



WESTBORO  
PHOTONICS

WP106

COOLED, 6 MP IMAGING  
PHOTOMETER

WP106

#### KEY FEATURES

Fast Measurements  
Excellent Sensitivity  
Peltier Cooled Detector  
Low Noise  
High Dynamic Range

#### APPLICATIONS

Display Testing  
Backlit Keyboards  
Mobile Keypads  
Automotive Dashboards  
Avionics Cockpits

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The WP106 imaging photometer has a cooled, 6 Megapixel detector with a USB interface.

#### SENSITIVE

The WP106's CCD sensor is Peltier cooled and stabilized to minimize measurement noise and drift. The WP106 does not require a mechanical shutter to time the measurements. Instead, the exposures are timed electronically and clocked at 20 MHz for the most reliable readings. With typical lenses, these photometers can reliably measure scenes as low as  $0.0005 \text{ cd/m}^2$  up to  $100,000 \text{ cd/m}^2$ .

#### ACCURATE

The precise matching of the CIE V-lambda filter and absolute luminance calibration ensure accurate measurements. Whether your scene is low or high dynamic range, electronic bracketing in Photometrica® selects the optimal exposure for each pixel in the scene. The highest dynamic range measurements can exceed 1,000,000:1.

The WP106 imaging photometer has a 16 mm diagonal CCD sensor and can be configured with a wide assortment of lenses to suit a wide variety of applications. Users may even add lenses and create their own calibration correction factors using Photometrica®. If optical attenuation is required, calibrated neutral density filters can be added to the system.

Photometrica® software is included with the WP106 providing the most productive software environment to achieve ideal photometer control and analysis for photometric applications. Photometrica® allows various levels of programming from scripting within the Photometrica® graphical user interface to full automation using the SDK.

# SPECIFICATIONS

## WP106 COOLED, 6 MP IMAGING PHOTOMETER

### CONNECTIONS

Communication to the Windows PC is via USB2. A 5V, 20W power adapter is supplied with the photometer.

### MECHANICAL

The imagers are designed to maximize usability and include sturdy cast aluminum housings, LED status indicators and two 1/4"-20 thread mounts on each of the top and bottom of the WP106.



### SPECIFICATIONS

Measurement Capabilities	Luminance, Illuminance, Luminous Intensity
Units	cd/m <sup>2</sup> , fL, lux, cd, %, user defined
A/D	16-bit
Sensor Size and Type	1", Sony ICX-694
Pixel Size (µm)	4.54 x 4.54
Image Resolution (H x V)	2750 x 2200, 6 Megapixels
Dynamic Range	>100,000:1 with electronic bracketing
Luminance Range [cd/m <sup>2</sup> ]*1	0.0005 to 100,000
Optional ND Filters	10X, 100X, 1000X
Repeatability *2	0.30%
Accuracy *2	3%
Exposure Timing the Electronic Shutter	<10 ms to 5 minutes
Lenses	C- or F-mount
Dimensions (w x h x l) (excluding lens)	47.8 mm x 137.2 mm x 146.3 mm
Weight (excluding lens)	1400 g
Power Requirements	5V, 20W
Mounting	two 1/4"-20 on each of the top and bottom
Computer Interface	USB2
Electrical Compliance	CE and Part 15 Class A of FCC Rules
Temperature to Calibration Specifications	18 to 25 °C, Operating 5 to 40 °C; storage -30 to 60 °C, non-condensing
Warranty	1 year

\*1. Typical values when used with a zoom lens. Reliable measurement threshold level: luminance stimulus to produce a response of 2.5% of CCD saturation level (1638 counts on the 16-bit scale).

\*2. Relative to calibration standard; average of 6 x 6 pixel area, illuminant A, 5-1000 cd/m<sup>2</sup>, at F/1.6 to F/11. Uniformity is verified in center of each of 9 zones of the image. See our sample calibration reports for more information.

\* Specifications are for 50mm F-mount lens at iris 1.2 unless otherwise stated. Specifications are subject to change without notice.

### ORDERING INFORMATION

WP106	Cooled Imaging Photometer, 2750 x 2200 resolution. Includes Photometrica® software and calibration of one lens.
PM-DEV	Software Development Kit to create scripts within Photometrica® and for LabVIEW, MATLAB, VB, C#, C++, etc.

