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Ljusarmatur – Säkerhet – Del 1: Allmänna fordringar och provning

*Luminaires –
Part 1: General requirements and tests*

Som svensk standard gäller europastandarden EN 60598-1:2008. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60598-1:2008.

Nationellt förord

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English version

**Luminaires -
Part 1: General requirements and tests
(IEC 60598-1:2008, modified)**

Luminaires -
Partie 1: Exigences générales
et essais
(CEI 60598-1:2008, modifiée)

Leuchten -
Teil 1: Allgemeine Anforderungen
und Prüfungen
(IEC 60598-1:2008, modifiziert)

This European Standard was approved by CENELEC on 2008-10-21. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 34D/889/FDIS, future edition 7 of IEC 60598-1, prepared by SC 34D, Luminaires, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, prepared by the Technical Committee CENELEC TC 34Z, Luminaires and associated equipment, covering the needed common modifications towards IEC 60598-1:2008 (34D/889/FDIS) was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 60598-1 on 2008-10-21.

This European Standard supersedes EN 60598-1:2004 + A1:2006 + corrigendum August 2007.

The major changes which may affect certification are given in Annex R. Annex R shows where a new text has been included which contains more serious/critical requirements requiring products to be re-tested.

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) 2009-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-04-12

NOTE In this standard, the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Annexes ZA, ZB and ZC have been added by CENELEC.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60061 (mod)	Series	Lamp caps and holders together with gauges for the control of interchangeability and safety	EN 60061	Series
IEC 60061-2 (mod)	– ¹⁾	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 2: Lampholders	EN 60061-2 + A1 to A37	1993 ²⁾
IEC 60061-3	data-base	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 3: Gauges	EN 60061-3 + A1 to A38	1993 ²⁾
IEC 60065 (mod)	2001	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + corr. August	2002 2007
IEC 60068-2-75	– ¹⁾	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997 ²⁾
IEC 60079 (mod)	Series	Explosive atmospheres	EN 60079	Series
IEC 60083	– ¹⁾	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	–	–
IEC 60085	– ¹⁾	Thermal evaluation and designation of electrical insulation	EN 60085	2008 ²⁾
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60155	– ¹⁾	Glow-starters for fluorescent lamps	EN 60155	1995 ²⁾
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21 ³⁾	Series
IEC 60238	2004	Edison screw lampholders	EN 60238 + corr. January	2004 2005

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

³⁾ The HD 21 series, *Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation*, is related to, but not directly equivalent with the IEC 60227 series.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60245	Series	Rubber insulated cables - Rated voltages up to and including 450/750 V	HD 22 ⁴⁾	Series
IEC 60269 (mod)	Series	Low-voltage fuses	EN/HD 60269	Series
IEC 60320	Series	Appliance couplers for household and similar general purposes	EN 60320	Series
IEC 60357 (mod)	- ¹⁾	Tungsten halogen lamps (non-vehicle) - Performance specifications	EN 60357 + corr. July	2003 ²⁾ 2003
IEC 60360	- ¹⁾	Standard method of measurement of lamp cap temperature rise	EN 60360	1998 ²⁾
IEC 60364-4-41 (mod)	2005	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41 + corr. July	2007 2007
IEC 60384-14	- ¹⁾	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	2005 ²⁾
IEC 60400	- ¹⁾	Lampholders for tubular fluorescent lamps and starterholders	EN 60400	2008 ²⁾
IEC 60417	data-base	Graphical symbols for use on equipment	-	-
IEC 60432-1 (mod) A1	1999 2005	Incandescent lamps - Safety specifications - Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1 A1	2000 2005
IEC 60432-2 (mod) A1 (mod)	1999 2005	Incandescent lamps - Safety specifications - Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes	EN 60432-2 A1	2000 2005
IEC 60432-3	- ¹⁾	Incandescent lamps - Safety specifications - Part 3: Tungsten-halogen lamps (non-vehicle)	EN 60432-3	2003 ²⁾
IEC 60449 + A1	1973 1979	Voltage bands for electrical installations of buildings	HD 193 S2	1982
IEC 60529	- ¹⁾	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 ²⁾ 1993
IEC 60570 (mod)	2003	Electrical supply track systems for luminaires	EN 60570	2003
IEC 60598-2 (mod)	Series	Luminaires - Part 2: Particular requirements	EN 60598-2	Series
IEC 60598-2-4	1997	Luminaires - Part 2: Particular requirements - Section 4: Portable general purpose luminaires	EN 60598-2-4	1997

⁴⁾ The HD 22 series, *Cables of rated voltages up to and including 450/750 V and having cross-linked insulation*, is related to, but not directly equivalent with the IEC 60245 series.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60634	– ¹⁾	Heat test source (H.T.S.) lamps for carrying out heating tests on luminaires	EN 60634	1995 ²⁾
IEC 60662 (mod)	– ¹⁾	High pressure sodium vapour lamps	EN 60662	1993 ²⁾
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60682	– ¹⁾	Method of measuring the pinch temperature of quartz glass lamps	EN 60682	1993 ²⁾
IEC 60684	Series	Flexible insulating sleeving	EN 60684	Series
IEC 60695-2	Series	Fire hazard testing - Part 2: Glowing/hot-wire based test methods	EN 60695-2	Series
IEC 60695-2-10	– ¹⁾	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001 ²⁾
IEC 60695-11-5	– ¹⁾	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005 ²⁾
IEC 60838	Series	Miscellaneous lampholders	EN 60838	Series
IEC 60989	– ¹⁾	Separating transformers, autotransformers, variable transformers and reactors	–	–
IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61058-1 (mod)	2000	Switches for appliances - Part 1: General requirements	EN 61058-1 ⁵⁾	2002
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
IEC 61167	– ¹⁾	Metal halide lamps	EN 61167	1994 ²⁾
IEC 61184	– ¹⁾	Bayonet lampholders	EN 61184	2008 ²⁾
IEC 61199	1999	Single-capped fluorescent lamps - Safety specifications	EN 61199	1999
IEC 61249	Series	Materials for printed boards and other interconnecting structures	EN 61249	Series
IEC 61347 (mod)	Series	Lamp controlgear	EN 61347	Series
IEC 61347-2-9	– ¹⁾	Lamp controlgear - Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)	EN 61347-2-9 + corr. July	2001 ²⁾ 2003
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1 + corr. August	2005 2006

