VALGUSTID. OSA 1: ÜLDNÕUDED JA KATSETUSED

Luminaires - Part 1: General requirements and tests

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60598-1:2021 sisaldab Euroopa standardi EN IEC 60598-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60598-1:2021 consists of the English text of the European standard EN IEC 60598-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.03.2021.	Date of Availability of the European standard is 19.03.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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Luminaires - Part 1: General requirements and tests (IEC 60598-1:2020)

Luminaires - Partie 1: Exigences générales et essais (IEC 60598-1:2020)

Leuchten - Teil 1: Allgemeine Anforderungen und Prüfungen (IEC 60598-1:2020)

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

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European foreword

The text of document 34D/1546/FDIS, future edition 9 of IEC 60598-1, prepared by SC 34D "Luminaires" of IEC/TC 34 "Lighting" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60598-1:2021.

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) 2021-09-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-03-19

This document supersedes EN 60598-1:2015 and all of its amendments and corrigenda (if any).

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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 Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60598-1:2020 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 60079 (series)	NOTE	Harmonized as EN IEC 60079-7:2015/A1 (series)
IEC 60081	NOTE	Harmonized as EN 60081
IEC 60216 (series)	NOTE	Harmonized as EN 60216 (series)
IEC 60228:2004	NOTE	Harmonized as EN 60228:2005 (not modified)
IEC 60269 (series)	NOTE	Harmonized as EN 60269 (series)
IEC 60357	NOTE	Harmonized as EN 60357
IEC 60364 (series)	NOTE	Harmonized as HD 60364 (series)
IEC 60364-4-41:2005	NOTE	Harmonized as HD 60364-4-41:2017
IEC 60364-5-51	NOTE	Harmonized as HD 60364-5-51
IEC 60364-7-701	NOTE	Harmonized as HD 60364-7-701
IEC 60364-7-702	NOTE	Harmonized as HD 60364-7-702
IEC 60400	NOTE	Harmonized as EN 60400

IEC 60432-3	NOTE	Harmonized as EN 60432-3
IEC 60598-2-3	NOTE	Harmonized as EN 60598-2-3
IEC 60598-2-5	NOTE	Harmonized as EN 60598-2-5
IEC 60634	NOTE	Harmonized as EN 60634
IEC 60664 (series)	NOTE	Harmonized as EN 60664 (series)
IEC 60664-1:2007	NOTE	Harmonized as EN 60664-1:2007 (not modified)
IEC 60664-3	NOTE	Harmonized as EN 60664-3
IEC 60682	NOTE	Harmonized as EN 60682
IEC 60695 (series)	NOTE	Harmonized as EN 60695 (series)
IEC 60695-2 (series)	NOTE	Harmonized as EN 60695-2-13:2010/A1 (series)
IEC 60695-10-2	NOTE	Harmonized as EN 60695-10-2
IEC 60838 (series)	NOTE	Harmonized as EN 60838 (series)
IEC 60901	NOTE	Harmonized as EN 60901
IEC 60921	NOTE	Harmonized as EN 60921
IEC 60923	NOTE	Harmonized as EN 60923
IEC 60929	NOTE	Harmonized as EN 60929
IEC 60950-1:2005	NOTE	Harmonized as EN 60950-1:2006
IEC 61184	NOTE	Harmonized as EN 61184
IEC 61195	NOTE	Harmonized as EN 61195
IEC 61199:2011	NOTE	Harmonized as EN 61199:2011 (not modified)
IEC 61199:2011/A1:2012	NOTE	Harmonized as EN 61199:2011/A1:2013 (not modified)
IEC 61199:2011/A2:2014	NOTE	Harmonized as EN 61199:2011/A2:2015 (not modified)
IEC 61210	NOTE	Harmonized as EN 61210
IEC 61558-2-5	NOTE	Harmonized as EN 61558-2-5
IEC 61995 (series)	NOTE	Harmonized as EN 61995-2:2009/A1 (series)
IEC 62031	NOTE	Harmonized as EN IEC 62031
IEC 62035	NOTE	Harmonized as EN 62035
IEC 62368 (series)	NOTE	Harmonized as EN IEC 62368 (series)
IEC 62471:2006	NOTE	Harmonized as EN 62471:2008
IEC 62504:2014	NOTE	Harmonized as EN 62504:2014 (not modified)

