

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

Luminaires – **Partie 1: Exigences générales et essais**
IEC 60598-1:2014
<https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 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.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
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 corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

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 also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 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 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: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.



IEC 60598-1

Edition 8.0 2014-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

Luminaire – IEC 60598-1:2014
Partie 1: Exigences générales et essais
<https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE XH
CODE PRIX

ICS 29.140.40

ISBN 978-2-8322-1553-1

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC 60598-1
Edition 8.0 2014-05

LUMINAIRES –

Part 1: General requirements and tests

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
34D/1197/ISH	34D/1207/RVD

IEC 60598-1:2014

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

INTRODUCTION (not part of the proposal)

Changes introduced in IEC 60598-1 Ed.8.0 were made urgently to address completely new designs of LED luminaire that are entering the market. Some further alignment with the already existing previous requirements of the standard are still needed and this will be addressed for Amendment 1 to Edition 8 that is now in preparation.

PROPOSAL

To publish Interpretation Sheet on Clause 4.31; Clause 10; Clause 11; Annex M and Annex X of IEC 60598-1:2014 (Ed. 8.0), *Luminaires – Part 1: General requirements and tests*, as follows:

INTERPRETATION SHEET

Clause 4.31; Clause 10; Clause 11; Annex M and Annex X of
IEC 60598-1:2014 (Ed. 8.0), *Luminaires – Part 1: General requirements and tests*

For insulation requirements between active (current carrying/live) parts and accessible parts, Table X.1 of Annex X is to be taken as the definitive reference of the required insulation that is to be provided. Furthermore, the details prescribed by Table X.1 are to be used as the basis for establishing the 'working voltage' that is to be considered for application of the electric strength tests of Clause 10 and Creepage and Clearance requirements of Clause 11.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[IEC 60598-1:2014](https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014)

<https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014>

CONTENTS

FOREWORD.....	9
SECTION 0: GENERAL INTRODUCTION.....	11
0.1 Scope	11
0.2 Normative references	12
0.3 General requirements.....	15
0.4 General test requirements and verification.....	15
0.5 Components of luminaires	16
0.6 List of parts of IEC 60598-2.....	17
SECTION 1: TERMS AND DEFINITIONS	18
1.1 General.....	18
1.2 Terms and definitions	18
SECTION 2: CLASSIFICATION OF LUMINAIRES.....	31
2.1 General.....	31
2.2 Classification according to type of protection against electric shock	31
2.3 Classification according to degree of protection against ingress of dust, solid objects and moisture.....	31
2.4 Classification according to material of supporting surface for which the luminaire is designed.....	31
2.5 Classification according to the circumstances of use	32
SECTION 3: MARKING	32
3.1 General.....	32
3.2 Marking on luminaires	32
3.3 Additional information	37
3.4 Test of marking	39
SECTION 4: CONSTRUCTION.....	40
4.1 General.....	40
4.2 Replaceable components	40
4.3 Wireways	40
4.4 Lampholders	40
4.5 Starterholders	42
4.6 Terminal blocks.....	42
4.7 Terminals and supply connections	43
4.8 Switches	45
4.9 Insulating linings and sleeves	45
4.10 Double and reinforced insulation.....	46
4.11 Electrical connections and current-carrying parts	47
4.12 Screws and connections (mechanical) and glands	48
4.13 Mechanical strength	51
4.14 Suspensions, fixings and means of adjustment.....	54
4.15 Flammable materials	58
4.16 Luminaires for mounting on normally flammable surfaces	59
4.17 Drain holes.....	60
4.18 Resistance to corrosion.....	60
4.19 Ignitors.....	61
4.20 Rough service luminaires – Vibration requirements.....	61
4.21 Protective shield.....	61

