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 automa-
tion, 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^2.

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

Labsphere

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

Specifications and Ordering Information

Model Number:	PT-1000-S	PT-1000-W
Order Number:	AA-01578-001	AA-01578-000

System Performance

Correlated Color Temperature: CCT	2856K ± 75K	2800K ± 100K
Luminance Range: cd/m^2	0 to 50,000	0 to 50,000
Equivalent Illuminance at Port: lux	0 to 150,000	0 to 150,000
Peak Spectral Radiance: µW/cm^2-sr-nm @ 1050 nm	180	180
Uniformity:	94%	94% over 180° FOV
Lamp Lifetime: hrs	> 500	> 500
Luminance Attenuator Steps:	1.20E+04	1.20E+04
Dynamic Range/Bits/dB - Full Range of System:	4.85E+04/15/93	4.85E+04/15/93

System Components

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

Port Accessories

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

System Specifications

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

Included Calibrations (NIST traceable)

Luminance*:	cd/m^2	cd/m^2
Correlated Color Temp: (factory set)	2856K	2800K
Spectral Radiance: (350 - 2400 nm)	at max luminance	at max luminance
Spatial Uniformity:	at max luminance	at max luminance

*Additional calibrations may be entered by user
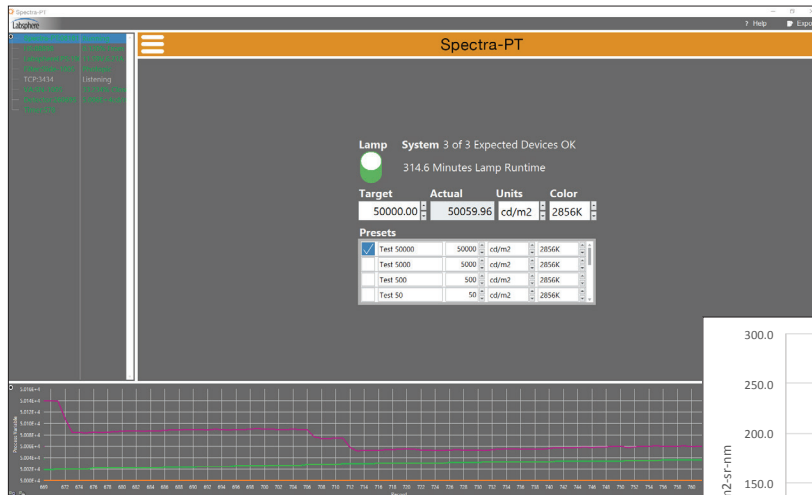
Spectra-PT Main Window
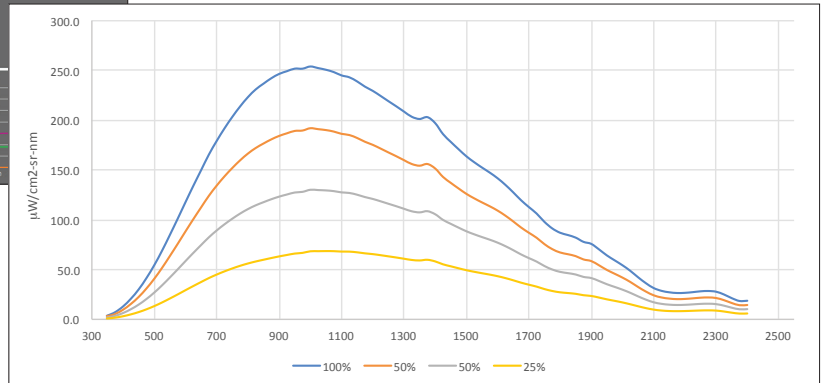
Example: PT-1000-S Spectral Radiance at 2856K

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