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
IEC 60061	Series	Lamp caps and holders together with gauges for the control of interchangeability and safety	EN 60061	Series
IEC 60061-2 (mod)		Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 2: Lampholders	EN 60061-2 + A1 to A54	1993
IEC 60061-3		Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 3: Gauges	EN 60061-3 + A1 to A56	1993
IEC 60065 (mod)	2014	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + A11	2014 2017
IEC 60068-2-6	2007	Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-14	2009	Environmental testing – Part 2-14: Tests – Test N: Change of temperature	EN 60068-2-14	2009
IEC 60068-2-31	2008	Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	2008
IEC 60068-2-75		Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC/TR 60083	–	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	–	–
IEC 60085		Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60155		Glow-starters for fluorescent lamps	EN 60155 + A1 + A2	1995 1995 2007

Publication	Year	Title	EN/HD	Year
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	EN 50525 [1]	Series
IEC 60238	2016	Edison screw lampholders	EN IEC 60238	2018
IEC 60245	series	Rubber insulated cables - Rated voltages up to and including 450/750 V	EN 50525 [2]	series
IEC 60320	Series	Appliance couplers for household and similar general purposes	EN 60320	Series
IEC 60360		Standard method of measurement of lamp cap temperature rise	EN 60360	1998
IEC 60384-14		Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14 + A1	2013 2016
IEC 60417	data-base	Graphical symbols for use on equipment	-	-
IEC 60432-1 (mod) A1 A2	1999 2005 2011	Incandescent lamps - Safety specifications - Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1 A1 A2	2000 2005 2012
IEC 60432-2 (mod) A1 (mod) A2	1999 2005 2012	Incandescent lamps - Safety specifications - Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes	EN 60432-2 A1 A2	2000 2005 2012
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May + A1 + A2	1991 1993 2000 2013
IEC 60570 (mod)	2003	Electrical supply track systems for luminaires	EN 60570	2003
+ A1	2017		+ A1	2018
+ A2	2019		+ A2	2020
IEC 60598-2	series	Luminaires - Part 2: Particular requirements	EN 60598-2	series
IEC 60598-2-4 (mod)	2017	Luminaires - Part 2: Particular requirements - Section 4: Portable general purpose luminaires	EN 60598-2-4	2018
IEC 60603	series	Connectors for frequencies below 3 MHz for use with printed boards	EN 60603	series
IEC 60662 (mod)	-	High pressure sodium vapour lamps	EN 60662 + A11	2012 2019
IEC 60664-4	2005	Insulation coordination for equipment within low-voltage systems - Part 4: Consideration of high-frequency voltage stress	EN 60664-4	2006
-	-		+ corrigendum Oct. 2006	

[1] EN 50525 Series, which is related to, but not directly equivalent with IEC 60227 Series, applies instead.

[2] EN 50525 Series, which is related to, but not directly equivalent with IEC 60245 Series, applies instead.

Publication	Year	Title	EN/HD	Year
IEC 60684	series	Flexible insulating sleeving	EN 60684	series
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	EN 60695-2-11	2014
IEC 60695-11-5	-	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2017
IEC 60989	-	Separating transformers, autotransformers, variable transformersand reactors.	-	-
IEC 60990	-	Methods of measurement of touch current and protective conductor current	EN 60990	2016
IEC 60998-2-1	-	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	EN 60998-2-1	2004
IEC 60998-2-2	-	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	EN 60998-2-2	2004
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61058-1	2000	Switches for appliances -- Part 1: General requirements	EN 61058-1	2002[3]
IEC 61167	-	Metal halide lamps	EN 61167	2018
			+ A1	2018
IEC 61249	series	Materials for printed boards and other interconnecting structures	EN 61249	series
IEC 61347	series	Lamp controlgear	EN 61347	series
IEC 61347-1	2015	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2015
+ A1	2017		+ A1	2021
IEC 61347-2-9	-	Lamp controlgear - Part 2-9: Particular requirements for electromagnetic controlgear for discharge lamps (excluding fluorescent lamps)	EN 61347-2-9	2013
IEC 61535 (mod)	2009	Installation couplers intended for permanent connection in fixed installations	EN 61535	2009
IEC 61558	series	Safety of power transformers, power supplies, reactors and similar products	EN 61558	series
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products -- Part 1: General requirements and tests	EN 61558-1	2005

