

# ISS-30-VA-V05

<https://www.gigahertz-optik.com/en-us/product/iss-30-va-v05/>

**Product tags: UV , VIS , NIR**



## Description

Integrating sphere light sources provide a luminous field with very good uniformity of the luminance or radiance distribution. Hence they are commonly referred to as Uniform Light Sources. One of their main uses is the pixel sensitivity adjustment of digital image sensors and cameras. In photographic technology this is known as white balance. As part of the adjustment, sensitivity differences of individual pixels or pixel groupings are detected and corrected by uniform illumination of all the pixels. To detect possible linearity errors, white balance is performed at different intensities.

### White balance compact wide-angle cameras

Digital image processing is a prerequisite for many applications such as the autonomous movement of vehicles, mobile robots and driverless transport systems. The image is often captured by compact wide-angle cameras, which as safety-critical sensors, require a white balance at different intensities and operating conditions. If the integrating sphere light source has to be arranged at a significant distance from the camera due to the measuring setup which may involve climatic chambers for example, the required uniform light field can be very large. An alternative is to project the homogeneous light field of the integrating sphere through a solid, light-conducting medium right up to the camera optics.

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**The model shown here corresponds to an example configuration. Gigahertz Opti GmbH is an expert in putting together your individual configuration to meet your requirements. So you can contact us with your special requirements!**

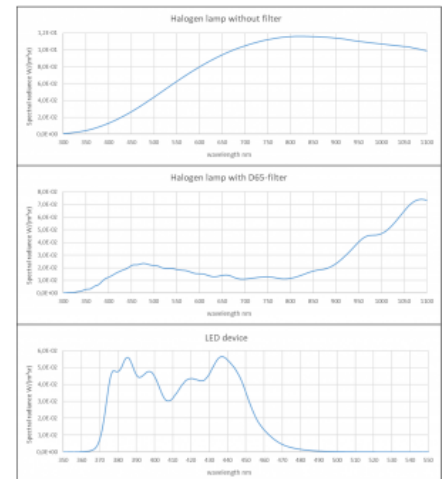
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### Integrating sphere

The 30 cm integrating sphere is coated with ODP97 (Bariumsulfate), offers monitor detector and a 63.5 mm entrance optic. Other configurations are possible on request.

### LED and tungston light source

In the light sources are different LEDs and a tungston light source integrated. The LEDs can be operated individually and together. E.g. a RGB LEDs is support on request for fulfilling the specifications of the [EMVA 1288 standard](#) of the European Machine Vision Association. The dynamic range of LEDs in CW operation is relatively low. The integrating sphere light source therefore offers, in addition to the current setting, a aperture for intensity adjustment with constant LED current. Standard is a manual variable aperture, remote control is possible on request.



Light source with LED and tungston lamp

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## Short and long term luminance stability

For the best possible short-term and long-term stability of the luminance, the LEDs are operated in current mode. In addition, the intensity is measured by a monitor detector. The LED control and regulation is done by the optional control electronics. It offers four precision power supplies as well as a touch-screen display and RS232, USB and Ethernet interfaces for manual or remote operation. Same is given for the tungston lamp.

## Traceable calibration

The luminance calibration of the uniform light source is carried out in Gigahertz-Optik's calibration laboratory for optical radiation measurements. In addition to the calibration of luminance, the spectral radiance and luminance distributions are confirmed in the calibration certificate.

