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## REDLINE VERSION

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### Ljusarmatur – Säkerhet – Del 1: Allmänna fordringar och provning

*Luminaires –  
Part 1: General requirements and tests*

En så kallad ”Redline version” (RLV) innehåller både standarden som fastställts som SS och en ändringsmarkerad IEC-standard. Alla tillägg och borttagningar sedan den tidigare utgåvan av IEC-standarderna är markerade med färg. Med en RLV sparar du mycket tid när du ska identifiera och bedöma aktuella ändringar i standarderna. SEK Svensk Elstandard kan bara ge ut RLV i de fall den finns tillgänglig från IEC.



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REDLINE VERSION

# INTERNATIONAL STANDARD



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## Luminaires – Part 1: General requirements and tests

INTERNATIONAL  
ELECTROTECHNICAL  
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## CONTENTS

FOREWORD.....	12
<del>SECTION 0:</del> INTRODUCTION.....	15
1 Scope.....	16
2 Normative references .....	17
3 <del>SECTION 1:</del> Terms and definitions .....	21
4 General requirements .....	47
4.1 General.....	47
4.2 General test requirements and verification .....	47
4.3 Components of luminaires.....	49
4.4 Information for luminaire design in light sources and controlgear standards .....	50
5 <del>SECTION 2:</del> Classification of luminaires .....	50
5.1 General.....	50
5.2 Classification according to the type of protection against electric shock .....	50
5.3 Classification according to the degree of protection against ingress of dust, solid objects and moisture .....	51
5.4 Classification according to the material of the mounting surface for which the luminaire is designed .....	51
5.5 Classification according to the circumstances of use.....	51
6 <del>SECTION 3:</del> Marking .....	51
6.1 General.....	51
6.2 Marking on luminaires .....	51
6.3 Information to be marked on luminaires .....	53
6.4 Additional information .....	62
6.5 Test of marking .....	68
7 <del>SECTION 4:</del> Construction .....	68
7.1 General.....	68
7.2 Replaceable components .....	68
7.3 Wireways .....	68
7.4 Lampholders .....	69
7.5 Starterholders .....	70
7.6 Terminal blocks.....	71
7.7 Terminals and supply connections .....	71
7.8 Switches .....	73
7.9 Insulating linings and sleeves .....	74
7.10 Double and reinforced insulation.....	75
7.11 Electrical connections and current-carrying parts .....	77
7.12 Screws, connections (mechanical) and glands .....	79
7.13 Mechanical strength.....	82
7.14 Suspensions, fixings and means of adjustment .....	85
7.15 Flammable materials.....	88
7.16 Luminaires for mounting on normally flammable surfaces .....	91
7.17 Drain holes .....	93
7.18 Resistance to corrosion .....	93
7.19 Ignitors .....	94
7.20 Rough service luminaires — <del>Vibration requirements</del> .....	94
7.21 Protective shield .....	96
7.22 Attachments to lamps.....	96

7.23	Semi-luminaires .....	97
7.24	Photobiological hazards .....	97
7.24.1	Actinic UV hazards for skin and eye (200 nm to 400 nm) .....	98
7.24.2	UV-A hazard for the eye lens (315 nm to 400 nm).....	98
7.24.3	Retinal blue light hazard .....	98
7.24.4	Retinal thermal hazard (380 nm to 1 400 nm) .....	100
7.24.5	Infrared hazard for the eye (780 nm to 3 000 nm) .....	100
7.24.6	Thermal hazard for the skin (380 nm to 3 000 nm) .....	100
7.25	Mechanical hazard.....	100
7.26	Short-circuit protection.....	100
7.27	Terminal blocks with integrated screwless protective earthing contacts.....	101
7.28	Fixing of thermal sensing controls.....	101
7.29	Luminaires with non-replaceable light sources .....	102
7.30	Luminaires with non-user replaceable light sources and non-user serviceable components.....	102
7.31	Insulation between circuits .....	103
7.31.1	General .....	103
7.31.2	SELV or PELV circuits .....	103
7.31.3	FELV circuits .....	104
7.31.4	Other circuits.....	105
7.31.5	Additional requirements for luminaires using controllable controlgear providing SELV output(s).....	105
7.32	Overvoltage protective devices external to controlgear .....	106
7.32.1	General .....	106
7.32.2	Surge protective devices (SPDs) .....	106
7.32.3	Surge protective components (SPCs) .....	106
7.33	Luminaire powered via information technology communication cabling.....	108
7.34	Electromagnetic fields (EMF) .....	109
7.35	Protection against moving fan blades.....	109
7.36	Track-mounted luminaires.....	109
8	<del>SECTION 5:</del> External and internal wiring .....	109
8.1	General.....	109
8.2	Supply connection and other external wiring .....	109
8.3	Internal wiring .....	118
8.4	Test to determine the suitability of conductors having a reduced cross-sectional area .....	121
<del>SECTION 6: Void.....</del>		
9	<del>SECTION 7:</del> Provision for earthing .....	123
9.1	General.....	123
9.2	Provision for earthing.....	123
10	<del>SECTION 8:</del> Protection against electric shock .....	126
10.1	General.....	126
10.2	Protection against electric shock.....	126
11	<del>SECTION 9:</del> Resistance to dust, solid objects and moisture .....	130
11.1	General.....	130
11.2	General conditions and tests for <del>ingress of dust, solid objects and moisture</del> IP classification.....	130
11.2.1	General .....	130
11.2.2	Tests for first characteristics IP numerals 2, 3 and 4.....	132

11.2.3	Tests for first characteristic IP numeral 5 and 6 .....	132
11.2.4	Drip-proof luminaires – Tests for second characteristic IP numeral 1 .....	133
11.2.5	Drip-proof luminaires – Tests for second characteristic IP numeral 2 .....	134
11.2.6	Rain-proof luminaires – Tests for second characteristic IP numeral 3 .....	134
11.2.7	Splash-proof luminaires – Tests for second characteristic IP numeral 4 .....	135
11.2.8	Jet-proof luminaires – Tests for second characteristic IP numeral 5 .....	135
11.2.9	Powerful jet-proof luminaires – Tests for second characteristic IP numeral 6 .....	136
11.2.10	Watertight luminaires – Tests for second characteristic IP numeral 7 .....	136
11.2.11	Pressure watertight luminaires – Tests for second characteristic IP numeral 8 .....	137
11.2.12	High pressure and temperature water jet-proof luminaires – Tests for second characteristic IP numeral 9 (80 °C) .....	137
11.2.13	High pressure and cold water jet-proof luminaires – Tests for second characteristic IP numeral 9 (15 °C) .....	137
11.3	Humidity test .....	137
12	<del>SECTION 10:</del> Insulation resistance and electric strength, touch current and protective conductor current .....	138
12.1	General .....	138
12.2	Insulation resistance and electric strength .....	138
12.2.1	General .....	138
12.2.2	Test – Insulation resistance .....	139
12.2.3	Test – Electric strength .....	140
12.3	Touch current, protective conductor current and electric burn .....	142
13	<del>SECTION 11:</del> Creepage distances and clearances .....	143
13.1	General .....	143
13.2	Requirements .....	144
13.2.1	General .....	144
13.2.2	Creepage distances .....	145
13.2.3	Clearances .....	147
14	<del>SECTION 12:</del> Endurance test and thermal test .....	148
14.1	General .....	148
14.2	Selection of lamps and <del>ballasts</del> controlgear .....	148
14.3	Endurance test .....	149
14.3.1	General .....	149
14.3.2	Test .....	149
14.3.3	Compliance .....	150
14.4	Thermal test (normal operation) .....	150
14.4.1	General .....	150
14.4.2	Test .....	151
14.4.3	Compliance .....	153
14.5	Thermal test (abnormal operation) .....	156
14.5.1	General .....	156
14.5.2	Test .....	157
14.5.3	Compliance .....	158
14.6	Thermal test (failed windings in <del>lamp</del> controlgear) .....	160
14.6.1	General .....	160
14.6.2	Test for luminaires without thermal cut-outs .....	160
14.6.3	Test for luminaires with temperature sensing controls .....	161

