

INTERNATIONAL STANDARD

Luminaires – **iTeh STANDARD PREVIEW**
Part 1: General requirements and tests
(standards.iteh.ai)

IEC 60598-1:2020

<https://standards.iteh.ai/catalog/standards/sist/938ea5d5-b7f3-434a-872f-7190c345d3a1/iec-60598-1-2020>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2020 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

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

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

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

[IEC 60598-1:2020](https://standards.iec.ch/catalog/standards/sist/938ea5d5-b7b-434a-872f-7190c345d3a1/iec-60598-1-2020)

<https://standards.iec.ch/catalog/standards/sist/938ea5d5-b7b-434a-872f-7190c345d3a1/iec-60598-1-2020>

INTERNATIONAL STANDARD

Luminaires – iTeh STANDARD PREVIEW
Part 1: General requirements and tests
(standards.iteh.ai)

IEC 60598-1:2020
<https://standards.iteh.ai/catalog/standards/sist/938ea5d5-b7f3-434a-872f-7190c345d3a1/iec-60598-1-2020>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.140.40

ISBN 978-2-8322-8682-1

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	9
SECTION 0: GENERAL INTRODUCTION	12
0.1 Scope	12
0.2 Normative references	13
0.3 General requirements	16
0.4 General test requirements and verification	16
0.5 Components of luminaires	17
0.6 List of parts of IEC 60598-2	18
0.7 Information for luminaire design in light sources standards	19
SECTION 1: TERMS AND DEFINITIONS	20
1.1 General	20
1.2 Terms and definitions	20
SECTION 2: CLASSIFICATION OF LUMINAIRES	36
2.1 General	36
2.2 Classification according to type of protection against electric shock	36
2.3 Classification according to degree of protection against ingress of dust, solid objects and moisture	36
2.4 Classification according to material of supporting surface for which the luminaire is designed	36
2.5 Classification according to the circumstances of use	37
SECTION 3: MARKING	38
3.1 General	38
3.2 Marking on luminaires	38
3.3 Additional information	44
3.4 Test of marking	47
SECTION 4: CONSTRUCTION	48
4.1 General	48
4.2 Replaceable components	48
4.3 Wireways	48
4.4 Lampholders	48
4.5 Starterholders	50
4.6 Terminal blocks	50
4.7 Terminals and supply connections	51
4.8 Switches	53
4.9 Insulating linings and sleeves	53
4.10 Double and reinforced insulation	54
4.11 Electrical connections and current-carrying parts	56
4.12 Screws and connections (mechanical) and glands	57
4.13 Mechanical strength	60
4.14 Suspensions, fixings and means of adjustment	63
4.15 Flammable materials	67
4.16 Luminaires for mounting on normally flammable surfaces	68
4.17 Drain holes	70
4.18 Resistance to corrosion	70
4.19 Igniters	70
4.20 Rough service luminaires – Vibration requirements	71