4.22	Attachments to lamps	62
4.23	Semi-luminaires	63
4.24	Photobiological hazards	63
4.25	Mechanical hazard	64
4.26	Short-circuit protection	64
4.27	Terminal blocks with integrated screwless earthing contacts	64
4.28	Fixing of thermal sensing controls	64
4.29	Luminaire with non replaceable light source	65
4.30	Luminaires with non-user replaceable light sources	65
4.31	Insulation between circuits	65
4.32	Overvoltage protective devices	68
SECTION 5: EXTERNAL AND INTERNAL WIRING		68
5.1	General	68
5.2	Supply connection and other external wiring	68
5.3	Internal wiring	73
SECTION 6: Not used		76
SECTION 7: PROVISION FOR EARTHING		76
7.1	General	76
7.2	Provision for earthing	76
SECTION 8: PROTECTION AGAINST ELECTRIC SHOCK		78
8.1	General	78
8.2	Protection against electric shock	78
SECTION 9: RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		82
9.1	General	82
9.2	Tests for ingress of dust, solid objects and moisture	82
9.3	Humidity test	86
SECTION 10: INSULATION RESISTANCE AND ELECTRIC STRENGTH, TOUCH CURRENT AND PROTECTIVE CONDUCTOR CURRENT		86
10.1	General	86
10.2	Insulation resistance and electric strength	87
10.3	Touch current, protective conductor current and electric burn	90
SECTION 11: CREEPAGE DISTANCES AND CLEARANCES		91
11.1	General	91
11.2	Creepage distances and clearances	91
SECTION 12: ENDURANCE TEST AND THERMAL TEST		94
12.1	General	94
12.2	Selection of lamps and ballasts	94
12.3	Endurance test	94
12.4	Thermal test (normal operation)	96
12.5	Thermal test (abnormal operation)	101
12.6	Thermal test (failed windings in lamp control gear)	105
12.7	Thermal test in regard to fault conditions in lamp control gear or electronic devices incorporated in thermoplastic luminaires	107
SECTION 13: RESISTANCE TO HEAT, FIRE AND TRACKING		110
13.1	General	110
13.2	Resistance to heat	110
13.3	Resistance to flame and ignition	110
13.4	Resistance to tracking	111

SECTION 14: SCREW TERMINALS	112
14.1 General	112
14.2 Terms and definitions	112
14.3 General requirements and basic principles	113
14.4 Mechanical tests	115
SECTION 15: SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS.....	118
15.1 General	118
15.2 Terms and definitions	119
15.3 General requirements	119
15.4 General instructions on tests	120
15.5 Terminal and connections for internal wiring	121
15.6 Terminals and connections for external wiring	123
Annex A (normative) Test to establish whether a conductive part may cause an electric shock.....	151
Annex B (normative) Test lamps.....	152
B.1 General	152
B.2 Filament lamps within the scope of IEC 60432-1 and IEC 60432-2	152
B.2.1 Principal modes of heat transfer and lamps used for testing	152
B.2.2 Filament test lamps.....	152
B.3 Halogen lamps within the scope of IEC 60432-3	154
B.4 Tubular fluorescent and other discharge lamps	154
B.5 LED modules within the scope of IEC 62031	154
Annex C (normative) Abnormal circuit conditions	155
Annex D (normative) Draught-proof enclosure.....	158
Annex E (normative) Determination of winding temperature rises by the increase-in-resistance method.....	161
Annex F (normative) Test for resistance to stress corrosion of copper and copper alloys	162
F.1 Test cabinet	162
F.2 Test solution	162
F.3 Test piece	162
F.4 Test procedure.....	163
Annex G (normative) Measurement of touch current and protective conductor current).....	164
Annex H (Void).....	168
Annex I (Void).....	169
Annex J (informative) Explanation of IP numbers for degrees of protection	170
Annex K (informative) Temperature measurement	172
K.1 Temperature measurements of the luminaire	172
K.2 Temperature measurement of the insulation parts of lampholders.....	173
Annex L (informative) Guide to good practice in luminaire design.....	175
L.1 General	175
L.2 Plastics in luminaires.....	175
L.3 Rust resistance	176
L.4 Corrosion resistance	176
L.5 Chemically corrosive atmospheres	177
L.6 Reflector design	177
L.7 Components in different kinds of luminaires.....	178
L.8 Recommendations for electromagnetic ballast protection for end of life phenomenon of HID lamps	179