[3] EN 61058-1 includes A1:2001 to IEC 61058-1 (mod).

Publication	Year	Title	EN/HD	Year
-	-		+ corrigendum Aug.	2006
IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	2009
IEC 61643-11	-	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods	EN 61643-11 + A11	2012 2018
IEC 61984	2008	Connectors - Safety requirements and tests	EN 61984	2009
IEC 62368-3	2017	Audio/video, information and communication technology equipment - Part 3: Safety aspects for DC power transfer through communication cables and ports	EN IEC 62368-3	2020
IEC 62493	2015	Assessment of lighting equipment related to human exposure to electromagnetic fields	EN 62493	2015
IEC 62680	series	Universal Serial Bus interfaces for data and power	EN 62680	series
IEC/TR 62778	-	Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	IEC/TR 62778	2014
IEC 80416-1	-	Basic principles for graphical symbols for use on equipment - Part 1: Creation of graphical symbols for registration	EN 80416-1	2009

Annex ZZ
(informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Table ZZ.1 — Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1. General conditions		
a) the essential characteristics, the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document;	Section 3	To be used in conjunction with relevant part 2
b) the electrical equipment, together with its component parts, shall be made in such a way as to ensure that it can be safely and properly assembled and connected;	Section 4	To be used in conjunction with relevant part 2
c) the electrical equipment shall be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 is assured, providing that the equipment is used in applications for which it was made and is adequately maintained.	See item 2 and 3 of this table	

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
2. Protection against hazards arising from the electrical equipment Measures of a technical nature shall be laid down in accordance with point 1, in order to ensure that:		
a) persons and domestic animals are adequately protected against the danger of physical injury or other harm which might be caused by direct or indirect contact;	Section 4 Section 7 Section 14 and 15 Section 5 Section 8	All to be used in conjunction with relevant part 2
b) temperatures, arcs or radiation which would cause a danger, are not produced;	Section 4 Section 11 Section 12 Section 10	All to be used in conjunction with relevant part 2
c) persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience;	Section 4 Section 10 Section 11	All to be used in conjunction with relevant part 2
d) the insulation is suitable for foreseeable conditions.	Section 9 Section 10	All to be used in conjunction with relevant part 2
3. Protection against hazards which may be caused by external influences on the electrical equipment Technical measures shall be laid down in accordance with point 1, in order to ensure that the electrical equipment:		
a) meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered;	Section 3 Section 4	All to be used in conjunction with relevant part 2
b) is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered;	Section 9 Section 13	All to be used in conjunction with relevant part 2
c) does not endanger persons, domestic animals and property in foreseeable conditions of overload.	Section 4 Section 12	All to be used in conjunction with relevant part 2

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 product(s) falling within the scope of this standard.

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INTERNATIONAL STANDARD

Luminaires –
Part 1: General requirements and tests

IEC 60598-1:2020-08(en)

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL STANDARD

Luminaires –
Part 1: General requirements and tests

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LUMINAIRES –

Part 1: General requirements and tests

FOREWORD

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This edition includes the following significant technical changes with respect to the previous edition:

a) Revision of Clause 4.30, Fixing cover live parts of non-user replaceable light source;
b) Subclause 4.24.2, Blue Light Hazard: removal of Risk Group 0;
c) Subclause 5.2.16: additional requirements for AC mains appliance inlets related to IEC 61984;
d) Addition of Subclause 3.3.25, UV protection of cable;
e) Addition of Clause 4.34, Inclusion of EMF safety requirements (IEC 62493);