source Assemblies  
Power Supplies  
Standard Spectral Radiance Calibrations  
(300-2400 nm)  
Radiance Calibration  
Exit Port Luminance Uniformity Mapping  
Illuminance Calibration  
Custom Spectral Radiance Calibrations

IHLS (internal)/EHLS (external)  
LPS  
USC-SR  
SCC-RA  
USC-PM  
SCC-IL  
Optional



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