14.7	Thermal test in regard to fault conditions in <del>lamp</del> controlgear or electronic devices incorporated in thermoplastic luminaires .....	162
14.7.1	General .....	162
14.7.2	Test for luminaires without temperature sensing controls .....	162
14.7.3	Test for luminaires with temperature sensing controls internal/ or external to the <del>ballast</del> controlgear or transformer .....	165
15	<del>SECTION 13:</del> Resistance to heat, fire and tracking .....	166
15.1	General .....	166
15.2	Resistance to heat .....	166
15.3	Resistance to flame and ignition .....	167
15.4	Resistance to tracking .....	167
16	<del>SECTION 14:</del> Screw terminals .....	168
16.1	General .....	168
16.2	General requirements and basic principles .....	174
16.3	Mechanical requirements and tests .....	176
17	<del>SECTION 15:</del> Screwless terminals and electrical connections .....	180
17.1	General .....	180
17.2	General requirements .....	182
17.3	General instructions for tests .....	184
17.3.1	Preparation of samples .....	184
17.3.2	Test conductors .....	184
17.3.3	Multi-conductor terminals .....	184
17.3.4	Multi-way terminals .....	184
17.3.5	Test quantities .....	184
17.4	Terminal and connections for internal wiring .....	184
17.4.1	Mechanical tests .....	184
17.4.2	Electrical tests .....	185
17.5	Terminals and connections for external wiring .....	187
17.5.1	Conductors .....	187
17.5.2	Mechanical tests .....	187
17.5.3	Electrical tests .....	188
Annex A (normative) Test to establish whether a conductive part can cause an electric shock .....		190
A.1	General .....	190
A.2	Touch voltage limits .....	190
A.3	Touch current limits .....	190
A.4	Compliance .....	191
Annex B (normative) Test lamps .....		192
B.1	General .....	192
B.2	Filament lamps within the scope of IEC 60432-1 and IEC 60432-2 .....	192
B.2.1	Principal modes of heat transfer and lamps used for testing .....	192
B.2.2	Filament test lamps .....	193
B.3	Halogen lamps within the scope of IEC 60432-3 .....	194
B.4	Tubular fluorescent and other discharge lamps .....	194
B.5	LED modules within the scope of IEC 62031 .....	194
Annex C (normative) Abnormal circuit conditions .....		195
Annex D (normative) Thermal testing .....		198
D.1	Draught-proof enclosure .....	198
D.2	Mounting surface <del>and test recess</del> .....	198

D.3	Alternative test procedure for adjustment of measured temperatures for luminaire $t_a$ rating(s).....	201
D.3.1	General .....	201
D.3.2	Thermal test of normal operation for luminaires without temperature sensing controls and where the rated ambient temperature $t_a$ as marked on the luminaire is higher than the ambient temperature in the draught-proof enclosure.....	202
Annex E (normative)	Determination of winding temperature rises by the increase-in-resistance method .....	203
Annex F (normative)	Test for resistance to stress corrosion of copper and copper alloys .....	204
F.1	Test cabinet .....	204
F.2	Test solution .....	204
F.3	Test piece .....	204
F.4	Test procedure.....	205
Annex G (normative)	Measurement of touch current and protective conductor current .....	206
G.1	General.....	206
G.2	Test conditions .....	206
G.3	Test procedures .....	206
G.4	Test measurements .....	206
G.5	Test sequence .....	208
<del>Annex H (xxx) (Void).....</del>		
<del>Annex I (xxx) (Void).....</del>		
Annex H (informative)	Explanation of IP numbers for degrees of protection .....	212
Annex I (informative)	Temperature measurements .....	214
I.1	Temperature measurements of the luminaire .....	214
I.2	Temperature measurement of the insulation parts of lampholders .....	215
Annex J (informative)	Guidelines for good practice in luminaire design .....	217
J.1	General.....	217
J.2	Plastics in luminaires .....	217
J.3	Rust resistance .....	218
J.4	Corrosion resistance .....	218
J.5	Chemically corrosive atmospheres.....	219
J.6	Reflector design.....	219
J.7	Components in different kinds of luminaires .....	220
J.8	Recommendations for electromagnetic ballast protection for end of life phenomenon of HID lamps .....	220
J.9	Resistance against the effects of vibration .....	220
J.10	Flammability of components.....	221
J.11	Permanent magnets .....	221
Annex K (normative)	Determination of creepage distances and clearances .....	223
Annex L (informative)	Explanation of marking for luminaires that are not suitable for mounting on normally flammable surfaces and covering with insulation materials .....	224
L.1	General.....	224
L.2	Protection against flame .....	224
L.3	Protection against heat .....	225
L.3.1	General .....	225
L.3.2	Spacing .....	225

L.3.3	Temperature measurements of mounting surface under abnormal or failed ballast conditions .....	225
L.4	Thermal protectors .....	227
L.5	Deletion of the F mark requirements .....	228
Annex M (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 .....	230
M.1	General.....	230
M.2	Procedure A.....	230
M.3	Procedure B.....	231
Annex N (informative)	Conformity testing during manufacture .....	232
N.1	General.....	232
N.2	Testing .....	232
<del>Annex O (xxx) (Void) .....</del>		
Annex O (normative)	Schedule of amended subclauses containing more serious or critical requirements which call for products to be retested .....	234
Annex P (normative)	Requirements for the identification of a family or range of luminaires for type testing.....	236
P.1	General.....	236
P.2	Range or family of luminaires.....	236
Annex Q (informative)	Additional requirements for luminaires where a higher degree of availability ( <del>impulse withstand</del> overvoltage category III) may be requested .....	238
Q.1	General.....	238
Q.2	Requirements for <del>impulse withstand</del> overvoltage category III .....	238
Annex R (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 .....	240
R.1	Additional requirements to 9.2.1.....	240
R.1.1	Requirements for mechanical strength.....	240
R.1.2	Test for terminal fixing .....	240
R.1.3	Test for supporting plate.....	240
R.2	Additional requirements to 9.2.3.....	240
Annex S (normative)	Alternative thermal test for thermoplastic luminaires .....	242
S.1	General.....	242
S.2	Thermal test in regard to fault conditions in <del>lamp</del> controlgear or electronic devices without temperature sensing controls in thermoplastic luminaires for fluorescent lamps ≤ 70 W.....	242
<del>Annex T (xxx) (Void) .....</del>		
Annex T (normative)	Requirements for insulation between <del>active</del> live parts of circuits and accessible conductive parts .....	244
Annex U (informative)	Information regarding power sourcing equipment powering class III luminaires via information technology communication cabling .....	246
U.1	General.....	246
U.2	Insulation of the mains supply .....	246
U.3	Electrical limits of a PSE.....	246
Annex V (informative)	Cross-references to the previous edition of IEC 60598-1 .....	248
Annex W (normative)	Battery/EDLC-operated luminaires .....	251
W.1	General.....	251
W.2	General test requirements and verification .....	251
W.3	Marking.....	253



W.3.1	General .....	253
W.3.2	Luminaires with replaceable battery .....	253
W.3.3	Coin and button batteries.....	253
W.3.4	Other standardized batteries (e.g. AAA or AA).....	254
W.3.5	Luminaires with non-standardized replaceable rechargeable battery.....	255
W.3.6	Luminaires with non-user replaceable battery/EDLC .....	255
W.3.7	Luminaires with non-replaceable battery/EDLC .....	256
W.3.8	Luminaires supplied by external dedicated power supply units.....	256
W.3.9	Rechargeable luminaires other than ordinary .....	256
W.3.10	Conditions for charging.....	256
W.4	Construction .....	257
W.4.1	General .....	257
W.4.2	Small batteries (coins, button and other non-standardized batteries) .....	257
W.4.3	Battery compartment fasteners for small batteries and other standardized batteries (e.g. AAA or AA) .....	258
W.4.4	Battery/EDLC chargers incorporated in luminaires .....	258
W.4.5	Short-circuit protection .....	258
W.4.6	Electrical parameters of the batteries operation .....	259
W.4.7	Protection against overpressure for Li-ion batteries used in luminaires .....	260
W.4.8	Protection against the consequence of failure of cells or EDLCs.....	260
W.5	Protection against electric shock.....	261
W.6	Endurance test and thermal test.....	261
W.6.1	Endurance test .....	261
W.6.2	Thermal test (normal operation).....	261
W.6.3	Thermal test (abnormal operation).....	262
W.6.4	Lithium-ion charging systems – Fault conditions .....	263
Bibliography.....		265
Figure 1 – Example of "looping-in" (feed through) .....		31
Figure 2 – Examples of "through wiring".....		33
Figure 3 – Example of electro-mechanical contact system with plug or socket connection .....		35
Figure 4 – AC supply .....		53
Figure 5 – DC supply .....		53
Figure 6 – DC and AC supply.....		53
Figure 7 – Class II .....		54
Figure 8 – Class III .....		54
Figure 9 – Luminaire not suitable for direct mounting on normally flammable surfaces.....		56
Figure 10 – High-pressure sodium lamps that require an external ignitor (to the lamp).....		56
Figure 11 – High-pressure sodium lamps having an internal starting device.....		56
Figure 12 – Warning against the use of cool-beam lamps .....		57
Figure 13 – Functional earthing .....		57
Figure 14 – Protective earthing .....		57
Figure 15 – Minimum distance from lighted objects (metres).....		58
Figure 16 – Rough service .....		58
Figure 17 – Bowl mirror lamp .....		58
Figure 18 – Replace any cracked protective shield .....		59

