

GS-1160B Portable Spectroradiometer



The GS-1160B portable spectroradiometer is a compact and light weight spectrometer suitable for high-speed and accurate spectral measurements of displays. A flicker sensor is also included. The platform's cutting edge technology is superior to filter-based colorimeters and not susceptible to filter matching errors. It delivers true spectral based measurement accuracy required for high color saturation and wide color gamut LCD, OLED, micro LED and quantum dot displays.

LightTouch uSpectrum and uFlicker software provide comprehensive color and flicker measurements and analysis.

Accurate and Repeatable Display Measurement

- Luminance , CCT, CIE x, y, u', v' and spectrum
- Luminance measurement from 0.005 to 5,000 cd/m²
- Contrast, white balance and color gamut determination
- Automatic dark calibration
- Integrated flicker sensor: 100K samples/second
- USB 2.0 SCPI command compliant and SDK/API library support



In addition to our exceptional technical and functional capabilities, Gamma Scientific is ISO/IEC 17025 accredited by NVLAP (NVLAP lab code 200823-0).

Spectrum				
Sensor	CMOS linear image sensor			
Wavelength Range	380 to 780 nm			
Wavelength Data Increment	1 nm			
Spot Size	10 mm, working distance 0 - 30 mm			
Acceptance Angle	± 1°			
Wavelength Reproducibility	± 1 nm (assumes stable input light source)			
Luminance ^(1,2)	Measurement range	0.005 to 5,000 cd/m ²		
	Accuracy	± 1.5% from 100 to 5,000 cd/m ²		
		± 2% from 0.2 to 100 cd/m ²		
		± 4% from 0.05 to 0.2 cd/m ²		
	Repeatability (2σ) ⁽³⁾	± 8% from 0.005 to 0.05 cd/m ²		
		± 0.2% from 100 to 5,000 cd/m ²		
± 0.5% from 0.2 to 100 cd/m ²				
Color ^(1,2)	Measurement range	0.01 to 5,000 cd/m ²		
	Accuracy	± 0.002 in CIE 1931 x,y for white from 100 to 5,000 cd/m ²		
		± 0.002 in CIE 1931 x,y for white from 0.2 to 100 cd/m ²		
		± 0.003 in CIE 1931 x,y for white from 0.05 to 0.2 cd/m ²		
	Repeatability (2σ) ⁽³⁾	± 0.006 in CIE 1931 x,y for white from 0.01 to 0.05 cd/m ²		
		± 0.0005 in CIE 1931 x,y for white from 100 to 5,000 cd/m ²		
± 0.001 in CIE 1931 x,y for white from 0.2 to 100 cd/m ²				
Stray Light	-25 dB maximum (550 ± 40nm monochromatic source)			
Polarized Error	< 2%			
Integration Time Range	100 µsec to 5 sec (fast mode / normal mode)			
Digital Resolution	16 bit			
Measuring Capabilities	Luminance (cd/m ²) Δx, Δy, Δu', Δv' Excitation purity Peak wavelength (λp)	Correlated color temp (CCT) Delta UV (Duv) CRI and Ra (R1 to R15) Peak Wavelength Value (λpV)	CIE 1931 chromaticity coordinates Dominant wavelength (λd) Spectral power distribution (SPD) mW/m ² Integration time (I-Time) Scotopic & photopic ration (S/P)	
Flicker				
Measurement Range	≥ 5 cd/m ²			
Sampling Rate	100 kHz			
Contrast ⁽⁴⁾	Accuracy: ± 1% (± 2% at 60Hz)	Reproducibility: 1% (20 to 65 Hz)		
JEITA ⁽⁴⁾	Accuracy : ± 0.5 dB	Reproducibility: 0.3 dB		
Measuring Capabilities	Min/max, avg, rms & frequency	JEITA and VESA	Flicker Index and % (IES)	
Features				
Capture Function	One-time or continuous			
Operation Mode ⁽⁵⁾	USB			
Integration Mode	Auto or Manual			
Automatic Dark Calibration	Auto mode			
Measuring Modes	Basic	Spectrum	CIE 1931 Chromaticity	CIE 1976 Chromaticity
	Browser	Flicker	Frequency	Option
System Configurations				
External Power	Adapter 5V, 2000mA with USB connector			
Data Interface	Mini USB port (USB 2.0)			
Dimensions	204 mm (8 in) H x 90 mm (3.6 in) W x 45 mm (1.8 in) D		620 g (1.4 lbs)	
Language Options	English, Traditional Chinese, Simplified Chinese, Japanese			

- Luminance and color testing are based on standard light source at 2856K, 6500K and 9300K.
- Measure in normal mode with temperature 23° ±2°C and relative humidity ≤ 50%.
- Repeatability test is based on the status of shutter opening.
- 30 Hz AC/DC 10% sine wave unless otherwise specified.
- An RS-232 interface is available on the 1170B display color spectroradiometer. Specifications are subject to change without notice.