

Draft Mandate to CEN, CENELEC and ETSI for Standardisation in the field of fluorescent lamps, high-intensity discharge lamps, and ballastcontrol gears and luminaires able to operate such lamps

1. BACKGROUND

1.1 Legal Basis of the mandate

This mandate relates to Directive 2009/125/EC of the European Parliament and of the Council (formerly Directive 2005/32/EC), and to a measure implementing this Directive for which (a) Harmonised Standard(s) should be developed to cover measurement methods.

1.2 The aim of the Mandate

The Commission adopted on 18 March 2009 Regulation (EC) N° 245/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballastcontrol gear, for high intensity discharge lamps, and for ballastcontrol gears and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council. The Regulation requires that the measurement methods for establishing the energy consumption and other parameters of the targeted products are reliable, accurate and reproducible, and take into account the generally recognised state of the art, in order to ensure comparable measurements and fair competition, and to facilitate market surveillance activities. Commission Regulation (EU) N° 347/2010 of 21 April 2010 amended Commission Regulation (EC) N° 245/2009 with respect to the requirements set on certain parameters to be measured.

The aim of this mandate is to create (a) harmonised European standard(s) which cover(s) the requirement for measurement methods with respect to Commission communication in the framework of the implementation of Commission Regulation (EC) No 245/2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballastcontrol gear, for high intensity discharge lamps, and for ballastscontrol gear and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council (2010/ C 92/ 04).

2. DESCRIPTION OF THE MANDATED WORK

The Commission requests CEN, CENELEC and ETSI to elaborate (a) reliable, accurate and reproducible European standard(s), which take(s) into account the generally recognised state of the art, and/or adopt or adapt existing European and International standards for the targeted products, laying down procedures and methods of measuring the following product parameters:

- 2.1 for fluorescent and high-intensity discharge lamps, the spectral radiation (type to be defined and wavelength range xxx nm to xxx nm), the luminous flux, the power consumption, the lamp lumen maintenance factor, the lamp survival factor, the chromaticity coordinates, the correlated colour temperature, the colour rendering, the biological action factor, the specific effective radiant ultraviolet power, the lamp caps and the mercury content;

Comment 1: Generally the non visual effect of light on human beings (like circadian effect) is missing.

Comment 2: Wavelength range to be specified by stakeholders.

Comment 3: The kind of spectral radiation depends on the radiation geometry, which can be radiant intensity, irradiance, radiant flux or radiance.

Comment 4: ETSI does not take part of the standardisation in the field of light (electrotechnical, photometrical, colourimetical) and shall be excluded.

- 2.2 for ballasts-control gear able to operate fluorescent and high-intensity discharge lamps, the input power of the lamp-ballast-control gear circuit, including when the operated lamps do not emit any light in normal operating conditions (when possible connected components (network connections, sensors etc.) are disconnected), the dimming level in order to obtain 25% lumen output of the operated fluorescent lamp (245/2009, Annex III, 2.1a);

Comment 5: The mandate wording is not sufficient. The "ballast-control gear efficiency" is missing and the condition, under which the power is taken as the standby power. Also, dimming operation is missing. Efficiency and standby conditions are dealt with in an IEC project, the results of which should be awaited and taken over as European standard in order to be internationally coherent.

- ~~—~~ 2.3 for luminaires ballasts luminaires able to operate fluorescent and high-intensity discharge lamps, the ballast efficiency (= output power divided by input power) and the power consumption of the ballast power consumption when the operated lamps do not emit any light in normal operating conditions and when other possible connected components (network connections sensors) are disconnected (statement of detectors for presence and/or daylight controlling within the luminaire), the maintenance factor of the luminaire, the ingress protection grading, the CEN flux code and the photometric file;

Comment 6: The condition, under which the power is taken as the standby power is missing.

Comment 7: As the CEN flux code is not a quantity to be measured, but numerically calculated, it shall be cancelled and EN 13032 be quoted in this respect.

