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LED Reference Spectrum for Photometer Calibration

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CIE standard illuminant A was introduced in 1932 to represent typical tungsten-filament lighting in colorimetry, and for decades it has been used as a reference spectrum in photometer calibrations.

In 2018, CIE published new LED illuminants in CIE 015:2018 *Colorimetry, 4th Edition*. Based on one of the new LED illuminants, this Technical Report publishes a recommendation for an LED reference spectrum, named "CIE reference spectrum L41", for photometer calibration that complements CIE standard illuminant A. Specifically, this document includes the tabulated data of CIE reference spectrum L41 and a quality metric for selection of white LEDs for physical LED standard sources.

Information is provided about typical magnitudes of spectral mismatch errors with $V(\lambda)$ -filtered photometers in measurements of LEDs, as well as other types of light sources, when CIE reference spectrum L41 is used for photometer calibration instead of CIE standard illuminant A.

The document is written in English, with a short summary in French and German. It consists of 24 pages with 5 figures and 3 tables and is readily available from the [CIE Webshop](#) or from the National Committees of the CIE.

The price of this publication is EUR 135,- (Members of a [National Committee of the CIE](#) receive a 66,7 % discount on this price – please approach your NC for information on accessing this discount).