Figure 19 – Test circuit for safety during insertion.....	59
Figure 20 – Self-shielded lamp.....	60
Figure 21 – Luminaires with internal fuses .....	60
Figure 22 – Do not stare at the operating light source .....	61
Figure 23 – Caution, risk of electric shock.....	62
Figure 24 – Use of heat resistant supply cables, interconnecting cables or external wiring.....	63
Figure 25 – Pictogram for non-replaceable light source.....	65
Figure 26 – Pictogram for non-user replaceable light source .....	65
Figure 27 – Pictogram for replaceable light source .....	65
Figure 28 – Pictogram for non-replaceable controlgear .....	67
Figure 29 – Pictogram for non-user replaceable controlgear .....	67
Figure 30 – Pictogram for replaceable controlgear .....	68
Figure 31 – Terminal block arrangement for installation test for luminaires with connecting leads (tails) .....	71
Figure 32 – Examples of self-tapping, thread-cutting and thread-forming screws <del>(from ISO 1891)</del> .....	78
Figure 33 – Illustration of the requirements of 7.15.1 .....	90
Figure 34 – Apparatus for ball impact tests .....	95
Figure 35 – Test chain .....	101
Figure 36 – Example of permitted degree of soldering .....	116
Figure 37 – Circuit for checking electrical contact between socket-outlet and plug .....	117
Figure 38 – Test to determine the suitability of conductors having a reduced cross-sectional area .....	122
Figure 39 – Example of a thread-forming screw used in a groove of a metallic material .....	124
Figure 40 – Apparatus for proving protection against dust.....	133
Figure 41 – Apparatus for testing protection against rain and splashing .....	134
Figure 42 – Nozzle for spray test .....	136
Figure 43 – Illustration of creepage and clearance measurements at a supply terminal.....	145
Figure 44 – Test circuit for luminaires incorporating fluorescent lamp $\leq 70$ W .....	163
Figure 45 – Ball-pressure apparatus .....	166
Figure 46 – Pillar terminals .....	169
Figure 47 – Screw terminals and stud terminals .....	171
Figure 48 – Saddle terminals .....	172
Figure 49 – Lug terminals .....	173
Figure 50 – Mantle terminals.....	174
Figure 51 – Construction of electrical connections .....	180
Figure 52 – Examples of spring-type screwless terminals .....	181
Figure 53 – Further examples of screwless terminals.....	182
Figure C.1 – Circuit for testing rectifying effect (some capacitive starterless ballasts only) .....	196
Figure C.2 – Circuit for testing rectifying effect (ballasts for single pin lamps).....	197
Figure C.3 – Circuit for testing rectifying effect of some high-pressure sodium and some metal halide lamps .....	197
Figure G.1 – Test configuration: single-phase equipment on star TN or TT system .....	208

Figure G.2 – Measuring network, touch current weighted for perception or reaction .....	209
Figure G.3 – Measuring network, touch current weighted for let-go (for portable class I luminaires).....	209
Figure G.4 – Measuring network, weighted for high frequency .....	209
Figure I.1 – Placing of thermocouples on a typical lampholder .....	216
Figure L.1 – Relation between winding temperature and mounting surface temperature.....	226
Figure L.2 – Ignition temperatures of wood as a function of time .....	227
Figure R.1 – Arrangement for voltage drop test.....	241
Figure T.1 – Declaration of $LV_{\text{supply}}$ and $U_{\text{out}}$ and the insulation barriers between the light source and accessible parts .....	244
Table 1 – Marking .....	52
Table 2 – IP numbers for degree of protection against ingress of dust, solid objects and moisture .....	55
Table 3 – Identification of extra-low-voltage DC leads and terminations .....	57
Table 4 – Overview of required Y capacitors .....	77
Table 5 – Torque tests on screws .....	80
Table 6 – Torque tests on cable glands.....	82
Table 7 – Impact energy and spring compression .....	83
Table 8 – Test on semi-luminaires .....	87
Table 9 – Test on adjusting devices .....	88
Table 10 – Nominal discharge current (used in the combination wave test).....	107
Table 11 – Supply cord .....	111
Table 12 – Wiring dimension.....	112
Table 13 – Tests for cord anchorage.....	115
Table 14 – Solid-object-proof luminaire test .....	132
Table 15 – Minimum insulation resistance.....	139
Table 16 – Electric strength .....	142
Table 17 – Limits of touch current or protective conductor current and electric burn.....	143
Table 18 – Minimum creepage distances for AC sinusoidal voltages up to 30 kHz (to be used in conjunction with Annex K).....	146
Table 19 – Minimum clearances for working voltages (to be used in conjunction with Annex K).....	147
Table 20 – Minimum distances for ignition pulse voltages or equivalent transformed peak voltage $U_p$ .....	148
Table 21 – Maximum temperatures under the test conditions of 14.4.3, for principal parts .....	154
Table 22 – Maximum temperatures under the test conditions of 14.4.3, for common materials used in luminaires.....	155
Table 23 – Maximum temperatures under the test conditions of 14.5.2 .....	158
Table 24 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for <del>lamp</del> controlgear .....	159
Table 25 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for <del>lamp</del> controlgear marked "D6" .....	160
Table 26 – Temperature overshoot time limitation .....	162
Table 27 – Nominal cross-sectional areas of conductors according to terminal sizes .....	175

Table 28 – Nominal cross-sectional areas of conductors according to maximum current .....	176
Table 29 – Composition of conductors .....	177
Table 30 – Torque to be applied to screws and nuts .....	178
Table 31 – Pull to be applied to conductor .....	179
Table 32 – Conductor rating.....	187
Table 33 – Conductor pull force .....	188
Table F.1 – pH value of the test solution .....	204
Table G.1 – Position of switches e, n and p for the measurements of the different classes of luminaires .....	208
Table H.1 – Degrees of protection indicated by the first characteristic numeral .....	212
Table H.2 – Degrees of protection indicated by the second characteristic numeral.....	213
Table J.1 – Damaging influences .....	217
Table K.1 – Determination of creepage distances and clearances (see Table 18, Table 19 and Table 20).....	223
Table L.1 – Guidance on when to use the symbol and its explanation on the luminaire or in the manufacturer’s instructions provided with the luminaire.....	224
Table L.2 – Thermal protection operation.....	228
Table N.1 – Minimum values for electrical tests .....	233
Table Q.1 – Minimum clearance distances for AC sinusoidal working voltages <del>impulse</del> <del>withstand</del> overvoltage category III.....	238
Table Q.2 – Overview of required Y capacitors.....	239
Table Q.3 – Nominal discharge current (used in the combination wave test) .....	239
Table T.1 – Insulation requirements between <del>active</del> live parts and accessible conductive parts .....	245
Table U.1 – Limits for the electrical parameters of a PSE.....	246
Table U.2 – Electrical parameters for communication cables or connectors.....	247
Table V.1 – Cross-references .....	248
Table W.1 – Artificial source characteristics.....	252
Table W.2 – Total area of openings for Li-ion cells.....	260
Table W.3 – Volume of air injected at 2 070 kPa .....	260

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## LUMINAIRES –

### Part 1: General requirements and tests

#### FOREWORD

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**This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60598-1:2020. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.**

IEC 60598-1 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lighting. It is an International Standard.

This tenth edition cancels and replaces the ninth edition published in 2020. This edition constitutes a technical revision.

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

- a) new structure to comply with the ISO/IEC Directives, Part 2;
- b) addition of a new Annex V for comparison with the previous edition;
- c) revision of 7.32 for SPDs and for SPCs;
- d) the terms "live part" and "active part" were reviewed and aligned with the definitions of "live part" and "hazardous live part" given in IEC 60050-195;
- e) revision of 7.14.2 for conductor mechanical stress;
- f) revision of 14.5.2, Item 4 to include controlgear;
- g) revision of 9.2.1 (Earthing) with the deletion of the word "permanently";
- h) revision of Annex N: earth continuity test time;
- i) revision of 7.11.4; 7.14.1; Table 22 (14.4.3): Introduction of requirements for suspension by magnets;
- j) addition of a new Annex W for luminaires using batteries;
- k) clarification of Clause 6 for marking requirements for nature of supply;
- l) addition of a new Subclause 7.31.5: Additional requirements for luminaires using controllable controlgear providing SELV output(s);
- m) revision of 6.4.16: Information to be provided for luminaire having protective earth current > 10 mA;
- n) revision of 6.3.23; 6.4.18; 6.4.24; 7.30 and 10.2.1 for serviceable, non-user serviceable and non-serviceable components;
- o) revision of Annex D: Draught-proof enclosure;
- p) revision of 8.2.1 and 13.2.1: Inconsistencies in the inclusion of the limits of voltage ranges;
- q) revision of 9.2.10 for looping-in;
- r) Revision of Clause 2 and 7.8: update of the reference to IEC 61058-1-1, IEC 61058-1-2 and IEC 61058-2-1. Update of temperature limits in Table 21 (14.4.3) for luminaires incorporating switches according to IEC 60669-1 or IEC 60669-2-1;
- s) revision of 6.3.22 and 7.24 for photobiological safety;
- t) addition of a new Subclause 6.3.27 for marking of mains socket outlet moved from information requirements.