4.21	Protective shield	71
4.22	Attachments to lamps.....	72
4.23	Semi-luminaires	72
4.24	Photobiological hazards	72
4.25	Mechanical hazard	73
4.26	Short-circuit protection	73
4.27	Terminal blocks with integrated screwless protective earthing contacts	74
4.28	Fixing of thermal sensing controls	74
4.29	Luminaire with non-replaceable light source.....	75
4.30	Luminaires with non-user replaceable light sources	75
4.31	Insulation between circuits	75
4.32	Overvoltage protective devices	77
4.33	Luminaire powered via information technology communication cabling.....	78
4.34	Electromagnetic fields (EMF)	78
4.35	Protection against moving fan blades	78
4.36	Track-mounted luminaires	78
SECTION 5: EXTERNAL AND INTERNAL WIRING		79
5.1	General.....	79
5.2	Supply connection and other external wiring	79
5.3	Internal wiring	87
5.4	Test to determine suitability of conductors having a reduced cross-sectional area	89
SECTION 6: Void		91
SECTION 7: PROVISION FOR EARTHING		92
7.1	General.....	92
7.2	Provision for earthing.....	92
SECTION 8: PROTECTION AGAINST ELECTRIC SHOCK		95
8.1	General.....	95
8.2	Protection against electric shock.....	95
SECTION 9: RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		99
9.1	General.....	99
9.2	Tests for ingress of dust, solid objects and moisture	99
9.3	Humidity test.....	103
SECTION 10: INSULATION RESISTANCE AND ELECTRIC STRENGTH, TOUCH CURRENT AND PROTECTIVE CONDUCTOR CURRENT		105
10.1	General.....	105
10.2	Insulation resistance and electric strength	105
10.3	Touch current, protective conductor current and electric burn	109
SECTION 11: CREEPAGE DISTANCES AND CLEARANCES		111
11.1	General.....	111
11.2	Creepage distances and clearances.....	111
SECTION 12: ENDURANCE TEST AND THERMAL TEST.....		115
12.1	General.....	115
12.2	Selection of lamps and ballasts.....	115
12.3	Endurance test.....	115
12.4	Thermal test (normal operation)	117
12.5	Thermal test (abnormal operation)	122
12.6	Thermal test (failed windings in lamp controlgear)	127

12.7	Thermal test in regard to fault conditions in lamp controlgear or electronic devices incorporated in thermoplastic luminaires	129
SECTION 13: RESISTANCE TO HEAT, FIRE AND TRACKING.....		132
13.1	General.....	132
13.2	Resistance to heat.....	132
13.3	Resistance to flame and ignition	132
13.4	Resistance to tracking.....	133
SECTION 14: SCREW TERMINALS.....		134
14.1	General.....	134
14.2	Terms and definitions.....	134
14.3	General requirements and basic principles.....	135
14.4	Mechanical tests	137
SECTION 15: SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS.....		141
15.1	General.....	141
15.2	Terms and definitions.....	141
15.3	General requirements	141
15.4	General instructions on tests.....	143
15.5	Terminal and connections for internal wiring	143
15.6	Terminals and connections for external wiring.....	146
Annex A (normative) Test to establish whether a conductive part can cause an electric shock.....		173
Annex B (normative) Test lamps.....		174
B.1	General.....	174
B.2	Filament lamps within the scope of IEC 60432-1 and IEC 60432-2.....	174
B.3	Halogen lamps within the scope of IEC 60432-3.....	176
B.4	Tubular fluorescent and other discharge lamps.....	176
B.5	LED modules within the scope of IEC 62031	176
Annex C (normative) Abnormal circuit conditions		177
Annex D (normative) Thermal testing		180
D.1	Draught-proof enclosure	180
D.2	Mounting surface and test recess.....	180
D.3	Alternative test procedure for adjustment of measured temperatures for luminaire t_a rating(s).....	183
Annex E (normative) Determination of winding temperature rises by the increase-in-resistance method		185
Annex F (normative) Test for resistance to stress corrosion of copper and copper alloys.....		186
F.1	Test cabinet.....	186
F.2	Test solution	186
F.3	Test piece	186
F.4	Test procedure.....	186
Annex G (normative) Measurement of touch current and protective conductor current		188
Annex H (xxx) (Void).....		192
Annex I (xxx) (Void)		193
Annex J (informative) Explanation of IP numbers for degrees of protection		194
Annex K (informative) Temperature measurement.....		196
K.1	Temperature measurements of the luminaire	196
K.2	Temperature measurement of the insulation parts of lampholders	197

