RADIANT
VISION SYSTEMS

PM-TCLS

Thin-profile Calibrated Light Source for Measurement Applications

Benefits

- Third-generation design features NC-machined solid PTFE light guide for:
  - Improved environmental tolerance
  - Enhanced long-term stability
- Luminance value to within 0.1 cd/m^2
- Luminance flatness to < 1%
- CIE color coordinates (x,y) within +/- 0.003

Specifications

Light Source:	Calibrated LED
Input:	Stable 20.0 mA current source (approximately 17 volts)
Outputs:	Diffuse uniform luminance,flat within < 1% Luminance, XX.X cd/m^2 between limits of 16 to 20 cd/m^2 CIE color coordinates (x,y) within +/- 0.003
Warm-Up Requirements:	30 minutes for stability and repeatability
Dimensions:	150 mm x 75 mm x 16 mm
Temperature/ Humidity:	0 to 30° C, 20 to 70% non-condensing
Warranty:	One year

Specifications subject to change without notice.

Light box used for calibrating ProMetric imaging systems

To ensure comparable results from ProMetric® imaging systems operating in different manufacturing environments, Radiant Vision Systems recommends the utilization of a Calibrated Light Source. The PM-TCLS is a thin-profile light box with an output window of known size and known, uniform luminance. It is sized to fit directly into production test fixtures used for manufacturing displays, tablets, keyboards, e-readers, and smartphones. The thin profile of the Calibrated Light Source ensures that no changes to manufacturing set-up will be required when using the device to calibrate ProMetric cameras.

Light from an LED travels through the device, making multiple reflections, and is emitted through a circular aperture at the opposite end. The light emitted through the area of the aperture is uniform. The value of the luminance, when the LED is driven at 20.0 mA, is stated on a placard on the device. The PM-TCLS is precisely calibrated with a standard reference spectroradiometer at Radiant Vision Systems.

The calibration of a ProMetric Imaging Colorimeter or Photometer should be verified by measuring the luminance of the PM-TCLS using TrueTest™ or PM-KB™ software whenever one of the following criteria is met:

- At regular 1-month intervals
- When the test fixture is moved to another location
- When the camera is repositioned inside the test fixture
- When the measurement distance from camera to keyboard is changed
- When the lens focus is adjusted
- When the lens f-stop is adjusted

If, after measuring the PM-TCLS using the ProMetric system, the absolute difference between the measured luminance and the luminance value recorded on the placard of the PM-TCLS is greater than 3%, a full imaging system calibration should be completed. The PM-TCLS should be returned to Radiant Vision Systems for recalibration with a reference spectroradiometer at 6-month intervals.

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