The major changes which can affect certification are given in Annex O.

Annex O shows where a new text has been included which contains more serious or critical requirements requiring products to be re-tested.

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

Draft	Report on voting
34D/1739/FDIS	34D/1751/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

When using this document with already published parts of the IEC 60598-2 series, Annex V of this document is to be used to update the cross-referencing of the relevant part of the IEC 60598-2 series to the new structure of this document. SC 34D projects to update the structure of the IEC 60598-2 series in line with the new structure of this document are to follow.

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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

**IMPORTANT – The "colour inside" logo on the cover page of this document 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.**

## ~~SECTION 0:~~ INTRODUCTION

In general, this document covers safety requirements for luminaires. The object of this document 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 the IEC 60598-2 series. This document 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 the IEC 60598-2 series.

Each part of the IEC 60598-2 series details the requirements for a particular type of luminaire or group of luminaires. These parts of the IEC 60598-2 series are published separately for ease of revision and additional documents will be added as and when a need for them is recognized.

The IEC 60598-2 series comprises the following parts:

IEC 60598-2-1:	Fixed general purpose luminaires
IEC 60598-2-2:	Recessed luminaires and recessed air-handling luminaires
IEC 60598-2-3:	Luminaires for road and street lighting
IEC 60598-2-4:	Portable general purpose luminaires
IEC 60598-2-5:	Floodlights
IEC 60598-2-6:	Luminaires with built-in transformer for <del>tungsten</del> filament lamps (withdrawn)
IEC 60598-2-7:	Portable luminaires for garden use (withdrawn)
IEC 60598-2-8:	Handlamps
IEC 60598-2-9:	Photo and film luminaires (non-professional) (withdrawn)
IEC 60598-2-10:	Portable luminaires for children
IEC 60598-2-11:	Aquarium luminaires
IEC 60598-2-12:	Mains socket-outlet mounted nightlights
IEC 60598-2-13:	Ground recessed luminaires
IEC 60598-2-14:	Luminaires for cold cathode tubular discharge lamps (neon tubes) and similar equipment
IEC 60598-2-15:	Not used at present
IEC 60598-2-16:	Not used at present
IEC 60598-2-17:	Luminaires for stage lighting, television and film studios (outdoor and indoor)
IEC 60598-2-18:	Luminaires for swimming pools and similar applications
IEC 60598-2-19:	Air-handling luminaires (safety requirements) (withdrawn)
IEC 60598-2-20:	Lighting chains
IEC 60598-2-21:	Rope lights
IEC 60598-2-22:	Luminaires for emergency lighting
IEC 60598-2-23:	Extra-low-voltage lighting systems for filament lamps
IEC 60598-2-24:	Luminaires with limited surface temperatures
IEC 60598-2-25:	Luminaires for use in clinical areas of hospitals and health care buildings



## LUMINAIRES –

### Part 1: General requirements and tests

#### 1 Scope

This part of IEC 60598 specifies general safety 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 document.

~~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 the IEC 60079 series, the requirements of the IEC 60598 series (selecting the appropriate parts of the IEC 60598-2 series) are applied in addition to the requirements of the IEC 60079 series. In the event of any conflict between the

IEC 60598 series and the IEC 60079 series, the requirements of the IEC 60079 series 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.~~

This document does not cover performance. Performance of luminaires is covered by the IEC 62722 series.

## 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~~

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

IEC 60068-2-14:2009/2023, *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 60112:2003/2020, *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*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60320 (all parts), *Appliance couplers for household and similar general purposes*

IEC 60335-1:2020, *Household and similar electrical appliances – Safety – Part 1: General requirements*

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

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*

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

IEC 60432-1:1999, *Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

IEC 60432-1:1999/AMD1:2005

IEC 60432-1:1999/AMD2:2011

IEC 60432-2:1999, *Incandescent lamps – Safety specifications – Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes*

IEC 60432-2:1999/AMD1:2005

IEC 60432-2:1999/AMD2:2012

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60570:2003, *Electrical supply track systems for luminaires*

IEC 60570:2003/AMD1:2017

IEC 60570:2003/AMD2:2019

IEC 60598-2 (all parts), *Luminaires – Part 2: Particular requirements*

IEC 60598-2-4:2017, *Luminaires – Part 2-4: Particular requirements – Portable general purpose luminaires*

IEC 60603 (all parts), *Connectors for frequencies below 3 MHz for use with printed boards*

IEC 60662, *High-pressure sodium vapour lamps – Performance specifications*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60669-1, *Switches for household and similar fixed-electrical installations – Part 1: General requirements*

IEC 60669-2-1, *Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic control devices*

IEC 60684 (all parts), *Flexible insulating sleeving*

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)*

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

~~IEC 60989, Separating transformers, autotransformers, variable transformers and reactors~~

IEC 60990, *Methods of measurement of touch current and protective conductor current*

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*

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*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61051-2:2021, *Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors*

IEC 61058-1:2000<sup>1</sup>2016, *Switches for appliances – Part 1: General requirements*

IEC 61058-1-1, *Switches for appliances – Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2, *Switches for appliances – Part 1-2: Requirements for electronic switches*

IEC 61058-2-1, *Switches for appliances – Part 2-1: Particular requirements for cord switches*

IEC 61167, *Metal halide lamps – Performance specification*

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*

IEC 61347 (all parts), *Lamp controlgear*

IEC 61347-1:2015, *Lamp controlgear – Part 1: General and safety requirements*

IEC 61347-1:2015/AMD1:2017

~~IEC 61347-2-9, Lamp controlgear – Part 2-9: Particular requirements for electromagnetic controlgear for discharge lamps (excluding fluorescent lamps)~~

IEC 61535:2009<sup>2</sup>2023, *Installation couplers intended for permanent connection in fixed installations*

IEC 61558 (all parts), ~~Safety of power transformers, power supplies, reactors and similar products~~ *Safety of transformers, reactors, power supply units and combinations thereof*

IEC 61558-1:2005<sup>3</sup>2017, ~~Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests~~ *Safety of transformers, reactors, power supply units and combinations thereof – Part 1: General requirements and tests*

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<sup>1</sup> ~~Withdrawn.~~

<sup>2</sup> ~~Withdrawn.~~

<sup>3</sup> ~~Withdrawn.~~

~~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~~

IEC 61643-11, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 61643-331:2020, *Components for low-voltage surge protection – Part 331: Performance requirements and test methods for metal oxide varistors (MOV)*

IEC 61984:2008, *Connectors – Safety requirements and tests*

IEC 62133-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems*

IEC 62368-1:2018, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

~~IEC 62368-3:2017, Audio/video, information and communication technology equipment – Part 3: Safety aspects for DC power transfer through communication cables and ports~~

IEC 62391-1, *Fixed electric double-layer capacitors for use in electric and electronic equipment – Part 1: Generic specification*

IEC 62391-2, *Fixed electric double-layer capacitors for use in electronic equipment – Part 2: Sectional specification – Electric double layer capacitors for power application*

IEC 62471-7:2023, *Photobiological safety of lamps and lamp systems – Part 7: Light sources and luminaires primarily emitting visible radiation*

IEC 62493:2015, *Assessment of lighting equipment related to human exposure to electromagnetic fields*

IEC 62493:2015/AMD1:2022

IEC 62680 (all parts), *Universal serial bus interfaces for data and power*

IEC TR 62778:2014<sup>4</sup>, *Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols*, available at <https://www.graphical-symbols.info/equipment>

ISO 8124-1:2022, *Safety of toys – Part 1: Safety aspects related to mechanical and physical properties*

~~IEC 80416-1, Basic principles for Graphical symbols for use on equipment – Part 1: Creation of graphical symbol for registration~~

<sup>4</sup> Withdrawn.

