

Miscellaneous lamps

ICS 29.140.20; 29.140.30

National foreword

This British Standard is the UK implementation of EN 61549:2003+A3:2012. It is identical to IEC 61549:2003, incorporating amendment 3:2012. It supersedes BS EN 61549:2003+A2:2010 which is withdrawn.

The amendment by which each page of the European standard was introduced is indicated by an extension to the shoulder heading at the top of the page (e.g. EN 61549:2003/A2:2010). Where no such extension appears, the page is part of the original European standard.

The UK participation in its preparation was entrusted by Technical Committee CPL/34, Lamps and Related Equipment, to Subcommittee CPL/34/1, Electric lamps.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 24 July 2003

© The British Standards Institution 2012.
Published by BSI Standards Limited 2012

ISBN 978 0 580 75785 3

Amendments/corrigenda issued since publication

Amd. No.	Date	Comments
15781	31 August	Implementation of IEC amendment 1:2005 with CENELEC endorsement A1:2005
	31 July 2010	Implementation of IEC amendment 2:2010 with CENELEC endorsement A2:2010
	31 January 2013	Implementation of IEC amendment 3:2012 with CENELEC endorsement A3:2012

Miscellaneous lamps
(IEC 61549:2003)

Lampes diverses
(CEI 61549:2003)

Sonderlampen
(IEC 61549:2003)

This European Standard was approved by CENELEC on 2003-06-01. 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.

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

This European Standard 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 34A/1027/FDIS, future edition 2 of IEC 61549, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61549 on 2003-06-01.

This European Standard supersedes EN 61549:1996 + A1:1997 + A2:2001.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2004-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-06-01

Endorsement notice

The text of the International Standard IEC 61549:2003 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 34A/1124/FDIS, future amendment 1 to IEC 61549:2003, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61549:2003 on 2005-04-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2006-01-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2008-04-01

Endorsement notice

The text of amendment 1:2005 to the International Standard IEC 61549:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A2

The text of document 34A/1372/FDIS, future amendment 2 to IEC 61549:2003, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 61549:2003 on 2010-05-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-02-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2013-05-01

Endorsement notice

The text of amendment 2:2010 to the International Standard IEC 61549:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A3

The text of document 34A/1568/FDIS, future edition 1 of IEC 61549:2003/A3, prepared by SC 34A, "Lamps", of IEC TC 34, "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61549:2003/A3:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-05-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-08-09

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 61549:2003/A3:2012 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)Normative references to international publications
with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Add:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60081	1997	Double-capped fluorescent lamps -	EN 60081	1998
+ A1 (mod)	2000	Performance specifications	+ A1	2002
+ A2	2003		+ A2	2003
+ A3	2005		+ A3	2005
IEC 60598-1 (mod)	-	Luminaires - Part 1: General requirements and tests	EN 60598-1	-
IEC 60695-2-10	-	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	-
IEC 60921	-	Ballasts for tubular fluorescent lamps - Performance requirements	EN 60921	-
IEC 60929	-	AC-supplied electronic ballasts for tubular fluorescent lamps - Performance requirements	EN 60929	-
IEC 61195	-	Double-capped fluorescent lamps - Safety specifications	EN 61195	-
IEC 61347-2-3	-	Lamp controlgear - Part 2-3: Particular requirements for a.c. supplied electronic ballasts for fluorescent lamps	EN 61347-2-3	-
IEC 61347-2-8	-	Lamp controlgear - Part 2-8: Particular requirements for ballasts for fluorescent lamps	EN 61347-2-8	-
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

MISCELLANEOUS LAMPS

1 Scope

This International Standard specifies lamps, or information relevant to lamps, not given elsewhere in existing IEC lamp standards.

It covers both safety and performance aspects.

NOTE For reasons of flexibility, the information in this loose-leaf publication is given in data sheet format.

2 General requirement

The lamps specified in this standard shall comply with the relevant safety standard, if available.

