

Chromatic Luminance / Irradiance Measuring Instrument

# Spectra-Lumi (SPECBOS)



Irradiance Probe



Tripod



Connector for USB BUS and External trigger



Carry Case

Chromatic Luminance / Irradiance Measuring Instrument **"Spectra-Lumi"** can measure visible spectrum From 380nm to 780nm, which calculates "Luminance", "Irradiance", Chromaticity", "Correlated Colour Temperature", "Dominant Wavelength", "Excitation Purity", and "Colour Rendering".

The size is very compact, and powered by USB BUS cable, so that no needed any power supply cable. The external trigger connector make smooth connection with the external switch and with synchronized external light source.

Basically the body has the luminance probe which can be adjusted the option of the irradiance probe, that is why this instrument is compatible for both "Luminance Measurement" and "Irradiance Measurement". When it switched one probe to another one, the software setting is automatically changed to the one Software mode to another software mode (between Luminance mode and Irradiance mode).

The **Spectra-Lumi** has the laser pointer to indicate the position where be measured.

Easy operation moreover the precise measurement function is totally covered the various research Environment.

## Example of use

- Projector Testing
- Lighting Instrument
- Display Measurement (LED back light LCD etc)
- Road traffic signs (LED) and Electrical scoreboards (LED and LCD)
- Automobile component ( Head/Brake light, Room light, Indicators)

## Feature

### 1. Various Measurement

Focusing on the visible wavelength range from 380nm to 780nm, its spectrum result leads to Chromaticity, Correlated Colour Temperature, Dominant Wavelength, Excitation Purity, Colour Rendering.

### 2. High Accuracy

The internal flat-field typed grating and the photo diode array 1024 pixels make the high accuracy such as <math><0.5\text{nm}</math>. The sensitivity calibration is done by NIST calibrated light source.

### 3. Easy Operation

It is powered by USB BUS, so no needed external PW supply, and software mode will be switched by the magnetic sensor where the Irradiance probe. Also the exclusive tripod and the Red laser pointer are very helpful to keep on measuring at the right position.

### 4. Compact Size

The body dimensions are 60mm (W) x 40.5mm (H) x 139mm (D), and the weight is just 335g. This is totally matched to any application in outside.

### 5. Customized Upgrade

The Spectra-Lumi software has SDK and the sample source (C++, VB, LabVIEW), and it is very flexible to alter the customized software to apply for each request from The users.

## Specification

Wavelength Range	380nm - 780nm
FWHM	7nm
Accuracy	$\pm 0.5\text{nm}$
Measured Range (in the case of WhiteLED)	- 300000 cd/m <sup>2</sup> (Luminance) 20 - 500000 lx (Irradiance)
Repeatability (Luminance)	$\pm 1\%$
Repeatability (Chromaticity)	$\pm 0.0005$
A/D Resolution	15bit (14bit for display)
Angle of View (for Luminance)	2.3°
Distance and Diameter (for Luminance)	200mm @ $\phi 11\text{mm}$ 1000mm @ $\phi 42\text{mm}$
Measurement Menu	Spectrum, Luminance (cd/m <sup>2</sup> ), Radiance (W/sr*m <sup>2</sup> ), Irradiance (lx) (W/m <sup>2</sup> ), Chromaticity (xy, u' v' ), Correlated Colour Temperature (K), Colour Difference ( $\Delta uv$ ), Dominant Wavelength (nm), Excitation Purity (%), Colour Rendering (Ra, R1-R15 etc)
Optical System	Flatfield type Grating, Photo Diode Array (1024 pixel)
Traceability	NIST
Operating Environment	10 - 40 °C @ <math><85\%</math> Humidity, without any condensation
Interface	USB2.0
Power	USB BUS
Size and Weight	60 (W) x 40.5 (H) x 139 (D) mm, 335g



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