

BN-LH250

<https://www.gigahertz-optik.de/en-us/product/BN-LH250>

Product tags:



Description

Calibration standard lamp for use as reference spectral irradiance standard

One of the most common optical radiation measurement quantities is [irradiance](#). This measures the radiation power incident on a reference surface in W / m^2 . The photometric equivalent of radiometric irradiance is [illuminance](#) which is measured in lux. Calibrated light sources are required to calibrate instruments for measuring spectral irradiance (spectroradiometers) and illuminance (luxmeters). These sources must have a continuous spectrum over the spectral sensitivity range of the instrument to be calibrated and a calibration traceable to a National Metrology Institute (NMI). The lamps used must meet high requirements with regard to their short- and long-term stability. Halogen lamps are most commonly used for calibration. These offer a continuous spectrum from approximately 250 nm to 2500 nm. The lamps must be operated with a constant current. To calibrate the measuring instruments, the calibration lamp is arranged at a predetermined distance from its input optics, typically a cosine diffuser.

Reference standard BN-LH250

The reference standard BN-LH250 is based on a 250 W halogen lamp. This lamp exhibits excellent short-term and long-term stability due to its very stable filament. The quartz envelope itself is frosted for a more uniform radiation. The lamp base of the BN-LH250 fixes the lamp by means of a clamp. The electrical connection is made via two laboratory sockets on the stand. The protective cover with a transparent crosshair target enables the precise and reproducible alignment / positioning of the reference standard in the measuring arrangement.

Each lamp is subjected to a recorded burn-in process prior to its release. Only lamps that meet the strict burn-in criteria will be released. This controlled aging is confirmed by certificate.

Traceable calibration of spectral irradiance with ISO / IEC / EN 17025 DAkkS certificate

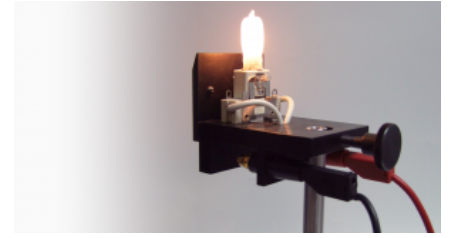
The spectral irradiance is calibrated in the optical radiation calibration laboratory of Gigahertz-Optik GmbH. This laboratory is accredited by the DAkkS for spectral irradiance according to ISO / IEC / EN 17025. The Physikalisch-Technische Bundesanstalt PTB acts as the technical auditor. Alternatively, more cost-effective factory calibrations are available.

Traceable calibration of illuminance

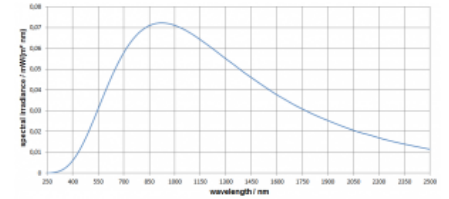
The calibration of illuminance by the optical radiation calibration laboratory of Gigahertz-Optik GmbH is undertaken as a factory calibration.

Precision lamp power supply LPS-250-BT

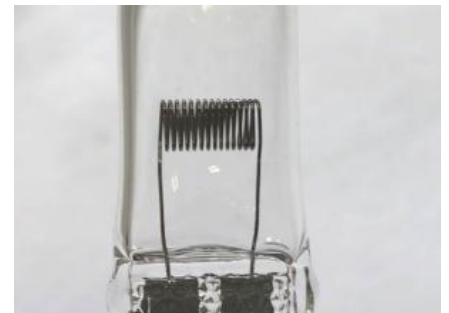
Gigahertz-Optik GmbH offers an optional LPS-250-BT power supply for the operation of the reference standard BN-LH250. This is characterized by the high resolution and stability required of the lamp operating current. The lamp is switched on and off with current ramping to prevent damage to the filament.



