LVD TEST REPORT

Applicant:	BRAYTRON S.R.L.
Address of Applicant:	B.DUL IULIU MANIU, NR.616, CORP B, ETAJ 1 SECTOR 6, 061129, BUCHAREST, ROMANIA

Equipment Under Test (EUT)

Product Name:	LED OUTDOOR LIGHTING FIXTURE
Brand Name:	Braytron
Model No.:	Please Refer To Page 5-7.
Applicable standards:	EN 60598-2-1:1989 EN 60598-1:2015+A1:2018
Date of sample receipt:	October 8, 2021
Date of Test:	October 8, 2021 To October 14, 2021
Date of report issued:	October 15, 2021
Test Result :	PASS

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Authorized Signature

Kevin Wang
Laboratory Manager

TEST REPORT
EN 60598-2-1
Luminaires
Part 2: Particular requirements
Section 1: Fixed general purpose luminaires

Report Reference No......:	EBO2110046-E153
Tested by (name + signature).....:	Bernie Xia
Approved by (name + signature).....:	Kevin Wang
Date of issue.....:	October 15, 2021
Testing Laboratory.....:	Shenzhen EBO Testing Center
Address.....:	Building A, Qinye Business Center , Xin'an Sixth Road, 82th District, Bao'an, Shenzhen, China.
Total number of pages.....:	46 pages
Applicant's name.....:	BRAYTRON S.R.L.
Address.....:	B.DUL IULIU MANIU, NR.616, CORP B, ETAJ 1 SECTOR 6, 061129, BUCHAREST, ROMANIA
Manufacturer's name.....:	DEMGRUP INTERNATIONAL LIGHTING LIMITED
Address.....:	UNIT D 16/F, ONE CAPITAL PLACE, 18 LUARD ROAD, WAN CHAI, HONG KONG
Test specification:	
Standard .....:	EN 60598-2-1:1989 EN 60598-1:2015+A1:2018
Test procedure .....:	Test report
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC60598_2_1F
TRF originator.....:	Intertek Semko AB
Master TRF .....:	Dated 2017-10
Test item description..... :	LED OUTDOOR LIGHTING FIXTUREE
Trade Mark .....:	Braytron
Model/Type reference.....:	Please Refer To Page 5-7.
Test Model No. .....:	BG38-00102
Ratings.....:	AC220-240V, 50/60Hz, 15W

Summary of testing:

Testing location:

Shenzhen EBO Testing Center

Building A, Qinye Business Center , Xin'an Sixth Road, 82th District, Bao'an, Shenzhen, China.

Summary of testing:

1. The submitted appliances were found to be in compliance with the requirement of EN 60598-2-1: 1989, EN 60598-1: 2015 + A1: 2018.
2. The LED modules have been tested according to EN 62031: 2008 + A1: 2013 + A2: 2015 and the result is positive.
3. The submitted appliances were found to be in compliance with the standard EN 62493: 2015 according to sub-clause 4.2.2.
4. Photobiological hazard measurements have been tested according to Technical report IEC/TR 62778: 2014 (Ed 2). According to the test results, the product belongs to RG1 and therefore no markings are required on the product or in the instructions.

Summary of compliance with National Differences:

List of countries addressed

The EU ground difference was taken into account.

☒ The product fulfils the requirements of EN 60598-2-1: 1989, EN 60598-1: 2015 + A1: 2018

Copy of marking plates:

LED OUTDOOR LIGHTING FIXTURE
Model: BG38-00102
Input: AC220-240V, 50/60Hz, 15W

Manufacturer: DEMGRUP INTERNATIONAL LIGHTING LIMITED
UNIT D 16/F, ONE CAPITAL PLACE, 18 LUARD ROAD, WAN CHAI, HONG KONG

Ta: 40°C
Importer: xxx
Address: xxx

IP65

Remark:

1. *The marking plates of the other models are of the same pattern.*

Test item particulars ..... :	
Classification of installation and use ..... :	Fixed
Supply Connection ..... :	Non-detachable supply cord
Class of equipment ..... :	Class II
Degree of protection ..... :	IP65
Possible test case verdicts:	
- test case does not apply to the test object..... :	N (N/A)
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	October 8, 2021
Date(s) of performance of tests ..... :	October 8, 2021 To October 14, 2021

General remarks:

The test results presented in this report relate only to the object tested.
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"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

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Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 1 month. This document cannot be reproduced except in full, without prior approval of the company.

General product information:

LED OUTDOOR LIGHTING FIXTUREE, fixed luminaire, connected to AC mains non-user replaceable LEDs used, Class II, for outdoor use.

Model No.:

BC17-001XX	BC17-002XX	BC17-003XX	BC17-004XX
BC17-005XX	BC17-006XX	BC17-007XX	BC17-008XX
BC17-009XX	BC17-010XX	BC17-011XX	BC17-012XX
BC17-013XX	BC17-014XX	BC17-015XX	BC17-016XX
BC17-017XX	BC17-018XX	BC17-019XX	BC17-020XX
BC17-021XX	BC17-022XX	BC17-023XX	BC17-024XX
BC17-025XX	BC17-026XX	BC17-027XX	BC17-028XX
BC17-029XX	BC17-030XX	BC17-031XX	BC17-032XX
BC17-033XX	BC17-034XX	BC17-035XX	BC17-036XX
BC17-037XX	BC17-038XX	BC17-039XX	BC17-040XX
BC17-041XX	BC17-042XX	BC17-043XX	BC17-044XX
BC17-045XX	BC17-046XX	BC17-047XX	BC17-048XX
BC17-049XX	BC17-050XX	BC17-051XX	BC17-052XX
BC17-053XX	BC17-054XX	BC17-056XX	BC17-057XX
BC17-058XX	BC17-059XX	BC17-060XX	BC17-061XX
BC17-062XX	BC17-063XX	BC17-064XX	BC17-065XX
BC17-066XX	BC17-067XX	BC17-068XX	BC17-069XX
BC17-070XX	BC17-071XX	BC17-072XX	BC17-073XX
BC17-074XX	BC17-075XX	BC17-076XX	BC17-077XX
BC17-078XX	BC17-079XX	BC17-080XX	BC17-081XX
BC17-082XX	BC17-083XX	BC17-084XX	BC17-085XX
BC17-086XX	BC17-087XX	BC17-088XX	BC17-089XX
BC17-090XX	BC17-091XX	BC17-092XX	BC17-093XX
BC17-094XX	BC17-095XX	BC17-096XX	BC17-097XX
BC17-098XX	BC17-099XX	BG38-001XX	BG38-002XX
BG38-003XX	BG38-004XX	BG38-005XX	BG38-006XX
BG38-007XX	BG38-008XX	BG38-009XX	BG38-010XX
BG38-011XX	BG38-012XX	BG38-013XX	BG38-014XX
BG38-015XX	BG38-016XX	BG38-017XX	BG38-018XX
BG38-019XX	BG38-020XX	BG38-021XX	BG38-022XX
BG38-023XX	BG38-024XX	BG38-025XX	BG38-026XX
BG38-027XX	BG38-028XX	BG38-029XX	BG38-030XX
BG38-031XX	BG38-032XX	BG38-033XX	BG38-034XX
BG38-035XX	BG38-036XX	BG38-037XX	BG38-038XX
BG38-039XX	BG38-040XX	BG38-041XX	BG38-042XX
BG38-043XX	BG38-044XX	BG38-045XX	BG38-046XX
BG38-047XX	BG38-048XX	BG38-049XX	BG38-050XX
BG38-051XX	BG38-052XX	BG38-053XX	BG38-054XX
BG38-056XX	BG38-057XX	BG38-058XX	BG38-059XX
BG38-060XX	BG38-061XX	BG38-062XX	BG38-063XX

BG38-064XX	BG38-065XX	BG38-066XX	BG38-067XX
BG38-068XX	BG38-069XX	BG38-070XX	BG38-071XX
BG38-072XX	BG38-073XX	BG38-074XX	BG38-075XX
BG38-076XX	BG38-077XX	BG38-078XX	BG38-079XX
BG38-080XX	BG38-081XX	BG38-082XX	BG38-083XX
BG38-084XX	BG38-085XX	BG38-086XX	BG38-087XX
BG38-088XX	BG38-089XX	BG38-090XX	BG38-091XX
BG38-092XX	BG38-093XX	BG38-094XX	BG38-095XX
BG38-096XX	BG38-097XX	BG38-098XX	BG38-099XX
BG39-001XX	BG39-002XX	BG39-003XX	BG39-004XX
BG39-005XX	BG39-006XX	BG39-007XX	BG39-008XX
BG39-009XX	BG39-010XX	BG39-011XX	BG39-012XX
BG39-013XX	BG39-014XX	BG39-015XX	BG39-016XX
BG39-017XX	BG39-018XX	BG39-019XX	BG39-020XX
BG39-021XX	BG39-022XX	BG39-023XX	BG39-024XX
BG39-025XX	BG39-026XX	BG39-027XX	BG39-028XX
BG39-029XX	BG39-030XX	BG39-031XX	BG39-032XX
BG39-033XX	BG39-034XX	BG39-035XX	BG39-036XX
BG39-037XX	BG39-038XX	BG39-039XX	BG39-040XX
BG39-041XX	BG39-042XX	BG39-043XX	BG39-044XX
BG39-045XX	BG39-046XX	BG39-047XX	BG39-048XX
BG39-049XX	BG39-050XX	BG39-051XX	BG39-052XX
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BG39-074XX	BG39-075XX	BG39-076XX	BG39-077XX
BG39-078XX	BG39-079XX	BG39-080XX	BG39-081XX
BG39-082XX	BG39-083XX	BG39-084XX	BG39-085XX
BG39-086XX	BG39-087XX	BG39-088XX	BG39-089XX
BG39-090XX	BG39-091XX	BG39-092XX	BG39-093XX
BG39-094XX	BG39-095XX	BG39-096XX	BG39-097XX
BG39-098XX	BG39-099XX	BG40-001XX	BG40-002XX
BG40-003XX	BG40-004XX	BG40-005XX	BG40-006XX
BG40-007XX	BG40-008XX	BG40-009XX	BG40-010XX
BG40-011XX	BG40-012XX	BG40-013XX	BG40-014XX
BG40-015XX	BG40-016XX	BG40-017XX	BG40-018XX
BG40-019XX	BG40-020XX	BG40-021XX	BG40-022XX
BG40-023XX	BG40-024XX	BG40-025XX	BG40-026XX
BG40-027XX	BG40-028XX	BG40-029XX	BG40-030XX