⁵⁾ EN 61058-1 includes A1:2001 to IEC 61058-1 (mod).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61558-2 (mod)	Series	Safety of power transformers, power supplies, reactors and similar products - Part 2: Particular requirements	EN 61558-2	Series
IEC 61558-2-5	- ¹⁾	Safety of power transformers, power supply units and similar - Part 2-5: Particular requirements for shaver transformers and shaver supply units	EN 61558-2-5 + A11	1998 ²⁾ 2004
IEC 61558-2-6	- ¹⁾	Safety of power transformers, power supply units and similar - Part 2-6: Particular requirements for safety isolating transformers for general use	EN 61558-2-6	1997 ²⁾
IEC 62031	- ¹⁾	LED modules for general lighting - Safety specifications	EN 62031	2008 ²⁾
IEC 62035 (mod)	- ¹⁾	Discharge lamps (excluding fluorescent lamps) - Safety specifications	EN 62035	2000 ²⁾
IEC 62471 (mod)	- ¹⁾	Photobiological safety of lamps and lamp systems	EN 62471	2008 ²⁾
IEC 80416-1	- ¹⁾	Basic principles for graphical symbols for use on equipment - Part 1: Creation of symbol originals	EN 80416-1	2001 ²⁾
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

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LUMINAIRES –

Part 1: General requirements and tests

SECTION 0: GENERAL INTRODUCTION

0.1 Scope and object

This Part 1 of International Standard IEC 60598 specifies general requirements for luminaires, incorporating electric light sources for operation from supply voltages up to 1 000 V. The requirements and related tests of this standard cover: classification, marking, mechanical construction and electrical construction.

Each section of this Part 1 is read in conjunction with this Section 0 and with other relevant sections to which reference is made.

Each part of IEC 60598-2 details requirements for a particular type of luminaire or group of luminaires on supply voltages not exceeding 1 000 V. These parts are published separately for ease of revision and additional sections will be added as and when a need for them is recognized.

Attention is drawn to the fact that this Part 1 covers all aspects of safety (electrical, thermal and mechanical).

The presentation of photometric data for luminaires is under consideration by the International Commission on Illumination (CIE) and is not, therefore, included in this Part 1.

Requirements are included in this Part 1 for luminaires incorporating ignitors with nominal peak values of the voltage pulse not exceeding those of Table 11.2. The requirements apply to luminaires with ignitors built into ballasts and to luminaires with ignitors separate from ballasts. For luminaires with ignitors built into lamps, the requirements are under consideration.

Requirements for semi-luminaires are included in this Part 1.

In general, this Part 1 covers safety requirements for luminaires. The object of this Part 1 is to provide a set of requirements and tests which are considered to be generally applicable to most types of luminaires and which can be called up as required by the detail specifications of IEC 60598-2. This Part 1 is thus not regarded as a specification in itself for any type of luminaire, and its provisions apply only to particular types of luminaires to the extent determined by the appropriate part of IEC 60598-2.

The parts of IEC 60598-2, in making reference to any of the sections of Part 1, specify the extent to which that section is applicable and the order in which the tests are to be performed; they also include additional requirements as necessary.

The order in which the sections of Part 1 are numbered has no particular significance as the order in which their provisions apply is determined for each type of luminaire or group of luminaires by the appropriate part of IEC 60598-2. All parts of IEC 60598-2 are self-contained and therefore do not contain references to other parts of IEC 60598-2.

Where the requirements of any of the sections of Part 1 are referred to in the parts of IEC 60598-2 by the phrase "The requirements of section... of IEC 60598-1 apply", this phrase is to be interpreted as meaning that all the requirements of that section of Part 1 apply except those which are clearly inapplicable to the particular type of luminaire covered by that part of IEC 60598-2.

For explosion proof luminaires, as covered by IEC 60079, the requirements of IEC 60598 (selecting the appropriate parts 2) are applied in addition to the requirements of IEC 60079. In the event of any conflict between IEC 60598 and IEC 60079, the requirements of IEC 60079 take priority.

Attention is drawn to lamp performance standards which contain "information for luminaire design"; this should be followed for proper lamp operation; however, this standard does not require the testing of lamp performance as part of the type test approval for luminaires.

Improvements in safety to take into account the state of the art technology are incorporated in the standards with revisions and amendments on an ongoing basis. Regional standardisation bodies may include statements in their derived standards to cover products which have complied with the previous document as shown by the manufacturer or standardization body. The statements may require that for such products, the previous standard may continue to apply to production until a defined date after which the new standard shall apply.

0.2 Normative references

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.

IEC 60061, *Lamp caps and holders together with gauges for the control of interchangeability and safety*

IEC 60061-2, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders*

IEC 60061-3:2007, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges*

IEC 60065:2001, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60079 (all parts), *Electrical apparatus for explosive gas atmospheres*

IEC 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*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60155, *Glow-starters for fluorescent lamps*

IEC 60227(all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60238:2004, *Edison screw lampholders*