

Press Release

Simplified evaluation of blue light hazard

Instrument Systems will be showcasing reliable measurement solutions for BLH testing to IEC TR 62778.

Munich, February 2020 – *The newly developed Technical Report IEC TR 62778 on photobiological safety prescribes practical methods for investigating the blue light hazard of LED light sources in general lighting. On this basis, Instrument Systems has modified its proven TOP 200 telescopic optical probe in satisfaction of the new measurement requirements while maintaining a high level of user comfort. In conjunction with a spectroradiometer, the adapted TOP 150-BLH reliably determines the blue light hazard by an explicitly defined weighting function in the SpecWin Pro analysis software. Compared to previous measurement solutions, the TOP 150-BLH is a fast and attractively priced alternative.*

The rapidly increasing significance of modern solid-state lighting technology in our daily environment poses important safety aspects with regard to photobiological safety and blue light hazard. The current international standard IEC 62471 contains the appropriate guidelines for the evaluation of lamps and lamp systems. Because it places extremely strict requirements on measuring equipment and procedures, supplementary practical evaluation methods have been introduced with Technical Report IEC TR 62778.

On this basis, Instrument Systems has developed a fast and practical measuring system for the evaluation of LEDs in excess of 360 nm. The new TOP 150-BLH telescopic optical probe is based on the proven TOP 200 telescopic optical probe, although it has only one aperture with a diameter of 7 mm. The aperture is positioned at the same height as the objective lens and corresponds to the reference level. A measuring spot over 2.2 mm is set via an internal aperture for test objects at a distance of 200 mm. This can be easily positioned by means of an internal alignment camera.

A direct spectral radiance measurement can be made in conjunction with a calibrated CAS 140 D spectroradiometer and the accompanying SpecWin Pro analysis software. For effective evaluation of the blue light hazard the IEC 62471 standard prescribes a weighting factor by which the spectral measurement data must be multiplied. This function covers the wavelength range between 300 and 700 nm and has a maximum of 435 to 440 nm. In this range, blue light can cause photochemical damage to the retina. Independently of the radiation density L_B and the calculated maximum exposure time t_{max} measured with the blue light hazard function, the analysis software classifies the light sources according to the four risk groups specified by the standard. Due to the simple measurement set-up, rapid and long-term stable measurements are also possible in production applications.

<https://www.instrumentsystems.com/en/systems/blue-light-hazard-measurement/>

Trade fair notice:

Light+Building 2020, Booth 8.0 F60,
27 September – 2 October 2020, Frankfurt / Germany

Figure:

Simple measurement setup consisting of the TOP 150-BLH telescopic optical probe and the CAS 140D spectroradiometer for direct spectral radiance measurement for determining BLH hazard.



Further copy and pictures:

<https://services.instrumentsystems.com/owncloud/index.php/s/HjsPFuPA0HgkNmX>

Company portrait Instrument Systems GmbH

Instrument Systems GmbH, founded in Munich in 1986, develops, manufactures and markets all-in-one solutions for light measurement applications. Its core products are array spectrometers and imaging colorimeters. The company's main fields of activity are LED/SSL and display metrology, spectral radiometry and photometry, where today Instrument Systems is one of the world's leading manufacturers. The Optronik line of products for the automotive industry and traffic technology is developed and marketed at its Berlin facility. Instrument Systems has been a wholly-owned subsidiary of the Konica Minolta Group since 2012.

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