

# BN-LHSF-2P-20

<https://www.gigahertz-optik.com/en-us/product/bn-lhsf-2p-20>

**Product tags:**



# Description

## Calibration standards

Calibration standards enable the calibration and adjustment of measurement instruments to absolute measurement quantities. Calibration standards provide a reference signal corresponding to the measurement quantity to be calibrated. The reference signal of the calibration standard is calibrated in the respective measurement quantity. The calibration of the measurement instrument is performed by comparing the measurement signal of the measurement device with the standard specifications in the calibration certificate. Deviations are compensated for by adjusting the measurement instrument accordingly.

---

## Measurement of the spectral radiant flux

The spectral radiant flux [W/nm] is important for qualification of illuminants based on their total emitted radiant power. The spectral radiant flux and its photometric equivalent luminous flux is therefore also used in the investigation of the energy efficiency of lamps. In order to measure the spectral radiant flux, the total light emitted by the lamp must be measured regardless of the radiation direction. Integrating sphere spectrometers and goniometers are typical measurement instruments for the spectral radiant flux.

---

## $2\pi$ radiation characteristics

Calibration standard lamps with  $2\pi$  radiation distribution characteristics are preferred for calibration of integrating sphere spectrometers that are used in measurement of lamps such as LEDs and spot lamps with hemispherical light distribution. By use of  $2\pi$  standard lamps calibration is done under similar illumination conditions of the sphere surface, baffle and sample holder as in the test sample measurement.

---

## BN-LHSF-2P-20

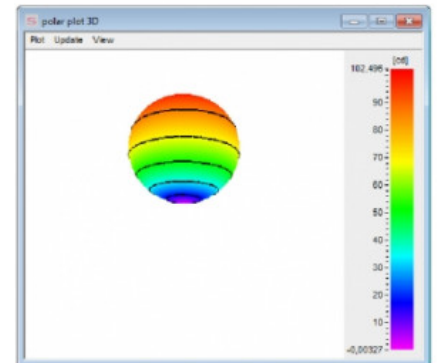
A special feature of the BN-LHSF-2P-20 calibration standard lamp is its  $2\pi$  radiation characteristics which make it ideal for calibration of integrating sphere spectrometers used for measurement of LEDs and spot lamps. The calibration standard has a quartz halogen lamp that is characterized by its continuous emission spectrum. The socket of the lamp itself is active air flowed using a fan to maintain emission stability. This standard lamp can be directly mounted at the measurement port of an integrating sphere with an UMPF-1.0-HL port frame. Adapters are also offered for larger frames.

---

## Optional traceable factory calibration

The optional calibration of the spectral irradiance is performed by

*Typical emission spectrum*



*3D illustration of the luminous intensity distribution*



*The BN-LHSF-2P-20 calibration standard lamp can be directly mounted on the measurement port of the integrating sphere with an UMPF-1.0-HL port frame.*

Gigahertz-Optik's calibration laboratory for optical radiation measurement quantities. The calibration is traceable to a reference standard that was calibrated by the national measurement laboratory. Calibration and results of the calibration are confirmed by a factory calibration certificate.

---

## Accessories





Gigahertz-Optik GmbH offers lamp power supplies for operation of the calibration standard lamps.

## Specifications

Specification	
Radiant Flux	typ. 266 lm (BN-LHSF-2P-20 with 100 W lamp)
temperature range	3100 K
Spectral radiant flux	Typ. 0.245 mW @ 360 nm (BN-LHSF-2P-20 with 100 W lamp) Typ. 5.440 mW @ 830 nm
spectral range	Optional calibration from 360 nm to 830 nm (alternatively from 350 nm to 1050 nm).
Light Output Port	20 mm diameter
Radiation characteristics	$2\pi$
Housing	Aluminium
Dimensions	see download section
Light Source	Quartz halogen lamp with diffuse reflector
Power Supply	12 V
Operating mode	Constant current
Cooling	Active air flow at the lamp socket through exhaust and pressure fans
Electrical connection	Two sockets for the lamp current. Jack plug for the fans
Mounting	UMPA-1.0-HL adapter for direct mounting onto the UMPF-1.0-HL port frame
Calibration	Optional calibration of the spectral luminous flux with calibration certificate
temperature range	+5 °C to +40 °C
Spectral radiant flux	[image src="/var/www/html/web/assets/98f573020b/BN-LHSF-2P-101.png" id="6379" width="600" height="304" class="leftAlone ss-htmleditorfield-file image" title="BN LHSF 2P 101"]