L.9	Resistance against the effects of vibration	179
L.10	Flammability of components	179
Annex M (normative)	Determination of creepage distances and clearances	180
Annex N (informative)	Explanation of marking for luminaires that are not suitable for mounting on normally flammable surfaces and covering with insulation materials	181
N.0	General	181
N.1	Protection against flame	181
N.2	Protection against heat	181
N.2.1	Spacing	182
N.2.2	Temperature measurements of mounting surface under abnormal or failed ballast conditions	182
N.3	Thermal protectors	183
N.4	Deletion of the F mark requirements	184
Annex O (Void)	185
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	186
P.1	General	186
P.2	Procedure A	186
P.3	Procedure B	187
Annex Q (informative)	Conformity testing during manufacture	188
Q.1	General	188
Q.2	Testing	188
Annex R (normative)	Schedule of amended subclauses containing more serious/critical requirements which require products to be retested	190
Annex S (normative)	Requirements for the identification of a family or range of luminaires for type testing	191
S.1	General	191
S.2	Range or family of luminaires	191
Annex T (informative)	Reference to Class 0	192
T.1	General	192
T.2	Definition	192
T.3	Requirements and tests	192
Annex U (informative)	Creepage and clearances distances for luminaires where a higher degree of availability (impulse withstand category III) may be requested	193
U.1	General	193
U.2	Requirements for impulse withstand category III	193
Annex V (normative)	Additional test requirements for terminal blocks with integrated screwless earthing contact for direct connection to the luminaire housing or to parts of the body	195
V.1	Additional requirements to 7.2.1	195
V.2	Additional requirements to 7.2.3	195
Annex W (normative)	Alternative thermal test for thermoplastic luminaires	197
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	197
Annex X (normative)	199
Bibliography	201
Figure 1 – Symbols (1 of 2)	128

Figure 2 – Terminal block arrangement for installation test for luminaires with connecting leads (tails)	129
Figure 3 – <i>This figure has been withdrawn from the present edition.</i>	129
Figure 4 – Illustration of the requirements of 4.15	130
Figure 5 – <i>This figure has been withdrawn from the present edition.</i>	130
Figure 6 – Apparatus for proving protection against dust.....	131
Figure 7 – Apparatus for testing protection against rain and splashing	132
Figure 8 – Nozzle for spray test.....	133
Figure 9 – Relation between winding temperature and mounting surface temperature	134
Figure 10 – Ball-pressure apparatus	135
Figure 11 – Arrangement and dimensions of the electrodes for the tracking test	135
Figure 12 – Pillar terminals.....	136
Figure 13 – Screw terminals and stud terminals (1 of 2).....	137
Figure 14 – Saddle terminals.....	139
Figure 15 – Lug terminals.....	140
Figure 16 – Mantle terminals	141
Figure 17 – Construction of electrical connections	142
Figure 18 – Examples of spring-type screwless terminals	142
Figure 19 – Further examples of screwless terminals	143
Figure 20 – Illustration of the terms “lopping-in” and “through wiring”	144
Figure 21 – Apparatus for ball impact tests.....	145
Figure 22 – Examples of self-tapping, thread-cutting and thread-forming screws (from ISO 1891)	145
Figure 23 – <i>This figure has been withdrawn from the present edition.</i>	145
Figure 24 – Illustration of creepage and clearance measurements at a supply terminal	146
Figure 25 – Tumbling barrel	146
Figure 26 – Test circuit for safety during insertion.....	147
Figure 27 – Ignition temperatures of wood as a function of time	147
Figure 28 – Example of permitted degree of soldering	148
Figure 29 – Test chain	148
Figure 30 – Example of a thread forming screw used in a groove of a metallic material.....	149
Figure 31 – Electro-mechanical contact system with plug/socket connection	150
Figure 32 – Test circuit for luminaires incorporating fluorescent lamp ≤ 70 W	150
Figure C.1 – Circuit for testing rectifying effect (some capacitive starterless ballasts only)	156
Figure C.2 – Circuit for testing rectifying effect (ballasts for single pin lamps)	156
Figure C.3 – Circuit for testing rectifying effect of some high pressure sodium and some metal halide lamps.....	157
Figure D.1 – Example of test recess where a luminaire comprises separate parts	159
Figure D.2 – Correct test box size (insulating ceilings) for settable and adjustable luminaires	160
Figure G.1 – Test configuration: single-phase equipment on star TN or TT system.....	166
Figure G.2 – Measuring network, touch current weighted for perception or reaction	166
Figure G.3 – Measuring network, touch current weighted for let-go (for portable class I luminaires).....	166

