

STN	Dvojpäťicové svetelné zdroje LED určené ako náhrada (retrofit) za lineárne žiarivky. Požiadavky na bezpečnosť.	STN EN 62776 36 0280
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Double-capped LED lamps designed to retrofit linear fluorescent lamps - Safety specifications

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/15

Obsahuje: EN 62776:2015, IEC 62776:2014, IEC 62776:2014/COR1:2015

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Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2015
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

EUROPEAN STANDARD

EN 62776

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2015

ICS 29.140.99

English Version

**Double-capped LED lamps designed to retrofit linear fluorescent
lamps - Safety specifications
(IEC 62776:2014 + COR1:2015)**

Lampes à LED à deux culots conçues pour remplacer des
lampes à fluorescence linéaires - Spécifications de sécurité
(IEC 62776:2014 + COR1:2015)

Zweiseitig gesockelte LED-Lampen als Ersatz (Retrofit) für
zweiseitig gesockelte Leuchtstofflampen -
Sicherheitsanforderungen
(IEC 62776:2014 + COR1:2015)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 34A/1795/FDIS, future edition 1 of IEC 62776 + corrigendum March 2015, 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 62776:2015.

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) 2015-10-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-01-15

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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 62776:2014 + corrigendum March 2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60529:1989	NOTE	Harmonized as EN 60529:1991 (not modified).
IEC 60529:1989/A1:1999	NOTE	Harmonized as EN 60529:1991/A1:2000 (not modified).
IEC 60529:1989/A2:2013	NOTE	Harmonized as EN 60529:1991/A2:2013 (not modified).
IEC 62471	NOTE	Harmonized as EN 62471.

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>
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 60061-3	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 3: Gauges	EN 60061-3	-
IEC 60061-4	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 4: Guidelines and general information	EN 60061-4	-
IEC 60081	-	Double-capped fluorescent lamps - Performance specifications	EN 60081	-
IEC 60155	-	Glow-starters for fluorescent lamps	EN 60155	-
IEC 60360	-	Standard method of measurement of lamp cap temperature rise	EN 60360	-
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60598-1	-	Luminaires - Part 1: General requirements and tests	EN 60598-1	-
IEC 60695-2-10	2013	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2013
IEC 60695-2-11 + corr. January	2000 2001	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001 ¹⁾

¹⁾ Superseded by EN 60695-2-11:2014 (IEC 60695-2-11:2014): DOW = 2017-03-13.

EN 62776:2015

- 4 -

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60921	-	Ballasts for tubular fluorescent lamps - Performance requirements	EN 60921	-
IEC 61195	-	Double-capped fluorescent lamps - Safety specifications	EN 61195	-
IEC 61347-1	2015	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	201X ²⁾
IEC 61347-2-8	-	Lamp controlgear - Part 2-8: Particular requirements for ballasts for fluorescent lamps	EN 61347-2-8	-
IEC 62031	-	LED modules for general lighting - Safety specifications	EN 62031	-
IEC 62504	-	General lighting - Light emitting diode (LED) products and related equipment - Terms and definitions	EN 62504	-
IEC/TR 62778	-	Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	-	-
ISO 4046-4	2002 ³⁾	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

2) To be published.

3) Withdrawn publication.



INTERNATIONAL STANDARD

NORME INTERNATIONALE

Double-capped LED lamps designed to retrofit linear fluorescent lamps – Safety specifications

Lampes à LED à deux culots conçues pour remplacer des lampes à fluorescence linéaires – Spécifications de sécurité





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Edition 1.0 2014-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Double-capped LED lamps designed to retrofit linear fluorescent lamps – Safety specifications

Lampes à LED à deux culots conçues pour remplacer des lampes à fluorescence linéaires – Spécifications de sécurité

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General requirements and general test requirements.....	9
5 Marking	10
5.1 Marking on the lamp	10
5.2 Marking on the lamp, on the immediate lamp wrapping (or container) or in the instructions	12
5.3 Instruction manual	12
5.3.1 General	12
5.3.2 Declaration of the product.....	12
5.3.3 Graphical instruction.....	13
5.3.4 Mounting	13
5.4 Compliance.....	13
6 Interchangeability	14
6.1 Interchangeability of the cap	14
6.2 Mass.....	14
6.3 Dimensions	14
6.3.1 Requirements	14
6.3.2 Dimensions at 25 °C (non-operating).....	14
6.3.3 Variation of dimension A due to self-heating at 25 °C	15
6.3.4 Dimension B at minimum ambient temperature	15
6.3.5 Dimension A at maximum ambient temperature	15
6.3.6 Compliance	15
6.4 Temperature	15
6.4.1 Temperature requirement	15
6.4.2 Power requirement	16
6.4.3 Compliance	16
6.5 Safety of the lamp in case a wrong starter-lamp combination is used	16
7 Pin-safety during insertion	16
8 Protection against accidental contact with live parts	17
8.1 General.....	17
8.2 Test to establish whether a conductive part may cause an electric shock during operation.....	17
8.3 Insulation resistance	19
8.4 Electric strength.....	19
9 Mechanical requirements for caps	19
9.1 Construction and assembly.....	19
9.2 Torque test on unused lamps.....	19
9.3 Torque test after heat treatment.....	20
9.4 Repetition of 8.2	20
10 Cap temperature rise.....	20
11 Resistance to heat.....	21

