

# XD-45-HUV

<https://www.gigahertz-optik.com/en-us/product/XD-45-HUV>

**Product tags: UV**



## Description

The XD-45-HUV irradiance detector is designed for the evaluation of light exposure hazard values for artificial light sources. The three sensor design of this unique device covers the requirements for skin and eye risk assessment. It supports a number of standards and regulations:

- IEC 62471:2006 and EN 62471:2008
- 2006/25/EC
- EN 14255-1

## ICNIRP/ACGIH spectral responsivity

The spectral effective function required for skin and eye risk evaluation is formed using two filtered sensors. This prevents the cross-talk and limited sensitivity between the UV-A, UV-B and UV-C spectral ranges inherent in a single filtered sensor solution. Using the two sensor method also produces a much better simulation of the intended spectral effectiveness function.

## Additional radiometric UV-A responsivity

An additional UV-A sensor for the evaluation of UV-A<sub>315nm-400nm</sub> human eye risk is included. All three sensors are mounted behind one 20 mm diameter cosine diffuser. For measurements of eye dependent radiance values a front adapter is supplied to limit the detector field-of-view to 80 degrees.

## Traceable calibration

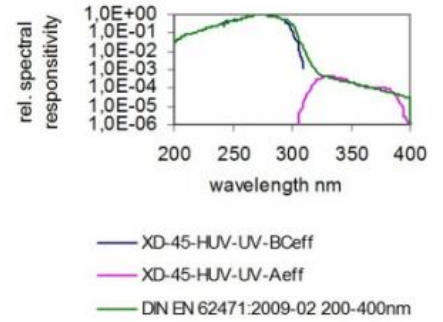
Calibration of the detector ICNIRP ( $W/m^2$ ) and UV-A ( $W/m^2$ ) responsivity is performed by the Gigahertz-Optik GmbH calibration laboratory for optical radiation measurements quantities. As with all light detectors supplied by Gigahertz-Optik calibration of absolute detector responsivity as well as detector individual measured relative spectral responsivity data is included.

## Recommended optometer

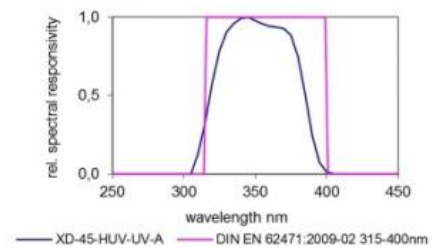
For applications involving steady state light the X1<sub>3</sub> optometer is recommended. For unstable or short event light the optometer P-9801 should be selected.

## Specifications

### General




*XD-45-HUV - UV-CB<sub>eff</sub> and UV-A<sub>eff</sub> Sensor - Typical Spectral Responsivity*



*XD-45-HUV - UV-A Sensor - Typical Spectral Responsivity*

General	SUV( $\lambda$ ) IEC/EN 62471 spectrum detector useful for evaluation of artificial light sources. Set-up with in sum three photodiodes. Two are forming with a optical filter correction the SUV( $\lambda$ ) actinic UV-A und UV-BC spectral responsivity. A third detector with a radiometric UV-A responsivity is used for the measurement of the UV-A exposure of the human eye.
<b>Specification</b>	
Field of View	20 mm diameter diffuser with removable 80 ° F.O.V. front adapter
Measurement range	SUV( $\lambda$ ) ( $\Sigma$ of 2 cells): effective irradiance 0.5 mW/m <sup>2</sup> to 10 W/m <sup>2</sup> (max. resolution 0.05 mW/m <sup>2</sup> )
Measurement range	SUV (200 - 320) nm: effective irradiance 0.5 mW/m <sup>2</sup> to 10000 W/m <sup>2</sup> (max. resolution 0.05 $\mu$ W/m <sup>2</sup> )
Measurement range	SUV (320 - 400) nm: effective irradiance 0.5 $\mu$ W/m <sup>2</sup> to 10 W/m <sup>2</sup> (max. resolution 0.05 $\mu$ W/m <sup>2</sup> )
Measurement range	UV-A (315 - 400) nm: irradiance 0.2 mW/m <sup>2</sup> to 10000 W/m <sup>2</sup> (max. resolution 0.02 mW/m <sup>2</sup> )
<b>Miscellaneous</b>	
Weight	XD-45-HUV detector: 45 mm diameter, 30 mm high, 200 g (with cable) FOV adapter: 60 mm diameter, 32/49 mm high, 50 g
Note	Specifications stated are for a X1-3 meter including the detector *) <i>The maximum measurable signal value may be limited by heat radiated by the source under test</i>
Warranty	12 month

## Configurable with

Produktname	Product Image	Description	Show product
X1-3		<p>Optometer for the measurement of UV and Blue-light hazard of artificial radiation source.</p> <p>Features: for usage with XD-45-H type detectors, compatible to standards IEC/EN 62471 and EN 14255-1 as well as guidelines 2006/25/EC and IEC TR 62778, mobile, battery operation, USB interface.</p>	<a href="https://www.gigahertz-optik.com/en-us/product/X1-3">https://www.gigahertz-optik.com/en-us/product/X1-3</a>

## Purchasing information

Article-Nr	Modell	Description
<b>Product</b>		
15298013	XD-45-HUV-4	Detector head, protective cap, 80° FOV adapter, calibration certificate
<b>Calibration</b>		
15311983	KP-XD45HUVX1-E-I	<p>Option: DIN EN ISO/IEC 17025:2018 Test Certificate (DAkKS).</p> <p>Integral irradiance in the wavelength range from 315 nm to 400 nm and the ICNIRP / ACGIH weighted integral irradiance in the wavelength range from 200 nm to 400 nm. In combination with X1 optometer.</p>

Article-Nr	Modell	Description
<b>Re-calibration</b>		
15300459	K-XD45HUV-I	Re-calibration of irradiance responsivity with calibration certificate
15311982	KKP-XD45HUVX1-E-I	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate.  In combination with X1 optometer.