



# SHINE A LIGHT ON PHOTOMETRIC MEASUREMENT

## LUMINARIES AND PHOTOMETRIC MEASUREMENT

Ensure that luminary products meet the requirements of your target market with photometric measurement. Product development testing enables manufacturers to evaluate products at an early stage, reducing the risk of failure and avoiding costly delays in manufacture and marketing.

## VARIABLE TESTING

The following variables are relevant for photometric measurement:

- Luminous intensity distribution
- Luminance distribution of lamps, luminaries, displays, background-lit symbols ( $\text{cd}/\text{m}^2$ )
- Luminous flux ( $\text{lm} = \text{lumen}$ )
- Illuminance ( $\text{lx} = \text{lux}$ )
- Optical power ( $\text{W} = \text{Watt}$ )
- Colour rendering index (Ra-index)
- Colour temperature ( $\text{K} = \text{Kelvin}$ )
- Chromaticity coordinates (x and y)
- Spectral power distribution of visual light

## PHOTOMETRIC TESTING

Photometric measurement investigates the characteristics (e.g. performance) of light sources, luminaire and lighting installations.

At SGS we conduct a broad range of luminary product development testing. Our photometric testing services measure light sources of the widest variety, including everyday and safety luminaries, incandescent, fluorescent and discharge lamps and LEDs, as well as control equipment or light fittings and flat screens.

## GONIOPHOTOMETRY

Photometric testing covers many measurements of perceived light. As the market leader, we have invested in the latest technology, a goniophotometer, to measure luminance values and distribution delivering accurate results.

The near-field goniophotometer measures luminous intensity distribution at a short distance from the subject without moving it. The luminance distribution data is then displayed as a digital 'photo'. This is made possible by a CCD (Charged Coupled Device) camera which is moved around the subject and allows the direction of light from each pixel to be calculated. Customers receive both the luminous distribution results and a separate measuring report. Test results are delivered in a range of formats:

- EULUM-DAT
- TM-14
- IES/86
- IES/91
- IES/95
- CALCULUX

## TAILOR MADE TESTING

Early testing at the first opportunity will influence the progress of your project, its schedule and the costs of product development. Our versatile testing facilities and experienced staff work with you to devise a tailor made testing programme designed to the needs of both the market and the relevant standards.

With well equipped facilities and a global presence, we are able to conduct photometric measurements in as little as one week in accordance with the following testing regimes:

- Product safety, electromagnetic compatibility (EMC) and RoHS (Restriction of Hazardous Substances) testing, as well as certification against schemes including FI, CB, CB-EMC, GS, ENEC, CE mark\*, BSMI and NRTL
- Benchmarking tests
- Product development tests
- Quality control tests

\*For CE marking and Declaration of Conformity, SGS offers testing services according to relevant harmonized standards. The test reports provide evidence that the product fulfils the requirements, and the manufacturer may use the report as basis for their documentation and CE marking.

Understanding these characteristics is the key for the engineers and architects who develop illumination and lighting scheme designs for products and spaces.

To enable you to sell products within the European Union we conduct testing in accordance with IEC/EN standards and for the North American market the UL and CSA standards as well as for the Asian market the BSMI standards. Additionally, you may gain a competitive edge in the marketplace by including a 'Statement of Test Results' based on our testing.

Beyond simply testing the light of your product we can also measure the energy efficiency of the lighting products and for example determine their energy class. Also functionality requirements of various lamp types can be determined as presented in different Commission Regulations.

## WHY SGS?

SGS is an independent third party. We provide a single consolidated source for tailored services, consulting solutions and technical assistance to reduce risks, improve efficiency and quality.

SGS also offers lean, standardised processes and procedures.

Our global network extends to 1,800 offices and 85,000 employees. Independent and innovative, our consumer goods experts use state of the art facilities and technology to deliver tailor made added value services that improve your business.

Our safety and EMC tests are recognized in dozens of countries in Europe, Asia, North America, South America and also South Africa and Australia.

Our expertise in compliance management will support you to make the right choices for different national markets, while carrying out the necessary testing and certification quickly and professionally.

## CONTACT US

For further information, please contact your local SGS representative or email the global team at [cgnr.global@sgs.com](mailto:cgnr.global@sgs.com)

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**WHEN YOU NEED TO BE SURE**

**SGS**