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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 IEC 60598-1:2024. Den svenska standarden innehåller de officiella engelska språkversionerna av EN IEC 60598-1:2024 och EN IEC 60598-1:2024/A11:2024.

### Nationellt förord

Europastandarden EN IEC 60598-1:2024

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60598-1, Tenth edition, 2024 - Luminaires – Part 1: General requirements and tests**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN IEC 60598-1, utg 9:2021 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2027-12-31.

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ICS 29.140.40

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EUROPEAN STANDARD

**EN IEC 60598-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2024

ICS 29.140.40

Supersedes EN IEC 60598-1:2021; EN IEC 60598-1:2021/A11:2022

English Version

## Luminaires - Part 1: General requirements and tests (IEC 60598-1:2024)

Luminaires - Partie 1: Exigences générales et essais  
(IEC 60598-1:2024)

Leuchten - Teil 1: Allgemeine Anforderungen und  
Prüfungen  
(IEC 60598-1:2024)

This European Standard was approved by CENELEC on 2024-12-11. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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Ref. No. EN IEC 60598-1:2024 E

SEK Svensk Elstandard

SS-EN IEC 60598-1+A11, utg 10:2025



## **European foreword**

The text of document 34D/1739/FDIS, future edition 10 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 60598-1:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-12-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-12-31 document have to be withdrawn

This document supersedes EN IEC 60598-1:2021 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZZ, which is an integral part of EN IEC 60598-1:2024/A11:2024.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

## **Endorsement notice**

The text of the International Standard IEC 60598-1:2024 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 standard indicated:

IEC 60061 (series)	NOTE	Approved as EN 60061 (series)
IEC 60068-2-2:2007	NOTE	Approved as EN 60068-2-2:2007 (not modified)
IEC 60079 (series)	NOTE	Approved as EN IEC 60079 (series)
IEC 60081	NOTE	Approved as EN 60081
IEC 60086-1	NOTE	Approved as EN IEC 60086-1
IEC 60086-2	NOTE	Approved as EN IEC 60086-2

IEC 60216 (series)	NOTE	Approved as EN 60216 (series)
IEC 60228	NOTE	Approved as EN IEC 60228
IEC 60269 (series)	NOTE	Approved as EN 60269 (series)
IEC 60357	NOTE	Approved as EN 60357
IEC 60364 (series)	NOTE	Approved as HD 60364 (series)
IEC 60364-4-41	NOTE	Approved as HD 60364-4-41
IEC 60364-5-51	NOTE	Approved as HD 60364-5-51
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IEC 60364-7-702	NOTE	Approved as HD 60364-7-702
IEC 60400	NOTE	Approved as EN 60400
IEC 60432-3	NOTE	Approved as EN 60432-3
IEC 60598-2-2	NOTE	Approved as EN IEC 60598-2-2
IEC 60598-2-3	NOTE	Approved as EN 60598-2-3
IEC 60598-2-5	NOTE	Approved as EN 60598-2-5
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IEC 60695 (series)	NOTE	Approved as EN IEC 60695 (series)
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IEC 61199:2011	NOTE	Approved as EN 61199:2011 (not modified)
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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Luminaires –  
Part 1: General requirements and tests**

**Luminaires –  
Partie 1: Exigences générales et essais**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## CONTENTS

FOREWORD.....	12
INTRODUCTION.....	15
1 Scope.....	16
2 Normative references .....	16
3 Terms and definitions .....	19
4 General requirements .....	43
4.1 General.....	43
4.2 General test requirements and verification .....	43
4.3 Components of luminaires.....	45
4.4 Information for luminaire design in light sources and controlgear standards .....	46
5 Classification of luminaires .....	46
5.1 General.....	46
5.2 Classification according to the type of protection against electric shock .....	46
5.3 Classification according to the degree of protection against ingress of dust, solid objects and moisture .....	46
5.4 Classification according to the material of the mounting surface for which the luminaire is designed .....	47
5.5 Classification according to the circumstances of use.....	47
6 Marking .....	47
6.1 General.....	47
6.2 Marking on luminaires .....	47
6.3 Information to be marked on luminaires .....	49
6.4 Additional information .....	58
6.5 Test of marking.....	63
7 Construction .....	64
7.1 General.....	64
7.2 Replaceable components .....	64
7.3 Wireways .....	64
7.4 Lampholders .....	64
7.5 Starterholders .....	66
7.6 Terminal blocks.....	66
7.7 Terminals and supply connections .....	67
7.8 Switches .....	69
7.9 Insulating linings and sleeves .....	70
7.10 Double and reinforced insulation.....	70
7.11 Electrical connections and current-carrying parts .....	72
7.12 Screws, connections (mechanical) and glands .....	74
7.13 Mechanical strength.....	77
7.14 Suspensions, fixings and means of adjustment .....	80
7.15 Flammable materials.....	83
7.16 Luminaires for mounting on normally flammable surfaces .....	85
7.17 Drain holes .....	87
7.18 Resistance to corrosion .....	87
7.19 Ignitors .....	87
7.20 Rough service luminaires.....	87
7.21 Protective shield .....	89
7.22 Attachments to lamps.....	90

7.23	Semi-luminaires .....	90
7.24	Photobiological hazards .....	90
7.24.1	Actinic UV hazards for skin and eye (200 nm to 400 nm) .....	90
7.24.2	UV-A hazard for the eye lens (315 nm to 400 nm).....	91
7.24.3	Retinal blue light hazard .....	91
7.24.4	Retinal thermal hazard (380 nm to 1 400 nm) .....	92
7.24.5	Infrared hazard for the eye (780 nm to 3 000 nm) .....	93
7.24.6	Thermal hazard for the skin (380 nm to 3 000 nm) .....	93
7.25	Mechanical hazard.....	93
7.26	Short-circuit protection.....	93
7.27	Terminal blocks with integrated screwless protective earthing contacts.....	94
7.28	Fixing of thermal sensing controls.....	94
7.29	Luminaires with non-replaceable light sources .....	95
7.30	Luminaires with non-user replaceable light sources and non-user serviceable components.....	95
7.31	Insulation between circuits .....	95
7.31.1	General .....	95
7.31.2	SELV or PELV circuits .....	96
7.31.3	FELV circuits .....	97
7.31.4	Other circuits.....	97
7.31.5	Additional requirements for luminaires using controllable controlgear providing SELV output(s).....	98
7.32	Overvoltage protective devices external to controlgear .....	98
7.32.1	General .....	98
7.32.2	Surge protective devices (SPDs) .....	99
7.32.3	Surge protective components (SPCs) .....	99
7.33	Luminaire powered via information technology communication cabling.....	101
7.34	Electromagnetic fields (EMF) .....	101
7.35	Protection against moving fan blades.....	102
7.36	Track-mounted luminaires.....	102
8	External and internal wiring .....	102
8.1	General.....	102
8.2	Supply connection and other external wiring .....	102
8.3	Internal wiring.....	111
8.4	Test to determine the suitability of conductors having a reduced cross-sectional area .....	113
9	Provision for earthing .....	114
9.1	General.....	114
9.2	Provision for earthing.....	114
10	Protection against electric shock .....	117
10.1	General.....	117
10.2	Protection against electric shock.....	117
11	Resistance to dust, solid objects and moisture .....	121
11.1	General.....	121
11.2	General conditions and tests for IP classification .....	121
11.2.1	General .....	121
11.2.2	Tests for first characteristics IP numerals 2, 3 and 4.....	123
11.2.3	Tests for first characteristic IP numeral 5 and 6 .....	123
11.2.4	Drip-proof luminaires – Tests for second characteristic IP numeral 1 .....	124

