

Workshop

CIE ILLUMINANT L (LED): PROS, CONS AND CHALLENGES

Convener: Blattner, P.
METAS, Bern-Wabern, SWITZERLAND
peter.blattner@metas.ch

Summary

Incandescent lamps are being phased out globally in favour of more energy-efficient solutions, such as light emitting diodes (LEDs). This brings concerns on the availability of incandescent photometric standard lamps in the future. The prices of such lamps are already increasing, and acquiring some lamp types has become increasingly difficult. Therefore, it is important to investigate the pros and cons of replacement of conventional standard lamps with new solid-state technology. LED-based standards would bring several benefits for the calibration laboratories, photometer manufacturers, and for those using the instruments for measurement of white LED-lighting. However drawbacks have to be considered: The fact that there is not a single spectral power distribution that would be representative of white LED sources. Thus, it may be necessary to consider a possible family of standard LED illuminants to represent these different applications, e.g. similar to what has been done in standardizing fluorescent lamps (CIE:2004), where a few are recommended to take priority. This workshop will discuss pros, cons and challenges of defining new a CIE Illuminant L. The reporters of two CIE reporterships will outline their findings:

Sophie Jost, ENTPE – LGCB, France

CIE R1-62: Typical LED Spectra

Tuomas Poikonen, MIKES Finland

CIE R2-71: Towards LED based standard calibration sources for photometry