Annex L (informative) Guidelines for good practice in luminaire design	199
L.1 General.....	199
L.2 Plastics in luminaires	199
L.3 Rust resistance	200
L.4 Corrosion resistance	200
L.5 Chemically corrosive atmospheres	201
L.6 Reflector design.....	201
L.7 Components in different kinds of luminaires	202
L.8 Recommendations for electromagnetic ballast protection for end of life phenomenon of HID lamps	202
L.9 Resistance against the effects of vibration	203
L.10 Flammability of components.....	203
Annex M (normative) Determination of creepage distances and clearances	204
Annex N (informative) Explanation of marking for luminaires that are not suitable for mounting on normally flammable surfaces and covering with insulation materials	205
N.0 General.....	205
N.1 Protection against flame	205
N.2 Protection against heat	205
N.3 Thermal protectors.....	206
N.4 Deletion of the F mark requirements	207
Annex O (xxx) (Void)	208
Annex P (normative) Absorption requirements for the protective shield to be fitted to luminaires designed for metal halide lamps which emit a high level of UV radiation	209
P.1 General.....	209
P.2 Procedure A.....	209
P.3 Procedure B.....	210
Annex Q (informative) Conformity testing during manufacture	211
Q.1 General.....	211
Q.2 Testing	211
Annex R (normative) Schedule of amended clauses and subclauses containing more serious/critical requirements which call for products to be retested	213
Annex S (normative) Requirements for the identification of a family or range of luminaires for type testing	214
S.1 General.....	214
S.2 Range or family of luminaires.....	214
Annex T (xxx) (Void)	215
Annex U (informative) Additional requirements for luminaires where a higher degree of availability (impulse withstand category III) may be requested	216
U.1 General.....	216
U.2 Requirements for impulse withstand category III	216
Annex V (normative) Additional test requirements for terminal blocks with integrated screwless protective earthing contact for direct connection to the luminaire housing or to parts of the body	218
V.1 Additional requirements to 7.2.1.....	218
V.2 Additional requirements to 7.2.3.....	218
Annex W (normative) Alternative thermal test for thermoplastic luminaires.....	220
W.1 Thermal test in regard to fault conditions in lamp controlgear or electronic devices without temperature sensing controls in thermoplastic luminaires for fluorescent lamps ≤ 70 W	220

Annex X (normative) Requirements for insulation between active parts of circuits and accessible conductive parts	222
Annex Y (informative) Information regarding power sourcing equipment powering class III luminaires via information technology communication cabling	224
Y.0 General.....	224
Y.1 Insulation of the mains supply	224
Y.2 Electrical limits of a PSE	224
Bibliography.....	226
Figure 34 – Circuit for checking electrical contact between socket outlet and plug	85
Figure 33 – Test to determine suitability of conductors having a reduced cross-sectional area	90
Figure 1 – Symbols	149
Figure 2 – Terminal block arrangement for installation test for luminaires with connecting leads (tails)	152
Figure 3 – Void	152
Figure 4 – Illustration of the requirements of 4.15	152
Figure 5 – Void	152
Figure 6 – Apparatus for proving protection against dust.....	153
Figure 7 – Apparatus for testing protection against rain and splashing	154
Figure 8 – Nozzle for spray test	155
Figure 9 – Relation between winding temperature and mounting surface temperature.....	156
Figure 10 – Ball-pressure apparatus	157
Figure 11 – Arrangement and dimensions of the electrodes for the tracking test	157
Figure 12 – Pillar terminals	158
Figure 13 – Screw terminals and stud terminals	159
Figure 14 – Saddle terminals	161
Figure 15 – Lug terminals	162
Figure 16 – Mantle terminals.....	163
Figure 17 – Construction of electrical connections	164
Figure 18 – Examples of spring-type screwless terminals	164
Figure 19 – Further examples of screwless terminals	165
Figure 20 – Illustration of the terms "lopping-in" and "through wiring"	166
Figure 21 – Apparatus for ball impact tests	167
Figure 22 – Examples of self-tapping, thread-cutting and thread-forming screws (from ISO 1891)	167
Figure 23 – Void	167
Figure 24 – Illustration of creepage and clearance measurements at a supply terminal.....	168
Figure 25 – Void	168
Figure 26 – Test circuit for safety during insertion.....	168
Figure 27 – Ignition temperatures of wood as a function of time	169
Figure 28 – Example of permitted degree of soldering	170
Figure 29 – Test chain	170
Figure 30 – Example of a thread forming screw used in a groove of a metallic material	171
Figure 31 – Electro-mechanical contact system with plug/socket connection.....	172