3 Data sheets

3.1 General principle of numbering of data sheets

The first number represents the number of this standard: 61549, followed by the letters "IEC".

The second number represents the data sheet number.

The third number represents the edition of the page of the data sheet. In cases where a data sheet has more than one page, it is possible for the pages to have different edition numbers with the data sheet number remaining the same.

3.2 List of data sheets

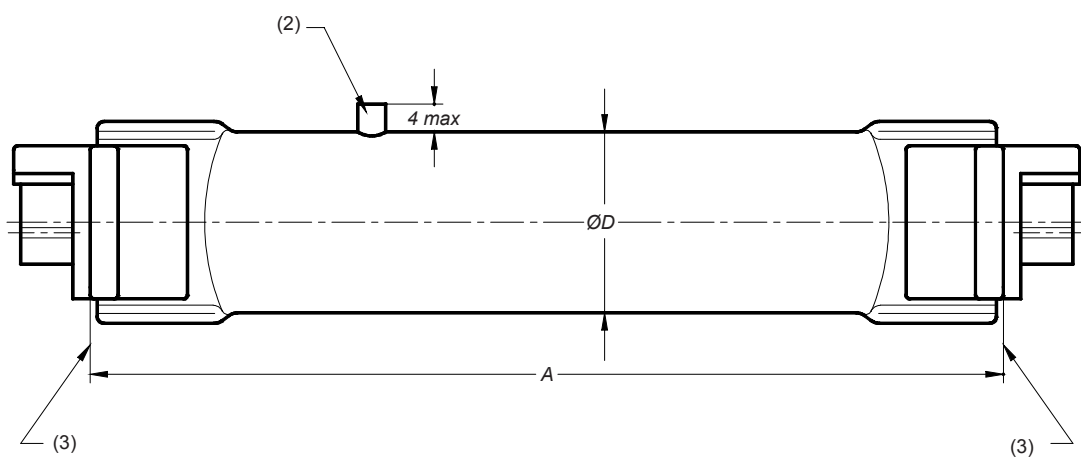
Sheet number	Subject
61549-IEC-110	Double-capped metal halide lamps (Fc2 caps) - Dimensions
61549-IEC-120	Double-capped incandescent lamps (S14s caps) - Dimensions
61549-IEC-130	Double-capped fluorescent lamps (Fa8 caps) - Dimensions
61549-IEC-140	U-shaped double-capped fluorescent lamps (2G13-92 caps) - Dimensions
61549-IEC-150	Double-capped incandescent lamps (S15s) - Dimensions
61549-IEC-310	Germicidal lamps - Symbol
61549-IEC-320	Radiation hazard - Symbol
61549-IEC-330	Lamp operating positions - Symbols
61549-IEC-340	Protect against direct water contact - Symbol
61549-IEC-510	Tungsten filament ELV lamps - Marking
61549-IEC-520	Lamps for lighting chains - Filament position
61549-IEC-710	Xenon flash lamps with ignition transformer
61549-IEC-720	Metal halide lamps for film and television recording
61549-IEC-810	Requirements for double-capped fluorescent fragment retention lamps

DOUBLE-CAPPED METAL HALIDE LAMPS**Dimensions**

Dimensions in millimetres

Caps Fc2 (1)

This drawing gives information for specifying the mounting distance between the two Fc2 lampholders for those double-capped metal halide lamps that are not standardized in IEC 61167.



Nominal wattage W	$A_{\min}$	$A_{\max}$	$D_{\max}$
400	182	183	32,5
1 000	233	234	36,0

(1) See cap sheet 7004-114 of IEC 60061-1 and for holder dimensions and calculation of mounting distances, see sheet 7005-114 of IEC 60061-2.

(2) The position of the exhaust tip is not specified.