BG40-031XX	BG40-032XX	BG40-033XX	BG40-034XX
BG40-035XX	BG40-036XX	BG40-037XX	BG40-038XX
BG40-039XX	BG40-040XX	BG40-041XX	BG40-042XX
BG40-043XX	BG40-044XX	BG40-045XX	BG40-046XX
BG40-047XX	BG40-048XX	BG40-049XX	BG40-050XX
BG40-051XX	BG40-052XX	BG40-053XX	BG40-054XX
BG40-056XX	BG40-057XX	BG40-058XX	BG40-059XX
BG40-060XX	BG40-061XX	BG40-062XX	BG40-063XX
BG40-064XX	BG40-065XX	BG40-066XX	BG40-067XX
BG40-068XX	BG40-069XX	BG40-070XX	BG40-071XX
BG40-072XX	BG40-073XX	BG40-074XX	BG40-075XX
BG40-076XX	BG40-077XX	BG40-078XX	BG40-079XX
BG40-080XX	BG40-081XX	BG40-082XX	BG40-083XX
BG40-084XX	BG40-085XX	BG40-086XX	BG40-087XX
BG40-088XX	BG40-089XX	BG40-090XX	BG40-091XX
BG40-092XX	BG40-093XX	BG40-094XX	BG40-095XX
BG40-096XX	BG40-097XX	BG40-098XX	BG40-099XX
BG43-001XX	BG43-002XX	BG43-003XX	BG43-004XX
BG43-005XX	BG43-006XX	BG43-007XX	BG43-008XX
BG43-009XX	BG43-010XX	BG43-011XX	BG43-012XX
BG43-013XX	BG43-014XX	BG43-015XX	BG43-016XX
BG43-017XX	BG43-018XX	BG43-019XX	BG43-020XX
BG43-021XX	BG43-022XX	BG43-023XX	BG43-024XX
BG43-025XX	BG43-026XX	BG43-027XX	BG43-028XX
BG43-029XX	BG38-00102	BC17-21100	BC17-21130
BG38-02200	BG38-02201	BG38-02300	BG38-02301
BG38-02401	BG38-02501	BG38-02601	BG38-02701
BG38-01401	BG38-01501	BG37-00200	BG37-00201
BG37-00381	BG37-00481	X=0,1,2,3,4,5,6,7,8,9	
Remark: All models are identical in the same PCB layout, interior structure and electrical circuits. The only differences are the model name and appearance color for commercial purpose.			

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.2 (0)	**GENERAL TEST REQUIREMENTS**		P
1.2 (0.3)	More sections applicable ..... :	Yes ☐ No ☒ Section/s:	
1.2 (0.5)	Components	(see Annex 1)	
1.2 (0.7)	**Information for luminaire design in light sources standards**		
1.2 (0.7.2)	Light source safety standard .....:	EN 62031	
	Luminaire design in the light source safety standard		N/A
1.4 (2)	**CLASSIFICATION OF LUMINAIRES**		P
1.4 (2.2)	Type of protection .....:	Class II	
1.4 (2.3)	Degree of protection .....:	IP65	
1.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces .....:	Yes ☒ No ☐	
1.4 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	
	Luminaire for rough service .....:	Yes ☐ No ☒	
1.5 (3)	**MARKING**		P
1.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N/A
1.5 (3.3.2)	Nominal frequency in Hz	50/60	P
1.5 (3.3.3)	Operating temperature		N/A
1.5 (3.3.5)	Wiring diagram		N/A
1.5 (3.3.6)	Special conditions		N/A
1.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.5 (3.3.8)	Limitation for semi-luminaires		N/A
1.5 (3.3.9)	Power factor and supply current		N/A
1.5 (3.3.10)	Suitability for use indoors		N/A
1.5 (3.3.11)	Luminaires with remote control		N/A
1.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
1.5 (3.3.13)	Specifications of protective shields		N/A
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5 (3.3.16)	Rough service luminaire		N/A
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.5 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		P
1.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.5 (3.3.23)	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
1.5 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
1.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
1.6 (4)	**CONSTRUCTION**		P
1.6 (4.2)	Components replaceable without difficulty		P
1.6 (4.3)	Wireways smooth and free from sharp edges		P
1.6 (4.4)	**Lampholders**		N/A
1.6 (4.4.1)	Integral lampholder		N/A
1.6 (4.4.2)	Wiring connection		N/A
1.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
1.6 (4.4.4)	Positioning		N/A
	- pressure test (N) .....:		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N) .....:		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
1.6 (4.4.5)	Peak pulse voltage		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.4.6)	Centre contact		N/A
1.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.6 (4.4.8)	Lamp connectors		N/A
1.6 (4.4.9)	Caps and bases correctly used		N/A
1.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
1.6 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.6 (4.6)	**Terminal blocks**		**N/A**
	Tails		N/A
	Unsecured blocks		N/A
1.6 (4.7)	**Terminals and supply connections**		**P**
1.6 (4.7.1)	Contact to metal parts		P
1.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		N/A
1.6 (4.7.3)	Terminals for supply conductors		P
1.6 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
1.6 (4.7.4)	Terminals other than supply connection		P
1.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
1.6 (4.8)	**Switches**		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.9)	**Insulating lining and sleeves**		**P**
1.6 (4.9.1)	Retainment		P
	Method of fixing .....:		P
1.6 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (C) .....:		N/A
1.6 (4.10)	**Double or reinforced insulation**		P
1.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
1.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
1.6 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N/A
1.6 (4.10.4)	Protective impedance device		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
1.6 (4.11)	**Electrical connections and current-carrying parts**		**P**
1.6 (4.11.1)	Contact pressure		P
1.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
1.6 (4.11.3)	Screw locking:		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- spring washer		N/A
	- rivets		N/A
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood or mounting surface		P
1.6 (4.11.6)	Electro-mechanical contact systems		N/A
1.6 (4.12)	**Screws and connections (mechanical) and glands**		N/A
1.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	0,6; Fixed LED module	P
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
1.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm) .....:		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
1.6 (4.12.5)	Screwed glands; force (Nm) .....:		N/A
1.6 (4.13)	**Mechanical strength**		**P**
1.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:		N/A
	- other parts; energy (Nm) .....:	Plastic enclosure: 0,35	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
1.6 (4.13.2)	Metal parts have adequate mechanical strength		P
1.6 (4.13.3)	Straight test finger		P
1.6 (4.13.4)	Rough service luminaires		P
	- IP54 or higher	IP65	P
	a) fixed		P
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.13.6)	Tumbling barrel		N/A
1.6 (4.14)	**Suspensions, fixings and means of adjusting**		**P**
1.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	0.84 x 4 = 3.36kg	P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm).....:		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) .....:		N/A
	Metal rod. diameter (mm) .....:		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) .....:		—
	Stress in conductors (N/mm²) .....:		N/A
	Mass (kg) of semi-luminaire .....:		N/A
	Bending moment (Nm) of semi-luminaire .....:		N/A
1.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....:		N/A
	- strands broken.....:		N/A
	- electric strength test afterwards		N/A
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.6 (4.14.5)	Guide pulleys		N/A
1.6 (4.14.6)	Strain on socket-outlets		N/A
1.6 (4.15)	**Flammable materials**		**P**
	- glow-wire test 650 C .....:	See Test Table 1.15 (13.3.2)	P
	- spacing 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.6 (4.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
	No lamp control gear .....:	(compliance with Section 12)	P
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
1.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.6 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
1.6 (4.18)	**Resistance to corrosion**		**P**
1.6 (4.18.1)	- rust-resistance		N/A
1.6 (4.18.2)	- season cracking in copper		P
1.6 (4.18.3)	- corrosion of aluminium		N/A
1.6 (4.19)	Ignitors compatible with ballast		N/A
1.6 (4.20)	Rough service vibration		N/A
1.6 (4.21)	**Protective shield**		N/A
1.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.6 (4.21.3)	No direct path		N/A
1.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 1.15 (13.3.2)	N/A
1.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
1.6 (4.23)	Semi-luminaires comply Class II		N/A
1.6 (4.24)	**Photobiological hazards**		**P**

