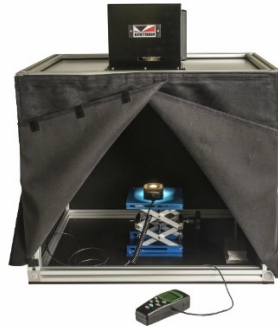


# ***LuxCal250***

## ***Lux and Luminance meter Calibration***



The LuxCal250 provides accurate luxmeter calibration over an exceptionally wide dynamic range.

Comprising a light-tight enclosure housing standards of illuminance, Bentham's LuxCal250 presents a straightforward and cost-effective calibration solution obviating requirements typical of traditional, distance-based calibration.

Designed as a high-performance, all-in-one calibration solution, the capabilities of the LuxCal250 may be extended to encompass precise luminance meter calibration with the LumiCal50, alongside representing a UKAS accredited calibration device with the LuxCal+.

Based on an exceptionally stable, colour-filtered quartz tungsten halogen lamp, the output levels are varied via neutral density filters, providing a range of calibration levels. The LuxCal250 and LumiCal50 are both calibrated in our dedicated laboratory with respect to standards calibrated by Physicalisch-Technische Bundesanstalt (PTB, Germany).

### **Core benefits**

- Calibrate luxmeter/ luminance meters in accordance with ISO/CIE 19476:2014
- No darkroom or optical bench required to achieve wide dynamic range
- Calibration traceable to PTB, Germany
- Optional luminance or UKAS accredited calibration

### **Features**

- Optional luminance or UKAS accredited calibration
- Colour shifted (2856K quartz tungsten halogen (QTH) standards (CIE illuminant A)
- Output level of the illuminance calibrator is varied via four neutral density filters, providing five calibration levels
- Lab jack and height gauge, featuring a laser alignment aid, allow accurate positioning of device under test
- Output level of the luminance calibrator is varied via three neutral density filters, providing four calibration levels
- Includes high performance 610 programmable constant current power supply
- Calibration traceable to Physicalish Technische Bundesanstalt (PTB, Germany)

# LuxCal250

## Lux and Luminance meter Calibration

### Specification

#### LuxCal250

Lamp type	Quartz Tungsten Halogen lamp, G6.35 base
Nominal lamp power and voltage	250W, 12V
Operating current	10.4A (adjusted to obtain 2856K operation)
CCT	2856±20K
Expected lifetime	2000 hours
Calibration frequency	100 hours use/ one year recommended
Dimensions	600L x 500W x 700H (mm)
Typical illuminance level one (no filter)	19000 lx
Typical illuminance level two (ND1)	1800 lx
Typical illuminance level three (ND2)	180 lx
Typical illuminance level four (ND3)	20 lx
Typical illuminance level five (ND4)	2 lx

#### LumiCal50

Lamp type	Grit-blasted Quartz Tungsten Halogen lamp, G6.35 bass
Nominal lamp power and voltage	50W, 12V
Operating current	4.0A (adjusted to obtain 2856K operation)
CCT	2856±20K
Expected lifetime	2000 hours
Calibration frequency	100 hours use/ one year recommended
Typical illuminance level one (no filter)	21000 cd.m <sup>-2</sup>
Typical illuminance level two (ND1)	1800 cd.m <sup>-2</sup>
Typical illuminance level three (ND2)	200 cd.m <sup>-2</sup>
Typical illuminance level four (ND3)	30 cd.m <sup>-2</sup>
Typical illuminance level five (ND4)	3 cd.m <sup>-2</sup>

# ***LuxCal250***

## ***Lux and Luminance meter Calibration***

### **LuxMeter+**

Spectral function	V( $\lambda$ ) photometric
V( $\lambda$ ) matching error	f1 $\leq$ 3 %
Typical responsivity	0.5 nA/lx
Diffuser diameter	7mm
Cosine matching error	f2 $\leq$ 1.5 %
Typical minimum detectable illuminance	20 mlx
Typical maximum detectable illuminance	20 klx
Display	5 digits, auto-ranging
Power supply	Mains transformer
Interface	USB 2.0

# LuxCal250

## Lux and Luminance meter Calibration

### 610 Constant Current Power Supply

Input voltage	100V - 220V, 5A max, 50-60Hz
Output voltage & current	0-10.4A in remote use. Max Voltage: 26V
Connection type	IEC mains input connection
Resolution	0.1A local; 0.001A over SCPI protocol
Operation modes	<p><b>Remote mode</b></p> <p>PC: SCPI protocol allows the Set Current to be assigned to an accuracy of 1mA</p> <p><b>Local mode</b></p> <p>Pre-set: Allows pre-set Current settings to be selected</p> <p>Variable: Used to set the current between 0-10.4A, indicated on the display</p>
Current pre-set	4.00 A, 5.40 A, 6.30 A, 8.50 A, 10.40 A, 0-10.4A variable
Max output power	250W
Setting control	<p>Remote setting by user interface controlled through USB</p> <p>Local setting by rotary switch (fixed current or variable settings)</p>
Operating conditions	<p>Ambient temperature: 0°C - +40°C</p> <p>Storage temperature: -20°C - +85°C</p>
Drift	<p>0.05% of rated output</p> <p>(Over an 8-hour interval with constant line, load and temperature, after a 30-minute warm-up period)</p>
Temperature stability	30ppm/°C
Compliance to standards	<p>EN 61010-1:2010</p> <p>EN 61326-1:2013</p>
Accuracy	±(0.04% +0.05A)
Output power ripple	<0.1%
Dimensions	450L x 300W x 130H (mm)
Weight	5 kg
Mode types	Constant Current, Constant Voltage

### Configuration Options

The LuxCal250	Lux and Luminance Meter Calibration
The LumiCal50	High-precision luminance meter calibration
The LuxMeter+	UKAS accredited illuminance calibrator