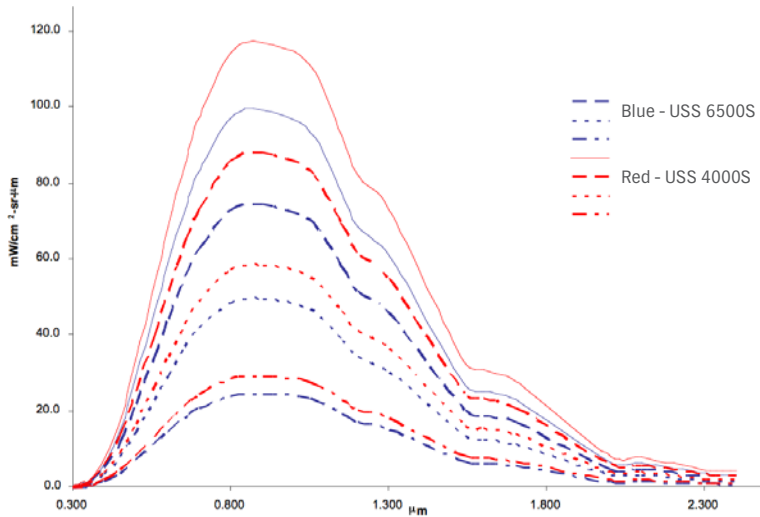


# LARGE USS UNIFORM SOURCE SYSTEMS

Exceptional uniformity for the precise calibration of imaging and non-imaging devices

## SPECTRAL RADIANCE PLOT



## ACCURATE

Labsphere's Large Uniform Source Systems are designed to provide exceptional uniform spectral 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-4000 produces zero to 40,000 cd/m<sup>2</sup> and the USS-6500 produces zero to 34,400 cd/m<sup>2</sup>. Each system monitors luminance 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 40, 65 or 76-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.

## 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 9001:2000 Registered Quality Management System

## BEST FOR MEASURING:

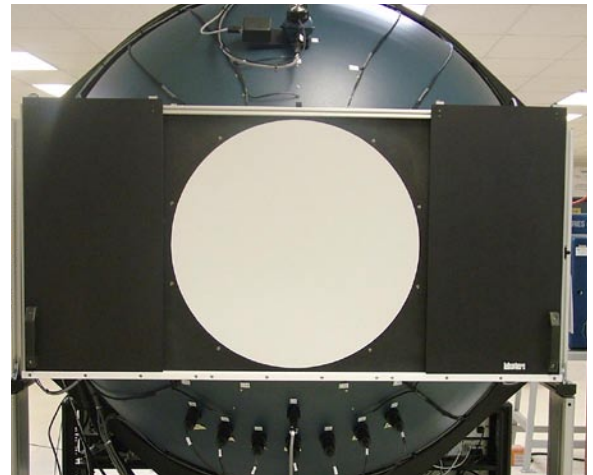
- Satellite Instrumentation
- Electronic Imaging Cameras
- Planar Arrays
- Photometers
- Spectroradiometers

## FLEXIBLE DESIGN

Three ports and direct mount sockets enable the system's radiance levels to be easily modified with the addition or removal of light sources. To customize your system or to achieve lower radiance levels without losing performance, the system's ports can be capped or reduced in size with Spectrafect coated accessories. The sphere comes with two extra detector ports for expanded spectral monitoring and the electronics racks have room for additional motor controllers, power supplies, or a detector multiplexer. Let us design a system for your specific application.

## EASY-TO-USE

The USS system ramps in just 20 seconds increasing the lifetime of the lamps. Matching lamp color temperatures ensure color shifts are eliminated when running different lamp combinations. Robust port frames allow for easy, repeatable mounting of devices under test or calibration. The systems are self-contained with all electronics and utilities shelf mounted on the sphere frame for easy mobility.



CUSTOMIZED USS-6500C

# Specifications

Description and Model Number	USS-4000	USS-6500	Custom Systems
Stepped Uniform Source System (USS-S)	AS-02445-201	AS-02446-201	Upon request
Continuous Uniform Source System (USS-C)	AS-02445-301	AS-02446-301	Upon request

