

Participation in APLAC PT Programs by IAS-Accredited Laboratories

As an internationally recognized accreditation body IAS requires its accredited testing laboratories to participate in proficiency testing (PT) programs as one method to periodically assess their technical competence. Recently, the Chinese National Accreditation Service (CNAS), one of IAS' mutual recognition arrangement partners, organized a proficiency testing program for the testing and measurement of lighting. This program is a joint effort by CNAS in collaboration with the National Lighting Test Centre (NLTC) and participation is available to all APLAC-recognized accreditation bodies.

The T088 PT program, titled Photometric Measurement of Solid State Lighting Products, is a proficiency test for energy efficient lighting, primarily LEDs. Participating laboratories will receive five different types of lighting products (see attached image of PT samples and table below).

This program is unique as it cooperates with the ¹*International Energy Agency Energy-Efficient End-use Equipment Solid State Lighting Annex* (IEA 4E SSL Annex). Therefore, the final results of the APLAC T088 can be linked to the Inter-laboratory Comparison 2013 (IC 2013 run by IEA 4E SSL Annex) giving APLAC participants an internationally benchmarked performance comparison.

When the program is completed and artifacts returned to NLTC, participants will receive an interim report followed by a final APLAC report on each laboratory's performance. As in all PT programs, confidentiality is closely guarded and participating laboratories are coded both in the interim and final reports. Where there are outlying test results, accreditation bodies will request and review the root cause analysis and corrective actions taken by their particular accredited laboratories. Further investigation of outlying results may also be conducted by the accreditation body at the laboratory's next scheduled assessment visit.

Artifacts Under Test Identifier	Lamp Type	Rated Voltage	Rated Power	Nominal CCT	Other Conditions
NLTC-A	Incandescent lamp	220 V AC	60W	2700 K	AC frequency: <u>50</u> _Hz
NLTC-B	Omnidirectional LED lamp	220 V AC	5 W	2700 K	
NLTC-C	Directional LED lamp	220 V AC	8 W	3000 K	
NLTC-D	High CCT LED lamp	220 V AC	6 W	5000 K	
NLTC-E	Low power-factor LED lamp	220 V AC	6 W	3000 K	

APLAC and IAS

Organized proficiency testing (PT) and other forms of inter-laboratory comparisons, round-robin programs and measurement audits have been key tools used by accreditation bodies to evaluate laboratory competency. As a mandatory requirement under *ISO/IEC Standard 17025 (2005): General requirements for the competence of testing and calibration laboratories*, PT participation by accredited organizations provides accreditation bodies real-time understanding of the management of processes and accuracy of results produced by testing and calibration laboratories.

APLAC is a Regional Body under ILAC and a Specialist Regional Body under the Asia Pacific Economic Cooperation (APEC). APLAC evaluates accreditation bodies for compliance with *ISO/IEC 17011 (2004); Conformity assessment-General requirements for accreditation bodies accrediting conformity assessment bodies*, APLAC also regularly organizes and provides opportunities for participation in selected PT programs. These APLAC programs are generally designed and coordinated by an APLAC member accreditation body for the purpose of establishing a comparison of tests and calibration results among laboratories accredited by APLAC members. For more details refer to http://www.aplac.org/aplac_pt_programs.html.

IAS is a leading accreditation body in the U.S. and a signatory to the International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Laboratory Accreditation Cooperation (APLAC) global and regional Mutual Recognition Arrangements.

¹The International Energy Agency Energy-Efficient End-use Equipment Solid State Lighting Annex (IEA 4E SSL Annex) is organizing the 2013 Inter-laboratory Comparison (IC) of SSL product testing. The IC is being run by the SSL Annex's four Nucleus Laboratories:

- National Institute of Standards and Technology (NIST) in the USA;
- National Lighting Test Centre (NLTC) in China;
- National Metrology Institute of The Netherlands (VSL) in The Netherlands; and
- National Metrology Institute Japan in National Institute of Advanced Industrial Science and Technology (AIST, NMIJ) in Japan.