Figure G.4 – Measuring network, weighted for high frequency protective conductor currents	167
Figure K.1 – Placing of thermocouples on a typical lampholder	174
Figure V.1 – Arrangement for voltage drop test.....	196
Figure X.1 – Declaration of LV_{supply} and U_{out} and the insulation barriers between the light source and accessible parts.....	199
Table 3.1 – Marking	33
Table 4.1 – Torque tests on screws	49
Table 4.2 – Torque tests on glands.....	51
Table 4.3 – Impact energy and spring compression	52
Table 4.4 – Test on semi-luminaires	56
Table 4.5 – Test on adjusting devices.....	57
Table 5.1 – Supply cord.....	69
Table 5.2 – Tests for cord anchorage	72
Table 9.1 – Solid-object-proof luminaire test.....	84
Table 10.1 – Minimum insulation resistance.....	88
Table 10.2 – Electric strength.....	90
Table 10.3 – Limits of touch current or protective conductor current and electric burn	91
Table 11.1 – Minimum distances for a.c. (50/60 Hz) sinusoidal voltages (to be used in conjunction with Annex M).....	93
Table 11.2 – Minimum distances for sinusoidal or non-sinusoidal pulse voltages.....	94
Table 12.1 – Maximum temperatures under the test conditions of 12.4.2, for principal parts (1 of 2)	99
Table 12.2 – Maximum temperatures under the test conditions of 12.4.2, for common materials used in luminaires (1 of 2)	100
Table 12.3 – Maximum temperatures under the test conditions of 12.5.1.....	103
Table 12.4 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for lamp control gear	104
Table 12.5 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for lamp control gear marked “D6”	104
Table 12.6 – Temperature overshoot time limitation.....	106
Table 14.1 – Nominal cross-sectional areas of conductors according to terminal sizes.....	114
Table 14.2 – Nominal cross-sectional areas of conductors according to maximum current.....	114
Table 14.3 – Composition of conductors	115
Table 14.4 – Torque to be applied to screws and nuts	117
Table 14.5 – Pull to be applied to conductor	118
Table 15.1 – Conductor rating	124
Table 15.2 – Conductor pull force.....	124
Table F.1 – pH value of the test solution.....	162
Table G.1 – Position of switch e, n and p for the measurements of the different classes of luminaires	165
Table J.1 – Degrees of protection indicated by the first characteristic numeral	170
Table J.2 – Degrees of protection indicated by the second characteristic numeral	171
Table L.1 – Damaging influences.....	175

Table M.1 – Determination of creepage distances and clearances (see Table 11.1) 180

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 181

Table N.2 – Thermal protection operation 183

Table Q.1 – Minimum values for electrical tests 189

Table U.1 – Minimum distances for a.c. (50/60 Hz) sinusoidal voltages impulse
withstand category III 194

Table X.1 – Insulation requirements between active parts and accessible conductive
parts 200

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[IEC 60598-1:2014](#)

<https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014>

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 eighth edition cancels and replaces the seventh edition published in 2008. This edition constitutes a technical revision and includes the following significant technical changes with respect to the previous edition:

- a) requirements to support the construction methods for new LED luminaires entering the market;
- b) photobiological requirements extended;
- c) more precise requirements for insulation between different types of electrical circuit;
- d) other general updates and improvements.

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 standard is based on the following documents:

FDIS	Report on voting
34D/1110/FDIS	34D/1121/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.

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

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

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

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, <https://standards.iteh.ai/catalog/standards/sist/db117d3e-8930-4fbd-be63-245b89d5202a/iec-60598-1-2014>
- replaced by a revised edition, or
- amended.

The contents of the corrigenda 1 (October 2015), 2 (December 2015) and 3 (May 2017), and the interpretation sheet 1 (May 2016) have been included in this copy.

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.

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 standard 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 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.