SLOVENSKI STANDARD
SIST EN 60081:1999/A11:2018

01-julij-2018

Fluorescenčne sijalke z dvema vznožkoma - Zahteve glede tehničnih lastnosti - Dopolnilo A11

Double-capped fluorescent lamps - Performance specifications

Lampes à fluorescence à deux culots - Spécifications de performance

Ta slovenski standard je istoveten z: **EN 60081:1998/A11:2018**

ICS:

29.140.30	Fluorescenčne sijalke. Sijalke	Fluorescent lamps. Discharge lamps

SIST EN 60081:1999/A11:2018 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 60081:1998/A11

May 2018

ICS 29.140.30

English Version

Double-capped fluorescent lamps - Performance specifications

Lampes à fluorescence à deux culots - Prescriptions de performance

Zweiseitig gesockelte Leuchtstofflampen - Anforderungen an die Arbeitsweise

This amendment A11 modifies the European Standard EN 60081:1998; it was approved by CENELEC on 2018-02-26. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

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European foreword

This document (EN 60081:1998/A11:2018) has been prepared by CLC/TC 34 "Lamps and related equipment".

The following dates are fixed:

–	latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2019-02-26
–	latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2021-02-26

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60081:1997 and its amendments are prefixed “Z”.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Regulation(s).

For the relationship with EU Regulations see informative Annex ZZA and Annexe ZZB, which are integral part of this document.

This standard provides test methods related to parameters as prescribed by EC Regulation 245/2009, and EU Regulation 874/2012 while conformity assessment (sampling, conformity procedures as well as limits) for market surveillance are specified in the text of the above Regulations.

CONTENTS

Replacement of Annex ZA of EN 60081:1998:

Add the following annexes:

1.Z1 **Add** the following clause before Subclause 1.3

1.Z1 Overall statement

Where a Commission Regulation specifies limits for parameters these limits shall be used instead of the limits specified in this standard.

1.4.Z1 After 1.4.11 **add** new definitions 1.4.Z1 up to 1.4.Z3:

1.4.Z1
efficacy
'luminous efficacy of a source', 'light source efficacy' or 'lamp efficacy' (η_{source})
quotient of the luminous flux emitted (Φ) by the power consumed by the source (P_{source}). $\eta_{source} = \Phi / P_{source}$. Unit: lm/W

Note 1 to entry: The power dissipated by auxiliary equipment such as ballasts is not included in the power consumed by the source.

[SOURCE: Regulation 245/2009 Annex II, 1.a)]

1.4.Z2
lamp lumen maintenance factor (LLMF)
ratio of the luminous flux emitted by the lamp at a given time in its life to the initial luminous flux

[SOURCE: Regulation 245/2009 Annex II, 1.b)]

1.4.Z3
lamp survival factor (LSF)
fraction of the total number of lamps which continue to operate at a given time under defined conditions and switching frequency

[SOURCE: Regulation 245/2009 Annex II, 1.c)]

1.5.6 Before the text in 1.5.6, **add** a new Subclause 1.5.6.Z1

1.5.6.Z1 General

After 1.5.6.Z1 **add** new Subclauses 1.5.6.Z2 and 1.5.6.Z3 as follows:

1.5.6.Z2 Chromaticity, correlated colour temperature and colour rendering index

The chromaticity coordinates and correlated colour temperature of an individual lamp shall be calculated according to CIE 15 from a measurement made under the conditions of Annex B.

The colour rendering index of an individual lamp shall be calculated according to CIE 13.3 from a measurement made under the conditions of Annex B.

1.5.6.Z3 Efficacy

The efficacy of an individual lamp shall be calculated from a measurement of luminous flux and power according to the conditions of Annex B.

1.5.7 **Replace** text of 1.5.7 with new Subclauses 1.5.7.Z1 and 1.5.7.Z2 as follows:

1.5.7.Z1 Lamp lumen maintenance factor

The lamp lumen maintenance factor of an individual lamp shall be calculated from measurements of its luminous flux made at appropriate times according to the conditions of Annex B. Lamp operation between these measurements shall be as prescribed in Annex C.

1.5.7.Z2 Lamp survival

The survival of an individual lamp shall be determined by operating lamps under the conditions prescribed in Annex C until the lamp fails to remain alight or delivers low light output (in case of doubt, low light output refers to noticeably less than 50 % of rated light output).

