SLOVENSKI STANDARD
oSIST prEN 50107-3:2016

01-julij-2016

Standard za proizvod, ki zajema svetlobne znake z razelektritvenimi sijalkami in/ali diodami LED (svetleče diode) in/ali EL (elektroluminescenčnimi) svetlobnimi viri z nazivno napetostjo, ki ne presega 1000 V, razen splošne, cestne ali zasilne razsvetljave

Product standard covering luminous signs with discharge lamps and/or LED (light emitting diodes) and/or EL (electroluminescent) lightsources with a nominal voltage not exceeding 1000 V, with the exclusion of general lighting, traffic- or emergency related purpose

Ta slovenski standard je istoveten z: **prEN 50107-3:2016**

ICS:

29.140.30	Fluorescenčne sijalke. Sijalke	Fluorescent lamps. Discharge lamps

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EUROPEAN STANDARD

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English Version

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To be completed

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This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2016-07-29.

It has been drawn up by CLC/BTTF 142-1.

If this draft becomes a European Standard, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

European foreword

This document (prEN 50107-3:2016) has been prepared by CLC/BTTF 142-1 "Product requirements for low voltage cold cathode and LED installations".

This document is currently submitted to the Enquiry.

The following dates are proposed:

• latest date by which the existence of this document has to be announced at national level	(doa)	dor + 6 months
• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 12 months
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	dor + 36 months (to be confirmed or modified when voting)

1 Scope

A luminous sign, light-artwork or architectural accent lighting (finished functional sign, abbreviated: sign) shall comply with this product standard.

The finished functional sign as a product fulfilling its intended purpose as luminous sign can be achieved by combining products with similar purpose through installatio (according to HD 384/HD 60364 series) in order to yield a new product by itself.

NOTE 1: The scope of this product standard is specified by the areas C, D and E in the figure of Annex A.

NOTE 2: Even if the physical execution of a particular luminous sign might qualify the luminous sign to meet the requirements of a luminaire according to EN 60598, the exclusion of general lighting, traffic and emergency related purpose is intended to avoid the requirements of EN 60598 which are impracticable and/or impossible to fulfill for most luminous signs. To cover the special safety problems related with luminous signs, the present product standard is intended.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50107-1:2002, *Signs and luminous-discharge-tube installations operating from a no-load rated output voltage exceeding 1 kV but not exceeding 10 kV – Part 1: General requirements*

EN 50107-2, *Signs and luminous-discharge-tube installations operating from a no-load rated output voltage exceeding 1 kV but not exceeding 10 kV – Part 2: Requirements for earth-leakage and open-circuit protective devices*

EN 60081, *Double-capped fluorescent lamps – Performance specifications* (IEC 60081)

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code)* (IEC 60529:1989)

EN 60901, *Single-capped fluorescent lamps – Performance specifications* (IEC 60901)

EN 60921, *Ballasts for tubular fluorescent lamps – Performance requirements* (IEC 60921)

EN 60929, *AC-supplied electronic ballasts for tubular fluorescent lamps – Performance requirements* (IEC 60929)

EN 61050, *Transformers for tubular discharge lamps having a no-load output voltage exceeding 1 kV (generally called neon-transformers) – General and safety requirements* (IEC 61050)

EN 61195, *Double-capped fluorescent lamps – Safety specifications* (IEC 61195)

EN 61199, *Single-capped fluorescent lamps – Safety specifications* (IEC 61199)

EN 61347-1:2008, *Lamp controlgear – Part 1: General and safety requirements* (IEC 61347-1:2007)

EN 61347-2-2:2001 + corr. Jul. 2003 + A1:2006 + corr. Nov. 2006 + A2:2006, *Lamp controlgear – Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down converters for filament lamps* (IEC 61347-2-2:2000 + A1:2005 + A2:2006)

EN 61347-2-3, *Lamp controlgear – Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps* (IEC 61347-2-3)

EN 61347-2-8, *Lamp controlgear – Part 2-8: Particular requirements for ballasts for fluorescent lamps* (IEC 61347-2-8)