11.2.5	Drip-proof luminaires – Tests for second characteristic IP numeral 2 .....	125
11.2.6	Rain-proof luminaires – Tests for second characteristic IP numeral 3 .....	125
11.2.7	Splash-proof luminaires – Tests for second characteristic IP numeral 4 .....	126
11.2.8	Jet-proof luminaires – Tests for second characteristic IP numeral 5 .....	126
11.2.9	Powerful jet-proof luminaires – Tests for second characteristic IP numeral 6 .....	127
11.2.10	Watertight luminaires – Tests for second characteristic IP numeral 7 .....	127
11.2.11	Pressure watertight luminaires – Tests for second characteristic IP numeral 8 .....	128
11.2.12	High pressure and temperature water jet-proof luminaires – Tests for second characteristic IP numeral 9 (80 °C) .....	128
11.2.13	High pressure and cold water jet-proof luminaires – Tests for second characteristic IP numeral 9 (15 °C) .....	128
11.3	Humidity test .....	128
12	Insulation resistance and electric strength, touch current and protective conductor current .....	129
12.1	General .....	129
12.2	Insulation resistance and electric strength .....	129
12.2.1	General .....	129
12.2.2	Test – Insulation resistance .....	130
12.2.3	Test – Electric strength .....	131
12.3	Touch current, protective conductor current and electric burn .....	133
13	Creepage distances and clearances .....	134
13.1	General .....	134
13.2	Requirements .....	135
13.2.1	General .....	135
13.2.2	Creepage distances .....	136
13.2.3	Clearances .....	137
14	Endurance test and thermal test .....	139
14.1	General .....	139
14.2	Selection of lamps and controlgear .....	139
14.3	Endurance test .....	140
14.3.1	General .....	140
14.3.2	Test .....	140
14.3.3	Compliance .....	141
14.4	Thermal test (normal operation) .....	141
14.4.1	General .....	141
14.4.2	Test .....	142
14.4.3	Compliance .....	144
14.5	Thermal test (abnormal operation) .....	147
14.5.1	General .....	147
14.5.2	Test .....	148
14.5.3	Compliance .....	149
14.6	Thermal test (failed windings in controlgear) .....	151
14.6.1	General .....	151
14.6.2	Test for luminaires without thermal cut-outs .....	151
14.6.3	Test for luminaires with temperature sensing controls .....	152
14.7	Thermal test in regard to fault conditions in controlgear or electronic devices incorporated in thermoplastic luminaires .....	153
14.7.1	General .....	153

14.7.2	Test for luminaires without temperature sensing controls .....	153
14.7.3	Test for luminaires with temperature sensing controls internal or external to the controlgear or transformer .....	156
15	Resistance to heat, fire and tracking .....	157
15.1	General .....	157
15.2	Resistance to heat .....	157
15.3	Resistance to flame and ignition .....	158
15.4	Resistance to tracking .....	158
16	Screw terminals .....	159
16.1	General .....	159
16.2	General requirements and basic principles .....	165
16.3	Mechanical requirements and tests .....	167
17	Screwless terminals and electrical connections .....	171
17.1	General .....	171
17.2	General requirements .....	173
17.3	General instructions for tests .....	175
17.3.1	Preparation of samples .....	175
17.3.2	Test conductors .....	175
17.3.3	Multi-conductor terminals .....	175
17.3.4	Multi-way terminals .....	175
17.3.5	Test quantities .....	175
17.4	Terminal and connections for internal wiring .....	175
17.4.1	Mechanical tests .....	175
17.4.2	Electrical tests .....	176
17.5	Terminals and connections for external wiring .....	177
17.5.1	Conductors .....	177
17.5.2	Mechanical tests .....	178
17.5.3	Electrical tests .....	179
Annex A (normative) Test to establish whether a conductive part can cause an electric shock .....		181
A.1	General .....	181
A.2	Touch voltage limits .....	181
A.3	Touch current limits .....	181
A.4	Compliance .....	181
Annex B (normative) Test lamps .....		182
B.1	General .....	182
B.2	Filament lamps within the scope of IEC 60432-1 and IEC 60432-2 .....	182
B.2.1	Principal modes of heat transfer and lamps used for testing .....	182
B.2.2	Filament test lamps .....	183
B.3	Halogen lamps within the scope of IEC 60432-3 .....	184
B.4	Tubular fluorescent and other discharge lamps .....	184
B.5	LED modules within the scope of IEC 62031 .....	184
Annex C (normative) Abnormal circuit conditions .....		185
Annex D (normative) Thermal testing .....		188
D.1	Draught-proof enclosure .....	188
D.2	Mounting surface .....	188
D.3	Alternative test procedure for adjustment of measured temperatures for luminaire $t_a$ rating(s) .....	189



D.3.1	General .....	189
D.3.2	Thermal test of normal operation for luminaires without temperature sensing controls and where the rated ambient temperature $t_a$ as marked on the luminaire is higher than the ambient temperature in the draught-proof enclosure.....	189
Annex E (normative)	Determination of winding temperature rises by the increase-in-resistance method .....	190
Annex F (normative)	Test for resistance to stress corrosion of copper and copper alloys.....	191
F.1	Test cabinet .....	191
F.2	Test solution .....	191
F.3	Test piece .....	191
F.4	Test procedure.....	192
Annex G (normative)	Measurement of touch current and protective conductor current .....	193
G.1	General.....	193
G.2	Test conditions .....	193
G.3	Test procedures .....	193
G.4	Test measurements .....	193
G.5	Test sequence .....	195
Annex H (informative)	Explanation of IP numbers for degrees of protection .....	197
Annex I (informative)	Temperature measurements .....	199
I.1	Temperature measurements of the luminaire .....	199
I.2	Temperature measurement of the insulation parts of lampholders .....	200
Annex J (informative)	Guidelines for good practice in luminaire design .....	202
J.1	General.....	202
J.2	Plastics in luminaires .....	202
J.3	Rust resistance .....	203
J.4	Corrosion resistance .....	203
J.5	Chemically corrosive atmospheres .....	204
J.6	Reflector design.....	204
J.7	Components in different kinds of luminaires .....	205
J.8	Recommendations for electromagnetic ballast protection for end of life phenomenon of HID lamps .....	205
J.9	Resistance against the effects of vibration .....	205
J.10	Flammability of components.....	206
J.11	Permanent magnets .....	206
Annex K (normative)	Determination of creepage distances and clearances .....	208
Annex L (informative)	Explanation of marking for luminaires that are not suitable for mounting on normally flammable surfaces and covering with insulation materials .....	209
L.1	General.....	209
L.2	Protection against flame .....	209
L.3	Protection against heat .....	210
L.3.1	General .....	210
L.3.2	Spacing .....	210
L.3.3	Temperature measurements of mounting surface under abnormal or failed ballast conditions .....	210
L.4	Thermal protectors.....	212
L.5	Deletion of the F mark requirements .....	213
Annex M (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 .....	214

M.1	General.....	214
M.2	Procedure A.....	214
M.3	Procedure B.....	215
Annex N (informative)	Conformity testing during manufacture .....	216
N.1	General.....	216
N.2	Testing .....	216
Annex O (normative)	Schedule of amended subclauses containing more serious or critical requirements which call for products to be retested .....	218
Annex P (normative)	Requirements for the identification of a family or range of luminaires for type testing.....	219
P.1	General.....	219
P.2	Range or family of luminaires.....	219
Annex Q (informative)	Additional requirements for luminaires where a higher degree of availability (overvoltage category III) may be requested .....	220
Q.1	General.....	220
Q.2	Requirements for overvoltage category III.....	220
Annex R (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.....	222
R.1	Additional requirements to 9.2.1.....	222
R.1.1	Requirements for mechanical strength.....	222
R.1.2	Test for terminal fixing .....	222
R.1.3	Test for supporting plate.....	222
R.2	Additional requirements to 9.2.3.....	222
Annex S (normative)	Alternative thermal test for thermoplastic luminaires .....	224
S.1	General.....	224
S.2	Thermal test in regard to fault conditions in controlgear or electronic devices without temperature sensing controls in thermoplastic luminaires for fluorescent lamps ≤ 70 W.....	224
Annex T (normative)	Requirements for insulation between live parts of circuits and accessible conductive parts .....	226
Annex U (informative)	Information regarding power sourcing equipment powering class III luminaires via information technology communication cabling.....	228
U.1	General.....	228
U.2	Insulation of the mains supply .....	228
U.3	Electrical limits of a PSE.....	228
Annex V (informative)	Cross-references to the previous edition of IEC 60598-1 .....	230
Annex W (normative)	Battery/EDLC-operated luminaires .....	233
W.1	General.....	233
W.2	General test requirements and verification .....	233
W.3	Marking.....	235
W.3.1	General .....	235
W.3.2	Luminaires with replaceable battery.....	235
W.3.3	Coin and button batteries.....	235
W.3.4	Other standardized batteries (e.g. AAA or AA).....	236
W.3.5	Luminaires with non-standardized replaceable rechargeable battery.....	237
W.3.6	Luminaires with non-user replaceable battery/EDLC .....	237
W.3.7	Luminaires with non-replaceable battery/EDLC.....	238
W.3.8	Luminaires supplied by external dedicated power supply units.....	238

