RESEARCH AND STANDARDISATION

RESPONSE FORM for Standardisation groups

Opportunity for standardisation to contribute to the *European Partnership on Metrology EPM* under Horizon Europe

Objective: to collect standardization needs and suggestions to develop research projects in testing and measurements for the upcoming European Partnership on Metrology (EPM) calls in 2021

In the frame of the cooperation agreement 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 EPM.

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, Mr Ortwin Costenoble: empir@nen.nl

Deadline for the consultation: **11 December 2020**.

Source of the identified need (identification of TC, WG, etc, incl. title)	☐ CEN/TC 0/WG 0 / ☐ CLC/TC 0/WG 0 ☐ ISO/TC 0/SC 0 / WG 0 / ☐ IEC/TC 0/SC 0 / WG 0 ☒ Other, namely *CIE, International Commission on Illumination, Division 2 Physical Measurement of Light and Radiation*
European entity responsible for submission of the need	*International Commission on Illumination (CIE)*
Person that can be contacted for more detail	*Kathryn Nield* *CIE General Secretary* *CIE Central Bureau* *Babenbergerstrasse 9/9A* *Vienna, 1010* *Austria* *ciecb@cie.co.at*
Title:	*New calibration sources for spectroradiometers*
Unaddressed need	*Halogen lamps have been used for the calibration of spectroradiometers for decades, but their availability is diminishing. There is an urgent need to find and realize adequate replacement sources.*
Further explanation of need (TC business plan, road map, formal decision, work item, etc.)	*Many European regulations and standards are referring directly or indirectly to spectral measurements of optical radiation, e.g.:* *- EN 14255-1 to EN 14255-4 "Measurement and assessment of personal exposures to incoherent optical*

	radiation": *These standards require onsite measurements in the spectral range of about 200 nm to 2000 nm. Some of the measurements (in particular in the UV) can only be performed using a spectroradiometer.* *- Commission Regulation (EU) 2019/2020 "EcoDesign for light sources and separate control gears":* *This regulation requires a minimal general colour rendering index (Ra). This quantity can only be evaluated using spectral measurements in the wavelength range of 360 nm to 830 nm.* *- EN 12464-1 "Light and lighting — Lighting of work places — Part 1: Indoor work places":* *This standard requires that authenticated general colour rendering index (Ra) and correlated colour temperatures (CCT) data shall be provided for the light source in the scheme by the manufacturer of the light source. The light sources shall be checked against the design specifications. These quantities can only be evaluated using spectral measurements in the wavelength range of 360 nm to 830 nm.* *To perform the spectral measurements required by the above standards and regulations requires the use of a traceably calibrated spectroradiometer.The calibration of spectroradiometers is based on incandescent or high-power halogen lamps. A major challenge is the technological revolution of lighting products towards LED lighting and the ban of the sale of incandescent lamps. This raises concern about the availability of incandescent radiometric and photometric standard lamps for calibration in the future.* *LED-based sources have already been identified that potentially cover the needs for spectroradiometry over the wavelength range 360 nm to 830 nm, thereby supporting the field of photometry. Following the success of the EMPIR project "photoLED", CIE has started a standardization project (CIE TC 2-90 LED Reference Spectrum for Photometer Calibration).* *However, for radiometry and colorimetry there is a need to calibrate spectroradiometers over an extended wavelength range of at least 250 nm to 1100 nm, preferably with a single continuous spectrum. This being an urgent need for spectroradiometry.*
Proof of need by the TC/SC	*CIE has identified the need for research in the research strategy (http://www.cie.co.at/research-strategy, research topic no 9).*
Enclosures	☐ Yes ☒ No

*See **more information or a link to the webinar at** **EMPIR website**
CEN/CENELEC website "Standards and metrology"