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Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.6 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778 ..... :	RG0	—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2...:		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
1.6 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
1.6 (4.26)	**Short-circuit protection**		N/A
1.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
1.6 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
1.6 (4.27)	**Terminal blocks with integrated screwless earthing contacts**		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05		N/A
	Voltage drop test, resistance < 0,05		N/A
1.6 (4.28)	**Fixing of thermal sensing control**		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Max. temperature on adhesive material (C) .....:		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
1.6 (4.29)	**Luminaires with non-replaceable light source**		N/A
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
1.6 (4.30)	**Luminaires with non-user replaceable light source**		P
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	Minimum two fixing means		N/A
1.6 (4.31)	**Insulation between circuits**		**P**
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
1.6 (4.31.1)	SELV circuits		N/A
	Used SELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of SELV circuits from LV supply		N/A
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
1.6 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
1.6 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
1.6 (4.32)	**Overvoltage protective devices**		N/A
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A

1.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
1.7 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		P
1.7 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and $f_{U_{OUT}}$ according IEC 61347-1, clause 7.1, item w	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.8 (7)	**PROVISION FOR EARTHING**		N/A
1.8 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 .....:		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
1.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
1.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
1.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
1.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
1.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
1.9 (14)	**SCREW TERMINALS**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire		N/A
1.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		P
	Separately approved; component list .....:		N/A
	Part of the luminaire .....:		N/A
1.10 (5)	**EXTERNAL AND INTERNAL WIRING**		P
1.10 (5.2)	**Supply connection and external wiring**		**P**
1.10 (5.2.1)	Means of connection .....:		P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
1.10 (5.2.2)	Type of cable .....:		P
	Nominal cross-sectional area (mm²).....:		P
	Cables equal to IEC 60227 or IEC 60245		P
1.10 (5.2.3)	Type of attachment, X, Y or Z		P
1.10 (5.2.5)	Type Z not connected to screws		N/A
1.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
1.10 (5.2.9)	Locking of screwed bushings		N/A
1.10 (5.2.10)	Cord anchorage:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
1.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
1.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N).....:	30	P
	- torque test: torque (Nm) .....:	0.08	P
	- displacement 2 mm	1.08	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
1.10 (5.2.11)	External wiring passing into luminaire		P
1.10 (5.2.12)	Looping-in terminals		N/A
1.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
1.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No unsafe compatibility		N/A
1.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
1.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
1.10 (5.3)	**Internal wiring**		**P**
1.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A).....:		N/A
	- temperatures .....:	(see Annex 2)	N/A
	Green-yellow for earth only		N/A
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm²).....:	Min. 0,75	P
	Insulation thickness (mm) .....:	0,65	P
	Extra insulation added where necessary		N/A
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm²).....:		P
1.10 (5.3.1.3)	Double or reinforced insulation for class II		P
1.10 (5.3.1.4)	Conductors without insulation		N/A
1.10 (5.3.1.5)	SELV current-carrying parts		N/A
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.10 (5.3.2)	Sharp edges etc.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360		P
1.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
1.10 (5.3.4)	Joints and junctions effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		P
1.10 (5.3.6)	Wire carriers		P
1.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
1.10 (5.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		**P**
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	P
	No damage to luminaire wiring after test		P

