

WP690 WP6120 Imaging Colorimeter



Performance and value with a small footprint

Capable

With 9 or 12 Megapixels of resolution, the WP690 and WP6120 imaging colorimeters provide optimal measurement solutions to measure luminance and chromaticity. A wide assortment of lenses to suit almost any application are available.

Westboro Photonics' Photometrica® software and application packages provide extensive photometer control, measurement analysis and reporting. All acquisition and analysis functions can be efficiently automated using the scripting interface, or with the Software Development Kit (SDK).

Sensitive

The WP690 and WP6120 are all Peltier-cooled and stabilized to minimize measurement noise and drift. With a sensitivity below 0.001 cd/m², low light levels can be reliably analyzed.

Accurate

The precise matching of the CIE tristimulus filters ensures accurate luminance and chromaticity measurements. Electronic bracketing yields an optimal set of exposures which are used to measure each point in a scene, even one requiring a high dynamic range exceeding 1,000,000:1.

Key Features

- High Sensitivity
- CIE Color-Matched Filters
- Multiple Lens Options
- USB2 Interface
- Compact and Lightweight

Applications

- Uniformity of Flat Panel Displays
- Backlight Keyboards
- Mobile Keypads
- Avionics and Automotive Instruments and Panels
- Beam Pattern Distribution
- Solid State Lighting

WP690 and WP6120 Imaging Colorimeter

TECHNICAL SPECIFICATIONS

SPECIFICATIONS†		WP690	WP6120
Sensor Model, Diagonal Size, Pixel Pitch		Sony ICX814, 16.0 mm, 3.69 μm	Sony ICX834, 15.8 mm, 3.1 μm
Sensor Type		16-bit, interline transfer CCD image sensor with microlens	
Sensor Megapixels		9.1	12
Pixel Array		3388 x 2712	4250 x 2838
High Dynamic Range (multi-exposure)		> 1 000 000:1	> 1 000 000:1
Luminance Minimum (cd/m^2)*	Limit of Detection	0.000 01	0.000 02
	SNR = 60	0.000 1	0.000 2
	SNR = 100	0.000 2	0.000 3
Short-Term Repeatability		Luminance (Y) \pm 0.03 % CIE Chromaticity Coordinates (x,y) \pm 0.000 05	
Accuracy**		Luminance (Y) \pm 3% CIE Chromaticity Coordinates (x,y) 0.003	
Standard Lenses: Field of View (H x V)	14 mm	40° x 48°	35° x 51°
	24 mm	23° x 29°	21° x 31°
	35 mm	16° x 21°	14° x 21°
	50 mm	11° x 14°	10° x 15°
	105 mm	6° x 7°	5° x 8°
Minimum Measurement Time at 100 cd/m^2 – Native, 2x2 Binned, 4x4 Binned (s)		Luminance – 3.1, 1.6, 1.0 Color – 13.5, 7.3, 5.2	Luminance – 3.8, 1.8, 1.1 Color – 16.5, 8.2, 5.7
Spatial Measurement Capabilities		Luminance, Radiance, Illuminance, Irradiance, Luminous Intensity, Radiant Intensity, CIE Chromaticity Coordinates, Correlated Color Temperature (CCT), Dominant Wavelength, $L^*a^*b^*$, Gamma, Gamut, Uniformity, ΔE^* , User Defined	
Units		cd/m^2 , fL, $\text{W}/\text{sr}/\text{m}^2$, lux, fc, W/m^2 , cd, W/sr , CIE (x,y), CIE (u',v'), K (CCT), nm	
Optional Filters		Scotopic, Radiometric, Circadian	
Communication Interface		USB2	
Power		12 V, 24 W max.	
Dimensions Excluding Lens (H x W x D)		127 mm x 113 mm x 74 mm	
Weight		1.9 kg with typical lens, 1.6 kg with no lens	
Operating Temperature		5°C to 35°C	
Operating Humidity		10 % to 90 % (no condensation)	

† Specifications are subject to change without notice

* Using 7x7 pixel area

** For illuminant A and for mean value of 50 measurements.