Figure 32 – Test circuit for luminaires incorporating fluorescent lamp ≤ 70 W	172
Figure C.1 – Circuit for testing rectifying effect (some capacitive starterless ballasts only)	178
Figure C.2 – Circuit for testing rectifying effect (ballasts for single pin lamps)	178
Figure C.3 – Circuit for testing rectifying effect of some high pressure sodium and some metal halide lamps	179
Figure D.1 – Example of test recess where a luminaire comprises separate parts, in accordance with Clause D.2 a)	181
Figure D.2 – Example of test recess where a luminaire comprises separate parts, in accordance with Clause D.2 b)	182
Figure D.3 – Correct test box size (insulating ceilings) for settable and adjustable luminaires	183
Figure G.1 – Test configuration: single-phase equipment on star TN or TT system	190
Figure G.2 – Measuring network, touch current weighted for perception or reaction	190
Figure G.3 – Measuring network, touch current weighted for let-go (for portable class I luminaires)	191
Figure G.4 – Measuring network, weighted for high frequency	191
Figure K.1 – Placing of thermocouples on a typical lampholder	198
Figure V.1 – Arrangement for voltage drop test	219
Figure X.1 – Declaration of U_{supply} and U_{out} and the insulation barriers between the light source and accessible parts	222
<p>IT-60 STANDARD PREVIEW (standards.iteh.ai)</p>	
Table 3.1 – Marking	39
Table 3.2 – Identification of extra-low-voltage DC leads and terminations	41
Table 4.6 – Overview of required Y capacitors	55
Table 4.1 – Torque tests on screws	58
Table 4.2 – Torque tests on cable glands	60
Table 4.3 – Impact energy and spring compression	61
Table 4.4 – Test on semi-luminaires	65
Table 4.5 – Test on adjusting devices	66
Table 5.1 – Supply cord	80
Table 5.3 – Wiring dimension	81
Table 5.2 – Tests for cord anchorage	84
Table 9.1 – Solid-object-proof luminaire test	101
Table 10.1 – Minimum insulation resistance	106
Table 10.2 – Electric strength	108
Table 10.3 – Limits of touch current or protective conductor current and electric burn	110
Table 11.1.A – Minimum creepage distances for AC sinusoidal voltages up to 30 kHz (to be used in conjunction with Annex M)	113
Table 11.1.B – Minimum clearance for working voltages (to be used in conjunction with Annex M)	114
Table 11.2 – Minimum distances for ignition pulse voltages or equivalent peak voltage U_p	114
Table 12.1 – Maximum temperatures under the test conditions of 12.4.2, for principal parts	120
Table 12.2 – Maximum temperatures under the test conditions of 12.4.2, for common materials used in luminaires	122

Table 12.3 – Maximum temperatures under the test conditions of 12.5.1	125
Table 12.4 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for lamp controlgear	126
Table 12.5 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for lamp controlgear marked "D6"	126
Table 12.6 – Temperature overshoot time limitation	128
Table 14.1 – Nominal cross-sectional areas of conductors according to terminal sizes	136
Table 14.2 – Nominal cross-sectional areas of conductors according to maximum current	136
Table 14.3 – Composition of conductors	137
Table 14.4 – Torque to be applied to screws and nuts	139
Table 14.5 – Pull to be applied to conductor	140
Table 15.1 – Conductor rating	146
Table 15.2 – Conductor pull force	147
Table F.1 – pH value of the test solution	186
Table G.1 – Position of switch e, n and p for the measurements of the different classes of luminaires	189
Table J.1 – Degrees of protection indicated by the first characteristic numeral	194
Table J.2 – Degrees of protection indicated by the second characteristic numeral	195
Table L.1 – Damaging influences	199
Table M.1 – Determination of creepage distances and clearances (see Table 11.1)	204
Table N.1 – Guidance on when to use the symbol and its explanation on the luminaire or in the manufacturer's instructions provided with the luminaire	205
Table N.2 – Thermal protection operation	207
Table Q.1 – Minimum values for electrical tests	212
Table U.1 – Minimum clearance distances for AC sinusoidal working voltages impulse withstand category III	216
Table U.2 – Overview of required Y capacitors	217
Table X.1 – Insulation requirements between active parts and accessible conductive parts	223
Table Y.1 – Limits for the electrical parameters of a PSE	224
Table Y.2 – Electrical parameters for communication cable/connectors	225