1.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
1.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		N/A
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		N/A
	Double-ended tungsten filament lamp		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.11 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N/A
1.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
1.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load (V) .....:		N/A
	- no-load voltage (V) .....:		N/A
	- touch current if applicable (mA) .....:		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage (V) .....:		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
1.11 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		P
1.11 (8.2.7)	Luminaire other than below with capacitor 0,5 F not exceed 50 V 1 min after disconnection		P
	Portable luminaire with capacitor 0,1 F (0.25) not exceed 34 V 1 s after disconnection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Other luminaires with capacitor 0,1 F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A
1.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
1.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13		
1.12 (12.2)	**Selection of lamps and ballasts**		☒
	Lamp used according Annex B	(Lamp used see Annex 2)	
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	
1.12 (12.3)	**Endurance test**		**P**
	a) mounting-position .....:	Ceiling mounting	
	b) test temperature (C).....:	50	
	c) total duration (h) .....:	240	
	d) supply voltage (V).....:	264 V(for driver)	
	d) if not equipped with controlgear, constant voltage/current (V) or (A) .....:		
	e) luminaire ceases to operate		
1.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.12 (12.4)	**Thermal test (normal operation)**	(see Annex 2)	P
1.12 (12.5)	**Thermal test (abnormal operation)**	(see Annex 2)	P
1.12 (12.6)	**Thermal test (failed lamp control gear condition):**		N/A
1.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) .....:		
	- case of abnormal conditions.....:		
	- electronic lamp control gear		N/A
	- measured winding temperature (C): at 1,1 Un .....:		
	- measured mounting surface temperature (C) at 1,1 Un .....:		N/A
	- calculated mounting surface temperature (C) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- track-mounted luminaires		N/A
1.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions.....:		
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (C) .....:		N/A
	- track-mounted luminaires		N/A
1.12 (12.7)	**Thermal test (failed lamp control gear in plastic luminaires):**		N/A
1.12 (12.7.1)	Luminaire without temperature sensing control		N/A
1.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....:		
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions.....:		
	- Ballast failure at supply voltage (V) .....:		
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions.....:		
	- measured winding temperature (C): at 1,1 Un.....:		
	- measured temperature of fixing point/exposed part (C): at 1,1 Un.....:		
	- calculated temperature of fixing point/exposed part (C) .....:		
	Ball-pressure test..... :	See Test Table 1.15 (13.2.1)	N/A
1.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions.....:		
	- measured winding temperature (C): at 1,1 Un.....:		
	- measured temperature of fixing point/exposed part (C): at 1,1 Un.....:		
	- calculated temperature of fixing point/exposed part (C) .....:		
	Ball-pressure test.....:	See Test Table 1.15 (13.2.1)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions.....:		
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link .....:	Yes ☐ No ☐	
	- manual reset cut-out.....:	Yes ☐ No ☐	
	- auto reset cut-out .....:	Yes ☐ No ☐	
	- case of abnormal conditions.....:		
	- highest measured temperature of fixing point/ exposed part (C): .....:		
	Ball-pressure test:.....:	See Test Table 1.15 (13.2.1)	N/A
1.13 (9)	**RESISTANCE TO DUST AND MOISTURE**		P
1.13 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP .....:	IP65	
	- mounting position during test .....:	Ceiling mounting	
	- fixing screws tightened; torque (Nm).....:	—	
	- tests according to clauses .....:	Clause 9.2.0 of EN 60598-1	
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		P
	c.1) For luminaires without drain holes – no water entry		P
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight or pressure watertight luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		P
1.13 (9.3)	Humidity test 48 h	25 C; 93 % RH	P
1.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
1.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø .....:	metal foil	
	Insulation resistance (M)....:		
	SELV		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface .....:		N/A
	- between current-carrying parts and metal parts of the luminaire .....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	100MΩ	P
	- between live parts and mounting surface.....:	100MΩ	P
	- between live parts and metal parts .....:	100MΩ	P
	- between live parts of different polarity through action of a switch.....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
1.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V) .....:		N/A
	SELV		N/A

EN 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface .....:		N/A
	- between current-carrying parts and metal parts of the luminaire .....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	1480V	P
	- between live parts and mounting surface.....:	2960V	P
	- between live parts and metal parts .....:	2960V	P
	- between live parts of different polarity through action of a switch.....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
1.14 (10.3)	Touch current or protective conductor current (mA).:	0.05mA	P

1.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
1.15 (13.2.1)	Ball-pressure test.....:	See Test Table 1.15 (13.2.1)	P
1.15 (13.3.1)	Needle-flame test (10 s) .....:	See Test Table 1.15 (13.3.1)	P
1.15 (13.3.2)	Glow-wire test (650 C) .....:	See Test Table 1.15 (13.3.2)	P
1.15 (13.4)	Proof tracking test (IEC 60112) .....:	See Test Table 1.15 (13.4)	N/A

1.7 (11.2)	**TABLE I: Creepage distances and clearances**							**P**
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages							**N/A**
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*							**P**
	Insulation type **	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	B	3.0	1.5	11.1	3.0	2.5	11.1	
Working voltage (V).....:					240			
PTI.....:					< 600 ☒ ≥ 600 ☐			
Pulse voltage or U_P if applicable (kV) .....:								
Supplementary information: Different polarity of live part (L and N)								
Distance 2:	B	3.0	1.5	11.1	3.0	2.5	11.1	
Working voltage (V).....:								
PTI.....:					< 600 ☒ ≥ 600 ☐			
Pulse voltage or U_P if applicable (kV) .....:								
Supplementary information: Different polarity of live part, two ends of the fuse (L and N)								
Distance 3:	R	6.2	3.0	11.1	6.2	5.0	11.1	
Working voltage (V).....:								
PTI.....:					< 600 ☒ ≥ 600 ☐			
Pulse voltage or U_P if applicable (kV) .....:								
Supplementary information: Between live part and enclosure								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.

1.7 (11.2)	TABLE II: Creepage distances and clearances							N/A
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages								
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2								
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:								**N/A**
Working voltage (V).....:								
Frequency if applicable (kHz).....:								
PTI.....:					< 600 ☐	≥ 600 ☐		
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:								
Supplementary information:								
Distance 2:								**N/A**
Working voltage (V).....:								
Frequency if applicable (kHz).....:								
PTI.....:					< 600 ☐	≥ 600 ☐		
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:								
Supplementary information:								
Distance 3:								**N/A**
Working voltage (V).....:								
Frequency if applicable (kHz).....:								
PTI.....:					< 600 ☐	≥ 600 ☐		
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:								
Supplementary information:								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced.

1.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm) .....:	2		
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (C)	Impression diameter (mm)
Plastic enclosure	See annex 1	125	1,12
Supplementary information:			

1.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Plastic enclosure	See annex 1	10	No	0	P
Supplementary information:					

1.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)			P
Glow wire temperature .....:	650°C			
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Plastic enclosure	See annex 1	no	0	P
Supplementary information:				

1.15 (13.4)	TABLE: Proof tracking test (IEC 60112)				N/A
Test voltage PTI .....:	175 V				
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Supplementary information:					