Comment 8: The ingress protection grading is already required by EN 60598-1 and does not needed to be repeated at this place.

Comment 9: For measuring the maintenance factor, publications CIE 97:2005 (Guide on the maintenance of indoor electric lighting systems) and CIE 154:2003 (The maintenance of outdoor lighting systems) shall be taken as support.

- 2.4 for luminaires for office lighting, the luminaire maintenance factor;

Comment 10: This indent can be dropped since at the first indent, the lamp maintenance factor (product of lamp lumen maintenance factor and lamp survival factor) is mentioned and at the third indent the luminaire maintenance factor is supplemented.

- 2.5 for luminaires for street lighting, the luminaire maintenance factor, the utilisation factor and the Upward Light Output Ratio.

Comment 11: For deleting the luminaire maintenance factor, see the comment to office lighting luminaires.

Comment 12: It is questioned, whether the utilisation factor or the light output ratio of the luminaire is meant. The utilisation factor is specific for the installation which would require standards for street cross section in order to document luminaire data. These street cross sections are quite different in Europe and standardisation can probably not be realised. In existing installations, however, there can be an advantage in assessing the need for energy when calculating the utilisation factor, in order to compare this installation with a probable new installation.

EN 13201 "Street lighting" shall be reviewed in all parts and be extended by a part 5 on energy efficiency. This part could cover the utilisation factor or another method for energy evaluation.

The optical light output ratio is product depending. It is measured according to EN 13032 series.

It should be noted that the part of the light which is emitted in the upward half space is not to be regarded negatively in all cases. If the environment contains buildings, it can be of use emitting in an angle of 95° or 100°. This provides the necessary three-dimensional environmental feeling to the user of streets etc. It is the task of planning, hence the "Lighting System Legislation", to verify which luminaire to place in which environment.

The standard(s) has / have also to include the necessary definitions of the parameters to be measured, taking into account the definitions provided in the Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010.

Comment 13: According to the CEN internal regulations standards shall have the same nomenclature to avoid misinterpretation. Therefore all EU mandates shall be checked that terms in the field of lighting comply with EN 12665 (Light and lighting – Basic terms and criteria for specifying lighting requirements). This should be included in this mandate. However, apart of EN 12665, essentially for European economy and in order to be internationally accepted, the Electrotechnical Vocabulary – Lighting (ILV = IEC 60050(845)/CIE 17.4) shall be applied.

The standardisation tasks covered by this mandate are as follows.

Procedures and methods for measuring the required parameters for fluorescent and highintensity discharge lamps (spectral radiation(type to be defined and wavelength range xxx nm to xxx nm),, luminous flux, power consumption, lamp lumen maintenance factor, lamp survival factor, chromaticity coordinates, correlated colour temperature, colour rendering, the biological action factor, specific effective radiant ultraviolet power, caps and mercury content), for ballasts-control gear able to operate fluorescent and high-intensity discharge such-lamps (the input power of the lampballastcontrol gear circuit, including when the operated lamps do not emit any light in normal operating conditions) and when other possible connected components (network connections, sensors etc.) are disconnected, the dim level at which 25% lumen output of the operated fluorescent lamp is obtained, and the photometric file, for luminaires able to operate such lamps (the power consumption when the operated lamps do not emit any light in normal operating conditions with separate indication of the power used by sensors for presence detection and/or daylight control, the luminaire maintenance factor, the ingress protection grading, the CEN flux code and the photometric file), for luminaires for office lighting (the lumen maintenance factor) and for luminaires for street lighting (the luminaire maintenance factor, the utilisation factor and the Upward Light Output Ratio):

Comments 14: For the type of spectral radiation and wavelength range, see the comment to the first indent.

Comment 15: As the CEN flux code is not a quantity to be measured but numerically calculated, it shall be cancelled and EN 13032 be quoted in this respect.

