TEST REPORT

EN IEC 60598-2-20

Luminaires - Part 2-20: Particular requirements

Lighting chains

Report Number.....:	RHDTL260316027
Total number of pages.....	50 pages
Tested by (name + signature)..... :	Tony
Approved by (name + signature)...:	Chris Zhao
Testing Laboratory Name.....:	Dongguan HDTL Technology Co., Ltd.
Address.....:	Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.
Applicant's name.....:	BIGHOUSE LIGHTING INC
Address.....:	18121 E Hampden Ave Unit C 1207, Aurora, CO 80013, US
Manufacturer's name.....:	BIGHOUSE LIGHTING INC
Address.....:	18121 E Hampden Ave Unit C 1207, Aurora, CO 80013, US
Test specification:	
Standard.....:	☒ EN IEC 60598-2-20:2024+A11:2024 ☒ EN IEC 60598-1:2021+A11:2022
Test procedure..... :	CE-LVD
Non-standard test method..... :	N/A
Test item description..... :	Christmas lights
Trade Mark.....:	N/A
Model/Type reference.....:	20100C-31, 20200C-31, 20300C-31, 20B500C-31, 20B200C-31, 20098C-4.5, 20120DC-31, 20C138C-31, 20B360C-31
Ratings.....:	AC220-240V, 50-60Hz, 0.12A, 3.6W, PF:0.4

General disclaimer:

This report is only for applicant use. Any copying this report to/for any other person or entity, and use our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

List of Attachments:

Attachment 1: 2 pages National deviation for:EN IEC 60598-2-20:2024+A11:2024,
EN IEC 60598-1:2021+A11:2022;
Attachment 2 : 5 pages of photos.

Summary of testing:

The tested samples fulfilled the requirements of specified standards.

Testing location:

Dongguan HDTL Technology Co., Ltd.

Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.

Summary of compliance with National Differences:

List of countries addressed: European National Differences.

EU Group Differences: YES

EU Special National Conditions : N/A

EU A-deviations : N/A

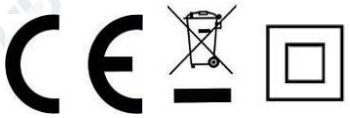
Remark:

N/A

Copy of marking plate:

The artwork below may be only a draft.

Christmas lights
Model: 20100C-31
Rated: AC220-240V, 50-60Hz, 0.12A, 3.6W, PF:0.4
Ta:40℃



BIGHOUSE LIGHTING INC
MADE IN CHINA

Importer: xxx
Address: yyy

Note:

1. xxx means importer company name; yyy means importer company address information.
2.The marking for the other models are identical as above except the model no. only.
3.As declared by client that the name (or registered trade mark) and address of the certificate holder (manufacturer) or the importer or authorized representative based within the European Economic Area will be clearly affixed on the product or where that is not possible, on the packaging or in a document accompanying the product.
4.The height of letters and numerals was not less than 2mm.
5.The height of symbol “  ” was not less than 7mm.
6.The height of the other graphical symbols was not less than 5mm.

Test item particulars.....:	See test report
Classification of installation and use.....:	Class II
Supply Connection.....:	Plug
Possible test case verdicts:	
- test case does not apply to the test object.....:	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.....:	Mar. 16, 2026
Date (s) of performance of tests.....:	Mar. 16, 2026 to Mar. 31, 2026
General remarks:	
"(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 ☐ comma / ☒ point is used as the decimal Decarator.	
Name and address of factory (ies).....:	Same as manufacturer
General product information:	
1.The appliance/equipment is “Christmas lights” with models “Test Model : 20100C-31”, class II appliance only for indoor use only. 2. All test modes are perform on 20100C-31. 3.The manufacturer's regulations ambient temperature is 40°C.	

EN IEC 60598-2-20			
Clause	Requirement + Test	Result - Remark	Verdict
20.4 (0)	**GENERAL TEST REQUIREMENTS**		P
20.4 (0.1)	Information for luminaire design considered.....:	Standard Yes ☒ No ☐	—
20.4 (0.3)	More sections applicable..... :	Yes ☐ No ☒	—
20.4 (0.5)	Components	(See Annex 1)	—

20.5 (2)	**CLASSIFICATION**		P
20.5 (2.2)	Type of protection .....:	Class II	—
20.5 (2.3)	Degree of protection..... :	IP44	—
20.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces..... :	Yes ☒ No ☐	—
20.5 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—