ANNEX 1	TABLE: Critical components information	

Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
LED Chip	B	Guangzhou Hongli Opto-Electronic Co., Ltd.	2835	0.9W, 8.9-9.1V, 3000K Ra>80	EN 62471	CE
LED PCB	B	XIAMEN TOPSUN ELECTRONIC TECHNOLOGY CO LTD	TS-002	V-0, 130℃	UL 796	UL (E252242)
Internal Wire	B	XINYA ELECTRONIC CO LTD	3266	26AWG, 300V, 125℃	--	UL (E170689)
Fuse(F1)	B	Shenzhen Great Electronics Co., Ltd.	--	10Ω/1W	EN60127-1 EN60127-3	VDE
Led Power Supply	B	SEE Lighting	S200618-MA1077	15W, 220-240V, 50/60Hz		CE
Plastic Enclosure	B	FuJian HuaSu Innovative Plastics Materials Co., Ltd.	HS5314-WT707H	PC/ABS, V-0, 125℃	UL94	UL (E171666)
PCB for LED Driver	B	XIAMEN TOPSUN ELECTRONIC TECHNOLOGY CO LTD	AL-01	V-0, 130℃	UL 796	UL (E313009)
Insulation Tape	B	Chang Chun Plastics Co., Ltd.	T357	V-0, 150℃	--	UL (E59481)
Winding	B	Wuxi Jufeng Compound Line Co., Ltd.	xUEWH*$	Pri.winding:N1:¢0.21mm	UL 1446	UL (E206882)
Bobbin	B	Chang Chun Plastics Co., Ltd.	T357	V-0, 150℃	UL94	UL (E59481)

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

The codes above have the following meaning:

A - The component is replaceable with another one, also certified, with equivalent characteristics

B - The component is replaceable if authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

ANNEX 2	TABLE: Thermal tests of Section 12		P
1	Type reference.....:	BG38-00102	
	Lamp used .....:	LED	
	Lamp control gear used .....:	--	
	Mounting position of luminaire .....:	As in the normal use	
	Supply wattage (W).....:	12,8(240V)	
	Supply current (A) .....:	0.064(240V)	
	Temperatures in test 1 - 4 below are corrected for ta (C) .....:	40	
	- abnormal operating mode.....:		
1.12 (12.4)	- test 1: rated voltage .....:		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current .....:	1.06x240V=254.4V	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:		
	Through wiring or looping-in wiring loaded by a current of A during the test .....:		
1.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....:	1,1 x 240V = 264V	

Temperature measurements (C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Mounting surface	22,0		55,4		90	39,4	130
Input wire	22,0		44,7		90		
C2 body	22,0		61,2		105		
PCB near U1	22,0		72,3		130		
Output wire	22,0		40,2		80		
LED PCB	22,0		45,2		Ref.		
Enclosure inside	22,0		48,4		Ref.		
Enclosure outside	22,0		40.8		90		

Supplementary information:

ANNEX 2	TABLE: Thermal tests of Section 12		P
3-1	Type reference ..... :	BG38-00102	
	Lamp used ..... :	LED	
	Lamp control gear used ..... :	--	
	Mounting position of luminaire ..... :	As in the normal use	
	Supply wattage (W) ..... :		
	Supply current (A) ..... :		
	Temperatures in test 1 - 4 below are corrected for ta (C) ..... :	40	
	- operating mode ..... :	- max. output current; - output short-circuited	
1.12 (12.4)	- test 1: rated voltage ..... :		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current ..... :	1,06 x 240V = 264V	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :		
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :		
1.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current ..... :		

Temperature measurements (C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Input wire to LED	21,5		Max. 56,6		80		

Supplementary information:

ANNEX 3	**Screw terminals (part of the luminaire)**		N/A
(14)	**SCREW TERMINALS**		N/A
(14.2)	Type of terminal ..... :		
	Rated current (A) ..... :		
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm^2) ..... :		
(14.3.3)	Conductor space (mm) ..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :		N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) ..... :		N/A
	Torque (Nm)..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

ANNEX 4	**Screwless terminals (part of the luminaire)**		N/A
(15)	**SCREWLESS TERMINALS**		N/A
(15.2)	Type of terminal ..... :		
	Rated current (A) ..... :		
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples) ..... :		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples) ..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples)..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples) ..... :		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples) ..... :		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) ..... :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) ..... :		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) ..... :		N/A

(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N) ..... :		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

(15.6.3.1) (15.6.3.2)	**TABLE: Contact resistance test / Heating tests**									N/A
	Voltage drop (mV) after 1 h									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										N/A
	Voltage drop of two inseparable joints									N/A
	Voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV).....:									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										N/A
	Voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV).....:									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										N/A
	Continued ageing: voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV).....:									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										N/A
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV).....:									
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										N/A
										N/A
Supplementary information:										

Attachment 1: European Group Differences and National Differences for IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60598-2-1 **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires			
Differences according to ..... EN 60598-2-1:1989 used in conjunction with EN 60598-1:2015 + A1:2018			
Annex Form No. ..... EU_GD_IEC60598_2_1F **Annex Form Originator.....** IMQ S.p.A. **Master Annex Form.....** 2018-08-28			
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Attachment 1: European Group Differences and National Differences for IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	CENELEC COMMON MODIFICATIONS (EN)		P
1.5 (3)	**MARKING**		N/A
1.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		N/A
1.6 (4)	**CONSTRUCTION**		P
1.6 (4.11.6)	Electro-mechanical contact systems		P
1.10 (5)	**EXTERNAL AND INTERNAL WIRING**		N/A
1.10 (5.2.1)	Connecting leads		N/A
	- without a means for connection to the supply		N/A
	- terminal block specified		N/A
	- relevant information provided		N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N/A
1.10 (5.2.2)	Cables equal to EN 50525		N/A
	Replace table 5.1 – Supply cord		N/A
1.12 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		**P**
1.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		P

Attachment 1: European Group Differences and National Differences for IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket-outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		N/A d
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		N/A
	- 850 C for luminaires in stairways and horizontal travel paths		N/A
	- 650 C for indoor luminaires		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

Attachment 2: Additional requirement test for EN 62031

4	**GENERAL REQUIREMENTS**		P
4.4	Integral modules tested assembled in the luminaire		P
4.5	Independent modules complies with requirements in IEC 60598-1		N/A

