

RESEARCH AND STANDARDISATION RESPONSE FORM for Standardisation groups



To contribute to *EMPIR - the European Metrology Programme for Innovation and Research* *

Objective: to collect standardization needs and suggestions to develop research projects in testing and measurements for the upcoming EMPIR calls (2019 and 2020)

In the frame of the between CEN, CENELEC and EURAMET, CEN and CENELEC have been invited by the EURAMET Management to put forward their **testing and measurement needs in research** for consideration by metrology institutes for future calls under EMPIR.

Relevant technical groups (sector fora, advisory boards, coordination groups, TCs, WGs...) **are invited to contribute with**

- a short introduction or an overview paper of their unaddressed standardization needs for testing and measurement, and
- a contact person (secretary, chair, convenor, liaison officer, etc.) whom proposers for the Potential Research Topics can contact,

by using this Response Form and send it at :

STAIR EMPIR secretariat, Mr Ortwin Costenoble: empir@nen.nl

Deadline for the consultation: 14 December 2018.

Proof of need by the TC/SC is highly recommended for a successful submission.

Source of the identified need (identification of TC, WG, etc, incl. title)	<input type="checkbox"/> CEN/TC 0/WG 0 <input type="checkbox"/> CLC/TC 0/WG 0 <input type="checkbox"/> ISO/TC 0/SC 0 / WG 0 <input type="checkbox"/> IEC/TC 0/SC 0 / WG 0 <input checked="" type="checkbox"/> Other CIE Division 2, Physical measurement of light and radiation
European entity responsible for submission of the need	<i>International Commission on Illumination (CIE) Vienna, Austria www.cie.co.at</i>
Person that can be contacted for more detail	<i>Tony Bergen, Division Secretary CIE Division 2 tonyb@photometricsolutions.com +61 400 237 431 AU</i>
Unaddressed need (short description)	<i>Test method for LED lamps, luminaires, and modules</i>
Further explanation of need (TC business plan, road map, formal decision, work item, etc.)	<i>Further explanation on the need, why it shall be filled and why specifically related to standard Estimated time frame that need shall be fulfilled In 2015, CIE, in close collaboration with CEN TC 169 (light and lighting), published the first internationally accepted standard for the measurement of LED lamps, luminaires</i>

	<p><i>and modules (respectively CIE S 025 and EN 13032-4). This standard is in the process of becoming a harmonized standard for M/495 (EcoDesign) and M/519 (Standardization in the field of LEDs). The standard approaches systematic review in 2020 and several items needs to be addressed by the metrology research committee:</i></p> <ol style="list-style-type: none"> <i>1) The specification of the measurement condition for the electrical parameters (in particular electrical current and power factor) needs to be improved. Large deviations may be observed depending on the electrical sources and connecting wires. It is crucial to improve the situation, as the power factor is an important quality factor required by EcoDesign (Commission Regulation (EU) No 1194/2012). Furthermore, accurate measurement of electrical current and power factor are critical for accurate determination of the electrical power consumption of the device being tested, which is a key quantity in the determination of the luminous efficacy (efficiency) of the device.</i> <i>2) In the present version of the standard, the statement of measurement uncertainty of the luminous intensity is limited to one given representative direction where the luminous intensity distribution is fairly flat. An extension to full luminous intensity distributions should be done. On a general level metrics to compare luminous intensity distributions are not yet standardized. Such a metric is important to be able to compare the performance of different testing laboratories and thus increase the confidence in the testing procedure. In a future revision this metric could be included in a normative annex to the standard or as separate document.</i> <i>3) For measuring luminous intensity distributions conventional (far-field) goniophotometer are explicitly considered in the present version of the standard. In many testing laboratories new type of goniophotometers (i.e. near-field imaging goniophotometer) are becoming widely used. In principle the standard accepts other types of measurement instruments if they are demonstrated to produce equivalent results as a conventional goniophotometer system. Additional guides on proving the equivalence is necessary.</i> <i>4) An extension of the standard to sources that emit coloured (i.e. non-white) light would need additional consideration, mainly in respect to the measurement uncertainty evaluation.</i>
Enclosures	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

*See more information at

[EMPIR website](#)[CEN/CENELEC website "Standards and metrology"](#)