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LUMINAIRES –

Part 1: General requirements and tests

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60598-1 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment.

This ninth edition cancels and replaces the eighth edition published in 2014 and Amendment 1:2017. This edition constitutes a technical revision.

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);

- f) Revision of the requirements for functional earth and protective earth;
- g) Addition of Clause 4.35, Protection against fast rotating parts;
- h) Revision of Clause 3.2, Rated voltage marking;
- i) Revision of Subclause 5.2.10, Cord anchorage;
- j) Revision of Annex G for touch current and protective conductor current test set-up;
- k) Addition of requirements for constant light output function and programmable current output;
- l) Revision of Subclause 8.2.3 c), touch voltage limits for interrupted DC voltage;
- m) Introduction of PELV;
- n) Introduction of Ethernet power supply connection for luminaires (PoE);
- o) Section 9, Introduction of IPX9;
- p) Addition of Subclause 3.3.26 for wall mounted luminaires;
- q) Revision of Annex D introducing alternative thermal tests for luminaires with t_a marking higher than 25°C;
- r) Revision of Table 10.3 and Subclause 3.3.19 for protective conductor current limits;
- s) Track-mounted luminaires: cross reference to Annex A of IEC 60570:2003/AMD2:2019;
- t) Revision of Subclause 10.2.2, alternative DC electric strength test;
- u) Revision of Annex D for recessed luminaires;
- v) Subclause 4.12.5: revision of Table 4.2 for torque test on metal glands;
- w) Revision of use of bridging capacitors in luminaires;
- x) Revision of electrical connection to class III plugs.

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 text of this International Standard is based on the following documents:

FDIS	Report on voting
34D/1546/FDIS	34D/1560/RVD

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

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

A list of all parts in the IEC 60598 series, published under the general title *Luminaires*, can be found on the IEC website.

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

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

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[IEC 60598-1:2020](https://standards.iteh.ai/catalog/standards/sist/938ea5d5-b7f3-434a-872f-7190c345d3a1/iec-60598-1-2020)

<https://standards.iteh.ai/catalog/standards/sist/938ea5d5-b7f3-434a-872f-7190c345d3a1/iec-60598-1-2020>

LUMINAIRES –

Part 1: General requirements and tests

SECTION 0: GENERAL INTRODUCTION

0.1 Scope

This Part 1 of 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 document cover: classification, marking, mechanical construction, electrical construction and photobiological safety.

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.

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 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 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.

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 standardization bodies can 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 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.

IEC 60061 (all parts), *Lamp caps and holders together with gauges for the control of interchangeability and safety* (available at <http://std.iec.ch/iec60061>)

IEC 60061-2, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders* (available at <http://std.iec.ch/iec60061>)

IEC 60061-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges* (available at <http://std.iec.ch/iec60061>)

IEC 60065:2014, *Audio, video and similar electronic apparatus – Safety requirements*
<https://standards.iteh.ai/catalog/standards/sist/938ea5d5-b7b3-434a-872f-7190c345d3a1/iec-60598-1-2020>

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14:2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-31:2008, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

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

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*

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 60238:2016, *Edison screw lampholders*