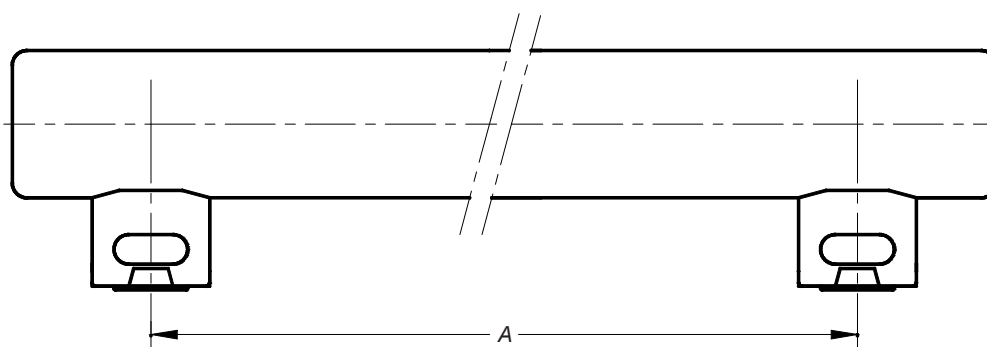
(3) Reference planes of the caps.

DOUBLE-CAPPED INCANDESCENT LAMPS**Dimensions**

Dimensions in millimetres

Caps S14s (1)

This drawing gives information for specifying the mounting distance between the two S14s lampholders for double-capped incandescent lamps.



Nominal mounting distance A	Minimum (2)	Maximum
241	240	242
441	440	442
941	940	942

Without using undue force, the two caps on the finished lamp shall pass simultaneously through a slot, 14,5 mm - 0,02 mm (3) in width and with a minimum length of (A + 26,1) mm (4).

(1) See cap sheet 7004-112 of IEC 60061-1 and, for holder dimensions, see sheet 7005-112 of IEC 60061-2.

(2) In France the minimum mounting distances are 239 mm, 439 mm and 939 mm respectively.

(3) The tolerance applies only to the two end areas of the slot, having a length of 26,1 mm, the centres of which are situated at nominal mounting distance A.

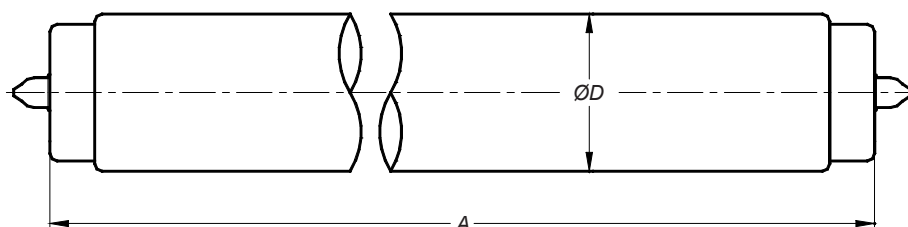
(4) The value of 26,1 mm is equal to cap dimension A_{1max} .

DOUBLE-CAPPED FLUORESCENT LAMPS**Dimensions**

Dimensions in millimetres

Caps Fa8 (1)

This drawing gives information for specifying the mounting distance between the two Fa8 lampholders for those double-capped fluorescent lamps that are not standardized in IEC 60081.



Nominal lamp dimensions	$A_{\max}$	$D_{\max}$
26 × 2 400	2 369,8	27,8
26 × 1 800	1 760,2	27,8
19 × 1 600	1 557,0	20,6
19 × 1 050	998,2	20,6

(1) See cap sheet 7004-57 of IEC 60061-1 and, for holder dimensions and calculation of mounting distances, see sheet 7005-58 of IEC 60061-2.

U-SHAPED DOUBLE-CAPPED FLUORESCENT LAMPS

Dimensions

Dimensions in millimetres

Caps 2G13-92 (1)

This drawing gives information regarding the dimensions of U-shaped double-capped fluorescent lamps that are not standardized in IEC 60081.

