GONIOMETERS

PHOTONICS

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Partner GL Optic

GL Optic is a Polish-German manufacturer specializing in advanced light measurement systems for photonics and precision optics applications. Their comprehensive portfolio includes spectroradiometers, photometers, integrating spheres, goniometers, and luminance cameras, all designed to deliver accurate and reliable measurements across a broad spectrum of light sources.

Product offering

GL GONIO PHOTOMETER GLG A 50-1800

GL GONIO SPECTROMETER GLG 8-850

GL Gonio Spectrometer GLG_30-1800 – GL Optic

GL GONIO PHOTOMETER GLG A 50-1800

Goniophotometer will improve productivity and accelerate in-house product development

Technology is always evolving, which means that there is a pressing need to accelerate product launches. This holds true for all industries, including those that produce vehicle lights. Lighting producers are choosing to construct their own laboratories in order to shorten the time it takes for their final product to reach the market, as a result of the battery of tests that exterior lamps for vehicles must pass in order for their approval.

Standard-compliant goniophotometer

In compliance with the CIE 121-1996 and IESNA LM-75-01 standards that regulate photometric and colorimetric far-field measuring systems, the GL GONIO PHOTOMETER GLG A 50-1800 has been built. It enables the measurement of photometric properties in H and V coordinates for headlights and car lamps, as well as for various signaling devices used in the aviation industry, among other applications.
The GL Optic goniophotometer is distinguished by its strong construction, intuitive interface, and excellent precision. It completes a system for the automobile sector when used in conjunction with a photometer, spectrometer, and retroreflectometer.

Compliance with international standards

The equipment of GL Optic is upgraded frequently to function in compliance with globally recognized standards. The system permits photometric testing in compliance with UN/ECE guidelines and FMVSS regulations based on SAE standards. The GLG A 50-1800 goniophotometer operates in compliance with CIE 121-1996 and IESNA LM-75-01 standards.

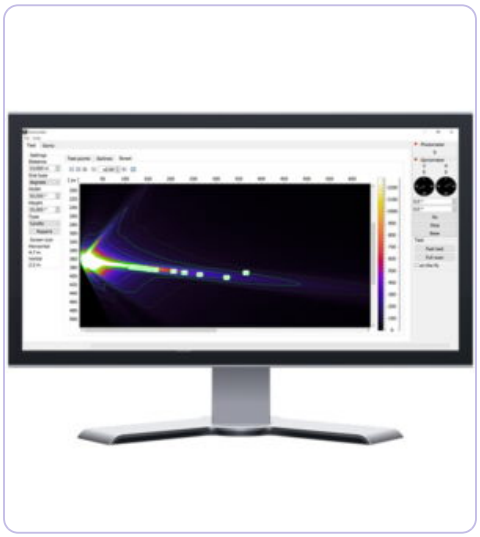
Reliability and accuracy

Top-notch mechatronic components from top manufacturers are used in the construction of the GLG A 50–1800 goniophotometer. This guarantees the repeatability of movements and great accuracy throughout the system. The goniophotometer’s design enables it to measure lamps with up to 50 kg of weight and 1800 mm in length (with an optional 2600 mm measurement limit).

Faster than the competition

Up to five times faster measurements can be made with the goniophotometric system when combined with the GL PHOTOMETER 3.0 LS + Flicker! The great sensitivity of the sensor and the high sample rate enable continuous on-the-fly monitoring during smooth lamp movement. The light modulation properties can be

found by using the flicker measuring tool.



GL GONIO PHOTOMETER GLG A 50-1800 Usage

Increased possibilities

Designers are always striving to make lamps and headlamps more innovative and better. The advancement of LED technology is another factor that leads to the development of ever-unusual solutions. Testing at the prototyping stage is required to keep up with these advancements, ideally in-house in R&D or QC.

High-accuracy goniophotometer

The GLG A 50–1800 goniophotometer is suitable for use in authorized laboratories as well as factories. It makes it possible to rapidly collect trustworthy data for both large and tiny bulbs. The goniometer's design permits testing of luminaires up to 50 kg in weight and 1800 mm in diameter (up to 2600 mm on special request).
Treated with absolute encoders, three motorized axes ensure measurement accuracy. A new level of productivity is guaranteed by sophisticated software and extensive automation capabilities.

Faster lamp testing

A specialized tool designed to be used with a goniometer is the GL PHOTOMETER 3.0 LS + Flicker. It provides the ability to take measurements in real time. In order to precisely determine the photometric light curve for each plane, the photometer makes many thousands of measurements per second while the goniometer arm swings at a steady pace without halting during on-fly measurement.
Furthermore, the flicker measuring capability makes it possible to ascertain the light modulation properties of emergency lights and indicators.

