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IEEE EEEIC/I&CPS Europe 2022 SPECIAL SESSION

Energy performance of lighting systems in building through the evaluation methods of EN 15193-1:2021 standard

ORGANIZED BY: Smart Cities and Communities Laboratory | ENEA (TERIN/SEN/SCC)

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OBJECTIVE AND TOPICS:

The growing need to reduce the energy consumption of buildings requires careful evaluation both in the design phase and in the redevelopment of the lighting systems, in relation to the specific typology of building.

In this context, CEN has put a set of EN standards to support the EPBD directive, among which is EN 15193-1: 2021. The EN 15193-1 standard provides three different methods for evaluating the energy performance of lighting systems installed in residential and non-residential buildings, even in the presence of control systems.

This special session aims to compare the experiences resulting from the application of the calculation methodologies of the standard, to highlight their potential and limits of EN 15193.

Proposals focusing on the application of the proposed methodology to case studies with numerical simulations, applications in real cases (direct measurement), comparison of the results obtained, highlighting of problems and limitations of the procedures are encouraged.

A brief list of potential submission topic includes:

- ✓ Building simulation to calculate LENI,
- ✓ Application of EN 15193 calculation methods in real case studies,
- ✓ Comparison between analysis software simulations and EN 15193-1 methods,
- ✓ Calculation of the LENI in the evaluation of the energy performance indexes of buildings.
- ✓ Evaluation of different dependency factors in the calculation of LENI and/or $LENI_{sub}$
- ✓ EN 15193-1 new developments