PHOTO RESEARCH®, Inc.

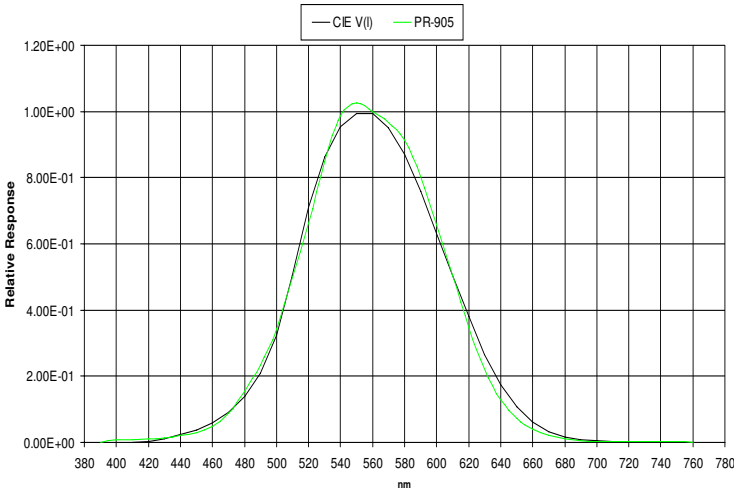
PR®-905 Digital Video Photometer™

The Smaller the Better

We are all familiar with the saying "Good things come in small packages". This has never been truer than with the new PR-905 Digital Video Photometer. The PR-905 system consists of a 1024 x 1024 digital CCD camera, camera power supply, PCI frame grabber with cables, and system software (choose between PanelWin or VideoWin software packages). Best of all, because the PR-905 is a Photo Research product, quality and performance are guaranteed. Mate the PR-905 with positioning stages (up to 5 axes) for the upmost in measurement flexability.

Low Cost Solution

The PR-905 is the low cost solution to your CCD photometer applications and features many of the same capabilities of the PR-920 at a fraction of the price. The PR-905 provides high accuracy photometric and spatial measurements while staying within today's shrinking budgets.



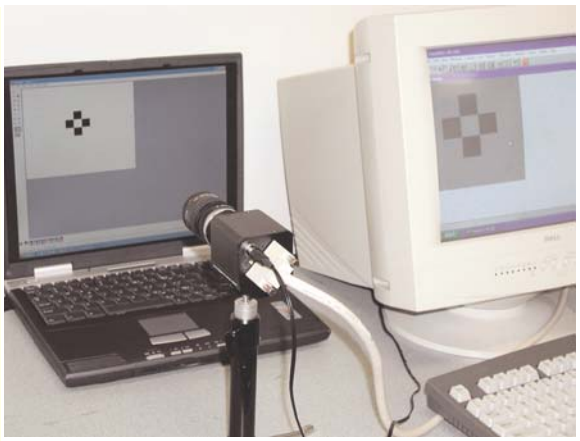
Typical PR-905 V(λ) Response

Features

- 1024 x 1024 digital CCD
- Compact, lightweight packaging
- Custom trimmed Photopic (Vλ) response filter
- Versatile 50 mm FL focusable objective lens (standard) - See Lens Table (over)
- Optional optical components to increase spatial resolution - See Lens Table (over)
- Optional Neutral Density Filters to enhance dynamic range.

Applications

- LCD, PDP, ELP, OLED, CRT Digital Projectors
- Luminance
- Luminance Uniformity
- Contrast
- Line or Spot Profile
- Flicker
- Jitter



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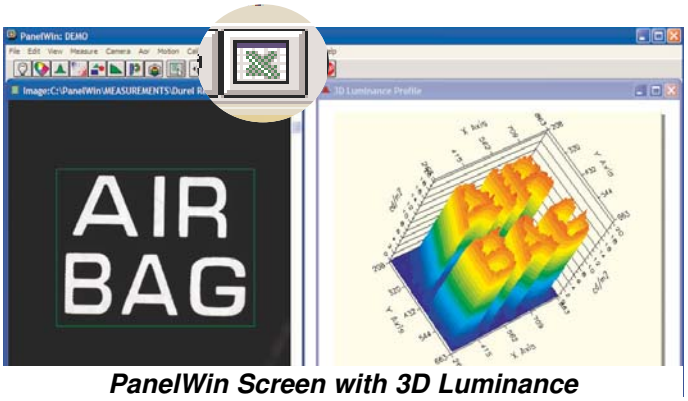
PanelWin and VideoWin Software

A key component of any video photometer system is the hardware control / data analysis software. This is the "brains" of the system and determines how the image is captured, and how the captured image is analyzed. Both PanelWin and VideoWin utilize the patented Optimize data capture algorithm that, as the name implies, optimizes the optics and detector exposure time for the available signal. We've also included a variation that enables the user to optimize the system to specific areas of the image. This provides great flexability to displays that exhibit a wide range of output levels. Both packages can export calculated results (luminance, chromaticity, uniformity) to specified cells in an Excel spreadsheet. Help automate measurement sequences, including exporting data to Excel, using "point-and click" macros.



PanelWin Screen with 3D Luminance Profile and Highlighted Excel Export icon

PanelWin is designed to analyze flat panel displays such as LCD's, OLED's, PDP's, ELP's and edge-lit / backlit technologies, while VideoWin has features to help characterize CRT's such as geometric (pin cushion and barrel) distortion, flicker, jitter and orthogonality.

Specifications

Camera Resolution:	10 bits	Camera Pixels:	1024 x 1024
Filters:	Photopic, (ND-10X, ND-100 Optional)	Minimum Measuring Area:	See Lens Chart
Field of View:	See Lens Chart	Uncertainty:	± 2% against luminance standard at 2856 K (Illum. A)
Precision:	≤ 1% @ 0.1 fl (0.34 cd/m2)	Linearity:	≤ 1%
Polarization:	≤ 1%	Luminance Range:	0.1 to 30 fl (0.34 to 103 cd/m2)
Spatial Uniformity:	± 1%	Measurement Time:	30 ms to 4 secs.
Power Requirements:	90-240 VAC 50-60 Hz	Operating Temperature:	5° to 35° C (41° to 95° F)

Lens Table

Objective Lens Magnification	*Working Distance*	*Pixel Resolution*	*Field of View*
MS-50 1:20 → ∞	950 mm → ∞	0.134 mm 0.134 mrad	0.137 rad 137 mm
MA-5 (MS-50 & 5 mm extender) 1:10 → 1:6.25	509 mm @ 1:10 332 mm @ 1:6.25	0.067 mm 0.043 mm	68.1 mm 43.8 mm
MA-10 (MS-50 & 10 mm extender) 1:5 → 1:3.75	261mm @ 1:5 209 mm @ 1:3.75	0.033 mm 0.026 mm	34.0 mm 26.6 mm
MA-25 (MS-50 & 25 mm extender) 1:2 → 1:175	112 mm @ 1:2 102 mm @ 1:1.75	0.0133 mm 0.0119 mm	13.64 mm 12.19 mm
OL-1X 1:01	122 mm	0.0067 mm	6.79 mm
OL-2X 2.4:1	37 mm	0.0028 mm	2.84 mm
OL-5X 4.2:1	23 mm	0.0016 mm	1.64 mm
OL-10X 9.6:1	6 mm	0.0007 mm	0.715 mm
OL-20X 15.3:1	4 mm	0.00044 mm	0.447 mm
MS-25	542 mm → ∞	0.146 mm 0.268 mrad	149 mm 0.273 rad

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