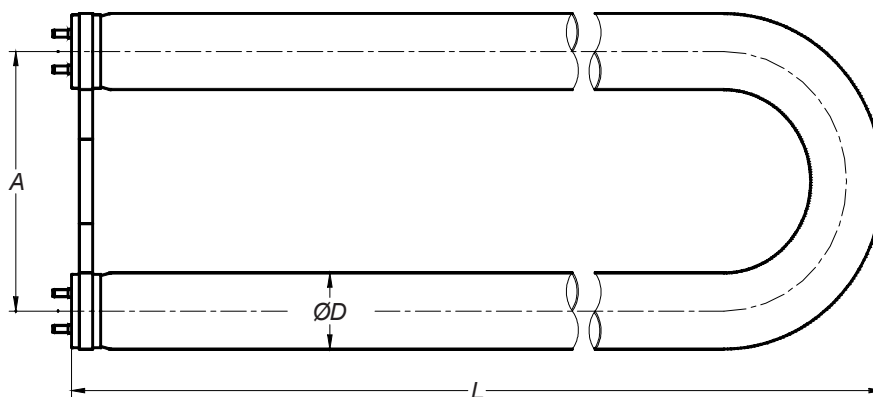


Table 1 – Lamps with 26 mm tube diameter

Nominal wattage W	Dimensions				
	A Nom. (2)	D		L	
		Min.	Max.	Min.	Max.
18	92	23	27	300	310
36				560	570
36				597	607
58				560	570
58				750	765

Table 2 – Lamps with 38 mm tube diameter (3)

Nominal wattage W	Dimensions				
	A Nom. (2)	D		L	
		Min.	Max.	Min.	Max.
20	92	35	39	300	310
40 (4)				597	607
65				560	570
65				750	765

(1) See cap sheet 7004-33 of IEC 60061-1.

(2) For tolerances see gauge sheet 7006-33 of IEC 60061-3.

(3) Lamps with 38 mm tube diameter are not recommended for new luminaire designs.

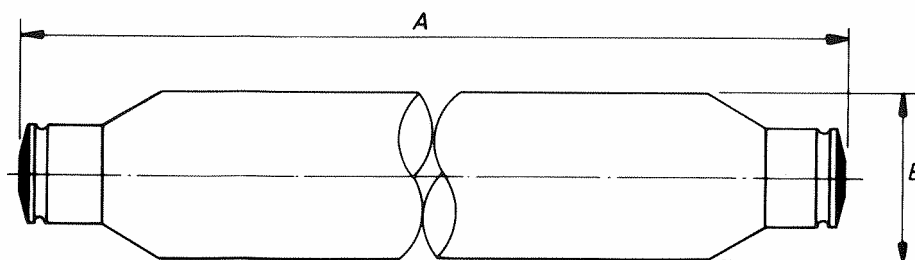
(4) A different 40 W lamp is used in North America with $L_{\min} = 562,1$ mm and $L_{\max} = 572,3$ mm.

DOUBLE –CAPPED INCANDESCENT LAMPS**Dimensions**

Dimensions in millimetres

Caps S15s ⁽¹⁾

This drawing gives information for specifying the mounting distance between the two S15s lampholders for double-capped tubular incandescent lamps.



Nominal lamp dimension	A		B	
	min	max	min	max
221mm lamp	219	223	24	26
284mm lamp	282	286		

Lampholder requirements :

- g) When the lamp is in position, the lampholders shall engage the lamp so that its axis cannot be displaced in any direction at right angles by more than 0,75 mm.
- h) Live parts shall be shielded to prevent accidental contact when the lamp is in position.
- i) When the lamp is not in position the lampholder contact shall not extend beyond the face of the lampholder.
- j) With a lamp of nominal overall length in position the force on the lampholder contacts shall not be greater than 7 N and not less than 3 N.
- k) When introduced into one lampholder and with the lampholder contacts compressed, a lamp of maximum length shall pass the face of the opposing lampholder with a gap of 0,5 mm minimum.
- l) When a lamp of minimum length is held firmly between the pair of opposing lampholder contacts, the movable contact shall be compressed by not less than 1,0 mm. If both lampholders have movable contacts the compression shall be not less than 1,0 mm for each contact.

(1) See cap sheet 7004-60 of IEC 60061-1.