## Downloads

Type	Description	File-Type	Download
Datashet	Dimensions BN-LHSF-2P-20	pdf	<a href="https://www.gigahertz-optik.com/assets/Uploads/103077-bn-lhsf-2p-20.pdf">https://www.gigahertz-optik.com/assets/Uploads/103077-bn-lhsf-2p-20.pdf</a>

Type	Description	File-Type	Download
<b>Configurable with</b>			
Product Name	Product Image	Description	Show product
UMTB-1000-HFT		Sphere for the luminous flux measurement of 2π and 4π light fixtures inside a sphere. Features: Turnable Integrating sphere with a 1000 mm diameter, extra measurement ports for 2π luminaires with diameters of up to 254mm and auxiliary lamp.	<a href="https://www.gigahertz-optik.com/en-us/product/umtb-1000-hft">https://www.gigahertz-optik.com/en-us/product/umtb-1000-hft</a>
ISD-25-BTS2048-VL		System for the luminous flux and light color measurement of individual 2π LED lamps up to 76.2 mm. Features: Integrating sphere with 25cm diameter and auxiliary lamp, CCD-sensor spectralradiometer for accurate measurement of the luminous flux, spectral radiant power, CCT, CRI	<a href="https://www.gigahertz-optik.com/en-us/product/isd-25-bts2048-vl">https://www.gigahertz-optik.com/en-us/product/isd-25-bts2048-vl</a>
ISD-15-BTS2048-VL		Compact integrating sphere spectroradiometer as monolithic module for LED test system Integration in CW and pulse measurement mode. Features: Integrating sphere with 15 cm Diameter, auxiliary lamp, high-end CCD-sensor spectralradiometer with Bi-Tec detector for fast and accurate measurement of the luminous flux, spectral radiant power, CCT, CRI,	<a href="https://www.gigahertz-optik.com/en-us/product/isd-15-bts2048-vl">https://www.gigahertz-optik.com/en-us/product/isd-15-bts2048-vl</a>
TFCT25		Measurement system for the color transmission of fibers and flux, spectrum and color of cw and pulse operated LEDs. Features: 25 cm integrating sphere in CIE 127 total flux conform set-up, CCD-sensor spectralradiometer, LED current cw and pulse source, software	<a href="https://www.gigahertz-optik.com/en-us/product/tfct25">https://www.gigahertz-optik.com/en-us/product/tfct25</a>

## Purchasing information

Article-Nr	Modell	Description
<b>Product</b>		
15298594	BN-LHSF-2P-20	Calibration standard lamp, 100W lamp, fan power supply, no calibration.
<b>Calibration</b>		
15300767	K-BNLHSF2P20-BTS256	Calibration of the spectral radiant flux - 360 to 830nm. Calibration certificate
15310531	K-BNLHSF2P20-BTS2048	Calibration of the spectral radiant flux from 350 to 1050nm. Calibration certificate
15310418	KP-BN-LHSF-2P-20-Phi-S	Option: DIN EN ISO/IEC 17025:2018 Test Certificate (DAkks)  Spectral radiant flux and luminous flux in wavelength range from 360 to 830nm.
15311742	KP-BNLHSF2P20-Phi-S	Option: DIN EN ISO/IEC 17025:2018 Test Certificate (DAkks)  Spectral radiant flux and luminous flux in wavelength range from 350 to 1050nm.
<b>Re-calibration</b>		

<b>Article-Nr</b>	<b>Modell</b>	<b>Description</b>
15310409	KKP-BNLHSF2P20-Phi-S	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate. Spectral radiant flux in wavelength range from 360 to 830nm.
15311739	KKP-BNLHSF2P20-Phi-S	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate. Spectral radiant flux in wavelength range from 350 to 1050nm.
<b>Accessories</b>		
15297683	LH-100F-UV	Halogen lamp 12V/100W, frozen bulb, burned-in
15298631	LPS-250-BT	Precision power supply for halogen lamps up to 24V and 250W. Adjustable operation current. Adjustable operating current. On/Off switch, RS232 interface
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.