



30 June 2017

Launch of IEA 4E SSL Annex 2017 Interlaboratory Comparison of Goniophotometer Measurements (IC 2017)

The International Energy Agency's 4E¹ Solid State Lighting Annex (IEA 4E SSL Annex) formally announces the launch of the 2017 Interlaboratory Comparison (IC 2017) of goniophotometer measurements. IC 2017 is a follow-up to the previous interlaboratory comparison conducted in 2013 by the IEA 4E SSL Annex (IC 2013)² where 110 labs from around the world were compared. IC 2017 is open to all photometric labs that use goniophotometers for testing LED lighting products, and is organised primarily to compare goniophotometric measurements of LED luminaires and narrow-beam LED lamps, which were not covered in IC 2013. This new interlaboratory comparison will study the equivalence of different types of goniophotometers, *e.g.*, far-field goniophotometers and near-field goniophotometers, and investigate the measurement variations and the capability of participating laboratories using goniophotometers to measure LED lighting products. The IEA 4E SSL Annex hopes that this work could promote reliable SSL testing worldwide and also to provide useful data for the international lighting community.

In addition to serving as a technical study, IC 2017 is also designed in compliance with ISO/IEC 17043 to serve as a proficiency test for SSL testing accreditation programmes that recognise this comparison, as was done in IC 2013. IC 2017 will use CIE S 025/E:2015, *Test Method for LED Lamps, LED Luminaires and LED Modules*³ as the test method for LED performance measurement. If recognised by accreditation bodies, the participant results reports may be used as a proficiency test for CIE S 025 as well as regional test methods such as EN 13032-4 (Europe, equivalent to CIE S 025); LM-79 (USA); KS C 7653 and KS C 7651 (Republic of Korea), JIS C7801 and JIS C8105-5 (Japan), and possibly also for accreditation programmes in China and other countries.

Near-field goniophotometers and non-standard goniophotometers that rotate the operating position of the luminaire with a correction technique (allowed in CIE S 025) will also be covered in this interlaboratory comparison, and their results may be used for the validation requirement for such goniophotometers in CIE S 025 or to assist in an accreditation application, as well as for benchmarking purposes.

¹ Energy Efficient End-use Equipment: <http://www.iea-4e.org>

² A copy of the Solid State Lighting Annex's 2013 Interlaboratory Comparison Final Report (10 September 2014) is available by clicking on this link: http://ssl.iea-4e.org/files/otherfiles/0000/0067/IC2013_Final_Report_final_10.09.2014a.pdf

³ CIE S 025 is the international standard for testing LED lighting products. See: http://cie.co.at/index.php?i_ca_id=973

For the comparison, participating laboratories will be asked to measure a set of four SSL product artefacts (*i.e.*, an indoor LED panel luminaire, an indoor linear LED luminaire, a LED street lighting luminaire, and a narrow-beam LED lamp) using their goniophotometer or gonio-spectroradiometer for 14 measurement quantities. These quantities include electrical quantities, total luminous flux, luminous efficacy, colour quantities (spatially-averaged), as well as goniophotometric quantities such as luminous intensity distribution, partial luminous flux, centre-beam intensity, beam angle, and angular colour uniformity. Colour quantities may be measured with an integrating sphere system with a spectroradiometer if it is the participating laboratory's normal procedure for testing such products. The details of comparison artefacts, measurement quantities, and comparison procedures are available in the IC 2017 Technical Protocol, available at the IEA 4E SSL Annex's website: <http://ssl.iea-4e.org/testing-standards/laboratory-comparability>.

The following Nucleus Laboratories will conduct measurement rounds of IC 2017 for participating laboratories in different regions around the world:

- Korea Institute of Lighting Technology (KILT), Republic of Korea
- Laboratoire National de Métrologie et d'Essais (LNE), France

IC 2017 participants will be assigned to work with one of these two Nucleus Laboratories to conduct bilateral comparisons. Participants will be asked to use CIE S 025 as the test method, but those who are not in full compliance with the CIE test method and/or those who do not measure all the listed quantities may also be accepted as participants. Laboratories with more than one goniophotometer at the same physical location are welcome to participate with the additional goniophotometer(s) measuring the same set of artefacts. Each participant, after their measurement round is completed, will receive an Individual Test Report for each goniophotometer tested that could serve as a proficiency test (PT) report, as well as a preliminary version of the IC 2017 Final Report that reports all the results anonymously for a technical study, before publication of the Report as was done in IC 2013.

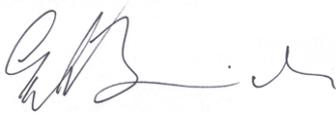
Registration is open to all countries, but the applicants from IEA 4E SSL Annex current member countries (*i.e.*, Australia, Denmark, France, Republic of Korea, Sweden, the UK and the USA) will receive a discount on the fee and priority (if the number of participants reaches the limit). There will also be a discount available to all applicants for early registration (30 June – 31 July 2017). Registration will be open until 30 September 2017 or until all available spaces in IC 2017 are booked. The registration fees, which include shipping costs both ways, are:

- Early Registration – SSL Annex member country: €4,900
- Early Registration - non-member country: €5,100
- Registration after July 31 – SSL Annex member country: €5,100
- Registration after July 31 - Non-member country: €5,300
- Each additional goniophotometer at same location: €1,000

There will be three rounds of measurement by each Nucleus Laboratory, to be conducted sequentially in the period from September 2017 to June 2018. Participants will be assigned from the first round in the order of payment received (or they can request a later round). Registration is now open and available at Annex's website: <http://ssl.iea-4e.org/testing-standards/laboratory-comparability/registration>

Thank you for your interest and support of this work. If you have any questions on this IC, please feel free to contact us at ssl.annex@gmail.com

Sincerely,



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About the IEA 4E Solid State Lighting Annex

The Solid-State Lighting (SSL) Annex was established in 2010 under the framework of the International Energy Agency's (IEA) Energy Efficient End-Use Equipment (4E) Implementing Agreement. The SSL Annex works internationally to assist governments of member countries in promoting SSL as an effective means to reduce energy consumption worldwide. The Annex member countries believe there are significant advantages in engaging in an international collaboration in order to develop a consensus on harmonised approaches to SSL performance and quality. Sponsoring governments of the SSL Annex include Australia, Denmark, France, Republic of Korea, Sweden, the United Kingdom and the United States. The work of the SSL Annex spans a wide range of initiatives which can be found on the Annex's website (<http://ssl.iea-4e.org/>), including guidance for policy makers, quality and performance tiers and support for laboratory accreditation.