EN 61347-2-10:2001, *Lamp controlgear – Part 2-10: Particular requirements for electronic inverters and converters for high-frequency operation of cold start tubular discharge lamps (neon tubes)* (IEC 61347-2-10:2000)

EN 61347-2-13:2006, *Lamp controlgear – Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules* (IEC 61347-2-13:2006)

EN 62031:2008, *LED modules for general lighting – Safety specifications* (IEC 62031:2008)

EN 62384, *DC or AC supplied electronic control gear for LED modules – Performance requirements* (IEC 62384)

EN 62532 , *Fluorescent induction lamps – Safety specifications* (IEC 62532)

HD 384/60364 (all parts), *Electrical installations of buildings / Low-voltage electrical installations* (IEC 60364 , all parts)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-826 (IEV) and the following apply.

3.1 General

3.1.1
luminous sign
system with light sources which is intended as finished functional sign, light-artworks, and/or decorative lighting with the exclusion of general lighting, traffic- or emergency related purpose, for indoor and/or outdoor operation, consisting of a combination of some products with similar purpose (apparatus, devices and components), through manufacturing or installation in order to yield the luminous sign as new product by itself

Note 1 to entry: See Annex A as guide to applicability of product and/or installation standard.

3.1.2
no-load rated output voltage
maximum rated voltage between the output terminals(s) of the transformer, inverter, converter, ballast or power supplies connected to the rated supply voltage at rated frequency, with no load on the output circuit

[SOURCE: EN 50107-1:2002]

Note 1 to entry: For output circuits supplied by transformers, it is the peak value divided by the square root of 2 (see EN 61050).

Note 2 to entry: For inverters or converters with sinusoidal waveform, it is the maximum rated voltage between the output terminals (see EN 61347-2-10). For other waveforms it is the r.m.s. value or the equivalent value deduced from the peak value, obtained by mathematical calculation.

3.1.3
creepage distance
shortest distance along the surface of a solid installation material between two conductive parts

[SOURCE: EN 60664-1:2007, 3.3]

3.1.4
clearance
shortest distance in air between two conductive parts

[SOURCE: EN 60664-1:2007, 3.2]

3.1.5
insulating sleeve
insulation designed to be placed over the exposed output-voltage connections at tube electrodes or over cable-end insulators

3.1.6
electrical skilled person for luminous signs
person qualified in sign practice who has knowledge and experience in the production, installation, testing, maintenance of the technologies in use, in the installation of luminous signs and who takes responsibility for the product and its testing in accordance with the standards

3.1.7
output circuit
part of the device or installation between the output terminals of controlgear including the light sources and cables

[SOURCE: EN 50107-1:2002, 3.14, mod.]

3.2 Light sources

3.2.1
discharge lamp
device with purpose of generating visible or invisible light by means of recombination/relaxation of excited or ionized gas atoms as primary process

Note 1 to entry: The process can be a multi-step process involving fluorescence of solid-state materials or gases as secondary process.

3.2.2
electroluminescent light source
device with purpose of generating visible or invisible light by means of recombination/relaxation of excited atoms within a solid-state body, wherein the excitation is caused by an electric field

Note 1 to entry: An LED is a special form of electroluminescent light source employing two different semiconductors forming a P-N-junction.

3.2.3
hot-cathode-fluorescent lamp
low-pressure discharge lamp with or without mercury, utilising electrodes operating by thermo-ionic emission of electrons, and in which most of the light is emitted by one or several layers of phosphors excited by the ultra-violet radiation from the discharge

[SOURCE: IEV 845-07-26, mod.] (from EN 60081)

3.2.4
luminous-discharge tube
(common: Neon tube, Cold Cathode tube)
tube, or other vessel or device, which is constructed of translucent material, hermetically sealed, and designed for the emission of light arising from the passage of an electric current through a gas or vapour contained within it

Note 1 to entry: The tube may be with or without an internal fluorescent coating.

[SOURCE: EN 50107-1:2002, 3.1, mod.]

3.2.5
Light-Emitting Diode (LED)
solid state device embodying a p-n junction, emitting optical radiation when excited by an electric current

[SOURCE: IEV 845-04-40 and EN 62031:2008, 3.1]