12	Resistance to flame and ignition	22
13	Fault conditions	22
13.1	General.....	22
13.2	Testing under extreme electrical conditions	22
13.3	Short-circuit across capacitors	23
13.4	Fault conditions across electronic components	23
13.5	Compliance.....	23
13.6	Further requirements	24
13.7	Safety of the lamp with different types of controlgear	24
13.8	Compliance for test with different types of controlgear	25
13.9	Safety of the lamp in case the luminaire controlgear short circuits	25
14	Creepage distances and clearances	25
15	Lamp with protection against dust and moisture	25
15.1	Aim of the test	25
15.2	Thermal endurance	26
15.3	IP testing	26
16	Photobiological hazard	26
16.1	UV radiation.....	26
16.2	Blue light hazard.....	26
16.3	Infrared radiation	26
Annex A	(informative) Conformity testing during manufacture	27
A.1	Background and recommended procedure	27
A.2	Testing	27
	Bibliography.....	28
	Figure 1 – Lamp suitable for high frequency operation	10
	Figure 2 – Lamp suitable for 50 Hz or 60 Hz operation.....	11
	Figure 3 – Lamp not suitable for emergency operation	11
	Figure 4 – LED replacement starter	11
	Figure 5 – Lamp to be used in dry conditions or in a luminaire that provides protection	12
	Figure 6 – Dimming not allowed.....	12
	Figure 7 – Schematic steps of removing a fluorescent lamp and inserting a double-capped LED lamp designed to retrofit linear fluorescent lamp	13
	Figure 8 – Test configuration for touch current measurement.....	17
	Figure 9 – Standard test finger (according to IEC 60529).....	18
	Figure 10 – Ball-pressure test apparatus.....	21
	Table 1 – Interchangeability gauges and lamp cap dimensions	14
	Table 2 – Torque values for unused lamps.....	20
	Table 3 – Torque values after heating treatment	20
	Table 4 – Minimum LED lamp impedances.....	24
	Table A.1 – Minimum values for electrical tests.....	27

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DOUBLE-CAPPED LED LAMPS DESIGNED
TO RETROFIT LINEAR FLUORESCENT LAMPS –
SAFETY SPECIFICATIONS**

FOREWORD

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International Standard IEC 62776 has been prepared by subcommittee 34A: Lamps, of IEC of IEC technical committee 34: Lamps and related equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
34A/1795/FDIS	34A/1816/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this standard, the following print types are used:

- requirements proper: in roman type.
- *test specifications: in italic type.*
- Notes: in small roman type.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Double-capped fluorescent lamps are installed in big volume in office lighting, street lighting, industrial lighting and much more. Double-capped LED lamps are intended as a possible replacement for G5- or G13-capped fluorescent lamps. This standard safeguards that the change from fluorescent lamp to LED lamp and the backward change from LED lamp to fluorescent lamp is carried out with safe LED lamps and under specified exchange conditions.

The establishing of a safety standard for double-capped LED lamps does not exclude future relocation as a part of IEC 60968, self-ballasted lamps (if re-edited as an umbrella standard), and further inclusion of requirements for conversion type double-capped LED lamps.

This proposal covers double-capped LED lamps with cap G5 and G13 only, where the fluorescent tube is replaced by a tubular LED lamp, without modifications to the luminaire. Only in case of electromagnetic controlgear, the starter is replaced by a LED starter.

DOUBLE-CAPPED LED LAMPS DESIGNED TO RETROFIT LINEAR FLUORESCENT LAMPS – SAFETY SPECIFICATIONS

1 Scope

This International Standard specifies the safety and interchangeability requirements, and the exchange operation together with the test methods and conditions required to show compliance of double-capped LED lamps with G5 and G13 caps, intended for replacing fluorescent lamps with the same caps, having:

- a rated power up to 125 W;
- a rated voltage of up to 250 V.

Such LED lamps are designed for replacement without requiring any internal modification of the luminaire.

The existing luminaires, into which the double-capped LED lamps are fitted, can be operated with electromagnetic or electronic controlgear.

The requirements of this standard relate only to type testing.

Recommendations for whole product testing or batch testing are given in Annex A.

NOTE 1 Where in this standard the term “lamp(s)” is used, it is understood to stand for “double-capped retrofit LED lamp(s)”, except where it is obviously assigned to other types of lamps.

This standard does not cover double-capped conversion LED lamps where modification in the luminaire is required. The requirements in this standard are given for general lighting service (excluding for example explosive atmospheres). For lamps for other applications additional requirements may apply.

NOTE 2 This standard includes photobiological safety.

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.

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps*

IEC 60061-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges*

IEC 60061-4, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 4: Guidelines and general information*

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

IEC 60155, *Glow-starters for fluorescent lamps*

IEC 60360, *Standard method of measurement of lamp cap temperature rise*

IEC 60417, *Graphical symbols for use on equipment* (available at <http://www.graphical-symbols.info/equipment>)

IEC 60598-1, *Luminaires – Part 1: General requirements and tests*

IEC 60695-2-10:2013, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods; Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2000¹, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end products*

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

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

IEC 61347-1:—², *Lamp controlgear – Part 1: General and safety requirements*

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

IEC 62031, *LED modules for general lighting – Safety specifications*

IEC 62504, *General lighting - Light emitting diode (LED) products and related equipment - Terms and definitions*

IEC TR 62778, *Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires*

ISO 4046-4:2002, *Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

¹ First edition. This edition has been replaced in 2014 by IEC 60695-2-11:2014, *Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)*

² To be published.

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