

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 60901:1996/
FprA6:2014

FprAA

December 2016

ICS 29.140.30

English Version

Single-capped fluorescent lamps - Performance specifications

Lampes à fluorescence à culot unique - Prescriptions de performances

Einseitig gesockelte Leuchtstofflampen - Anforderungen an die Arbeitsweise

This draft amendment FprAA, if approved, will modify the European Standard ; it is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2017-03-10.

It has been drawn up by CLC/TC 34A.

If this draft becomes an amendment, 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.

This draft amendment 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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

EN 60901:1996/FprA6:2014/prAA:2016 (E)

1 **European foreword**

2 This draft amendment to the draft European Standard EN 60901:1996/FprA6:2014/prAA:2016 was
3 prepared by CLC/TC 34A, Lamps. It contains common modifications to IEC 60901:1996/A6:2014 and
4 is submitted to Enquiry.

5 If approved, this draft amendment will be merged together with EN 60901:1996/FprA6:2014 and both
6 drafts will be published as one single document, i.e. EN 60901:1996/A6:201X (based on
7 IEC 60901:1996/A6:2014, modified), with the implementation dates of this prAA.

8 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)

9 Clauses, subclauses, notes, tables, figures and annexes which are additional to those in
10 IEC 60901:1996/A6:2014 are prefixed “Z”.

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

13 For the relationship with EU Directive(s) see informative Annexes ZZ, which are an integral part of this
14 document.

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

18	Text of prAA to EN 60901:1996/FprA6:2014	
19	CONTENTS	Add the following annexes:
20		Annex ZA (normative) Normative references to international publications with
21		their corresponding European publications
22		Annex ZZA (informative) Relationship between this European Standard and the
23		requirements of Commission Regulation (EC) No 245/2009
24		Annex ZZB (informative) Relationship between this European Standard and the
25		requirements of Commission Regulation (EU) No 874/2012
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27	1.2.Z1	Add the following subclause before 1.3
28		1.2.Z1 Overall statement
29		Where a Commission Regulation specifies limits for parameters these limits shall be
30		used instead of the limits specified in this standard.
31	3.Z1	After 1.4.12 add new definitions 1.4.Z1 up to 1.4..Z3:
32		1.4.Z1
33		efficacy
34		'luminous efficacy of a source', 'light source efficacy' or 'lamp efficacy' (η_{source})
35		quotient of the luminous flux emitted (Φ) by the power consumed by the source
36		(P_{source}). $\eta_{\text{source}} = \Phi / P_{\text{source}}$. Unit: lm/W
37		Note 1 to entry: The power dissipated by auxiliary equipment such as ballasts is not included in the
38		power consumed by the source.
39		[SOURCE: Regulation 245/2009 Annex II, 1.a)]
40		1.4.Z2
41		lamp lumen maintenance factor (LLMF)
42		ratio of the luminous flux emitted by the lamp at a given time in its life to the initial
43		luminous flux
44		[SOURCE: Regulation 245/2009 Annex II, 1.b)]
45		1.4.Z3
46		lamp survival factor (LSF)
47		fraction of the total number of lamps which continue to operate at a given time under
48		defined conditions and switching frequency
49		[SOURCE: Regulation 245/2009 Annex II, 1.c)]
50	1.5.7	Before the text in 1.5.7, add a new header 1.5.7.Z1
51		1.5.7.Z1 General
52		After 1.5.7.Z1 add new subclauses 1.5.7.Z2 and 1.5.7.Z3
53		1.5.7.Z2 Chromaticity, Colour Temperature and Colour Rendering Index
54		The chromaticity coordinates and correlated colour temperature of an individual lamp
55		shall be calculated according to CIE 15 from a measurement made under the
56		conditions of Annex B.
57		The colour rendering index of an individual lamp shall be calculated according to
58		CIE 13.3 from a measurement made under the conditions of Annex B.
59		1.5.7.Z3 Efficacy
60		The efficacy of an individual lamp shall be calculated from a measurement of luminous
61		flux and power according to the conditions of Annex B.

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62 1.5.8 **Replace** 1.5.8 with new subclauses 1.5.8.Z1 and 1.5.8. Z2

63 **1.5.8.Z1 Lamp lumen maintenance factor**

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

68 **1.5.8.Z2 Lamp survival**

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

73 1.5.Z1 After 1.5.10 **add** a new subclause 1.5.Z1

74 **1.5.Z1 Mercury content**

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

78 Photometric characteristics shall be measured in accordance with EN 13032-1. For
79 determination of the centre beam intensity of reflector lamps, EN 61341 shall be used.

80 Bibliography After 1.7 **Add**

81 **Bibliography**

82 COMMISSION REGULATION (EC) No 245/2009 of 18 March 2009 implementing
83 Directive 2005/32/EC of the European Parliament and of the Council with regard to
84 ecodesign requirements for fluorescent lamps without integrated ballast, for high
85 intensity discharge lamps, and for ballasts and luminaires able to operate such lamps,
86 and repealing Directive 2000/55/EC of the European Parliament and of the Council

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

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When 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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
		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 – Chapter 845: Lighting	-	-
IEC 60061-1	1969	Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps	EN 60061-1	1993
IEC 60081	1997	Double-capped fluorescent lamps – Performance specifications	EN 60081	1998
IEC 60155	1993	Luminaires – Part 1: General requirements and tests	EN 60155	1995
IEC 60598-1	1996	Luminaires – General requirements and tests	EN 60598-1	1997
IEC 60921	1988	Ballasts for tubular fluorescent lamps – Performance requirements	EN 60921	1991
IEC 60927	1996	Auxiliaries for lamps – Starting devices (other than glow starters) – Performance requirements	EN 60927	1996
IEC 60929	1990	AC supplied electronic ballasts for tubular fluorescent lamps – Performance requirements	EN 60929	1992
IEC 61199	1993	Single-capped fluorescent lamps – Safety specifications	EN 61199	1994
IEC/TS 61231	1999	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	-

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132**Annex ZZA**
(informative)**Relationship between this European Standard and the eco-design 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 1.5.8.Z2	Lamp survival factor (LSF)
Annex III, Table 11 and article 1.3(d)	Clause 1.5.8.Z1	Lamp lumen maintenance factor (LLMF)
Annex I, articles 1(a) and 1(f)	Clause 1.5.7.Z2	Chromaticity coordinates (x, y)
Annex III, Table 6, article 1.2 and article 1.3(g)	Clause 1.5.7.Z2	Colour rendering index (CRI)
Annex III, Table 6 and article 1.3(h)	Clause 1.5.7.Z2	Correlated colour temperature (CCT)
Annex I, articles 1(f)	Clause 1.5.2	Caps
Annex III article 1.3(f)	Clause 1.5.Z1	Mercury content

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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.