Calibration lamp BN-LH250



Spectral irradiance plot 250 nm to 2500 nm



Stable filament for use as calibration lamp (shown before frosting)



Target with crosshair

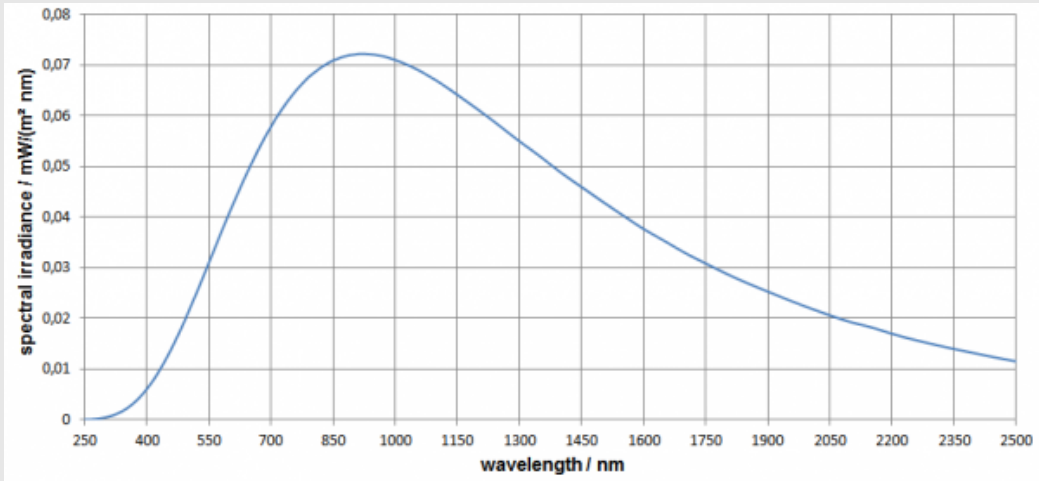
Specifications

General

Short description	Calibration standard lamp for use as a reference standard of spectral irradiance and illuminance
Main features	250 W Halogen lamp. Very stable filament. Matter bulb plugs. Stable stand. Target for reproducible alignment. Burn-in certificate
Measurement range	250 nm to 2500 nm
typical applications	Calibration of spectroradiometers (irradiance) and lux meters
Calibration	Spectral irradiance at 50 cm distance with DAkkS certificate. Spectral irradiance at 50 cm distance with factory certificate Illuminance at a distance of 50 cm with factory certificate

Product

temperature range	typ. 3300 K
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spectral irradiance	 <p>@ 50 cm distance</p>
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integrated irradiance (300 - 800) nm	18 W/m ²
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Chromaticity coordinates	CIE 1931: $x = 0.4176$ $y = 0.3968$ CIE 1976: $u' = 0.2412$ $v' = 0.5156$
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Illuminance	2950 lx @ 50 cm distance
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Miscellaneous

current	10.5 A
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Power Supply	typ. 22 V
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warm up time	15 min recommended
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Configurable with

Produktname	Product Image	Description	Show product
LPS-250		<p>Precision power supply for lamps up to 250W.</p> <p>Features: PWM power supply for the precise operation of halogen or other lamps in constant current mode. The 16 bit D/A converter enables very accurate current setup and adjustment. For stress free switch on/off, the operation current is controlled with adjustable ramps.</p>	https://www.gigahertz-optik.de/en-us/product/LPS-250

Purchasing information

Article-Nr	Modell	Description
Product		
15296359	BN-LH250-V01	Calibration lamp with stand. Burn-in certificate.
Calibration		
15309533	K-BNLH250-E-S-V01	Spectral irradiance calibration (W/m ² nm) of BN-LH250. Wavelength range 250 to 1100 nm. Factory calibration certificate.
15309535	K-BNLH250-E-S-V02	Spectral irradiance calibration (W/m ² nm) of BN-LH250. Wavelength range 250 to 2500 nm. Factory calibration certificate.
15309536	K-BNLH250-E-I-V01	Illuminance calibration (Lux) of BN-LH250 calibration lamp. Operation current for CCT 2856 K. Factory calibration certificate.
15309537	KK-BNLH250-E-S-V01	Spectral irradiance calibration (W/m ² nm) of BN-LH250. Wavelength range 250 to 1100 nm. DAkkS calibration certificate.
15309538	KK-BNLH250-E-S-V02	Spectral irradiance calibration (W/m ² nm) of BN-LH250. Wavelength range 250 to 2500 nm. DAkkS calibration certificate.
Options		
15298631	LPS-250-BT	Power supply in benchtop housing.
15305982	BPC-2.0-RED	High current laboratory cable with banana plugs – red. 2m long.
15305983	BPC-2.0-BLACK	High current laboratory cable with banana plugs – black. 2m long.