System Includes	USS-4000	USS-6500	
Uniform Source Sphere, US-400-SF or US-650-SF	n/a	n/a	
Internal Halogen Lamp Assemblies 150 w lamp*, IHLS-DM-150	AS-02631-035	AS-02631-035	
Internal Halogen Lamp Assemblies 35 w lamp*, IHLS-100-035	AS-02630-000	AS-02630-000	
Preset Power Supplies*, LPS-150-0635	AS-02656-635	AS-02656-635	
Internal Halogen Lamp Assembly 75 w lamp*, IHLS-100-075	AS-02631-075	AS-02631-075	
Preset Power Supply*, LPS-100-0625	AS-02600-625	AS-02600-625	
External Halogen Lamp Assembly*, EHLS-100-100R	AS-02630-100	AS-02630-100	
Preset Power Supply*, LPS-100-0833	AS-02600-833	AS-02600-833	
Photopic Detector, SDA-050-P-RTA-CE	AS-02522-101	AS-02522-101	
Variable Attenuator (C Series), VA-100-SC	AS-02450-100	AS-02450-100	
Motor Controller* (C Series), MC-1000	AS-02609-000	AS-02609-000	
Radiometer/Photometer*, SC-6000	AS-02702-000	AS-02702-000	

\*Product sheet are available for additional information

## System Properties and Performance

Technical Specification Differences	USS-4000S	USS-4000C	USS-6500S	USS-6500C
Luminance Range (cd/m <sup>2</sup> )	1660 – 40000	0 – 40000	640 – 34400	0 – 34400
Peak Radiance (mW/cm <sup>2</sup> -sr-μm at 0.9μm)	117	117	99	99
<b>System Configuration</b>				
Sphere Diameter	40 in. (102 cm)	40 in. (102 cm)	65 in. (165 cm)	65 in. (165 cm)
Exit Port Diameter	14 in. (36 cm)	14 in. (36 cm)	22 in. (60 cm)	22 in. (60 cm)
Lamp Assemblies	Qty 7, 150 W Qty 2, 75 W Qty 1, 35 W	Qty 7, 150 W Qty 1, 100 W Qty 1, 75 W Qty 1, 35 W	Qty 17, 150 W Qty 2, 75 W Qty 1, 35 W	Qty 17, 150 W Qty 1, 100 W Qty 1, 75 W Qty 1, 35 W
Power Supplies	Qty 7, for 150 W lamps Qty 2, for 75 W lamps Qty 1, for 35 W lamp	Qty 7, for 150 W lamps Qty 1, for 100 W lamp Qty 1, for 75 W lamp Qty 1, for 35 W lamp	Qty 17, for 150 W lamps Qty 2, for 75 W lamps Qty 1, for 35 W lamp	Qty 17, for 150 W lamps Qty 1, for 100 W lamp Qty 1, for 75 W lamp Qty 1, for 35 W lamp
Current Stability	6.25 A +/- 0.1% 3.07 A +/- 0.1% 6.35 A +/-0.1%	6.25 A +/- 0.1% 8.33 A +/- 0.1% 3.07 A +/- 0.1% 6.35 A +/-0.1%	6.25 A +/- 0.1% 3.07 A +/- 0.1% 6.35 A +/-0.1%	6.25 A +/- 0.1% 8.33 A +/- 0.1% 3.07 A +/- 0.1% 6.35 A +/-0.1%
<b>System Dimensions</b>				
Sphere Dimension (W x D x H)	49.0 x 55.3 x 68 in. (124 x 141 x 173 cm)	49.0 x 55.3 x 68 in. (124 x 141 x 173 cm)	76 x 83 x 85 in. (192 x 210 x 216 cm)	76 x 83 x 85 in. (192 x 210 x 216 cm)
<b>For all systems</b>				
Integrating Sphere	Uniform Source Integrating Sphere			
Sphere Coating	Spectrafect®			
Sphere Coating Reflectance	98%			
Luminance Uniformity*	>98%			

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

Radiometer/Photometer	SC-6000
Power Requirements	110./220 VAC, 50/60 Hz
Current Dynamic Range	1pA - 1mA
Voltage Dynamic Range	10mVdc – 50Vdc-
Computer Interface	Ethernet
Detector	VI Filter Silicon
Photodiode Active Area	5.7 mm <sup>2</sup>
Range	Visible
f1'	4%
Connector	Triax

Lamp Power Supplies	LPS 100/150
Color temperature	3000K
Current Rise Time	20 s
Compliance	CE

## Optional Accessories/Calibrations

Internal & External Light Source Assemblies	IHLS (internal)/EHLS (external)
Labsphere Power Supplies	LPS
Standard Spectral Radiance Calibrations	300-2400 nm
USC-SR Radiance Calibration	SCC-RA
Exit Port Luminance Uniformity Mapping	USC-PM
Illuminance Calibration	SCC-IL

## Recommended Computer Requirements

Operating System	Windows 98® 2nd Edition, Windows 2000® PE or later
Drives	CD-ROM Drive
Ports	Serial

