

# Spectra-PT Power Tunable Spectral Calibration Sources

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



## Speed and accuracy in a simple design

Spectra-PT sources are designed for flat fielding and calibrating cameras and sensors for radiometric responses from low to high light levels. Spectra-PT 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®, 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, Spectra-PT 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

## 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:**

**PT-1000-S**  
**AA-01578-001**

**PT-1000-W**  
**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 @ 1050 nm 180  
 Uniformity: 94%  
 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 60,000  
 0 to 120,000  
 250  
 94% 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-PT

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

## Port Accessories

Standard Aperture Sizes: 1.27, 2.54, 3.81 and 5.05 cm

## 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

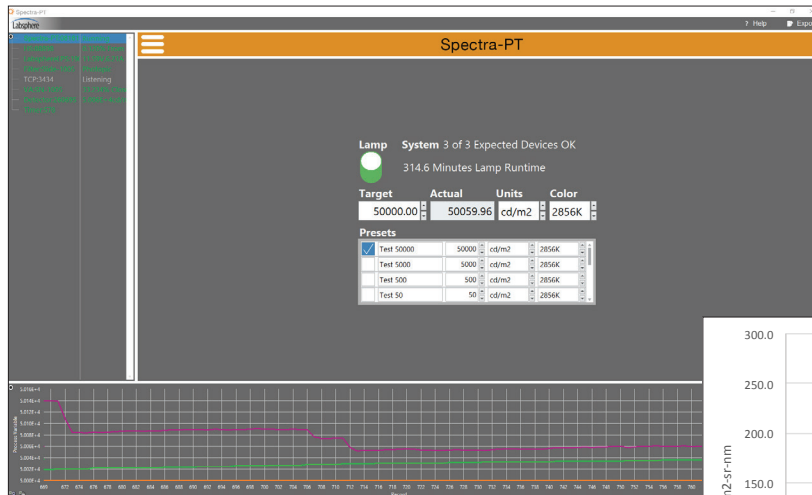
USB 3.0  
 Windows 10  
 39 cm x 32 cm x 30 cm  
 14 kg

## Included Calibrations (NIST traceable)

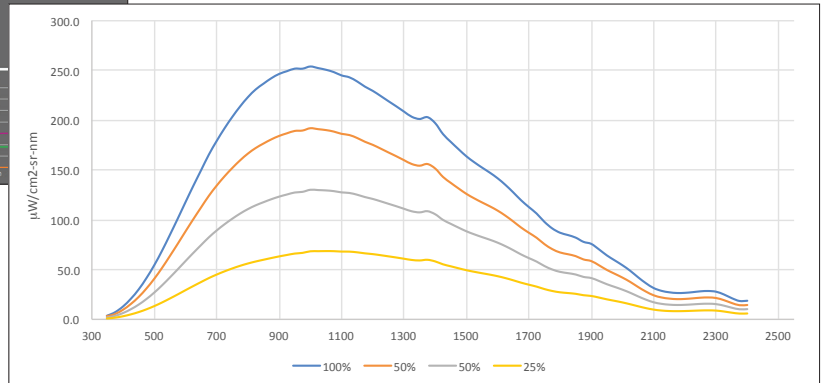
Luminance\*: cd/m<sup>2</sup>  
 Correlated Color Temp: (factory set) 2856K  
 Spectral Radiance: (350 - 2400 nm) at max luminance  
 Spatial Uniformity: at max luminance

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

\*Additional calibrations may be entered by user



Spectra-PT Main Window



Example: PT-1000-S Spectral Radiance at 2856K



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