5	**GENERAL TEST REQUIREMENTS**		P
5.5	SELV-operated LED modules comply with Annex I of IEC 61347-2-13	(see Annex 1)	N/A
	General conditions for tests in Annex A	(see Annex A)	P

6	**CLASSIFICATION**		P
	Built-in module .....:	Yes ☐ No ☒	
	Independent module.....:	Yes ☐ No ☒	
	Integral module .....:	Yes ☒ No ☐	
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		

7	**MARKING**	**N/A**

8	**TERMINALS**	**N/A**

9 (9)	**PROVISION FOR PROTECTIVE EARTHING**	**N/A**

10 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**	**N/A**

11 (11)	**MOISTURE RESISTANCE AND INSULATION**		**P**
	After storage 48 h at 91-95% relative humidity and 20-30 C measuring of insulation resistance with d.c. 500 V (M):		P
	For basic insulation 2 M .....:	> 100 M	P
	For double or reinforced insulation 4 M .....:	> 100 M	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		N/A

12 (12)	**ELECTRIC STRENGTH**		**P**
	Immediately after clause 11 electric strength test for 1 min		N/A
	Basic insulation for SELV, test voltage 500 V		N/A
	Working voltage 50 V, test voltage 500 V		N/A
	Working voltage > 50 V 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V		P
	Supplementary insulation, 2U + 1000 V		N/A

	Double or reinforced insulation, 4U + 2000 V		P
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		N/A

13 (14)	**FAULT CONDITIONS**		**P**
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected		N/A
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)		N/A
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664-3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile		N/A
- (14.4)	Short-circuit across electrolytic capacitors		N/A
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance 1 M .....:	>100 M	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		N/A
13.2	**Overpower condition**		**P**
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P
	Molten material does not ignite tissue paper, spread below the module		N/A

15	**CONSTRUCTION**		**P**
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P

16 (16)	**CREEPAGE DISTANCES AND CLEARANCES**	**N/A**

17 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**	**N/A**
	Cl. 17 refer to Cl. 17 of IEC 61347-1 which refer to Cl. 4.11 and 4.12 of IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)	☒

18 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**	**N/A**

19 (19)	**RESISTANCE TO CORROSION**		**N/A**
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

20	**INFORMATION FOR LUMINAIRE DESIGN**		**N/A**
	Information in Annex D (informative)		

21	**HEAT MANAGEMENT**		**N/A**
21.1	**General**		**N/A**
	Exchangeability is safeguarded by cap or base		N/A
21.2	**Heat-conducting foil and paste**		**N/A**
	Heat-conducting foil delivered with the module if necessary		N/A

22	**PHOTOBIOLOGICAL SAFETY**		**P**
22.1	**UV radiation**		**N/A**
	Luminous radiation not exceed 2mW/klm		N/A
22.2	**Blue light hazard**		**P**
	Assessed according to IEC TR 62778	RG0	P
22.3	**Infrared radiation**		**N/A**
	Requirements for infrared radiation when required		N/A

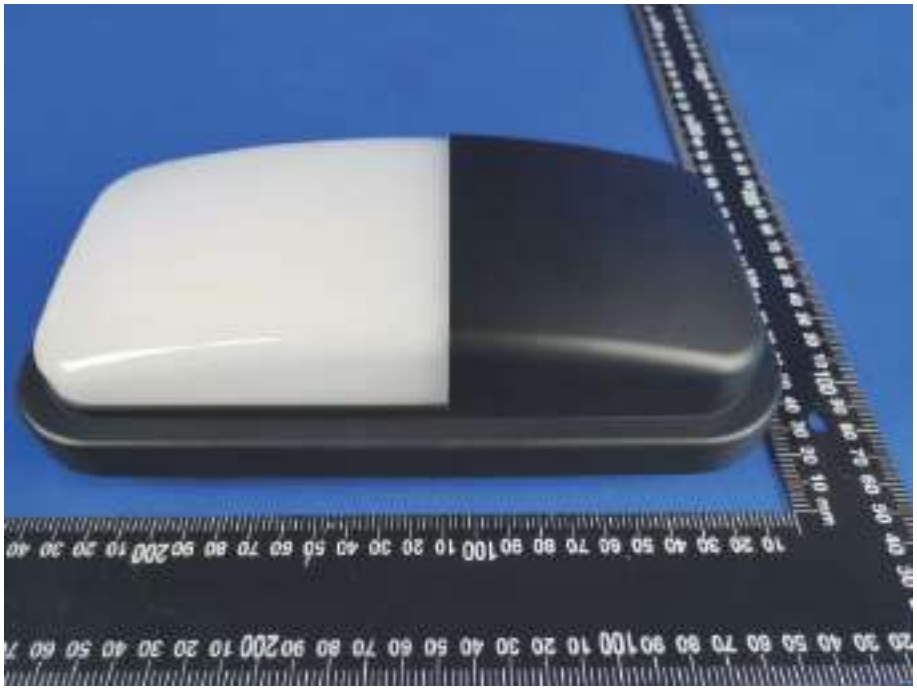
A	**ANNEX A - TESTS**		**P**
	All tests performed in accordance with the advice given in Annex H of IEC 61347-1, if applicable		P