Color measurement is also possible

A spectroradiometer can be added to the GL Optic goniophotometric system to expand its capabilities to include color measurement. High-speed measurements of photometric and colorimetric parameters are the focus of the GL SPECTIS 1.3 LS. For simple applications and visible-range radiation measurements, it is perfect.
Advanced systems can make use of GL SPECTIS 5.0 Touch. Moreover, it permits spectral investigation in the ultraviolet–near infrared spectrum.

GL GONIO PHOTOMETER GLG A 50-1800 Features

The standard goniometric system includes:

- Robust, accurate and programmable A-type goniometer with three motorized H, V and Z axes and mounting table, movable in x, y axes
- Dedicated PC with GL SPECTROSOFT software
- High-speed GL PHOTOMETER 3.0 LS + Flicker, enabling On-fly measurements and flicker characterization using PWM
- Unique laser alignment system with mirrors to help with vertical and horizontal calibration of the system as well as faster photometric positioning of DUTs

Optional peripherals

- GL SPECTIS 1.3 LS: spectroradiometer optimized for high-speed photometric and colorimetric measurements
- GL SPECTIS 5.0 Touch – spectroradiometer for extended spectral analysis beyond the visible range from UV to NIR in various applications
- Power supplies and meters – available power supplies and power sources allow full electrical characterization of the DUT. Advanced power meters are also available on request
- TEC controller – for thermal stabilization during goniometric tests

• GL GONIO PHOTOMETER GLG A 50–1800 Metrics

Photometric quantities

- Light distribution
- Luminous flux
- Maximum brightness
- IES and LDT files

Colorimetric quantities

- Color temperature, CCT and Duv
- Color rendering index, CRI (Ra)

- MacAdam ellipses
- Angular color uniformity

Other quantities

- Luminous efficacy [lm/W]
- Power factor cosφ
- Temperature

GL Goniophotometer GLG A 50 1800 for vehicle lights approval
https://youtu.be/QsglYr9Wa6s

SCAN TO VIEW VIDEO

GL GONIO SPECTROMETER GLG 8-850

GL GONIO SPECTROMETER GLG 8-850

Benchtop light goniometer for small LED lamps, modules, and components.

A compact system for measuring light intensity distribution, luminous flux, and color.

The easy-to-use GL Optic system combines the functionality of a goniophotometer with the features of a spectroradiometer to measure the luminous flux, determine the light intensity distribution values of colorimetric parameters required by international standards.
The new GLG 8-850 goniometer is a top-of-the-range benchtop goniometer designed to measure LED modules and smaller luminaires and to test components.
The automated system allows to measurement of devices weighing up to 8 kg and with a diameter of 850 mm. The system with computer and GL Spectrosoft add-on software, enables measurements with an angular resolution of 0.1° and in the angular range of the C axis and λ +/- 180°.

Features:

- Small in size, big in capability
- Compliance with international standards
- Accelerate product development
- C-type optical goniometer in C-γ coordinates
- Optical axis in horizontal direction
- Angular measurement of luminous intensity
- Luminous flux measurements
- LDT and IES file generation

Optional functions:

- Class L (according to DIN 5032) laboratory photometer
- Current or power source and power meter
- TEC control or temperature measurement
- Type A conversion kit available

GL Gonio Spectrometer GLG_30-1800 – GL Optic

Accelerate Your Time to Market

Traditional photometry labs are a thing of the past. The performance of LED based luminaires is highly angular dependent and requires a new level of sophistication for complete characterization. The GLG 30-1800 combines the functionality of a goniophotometer with the features of a spectroradiometer to measure brightness and to check angle dependence luminous intensity distribution.

Video

Specifically engineered for lighting manufacturers who want to stay ahead of the competition and take control of their product development earlier, the GLG 30-1800 light goniometer offers exceptional value. For many companies, the payback period is less than 5 years when they compare the purchase of a system vs. sending lamps to an external lab. It also leads to more frequent characterization resulting in better products that reach the market faster.

Simplicity in Design

The GLG 30-1800 gonio spectrometer removes the dependency on highly skilled technicians to deliver reliable results. With easy to use software, precise alignment protocols and extensive automation capabilities, the system offers a new level of performance and usability.

One Click Photometric File Output

While this goniospectrophotometer generates spectral and color data at any angle, it remains true to its primary use – generating IES/LDT output files, simply and with the click of a button.

A Wide Range of Luminaires

With an extended max load up to 30kg and 1800mm diameter max dimension, the GLG 30-1800 will cover most of the demand for testing. Have a range of small and large fixtures? No problem.
The system can accurately characterize big and small fixtures without any mechanical changes.

Download the datasheet and / or technical datasheet.

Contact PEO.