20.6 (3)	**MARKING**		P
20.6 (3.2)	Mandatory markings		P
	Position of the marking	On the enclosure	P
	Format of symbols/text		P
20.6 (3.3)	Additional information	User manual	P
	Language of instructions	English	P
20.6 (3.3.1)	Combination luminaires		N/A
20.6 (3.3.2)	Nominal frequency in Hz	50-60Hz	P
20.6 (3.3.3)	Operating temperature		N/A
20.6 (3.3.4)	Symbol or warning notice		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
20.6 (3.3.5)	Wiring diagram		N/A
20.6 (3.3.6)	Special conditions		N/A
20.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
20.6 (3.3.8)	Limitation for semi-luminaires		N/A
20.6 (3.3.9)	Power factor and supply current		P
20.6 (3.3.10)	Suitability for use indoors		N/A
20.6 (3.3.11)	Luminaires with remote control		N/A
20.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
20.6 (3.3.13)	Specifications of protective shields		N/A
20.6 (3.3.14)	Symbol for nature of supply	~	P
20.6 (3.3.15)	Rated current of socket outlet		N/A
20.6 (3.3.16)	Rough service luminaire		N/A
20.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
20.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
20.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
20.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
20.6 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided	non-user replaceable light source	P
	Cautionary symbol		N/A
20.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
20.6 (3.4)	Test with water	15 s with water, and then	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test with hexane	15 s with hexane	P
	Legible after test	Letters and numbers are legible no curling	P
	Label attached	No easily removable	P
20.6.2 (-)	**Lighting chain marking**		**P**
	Rated voltage and wattage marked on the chain		P
	Durable non-removable label if information on the cable		P
20.6.3 (-)	**Lighting chain and packing marking**		N/A
	Marking if only for indoor use		N/A
20.6.4 (-)	**Marking on the packing or instructions**		P
	Marking a) – l)		P

20.7 (4)	**CONSTRUCTION**		P
20.7 (4.2)	Components replaceable without difficulty		P
20.7 (4.3)	Wireways smooth and free from sharp edges		P
20.7 (4.4)	**Lampholders**		N/A
20.7 (4.4.1)	Integral lampholder		N/A
20.7 (4.4.2)	Wiring connection		N/A
20.7 (4.4.3)	Lampholder for end- to- end mounting		N/A
20.7 (4.4.5)	Peak pulse voltage		N/A
20.7 (4.4.6)	Centre contact		N/A
20.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
20.7 (4.4.8)	Lamp connectors		N/A
20.7 (4.4.9)	Caps and bases correctly used		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
20.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
20.7 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
20.7 (4.6)	**Terminal blocks**		N/A
	Tails		N/A
	Unsecured blocks		N/A
20.7 (4.7)	**Terminals and supply connections**		N/A
20.7 (4.7.1)	Contact to metal parts		N/A
20.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
20.7 (4.7.3)	Terminals for supply conductors		N/A
20.7 (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 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
20.7 (4.7.4)	Terminals other than supply connection		N/A
20.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
20.7 (4.7.6)	Multi-pole plug		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- test at 30 N		N/A
20.7 (4.8)	**Switches**		P
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		P
20.7 (4.9)	**Insulating lining and sleeves**		P
20.7 (4.9.1)	Retainment		P
	Method of fixing.....:		N/A
20.7 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
20.7 (4.10)	**Double or reinforced insulation**		P
20.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
20.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
20.7 (4.10.3)	Retainment of insulation:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
20.7 (4.11)	**Electrical connections and current-carrying parts**		**P**
20.7 (4.11.1)	Contact pressure		N/A
20.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread- cutting screws		N/A
20.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
20.7 (4.11.4)	Material of current-carrying parts		P
20.7 (4.11.5)	No contact to wood or mounting surface		P
20.7 (4.11.6)	Electro-mechanical contact systems		N/A
20.7 (4.12)	**Screws and connections (mechanical) and glands**		N/A
20.7 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
20.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
20.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- lampholder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
20.7 (4.12.5)	Screwed glands; force (Nm)..... :		N/A
20.7 (4.13)	**Mechanical strength**		**P**
20.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm)..... :	0.35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
20.7 (4.13.3)	Straight test finger		P
20.7 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	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
20.7 (4.13.6)	Tumbling barrel		N/A
20.7 (4.14)	**Suspensions, fixings and means of adjusting**		N/A
20.7 (4.14.1)	Mechanical load:		N/A
	A) four times the weight		N/A
	B) torque 2,5 Nm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	Square wall lamp or independent control gear without fixing devices		N/A
20.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm²) .....:		N/A
	Mass (kg) of semi-luminaire .....:		—
	Bending moment (Nm) of semi-luminaire .....:		N/A
20.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....:		N/A
	- strands broken.....:		N/A
	- electric strength test afterwards		N/A
20.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
20.7 (4.14.5)	Guide pulleys		N/A
20.7 (4.14.6)	Strain on socket-outlets		N/A
20.7 (4.15)	**Flammable materials**		**P**
	- glow- wire test 650°C..... :	See Test Table 20.16 (13.3.2)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
20.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
20.7 (4.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
	No lamp control gear..... :	(compliance with Section 12)	N/A
	Provided with LED Driver for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
20.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
20.7 (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
20.7 (4.16.3)	Design to satisfy the test of 120.6	(see clause 120.6)	N/A
20.7 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
20.7 (4.21)	**Protective shield**		N/A
20.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	lamps		
	Shield of glass if tungsten halogen lamps		N/A
20.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
20.7 (4.21.3)	No direct path		N/A
20.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 20.16 (13.3.2)	N/A
20.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
20.7 (4.23)	Semi-luminaires comply Class II		N/A
20.7 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
20.7 (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 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
20.7 (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
20.7 (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

