SLOVENSKI STANDARD
SIST EN 13032-4:2015/oprA1:2018

01-september-2018

Svetloba in razsvetljava - Merjenje in podajanje fotometričnih podatkov sijalk in svetil - 4. del: LED-sijalke, moduli in svetila

Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 4: LED lamps, modules and luminaires

Licht und Beleuchtung - Messung und Darstellung photometrischer Daten von Lampen und Leuchten - Teil 4: LED-Lampen, -Module und -Leuchten

Lumière et éclairage - Mesure et présentation des données photométriques des lampes et des luminaires - Partie 4 : Lampes, modules et luminaires LED

Ta slovenski standard je istoveten z: **EN 13032-4:2015/prA1**

ICS:

17.180.20	Barve in merjenje svetlobe	Colours and measurement of light
91.160.01	Razsvetljava na splošno	Lighting in general

SIST EN 13032-4:2015/oprA1:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 17.180.20; 29.140.99

English Version

Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 4: LED lamps, modules and luminaires

Lumière et éclairage - Mesure et présentation des données photométriques des lampes et des luminaires - Partie 4 : Lampes, modules et luminaires LED

Licht und Beleuchtung - Messung und Darstellung photometrischer Daten von Lampen und Leuchten - Teil 4: LED-Lampen, -Module und -Leuchten

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 169.

This draft amendment A1, if approved, will modify the European Standard EN 13032-4:2015. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (EN 13032-4:2015/prA1:2018) has been prepared by Technical Committee CEN/TC 169 “Light and lighting”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This amendment 1 is processed to include the addition of Annex ZA relating to the ecodesign mandate M/495.

1 Modification to the European foreword

Add after the second paragraph:

"This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association (M/495 and M/519), and supports essential requirements of EU Directive(s): No 244/2009, No 874/2012, No 1194/2012 and No 2015/1428 amending 244/2009.

For relationship with EU Directive(s), see informative Annexes ZA, ZB and ZC, which is an integral part of this document.".

2 Modification to Clause 1, Scope

Replace the last paragraph:

"This standard does not cover LED packages and products based on OLEDs (organic LEDs)."

with:

"This document does not cover LED packages. Described measurement methods for LED lamp or luminaires may apply as measurement methods for OLEDs products.".

3 Modification to Clause 2, Normative references

Replace:

"prEN 62717:2014, *LED modules for general lighting — Performance requirements (IEC 62717:2014)*"

with:

"EN 62717:2017, *LED modules for general lighting — Performance requirements (IEC 62717:2014, modified + A1:2015, modified)*".

4 Modifications to Clause 3, Terms and definitions

*Add in the following new definition after **3.1 electric light source** and renumber consequently:* "

3.2

directional light source

electric light source having at least 80 % luminous flux within a solid angle of π sr

Note 1 to entry: A cone with angle of 120° is usually considered for the solid angle of π sr. Other shape of solid angle may apply for non-circular shaped beams e.g. elliptical or rectangular shaped beam.".

*Add the following new definition after **3.41** and renumber:* "

3.42

useful luminous flux (for a light source)

$\Phi_{u,\alpha}$

part of the luminous flux of a light source which contributes predominantly to the lighting task

Note 1 to entry: For non-directional light sources the useful luminous flux is the total luminous flux of the source.

Note 2 to entry: For directional light sources the useful luminous flux is the partial luminous flux in a defined open cone, the axis of the cone being the optical beam axis of the light source, the axis about which the luminous intensity is substantially symmetrical. In general, a cone is defined by its solid angle expressed in steradian. It may also be described by the full opening angle or cone angle, α, expressed in degrees or radian, if the cone has a circular shape or by 2 full plain angles (the two planes coinciding with the major and minor axes) if elliptical. The cone angle value(s) has to be specified as a subscript of the useful luminous flux symbol e.g. Φu,π/2 or Φu,90°.