W.3.9	Rechargeable luminaires other than ordinary .....	238
W.3.10	Conditions for charging .....	238
W.4	Construction .....	239
W.4.1	General .....	239
W.4.2	Small batteries (coins, button and other non-standardized batteries) .....	239
W.4.3	Battery compartment fasteners for small batteries and other standardized batteries (e.g. AAA or AA) .....	240
W.4.4	Battery/EDLC chargers incorporated in luminaires .....	240
W.4.5	Short-circuit protection .....	240
W.4.6	Electrical parameters of the batteries operation .....	241
W.4.7	Protection against overpressure for Li-ion batteries used in luminaires .....	242
W.4.8	Protection against the consequence of failure of cells or EDLCs .....	242
W.5	Protection against electric shock .....	243
W.6	Endurance test and thermal test .....	243
W.6.1	Endurance test .....	243
W.6.2	Thermal test (normal operation) .....	243
W.6.3	Thermal test (abnormal operation) .....	244
W.6.4	Lithium-ion charging systems – Fault conditions .....	245
Bibliography	.....	247
Figure 1	– Example of "looping-in" (feed through) .....	30
Figure 2	– Examples of "through wiring" .....	30
Figure 3	– Example of electro-mechanical contact system with plug or socket connection .....	32
Figure 4	– AC supply .....	49
Figure 5	– DC supply .....	49
Figure 6	– DC and AC supply .....	49
Figure 7	– Class II .....	50
Figure 8	– Class III .....	50
Figure 9	– Luminaire not suitable for direct mounting on normally flammable surfaces .....	52
Figure 10	– High-pressure sodium lamps that require an external ignitor (to the lamp) .....	52
Figure 11	– High-pressure sodium lamps having an internal starting device .....	52
Figure 12	– Warning against the use of cool-beam lamps .....	52
Figure 13	– Functional earthing .....	53
Figure 14	– Protective earthing .....	53
Figure 15	– Minimum distance from lighted objects (metres) .....	54
Figure 16	– Rough service .....	54
Figure 17	– Bowl mirror lamp .....	54
Figure 18	– Replace any cracked protective shield .....	55
Figure 19	– Test circuit for safety during insertion .....	55
Figure 20	– Self-shielded lamp .....	55
Figure 21	– Luminaires with internal fuses .....	56
Figure 22	– Do not stare at the operating light source .....	56
Figure 23	– Caution, risk of electric shock .....	57
Figure 24	– Use of heat resistant supply cables, interconnecting cables or external wiring .....	58

Figure 25 – Pictogram for non-replaceable light source.....	60
Figure 26 – Pictogram for non-user replaceable light source.....	61
Figure 27 – Pictogram for replaceable light source .....	61
Figure 28 – Pictogram for non-replaceable controlgear .....	62
Figure 29 – Pictogram for non-user replaceable controlgear .....	63
Figure 30 – Pictogram for replaceable controlgear .....	63
Figure 31 – Terminal block arrangement for installation test for luminaires with connecting leads (tails) .....	67
Figure 32 – Examples of self-tapping, thread-cutting and thread-forming screws .....	73
Figure 33 – Illustration of the requirements of 7.15.1 .....	84
Figure 34 – Apparatus for ball impact tests .....	88
Figure 35 – Test chain .....	94
Figure 36 – Example of permitted degree of soldering .....	109
Figure 37 – Circuit for checking electrical contact between socket-outlet and plug .....	110
Figure 38 – Test to determine the suitability of conductors having a reduced cross- sectional area .....	114
Figure 39 – Example of a thread-forming screw used in a groove of a metallic material .....	115
Figure 40 – Apparatus for proving protection against dust.....	124
Figure 41 – Apparatus for testing protection against rain and splashing .....	125
Figure 42 – Nozzle for spray test .....	127
Figure 43 – Illustration of creepage and clearance measurements at a supply terminal.....	136
Figure 44 – Test circuit for luminaires incorporating fluorescent lamp $\leq 70$ W .....	154
Figure 45 – Ball-pressure apparatus .....	157
Figure 46 – Pillar terminals .....	160
Figure 47 – Screw terminals and stud terminals .....	162
Figure 48 – Saddle terminals .....	163
Figure 49 – Lug terminals .....	164
Figure 50 – Mantle terminals.....	165
Figure 51 – Construction of electrical connections .....	171
Figure 52 – Examples of spring-type screwless terminals .....	172
Figure 53 – Further examples of screwless terminals.....	173
Figure C.1 – Circuit for testing rectifying effect (some capacitive starterless ballasts only) .....	186
Figure C.2 – Circuit for testing rectifying effect (ballasts for single pin lamps).....	186
Figure C.3 – Circuit for testing rectifying effect of some high-pressure sodium and some metal halide lamps .....	187
Figure G.1 – Test configuration: single-phase equipment on star TN or TT system .....	195
Figure G.2 – Measuring network, touch current weighted for perception or reaction .....	196
Figure G.3 – Measuring network, touch current weighted for let-go (for portable class I luminaires).....	196
Figure G.4 – Measuring network, weighted for high frequency .....	196
Figure I.1 – Placing of thermocouples on a typical lampholder .....	201
Figure L.1 – Relation between winding temperature and mounting surface temperature.....	211
Figure L.2 – Ignition temperatures of wood as a function of time .....	212
Figure R.1 – Arrangement for voltage drop test.....	223

Figure T.1 – Declaration of  $LV_{\text{supply}}$  and  $U_{\text{out}}$  and the insulation barriers between the light source and accessible parts ..... 226

Table 1 – Marking ..... 48

Table 2 – IP numbers for degree of protection against ingress of dust, solid objects and moisture ..... 51

Table 3 – Identification of extra-low-voltage DC leads and terminations ..... 53

Table 4 – Overview of required Y capacitors ..... 72

Table 5 – Torque tests on screws ..... 75

Table 6 – Torque tests on cable glands ..... 77

Table 7 – Impact energy and spring compression ..... 78

Table 8 – Test on semi-luminaires ..... 82

Table 9 – Test on adjusting devices ..... 83

Table 10 – Nominal discharge current (used in the combination wave test) ..... 100

Table 11 – Supply cord ..... 104

Table 12 – Wiring dimension ..... 105

Table 13 – Tests for cord anchorage ..... 108

Table 14 – Solid-object-proof luminaire test ..... 123

Table 15 – Minimum insulation resistance ..... 130

Table 16 – Electric strength ..... 132

Table 17 – Limits of touch current or protective conductor current and electric burn ..... 134

Table 18 – Minimum creepage distances for AC sinusoidal voltages up to 30 kHz (to be used in conjunction with Annex K) ..... 137

Table 19 – Minimum clearances for working voltages (to be used in conjunction with Annex K) ..... 138

Table 20 – Minimum distances for ignition pulse voltages or equivalent transformed peak voltage  $U_p$  ..... 139

Table 21 – Maximum temperatures under the test conditions of 14.4.3, for principal parts ..... 145

Table 22 – Maximum temperatures under the test conditions of 14.4.3, for common materials used in luminaires ..... 146

Table 23 – Maximum temperatures under the test conditions of 14.5.2 ..... 149

Table 24 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for controlgear ..... 150

Table 25 – Maximum temperature of windings under abnormal operating conditions and at 110 % of rated voltage for controlgear marked "D6" ..... 151

Table 26 – Temperature overshoot time limitation ..... 153

Table 27 – Nominal cross-sectional areas of conductors according to terminal sizes ..... 166

Table 28 – Nominal cross-sectional areas of conductors according to maximum current ..... 167

Table 29 – Composition of conductors ..... 168

Table 30 – Torque to be applied to screws and nuts ..... 169

Table 31 – Pull to be applied to conductor ..... 170

Table 32 – Conductor rating ..... 178

Table 33 – Conductor pull force ..... 178

Table F.1 – pH value of the test solution ..... 191

Table G.1 – Position of switches e, n and p for the measurements of the different classes of luminaires .....	195
Table H.1 – Degrees of protection indicated by the first characteristic numeral .....	197
Table H.2 – Degrees of protection indicated by the second characteristic numeral.....	198
Table J.1 – Damaging influences .....	202
Table K.1 – Determination of creepage distances and clearances (see Table 18, Table 19 and Table 20).....	208
Table L.1 – Guidance on when to use the symbol and its explanation on the luminaire or in the manufacturer’s instructions provided with the luminaire.....	209
Table L.2 – Thermal protection operation.....	213
Table N.1 – Minimum values for electrical tests .....	217
Table Q.1 – Minimum clearance distances for AC sinusoidal working voltages overvoltage category III .....	220
Table Q.2 – Overview of required Y capacitors.....	221
Table Q.3 – Nominal discharge current (used in the combination wave test) .....	221
Table T.1 – Insulation requirements between live parts and accessible conductive parts .....	227
Table U.1 – Limits for the electrical parameters of a PSE.....	228
Table U.2 – Electrical parameters for communication cables or connectors.....	229
Table V.1 – Cross-references .....	230
Table W.1 – Artificial source characteristics.....	234
Table W.2 – Total area of openings for Li-ion cells.....	242
Table W.3 – Volume of air injected at 2 070 kPa .....	242

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## LUMINAIRES –

### Part 1: General requirements and tests

#### FOREWORD

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IEC 60598-1 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lighting. It is an International Standard.