Comment 16: The ingress protection grading is definedrequired in EN 60598-1.

Comment 17: -For measuring the maintenance factor, publications CIE 97:2005 (Guide on the maintenance of indoor electric lighting systems) and CIE 154:2003 (The maintenance of outdoor lighting systems) shall be taken as support.

- 2.6 to ensure that the prospective harmonised standard(s) provide(s), where appropriate and taking into account the definitions of Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010, revised and/or new definitions for at least the appliances and parameters included in the Regulation;

- 2.7 to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to measure at least the spectral radiation, luminous flux, power consumption, lamp lumen maintenance factor, lamp survival factor, chromaticity coordinates, correlated colour temperature, colour rendering, specific effective radiant ultraviolet power, caps and mercury content for fluorescent and high-intensity discharge lamps as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010;

Comment 18: For spectral radiation and wavelength range, see the comment to the first indent.

- 2.8 to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to measure at least the efficiency as well as the input power of the lamp-ballast control gear, circuit, including when the operated lamps do not emit any light in normal operating conditions and when other possible connected components (network connections, sensors) are disconnected (statement of sensors for presence and/or daylight control), the dim level at which 25% of lumen output of fluorescent lamps is obtained, for ballast control gears able to operate fluorescent and high-intensity discharge lamps as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010;

Comment 19: The standby conditions are not correct and dim conditions are missing.

- 2.9 to ensure that for the purpose of measuring the input power efficiency of the lamp-ballast control gear circuit for ballast control gears able to operate fluorescent lamps, as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010, the prospective harmonised standard(s) require(s) that the total input power measured shall be corrected to a ballast lumen factor of 0,95 for wire-wound inductive non-high frequency control gear and of 1,00 for high frequency (HF) electronic control gear, and that additionally, tolerances of reference lamps shall be compensated;
- 2.10 to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to measure at least the power consumption when the operated lamps do not emit any light in normal operating conditions, the ingress protection grading, the CEN flux code and the photometric file for luminaires able to operate fluorescent and high-intensity discharge lamps as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010;
- 2.11 to ensure that for the purpose of measuring the input power of the lamp-ballast control gear circuit including when the operated lamps do not emit any light in normal operating conditions for ballast control gears able to operate fluorescent and high-intensity discharge lamps as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010, the prospective harmonised standard(s) exclude(s) the power consumed by sensors, network connections and other auxiliary loads;
- 2.12 to ensure that for the purpose of measuring the power consumption when the operated lamps do not emit any light in normal operating conditions for luminaires able to operate fluorescent and high-intensity discharge lamps as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010, the prospective harmonised standard(s) exclude(s) the power consumed by sensors, network connections and other auxiliary loads;

Comment 20: See also comment to the third indent.

- 2.13 to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to measure at least the luminaire maintenance factor for luminaires for

office lighting as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010;

Comment 21: This clause is to be cancelled. See comment to the fourth indent.

- 2.14 to ensure that the prospective harmonised standard(s) provide(s) procedures and methods to measure at least ~~the luminaire maintenance factor~~, the utilisation factor and the Upward Light Output Ratio for luminaires for street lighting as included in Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010;

Comment 22: See comment to fifth indent.

- 2.15 to ensure that the prospective harmonised standard(s) include(s) a procedure that avoids an appliance being programmed to recognize the test cycles, and reacting specifically to them;

Comment 23: This clause is misunderstandable. For disturbless production process, such programming system can be sensefull. Insofar that clause has to be amended

Appliances, whose programming recognizes test cycles only during production, are exempted.

- = 2.16 to ensure that the prospective harmonised standard(s) takes into account improved test conditions and test materials to better reflect user behaviour and the state of the art of measurement methods at European and international level;

Verification procedure for market surveillance purposes:

Comment 24s: The indicated time frames for standardisation are too short. The frames shall be adapted dependent on the type/volume of work (reference to existing standards, revisions of standards, creation of new standard) and shall consider the obligatory time frames set by IEC, CEN and CENELEC internal regulations.