1.5.Z1 After 1.5.8 **add** new Subclause 1.5.Z1

1.5.Z1 Mercury content

The average mercury content shall be measured in accordance with the CV AAS method as described in EN 62321-4. Lamp sample preparation shall be in accordance with EN 62554.

B.1.3.Z.1 Before the text in B.1.3, **add** a new Subclause B.1.3.Z1

B.1.3.Z1 General

After B.1.3.Z1 add new Subclause B.1.3.Z.2

B.1.3.Z.2 Measurement ballast

For lamps that are specified for operation on both a.c. mains frequencies and high frequency, the information given on the data sheet for “HF measurement ballast characteristics” defines the reference ballast for HF operation.

Bibliography After 1.7 **Add**:

Bibliography

COMMISSION REGULATION (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council 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

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

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***Replace** Annex ZA of EN 60081:1998 as follows:*

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
-	-	Light and lighting – Measurement and presentation of photometric data of lamps and luminaires – Part 1: Measurement and file format	EN 13032-1 + A1	2004 2012
IEC 60050-845	1987	International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting	-	-
IEC 60061-1	-	Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps	EN 60061-1	-
IEC 60061-2	-	Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders	EN 60061-2	-
IEC 60061-3	-	Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges	EN 60061-3	-
IEC 60155	-	Glow starters for fluorescent lamps	EN 60155	-
IEC 60432-1	-	Incandescent lamps – Safety Specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1	-
IEC 60598	(all parts)	Luminaires	EN 60598-1	-
IEC 60630	-	Maximum lamp outlines for incandescent lamps	EN 60630	-
IEC/TR 60887	-	Glass bulb designation system for lamps	-	-
IEC 60921	-	Ballasts for tubular fluorescent lamps – Performance requirements	EN 60921	-
IEC 60927	-	Auxiliaries for lamps – Starting devices (other than glow starters) – Performance requirements	EN 60927	-

Publication	Year	Title	EN/HD	Year
IEC 60929	-	AC supplied electronic ballasts for tubular fluorescent lamps – Performance requirements	EN 60929	-
IEC 61049	-	Capacitors for use in tubular fluorescent lamps – Performance requirements	EN 61049	-
IEC 61195	-	Double-capped fluorescent lamps – Safety specifications	EN 61195	-
IEC 61231	-	International lamp coding system (ILCOS)	-	
IEC 62321-4	-	Determination of certain substances in electrotechnical products - Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS	EN 62321-4	-
IEC 62554	-	Sample preparation for measurement of mercury level in fluorescent lamps	EN 62554	-
IEC/TR 62750	2012	Unified fluorescent lamp dimming standard calculations	-	
CIE 13.3		Method of measurement and specifying colour rendering properties of light sources		
CIE 15	-	Colorimetry		

Annex ZZA
(informative)

Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EC) No 245/2009 aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/495 to provide one voluntary means of conforming to the ecodesign requirements of Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council 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 [2009 OJ L76].

Once this standard is cited in the Official Journal of the European Union under that Commission Regulation, compliance with the clauses of this standard given in Table ZZA.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.

Table ZZA.1 – Correspondence between this European Standard and Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council 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 [2009 OJ L76] and Commission's standardization request M/495

Ecodesign requirement of Regulation (EC) No 245/2009 [2009 OJ L76]	Clause(s) / subclause(s) of this EN	Remarks / Notes
Annex III, article 1.1 and article 1.3(a)	Annex B	Lamp power
Annex III, article 1.1 and article 1.3(b)	Annex B	Luminous flux
Annex III, Table 12 and article 1.3(e)	Clause 1.5.7.Z2	Lamp survival factor (LSF)
Annex III, Table 11 and article 1.3(d)	Clause 1.5.7.Z1	Lamp lumen maintenance factor (LLMF)
Annex I, articles 1(a) and 1(e)	Clause 1.5.6.Z2	Chromaticity coordinates (x, y)
Annex III Table 6, article 1.2 and article 1.3(g)	Clause 1.5.6.Z2	Colour rendering index (CRI)
Annex III Table 6 and article 1.3(h)	Clause 1.5.6.Z2	Correlated colour temperature (CCT)
Annex I and articles 1(e)	Clause 1.5.2	Caps
Annex III article 1.3(f)	Clause 1.5.Z1	Mercury content

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 — Other Union legislation may be applicable to the products falling within the scope of this standard.