This tenth edition cancels and replaces the ninth edition published in 2020. This edition constitutes a technical revision.

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

- a) new structure to comply with the ISO/IEC Directives, Part 2;
- b) addition of a new Annex V for comparison with the previous edition;
- c) revision of 7.32 for SPDs and for SPCs;
- d) the terms "live part" and "active part" were reviewed and aligned with the definitions of "live part" and "hazardous live part" given in IEC 60050-195;

- e) revision of 7.14.2 for conductor mechanical stress;
- f) revision of 14.5.2, Item 4 to include controlgear;
- g) revision of 9.2.1 (Earthing) with the deletion of the word "permanently";
- h) revision of Annex N: earth continuity test time;
- i) revision of 7.11.4; 7.14.1; Table 22 (14.4.3): Introduction of requirements for suspension by magnets;
- j) addition of a new Annex W for luminaires using batteries;
- k) clarification of Clause 6 for marking requirements for nature of supply;
- l) addition of a new Subclause 7.31.5: Additional requirements for luminaires using controllable controlgear providing SELV output(s);
- m) revision of 6.4.16: Information to be provided for luminaire having protective earth current > 10 mA;
- n) revision of 6.3.23; 6.4.18; 6.4.24; 7.30 and 10.2.1 for serviceable, non-user serviceable and non-serviceable components;
- o) revision of Annex D: Draught-proof enclosure;
- p) revision of 8.2.1 and 13.2.1: Inconsistencies in the inclusion of the limits of voltage ranges;
- q) revision of 9.2.10 for looping-in;
- r) Revision of Clause 2 and 7.8: update of the reference to IEC 61058-1-1, IEC 61058-1-2 and IEC 61058-2-1. Update of temperature limits in Table 21 (14.4.3) for luminaires incorporating switches according to IEC 60669-1 or IEC 60669-2-1;
- s) revision of 6.3.22 and 7.24 for photobiological safety;
- t) addition of a new Subclause 6.3.27 for marking of mains socket outlet moved from information requirements.

The major changes which can affect certification are given in Annex O.

Annex O shows where a new text has been included which contains more serious or critical requirements requiring products to be re-tested.

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

Draft	Report on voting
34D/1739/FDIS	34D/1751/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

When using this document with already published parts of the IEC 60598-2 series, Annex V of this document is to be used to update the cross-referencing of the relevant part of the IEC 60598-2 series to the new structure of this document. SC 34D projects to update the structure of the IEC 60598-2 series in line with the new structure of this document are to follow.

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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

**IMPORTANT – The "colour inside" logo on the cover page of this document 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.**

## INTRODUCTION

In general, this document covers safety requirements for luminaires. The object of this document 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 the IEC 60598-2 series. This document 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 the IEC 60598-2 series.

Each part of the IEC 60598-2 series details the requirements for a particular type of luminaire or group of luminaires. These parts of the IEC 60598-2 series are published separately for ease of revision and additional documents will be added as and when a need for them is recognized.

The IEC 60598-2 series comprises the following parts:

IEC 60598-2-1:	Fixed general purpose luminaires
IEC 60598-2-2:	Recessed luminaires and recessed air-handling luminaires
IEC 60598-2-3:	Luminaires for road and street lighting
IEC 60598-2-4:	Portable general purpose luminaires
IEC 60598-2-5:	Floodlights
IEC 60598-2-6:	Luminaires with built-in transformer for filament lamps (withdrawn)
IEC 60598-2-7:	Portable luminaires for garden use (withdrawn)
IEC 60598-2-8:	Handlamps
IEC 60598-2-9:	Photo and film luminaires (non-professional) (withdrawn)
IEC 60598-2-10:	Portable luminaires for children
IEC 60598-2-11:	Aquarium luminaires
IEC 60598-2-12:	Mains socket-outlet mounted nightlights
IEC 60598-2-13:	Ground recessed luminaires
IEC 60598-2-14:	Luminaires for cold cathode tubular discharge lamps (neon tubes) and similar equipment
IEC 60598-2-15:	Not used at present
IEC 60598-2-16:	Not used at present
IEC 60598-2-17:	Luminaires for stage lighting, television and film studios (outdoor and indoor)
IEC 60598-2-18:	Luminaires for swimming pools and similar applications
IEC 60598-2-19:	Air-handling luminaires (safety requirements) (withdrawn)
IEC 60598-2-20:	Lighting chains
IEC 60598-2-21:	Rope lights
IEC 60598-2-22:	Luminaires for emergency lighting
IEC 60598-2-23:	Extra-low-voltage lighting systems for filament lamps
IEC 60598-2-24:	Luminaires with limited surface temperatures
IEC 60598-2-25:	Luminaires for use in clinical areas of hospitals and health care buildings

## LUMINAIRES –

### Part 1: General requirements and tests

#### 1 Scope

This part of IEC 60598 specifies general safety requirements for luminaires, incorporating electric light sources for operation from supply voltages up to 1 000 V.

Requirements for semi-luminaires are included in this document.

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

This document does not cover performance. Performance of luminaires is covered by the IEC 62722 series.

#### 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 60061-2, *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 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14:2023, *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 60112:2020, *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*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60320 (all parts), *Appliance couplers for household and similar general purposes*

IEC 60335-1:2020, *Household and similar electrical appliances – Safety – Part 1: General requirements*

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

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*

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

IEC 60432-1:1999, *Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

IEC 60432-1:1999/AMD1:2005

IEC 60432-1:1999/AMD2:2011

IEC 60432-2:1999, *Incandescent lamps – Safety specifications – Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes*

IEC 60432-2:1999/AMD1:2005

IEC 60432-2:1999/AMD2:2012

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60570:2003, *Electrical supply track systems for luminaires*

IEC 60570:2003/AMD1:2017

IEC 60570:2003/AMD2:2019

IEC 60598-2 (all parts), *Luminaires – Part 2: Particular requirements*

IEC 60598-2-4:2017, *Luminaires – Part 2-4: Particular requirements – Portable general purpose luminaires*

IEC 60603 (all parts), *Connectors for frequencies below 3 MHz for use with printed boards*

IEC 60662, *High-pressure sodium vapour lamps – Performance specifications*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60669-1, *Switches for household and similar fixed-electrical installations – Part 1: General requirements*

IEC 60669-2-1, *Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic control devices*

IEC 60684 (all parts), *Flexible insulating sleeving*

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)*

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60990, *Methods of measurement of touch current and protective conductor current*

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*

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*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61051-2:2021, *Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors*

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

IEC 61058-1-1, *Switches for appliances – Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2, *Switches for appliances – Part 1-2: Requirements for electronic switches*

IEC 61058-2-1, *Switches for appliances – Part 2-1: Particular requirements for cord switches*

IEC 61167, *Metal halide lamps – Performance specification*

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*

IEC 61347 (all parts), *Lamp controlgear*

IEC 61347-1:2015, *Lamp controlgear – Part 1: General and safety requirements*  
IEC 61347-1:2015/AMD1:2017

IEC 61535:2023, *Installation couplers intended for permanent connection in fixed installations*

IEC 61558 (all parts), *Safety of transformers, reactors, power supply units and combinations thereof*

IEC 61558-1:2017, *Safety of transformers, reactors, power supply units and combinations thereof – Part 1: General requirements and tests*

IEC 61643-11, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 61643-331:2020, *Components for low-voltage surge protection – Part 331: Performance requirements and test methods for metal oxide varistors (MOV)*

IEC 61984:2008, *Connectors – Safety requirements and tests*

IEC 62133-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems*

IEC 62368-1:2018, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

IEC 62391-1, *Fixed electric double-layer capacitors for use in electric and electronic equipment – Part 1: Generic specification*

IEC 62391-2, *Fixed electric double-layer capacitors for use in electronic equipment – Part 2: Sectional specification – Electric double layer capacitors for power application*

IEC 62471-7:2023, *Photobiological safety of lamps and lamp systems – Part 7: Light sources and luminaires primarily emitting visible radiation*

IEC 62493:2015, *Assessment of lighting equipment related to human exposure to electromagnetic fields*  
IEC 62493:2015/AMD1:2022

IEC 62680 (all parts), *Universal serial bus interfaces for data and power*

IEC TR 62778:2014<sup>1</sup>, *Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols*, available at <https://www.graphical-symbols.info/equipment>

ISO 8124-1:2022, *Safety of toys – Part 1: Safety aspects related to mechanical and physical properties*

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<sup>1</sup> Withdrawn.