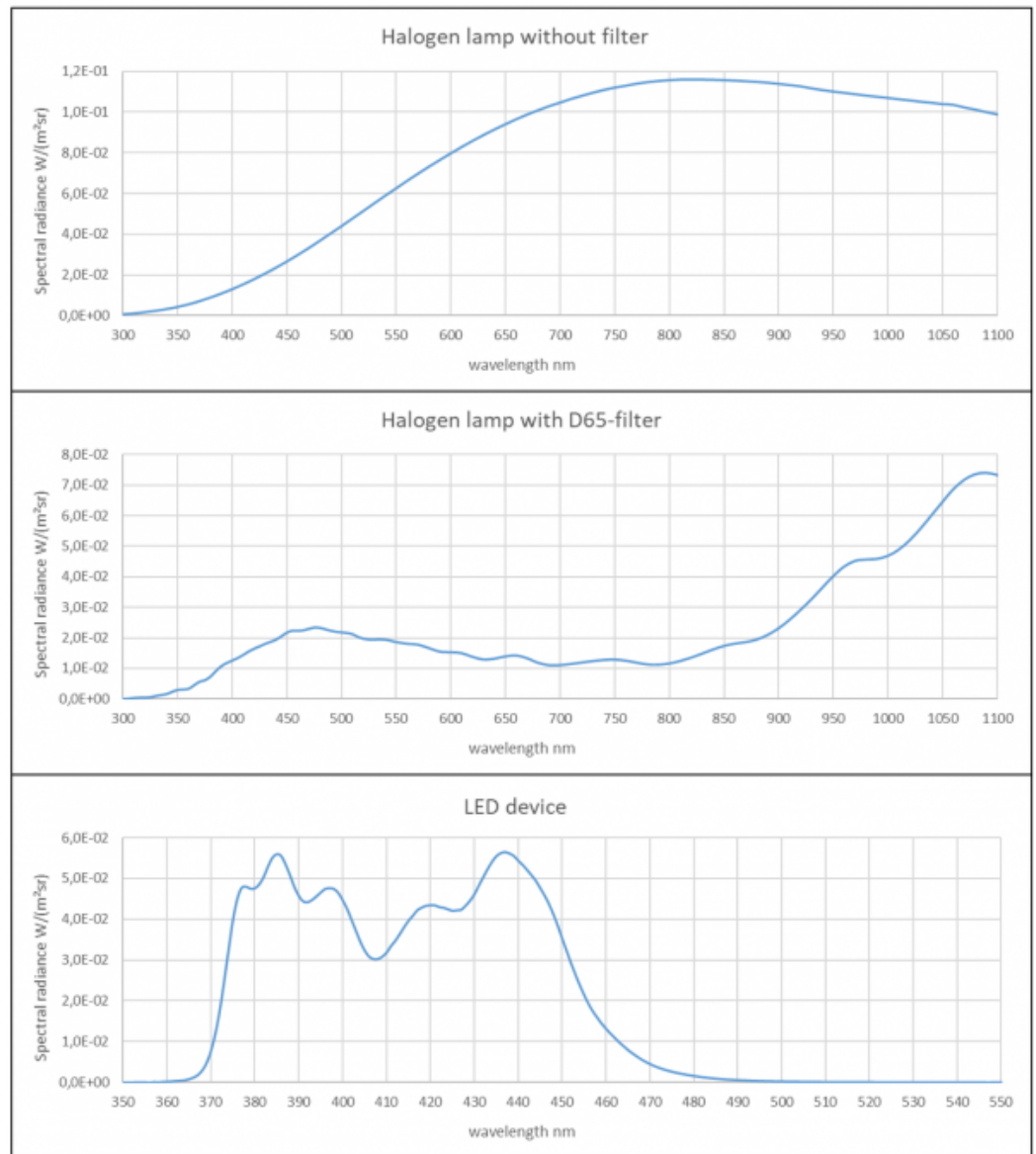
## Specifications

### General

Short description	Integrating sphere light source with homogeneous light field for use as a reference lamp for pixel matching of image sensors and cameras as well as luminance and radiance standard. Equipped with LED light source as well as variable screens for intensity control.
Main features	63.5 mm Diameter light Output port.
Measurement range	LED and tungston spectral range
Typical applications	Reference lamp for pixel matching of image sensors and cameras as well as luminance and radiance standard. Various LED wavelengths are possible on request, e.g. to meet EMVA 1288.
Calibration	Calibration of the spectral radiance. Calibration certificate with description of the calibration procedure, reference standards applied, traceability and calibration uncertainty.

### Product

## Spectral distribution



### Miscellaneous

Temperature range	Operation (electronics and sphere): (10 to 30) °C
Dimensions	ISS-30-15309974: See drawing in section downloads
Weight	ISS-30-15309974: 4 kg

## Downloads

Type	Description	File-Type	Download
ISS-30-15309974	Drawing	pdf	<a href="https://www.gigahertz-optik.com/assets/V127818.pdf">https://www.gigahertz-optik.com/assets/V127818.pdf</a>

## Purchasing information

<b>Article-Nr</b>	<b>Modell</b>	<b>Description</b>
<b>Product</b>		
15310806	ISS-30-VA-V05	ISS-30-VA-V05 system including calibration and electronic device

## Contact, Calibration, Service & Support

We are known worldwide for excellent technical consulting and after sales support. Contact us to find together the best solution for you. Our services:

- Technical Consulting & Sales
- After-Sales Support
- Calibrations & Re-Calibrations ([ISO/IEC 17025 Calibration Services](#), [factory calibration](#), [Calibration of Third-Party Products](#))
- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

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