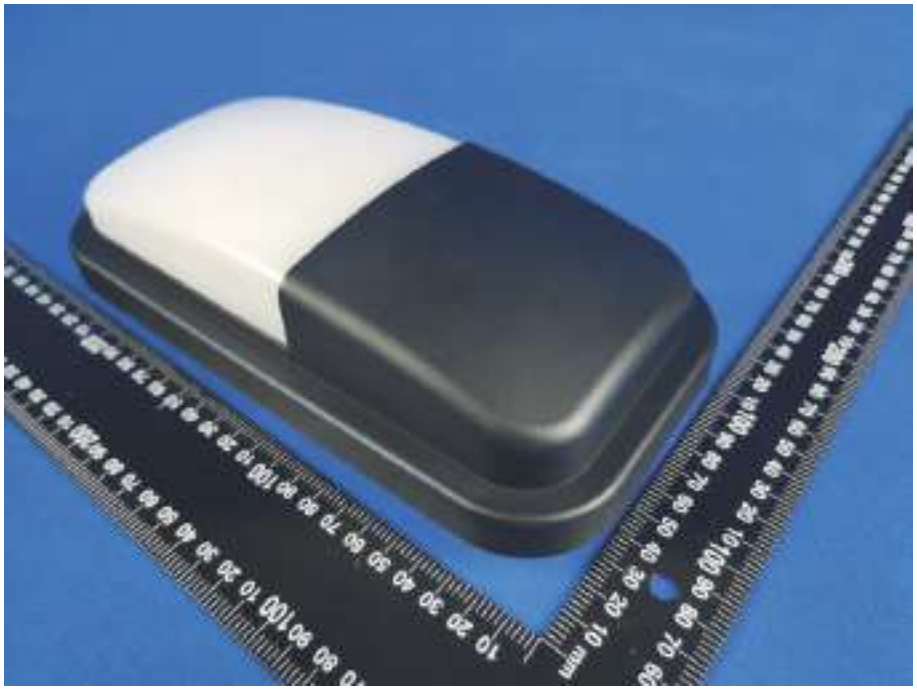
13 (14)	**TABLE: tests of fault conditions**	**P**
Part	**Simulated fault**	**Hazard**
C2	Short circuited, Fuse opened, no damage	No

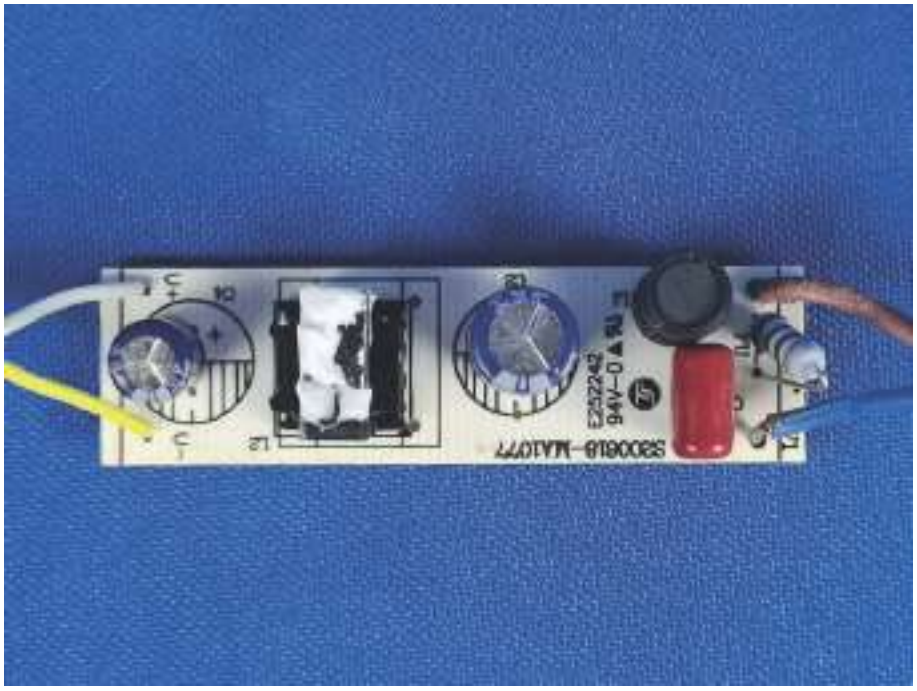
Attachment 3: EN 62493

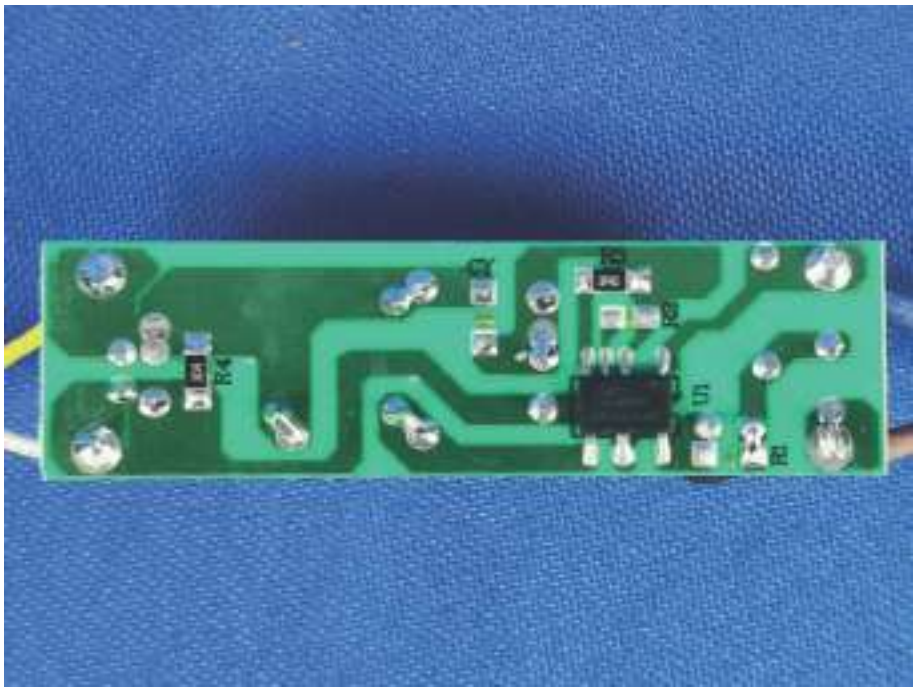
4	LIMITS (Test summary)		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
4.2.3	Unintentional radiating part of lighting equipment	factor F ≤ 1	N/A
4.3	Intentional radiating part of lighting equipment	No intentional radiating from EUT	N/A

Photo documentation









(EBO authenticate the photo on original report only)
*** End of Report ***