Note 3 to entry: For the calculation of energy efficiency of directional light sources, Annex III, point 1.1 of regulation (EU) No 1194/2012 specifies to consider useful flux in 90° or 120° cones depending the product characteristics stated in the regulation itself. Symbol used: Φuse.

Note 4 to entry: The useful luminous flux is expressed in lumen (lm).".

5 Modification to 6.1, General

Replace the first list item "total luminous flux" with: "

— total luminous flux, partial luminous flux, useful flux;".

6 Modifications to 6.3, Partial luminous flux

*Split the text of **6.3 Partial luminous flux** in two sub-clauses.*

Add the new header "**6.3.1 General**" *before the existing text.*

Add the following new sub-clause: "

6.3.2 Useful luminous flux (according regulation (EU) No 1194/2012)

a) directional light sources

The useful luminous flux shall be measured according 6.3.1 and the following: the useful luminous flux of a directional LED lamp or module with a rated beam angle ≥ 90° shall be measured in a 120° cone otherwise the useful luminous flux of a directional LED lamp or module shall be measured in 90° cone.

For guidance for determining the optical beam axis, see 6.6.

Method A described in 6.2 may be appropriate for measurement of the useful luminous flux of directional LED light source if no light is emitted outside the investigated cone.

For such directional LED light sources, in case of doubt, one DUT shall be measured according 6.5 (light intensity distribution) and it shall be verified that the light intensity outside the cone is negligible. Once this is verified for one sample, for all samples of the same type, method A may be used. However, the sphere should normally be calibrated against a reference light source with similar intensity distribution. See 4.5.2.

b) non-directional light sources

The useful luminous flux of a non-directional LED light source is the total luminous flux and is measured according to 6.2.

For non-directional LED light sources, in case of doubt, the partial luminous flux within a solid angle of π sr of the LED module shall be evaluated to check the criteria of non-directionality. Once the non-directionality is verified for one sample, for all samples of the same type, only the total luminous flux has to be measured.".

7 Modification to the bibliography

Add the following documents: "

COMMISSION REGULATION (EC) No 244/2009 of 18 March 2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps

COMMISSION REGULATION (EU) No 874/2012 of 12 December 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires

COMMISSION REGULATION (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment

COMMISSION REGULATION (EU) 2015/1428 of 25 August 2015 amending Commission Regulation (EC) No 244/2009 with regard to ecodesign requirements for non-directional household lamps and Commission Regulation (EC) No 245/2009 with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps and repealing Directive 2000/55/EC of the European Parliament and of the Council and Commission Regulation (EU) No 1194/2012 with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment".

8 Addition of Annexes ZA to ZC

Add the following Annexes ZA to ZC to the document: "

Annex ZA
(informative)

Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EC) No 244/2009 aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/495 Standardisation mandate to CEN, CENELEC and ETSI under Directive 2009/125/EC relating to harmonised standards in the field of Ecodesign to provide one voluntary means of conforming to the ecodesign requirements of Commission Regulation (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps and Article 1- Amendment to Regulation (EC) No 244/2009 of Commission Regulation (EU) 2015/1428 of 25 August 2015.

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding ecodesign requirements of that Regulation and associated EFTA regulations. The scope of this standard refers to measurement methods.

Table ZA.1 — Correspondence between this European Standard and Commission Regulation (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps and Article 1- Amendment to Regulation (EC) No 244/2009 of Commission Regulation (EU) 2015/1428 of 25 August 2015 and Commission's standardisation request M/495

Ecodesign Requirements of Regulation (EC) No 244/2009	Clauses/subclauses of this EN providing the measurement methods
Luminous flux	4.5 and 6.2
Electrical power	4.3.2
Luminous efficacy	6.4
Chromaticity coordinates	7.1.1
Colour rendering index (CRI)	7.1.3
Correlated colour temperature (CCT)	7.1.2

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — This standard covers only measurement methods for photometric, colorimetric and associated electrical measurements. Other Union legislation may be applicable to the products falling within the scope of this standard.