



# Source for Photometric and Radiometric Calibration

Simple uniform sources  
of luminance and radiance  
for test and calibration of imaging  
and non-imaging devices



## Speed and accuracy in a simple design

SPARC series of uniform source systems are designed for flat fielding and calibrating cameras and sensors for photometric and radiometric responses from low to high light levels. SPARC yields high fidelity measurements while keeping the user experience simple and affordable with turnkey features and excellent dynamic range. A great all-around uniform source system for simple camera and sensor testing.

Spectralon<sup>®</sup>, a highly diffuse material inside the sphere, provides stable reflectance and repeatability over the lifetime of the system. The integrating sphere and control electronics are housed in a single enclosure for easy portability, and production ready features such as automation, and easy-to-use software interface with user defined and selectable light levels.

A 13.5 cm integrating sphere with a 5 cm exit port, precision automated variable attenuator, and built in photopic response photodetector allows for continuous adjustability and good dynamic range up to 50,000 cd/m<sup>2</sup>.

The automated VA allows the user to quickly and accurately drive to a preset or selected luminance value. For cameras with wide angle FOV's, SPARC features our WAF (Wide Angle Field Of View) version. Each system comes with a uniformity mapping and National Institute of Standards and Technology (NIST) traceable spectral radiance and luminance calibrations.

## Types of test

- Luminance Responsivity
- Image Validation and Correction
- Uniformity
- Flat Fielding
- Variable CCT

## Ideal for calibrating

- CCD and CMOS cameras
- Small area remote sensing devices
- Electronic imaging devices
- Medical endoscopes
- Ambient light sensors
- Security cameras

# Specifications and Ordering Information

**Model Number:**  
**Order Number:**

**SPARC-A06L**  
**AA-01578-001**

**SPARC-A06-WAF**  
**AA-01578-000**

## System Performance

Correlated Color Temperature: CCT 2856K  $\pm$  75K  
 Luminance Range: cd/m<sup>2</sup> 0 to 50,000  
 Equivalent Illuminance at Port: lux 0 to 150,000  
 Peak Spectral Radiance:  $\mu$ W/cm<sup>2</sup>-sr-nm @ 900 nm 1.80  
 Uniformity: 98%  
 Lamp Lifetime: hrs > 500  
 Luminance Attenuator Steps: 1.20E+04  
 Dynamic Range/Bits/dB - Full Range of System: 4.85E+04/15/93

2856K  $\pm$  75K  
 0 to 20,000  
 0 to 60,000  
 0.70  
 96% over 180° FOV  
 > 500  
 1.20E+04  
 4.85E+04/15/93

## System Components

Sphere Diameter: (ID) 13.5 cm  
 Exit Port Diameter: 5 cm  
 Sphere Coating: Spectralon®  
 Inline Baffle: 7.62 cm  
 Monitor Detector: SD-S1, Silicon  
 Light Source: Quartz Halogen  
 Detector Response: Photopic & Unfiltered  
 System Software: LSS-SPARC

13.5 cm  
 5 cm Dome  
 Spectralon®  
 N/A  
 SD-S1, Silicon  
 Quartz Halogen  
 Photopic & Unfiltered  
 LSS-SPARC

## System Specifications

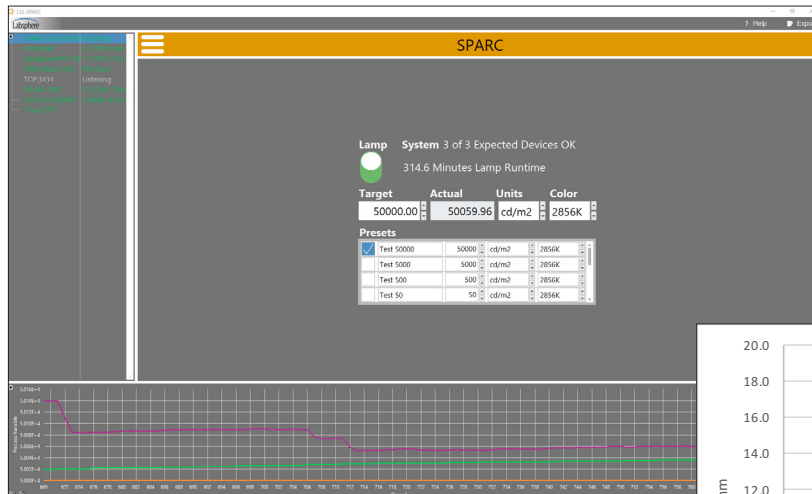
Communication: USB 3.0  
 Operating System: Windows 10  
 Dimensions: (L x W x H) 39 cm x 32 cm x 30 cm  
 Weight: (approximate) 14 kg

USB 3.0  
 Windows 10  
 39 cm x 32 cm x 30 cm  
 14 kg

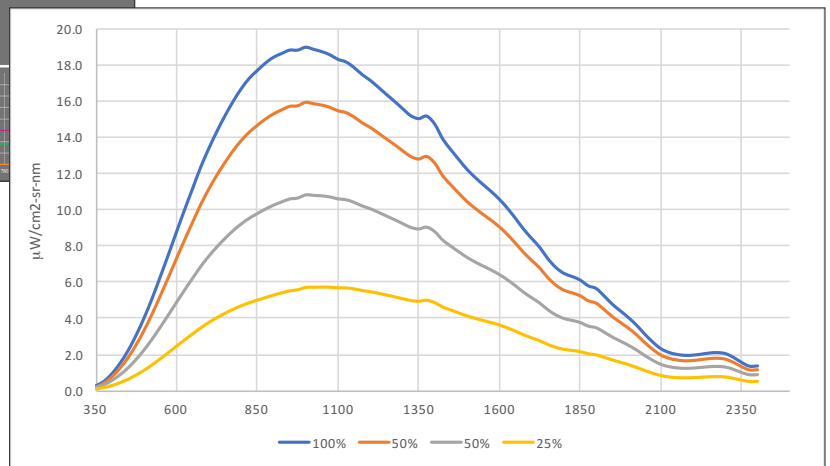
## Included Calibrations (NIST traceable)

Luminance Responsivity: A/cd/m<sup>2</sup>  
 Correlated Color Temp: (factory set) 2856K  
 Spectral Radiance: (0.350 - 2.400  $\mu$ m) at max luminance  
 Spatial Uniformity: at max luminance

A/cd/m<sup>2</sup>  
 2856K  
 at max luminance  
 at max luminance



SPARC Main Window



SPARC-A06L Spectral Radiance at 2856K



Advancing the Technology of Light: Measure. Create. Reflect.

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