December 9, 2021

CCPR WG-SP meeting

(Online)

**TG-12: Progress Report**

**Hiroshi Shitomi, NMIJ**

**WG-SP TG-12: Discussion Forum on Use of White LED Sources for Photometry**

**ToR:**

To be developed in consultation with TG-12 members: TG12 Chair to carry out a survey of activity in NMIs and to identify priorities for future work of the TG, including the possibility of joint TC with CIE Division 2.

**Members (19):**

H. Shitomi (NMIJ, Chair), P. Blattner (METAS), J. Dubard (LNE), E. Ikonen (MIKES), D-H. Lee (KRISS), J. C. Acosta (IO-CSIC), A. Sperling (PTB), S. van den Berg (VSL), K-N. Wu (CMS/ITRI), Y. Zong (NIST), Y. Lin (NIM), H. Liu (NIM), A. Gaertner (NRC), J. Zwinkels (NRC), A. Rasoulof (NRC), B. Khlevnoy (VNIIOFI), M. Nadal (WG-SP chair; ex-officio), M. L. Rastello (CCPR president; ex-officio), Joële Viallon (CCPR secretary; ex-officio)

**Progress since the last WG-SP meeting (by WebEX, December 2020):**

There has been a little progress on TG12 since the last WG-SP meeting.

The summary report of the questionnaire was submitted to WG-SP chair for review on 30 November 2020. At the last WG-SP meeting, the summary of the questionnaire was outlined. After that, TG12 chair asked all the members to review the summary report for comments and to consider the future direction TG12 should have.

Some NMIs provided updates on their LED-related research activity and collaboration works with industry, which has been included in the revised summary report. In addition, during the review, it was proposed that TG12 should regularly do the survey to update the activity. Proposed topic to be added to the next survey is about the LED reference spectrum for photometer calibration discussed by CIE TC2-90. Considering that a CIE technical report on the use of LED reference spectrum (L41) for LED-based photometry will be published soon, and that it is expected to launch relevant standardization activities based on L41, it is of significance for TG12 to monitor and share research activities related to the LED-based calibration sources for photometry.

**Future plan:**

It is my regret that, due to some reasons, I couldn’t find sufficient time focusing on TG12. I will try my best to find my time to proceed with the TG12 from now on. After the WG-SP meeting, first I will distribute updated summary report of the first questionnaire. The TG12 members will be asked to join follow-up discussion mainly by e-mail. Then I will arrange a WebEx meeting to discuss the main topics TG12 should focus on.

**Candidate TG12 topics (to be discussed):**

1. Monitoring progress and technical discussion on practical implementation of the LED reference spectrum (L41) for photometer calibration
2. Monitoring progress and technical discussion on development of LED-based standard sources as a replacement of traditional standard incandescent lamps
3. Future research and strategy to address the issue on the replacement of traditional tungsten-based standard sources especially for UV and IR region
4. To find out attracting topics for industry that leads to promote intensive collaboration with manufacturers on the use of LEDs in photometry
5. Discussion about metrological aspects to supplement the new LED-based application (e.g. UV-C disinfection)
6. Discussion about future metrological system in terms of maintenance and update of CMCs under the situation mainly using LED-based standard sources