- 2.17 to ensure that the prospective harmonised standard(s) identifies and controls the sources of variability to be considered for market surveillance purposes;
- 2.18 to provide values for measurement uncertainties for the purposes of the verification procedure for the measured parameters taking into account the different sources of variability to be considered when a specific product is taken from the market and measured for market surveillance purposes;
- 2.19 to verify if, in order to reduce the impact of variability to the system, the standard(s) should include specific criteria to be met by laboratories involved in the verification of the declared data (e.g. quality management system, qualification system, personnel training...)

Comment 25s: Measurements shall be done exclusively by test laboratories for lighting technology accredited according to EN ISO/IEC 17025 giving the measurement uncertainty according to GUM and allowing traceability back to national etalon.

Template for test report:

- 2.20 to define a template for a test report indicating the information to be declared by the manufacturers to fulfil at least the ecodesign requirements set out by Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010.

The transitory measurement methods for the implementation of Regulation (EC) N° 245/2009 amended by Regulation (EU) N°347/2010, the references thereof are published in the OJ for information, may be taken into account for the mandated work.

34. EXECUTION OF THE MANDATE

Comment 26: ETSI does not deal with standardisation in the field of light technique and its participation shall be deleted.

CEN, CENELEC and ETSI are requested to communicate to the Commission, within 2 month of the acceptance of this mandate, a work plan for the execution of the above mentioned standardisation tasks, indicating the standard(s) requiring revision or amendment, and the new standard(s) that would need to be developed, if any.

CEN, CENELEC and ETSI are requested to communicate to the Commission after 7 months from the acceptance of this mandate an interim report on the progress of the tasks set out in this mandate, indicating any eventual difficulties encountered and communicating details of any Standard(s) that has been taken into consideration and modified to answer to the needs of the Mandate.

CEN, CENELEC and ETSI are requested to provide, in the three working languages of the ESOs, a copy of the standard(s) developed under this mandate within **12 months** of the acceptance of the mandate, with the exception of the standard(s) developed for measuring the input power of the lamp-ballastcontrol gear circuit including when the operated lamps do not emit any light in normal operating conditions for high-frequency ballastcontrol gears able to operate high-intensity discharge lamps, where the aforementioned copies of the standard(s) should be provided within **18 months** of the acceptance of the mandate.

CEN, CENELEC and ETSI are requested to forward the titles of the standard(s) developed or adapted under this mandate in all the official languages of the European Union.

CEN, CENELEC and ETSI are requested to draw up the work plan and execute the above mentioned tasks in close cooperation in order to ensure consistency and avoid overlapping standards.

Wherever possible the tasks should be executed within the framework of the Vienna and Dresden Agreements with a view to duly take into consideration the activities already done or in process at international level.

CEN, CENELEC and ETSI are requested to indicate the relationship between the clauses of the standard(s) and the essential requirements covered.

Acceptance by CEN, CENELEC and ETSI, as applicable, of this mandate starts the standstill period referred to in Article 7 of the Directive 98/34/EC of 22 June 1998 (of N° L 204/37 of 21 July 1998).

*Comment 27: The following addition is proposed:
An evaluation procedure for the luminaire maintenance factor of luminaires used in offices shall be developed to assign the type of luminaires to a specific environment and maintenance schedule.*

For evaluation of the luminaire maintenance factor of luminaires for street lighting an evaluation procedure shall be developed according to which the type of luminaire is assigned to a specific environment and maintenance schedule.

54. BODIES TO BE ASSOCIATED

As appropriate, CEN, CENELEC and ETSI will invite the representative organisations of consumers' interests (ANEC), environmental protection (ECOS), workers (ETUI-REHS) and small and medium-size enterprises (NORMAPME) to take part in the standardisation work.