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Clause	Requirement + Test	Result - Remark	Verdict
	Minimum two fixing means		P
20.7 (4.31)	**Insulation between circuits**		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
	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
20.7 (4.31.1)	SELV circuits		P
	Used SELV source	＞100 MΩ	P
	Voltage ≤ ELV	＞100 MΩ	P
	Insulating of SELV circuits from LV supply	＞100 MΩ	P
	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
20.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Insulating of FELV circuits from LV supply		N/A
	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
20.7 (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 of above		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
20.7 (4.32)	**Overvoltage protective devices**		N/A
	Comply with IEC 61643-11		N/A
	External to control gear and connected to earth:		N/A
	- only in fixed luminaires		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- only connected to protective earth		N/A
20.7.2 (-)	**Lampholders**		P
	Tested as part of the lighting chain if non-standardised lampholders		N/A
	E5, E10, E14 and E27 according IEC 60238		P
	Bayonet according IEC 61184		N/A
	Insulating piercing terminals only if SELV circuit or permanent non-rewireable connections in class II chain		N/A
	Maximum voltage used for E5, E10 and small lampholders		N/A
	Body of insulating material		P
20.7.3 (-)	**Terminal blocks**		N/A
	Clause 4.6 of IEC 60598-1 referring to terminal blocks does not apply		—
20.7.4 (-)	**Terminals and supply connections**		N/A
	Comply with Annex A		N/A
20.7.5 (-)	**Gaskets**		N/A
	Gasket weather resistant if outdoor use		N/A
	Gasket remains in place and fit tightly		N/A
20.7.6 (-)	**Mechanical strength**		**P**
	Mechanical strength requirements of 4.13 of part 1 or 15 of IEC 61184		P
	Accessories comply with 4.13.6 of part 1		P
20.7.7 (-)	**Lamp bridging devices**		**N/A**
	Protection against electric shock and fire will not be impaired by bridging lamp filaments		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
20.7.8 (-)	**Control units**		P
	Forming an integral part enclosed in non-flammable insulating material tested according 20.16		N/A
	Securely fixed to the cable		N/A
	Electronic control device comply with IEC 61347-2-11		N/A
	LED driver comply with IEC 61347-2-13		P
20.7.9 (-)	**Lamp rotation**		**N/A**
	Bulb and lamp cap of push-in lamps will not rotate with a torque of 0,025 Nm		N/A
20.7.10 (-)	**Lamp insertion/withdrawal force**		**N/A**
	Pull force up to 3 N for push-in lamps		N/A
	Push-in force up to 3 N for push-in lamps		N/A
	Pull out force of between 3 N and 10 N for push-in lamps		N/A
20.7.11 (-)	**Lamp mechanical requirements**		P
	Impact test of 0,2 Nm on lamps of Class II chain:		P
	- non-removable lamps		P
	- non-standardized lamps		N/A

20.8 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
20.8 (11.2)	Creepage distances and clearances..... :	See Table 20.8 (11.2)	P
	Working voltage (V)..... :	AC220-240V	—
	Rated pulse voltage (kV)..... :	/	—
	Voltage form..... :	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI..... :	< 600 ☒ ≥ 600 ☐	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☒ Category III ☐	—

20.10 (14)	**SCREW TERMINALS**		N/A
	Decarately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire..... :	(see Annex 3)	N/A

20.10 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		N/A
	Decarately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire..... :	(see Annex 4)	N/A

20.11(5)	**EXTERNAL AND INTERNAL WIRING**		P
20.11(5.2)	**Supply connection and external wiring**		P
20.11(5.2.1)	Means of connection.....:	direct plug-in LED driver	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
20.11(5.2.2)	Type of cable.....:		N/A
	Nominal cross-sectional area (mm²).....:		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
20.11(5.2.3)	Type of attachment, X, Y or Z		N/A
20.11(5.2.5)	Type Z not connected to screws		N/A
20.11(5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
20.11(5.2.7)	Cable entries through rigid material have rounded edges		N/A
20.11(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
20.11(5.2.9)	Locking of screwed bushings		N/A
20.11(5.2.10)	Cord anchorage:		N/A
	- 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
20.11(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

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Clause	Requirement + Test	Result - Remark	Verdict
20.11(5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	type Y	P
20.11(5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N).....:	60 N	P
	- torque test: torque (Nm).....:	0.16Nm	P
	- displacement ≤ 2 mm	0.95mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		N/A
20.11(5.2.11)	External wiring passing into luminaire		N/A
20.11(5.2.12)	Looping- in terminals		N/A
20.11(5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
20.11(5.2.14)	Mains plug same protection		P
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
20.11(5.20.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
20.11(5.2.17)	No standardized interconnecting cables properly assembled		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
20.11(5.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard		P
20.11(5.3)	**Internal wiring**		P
20.11(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
20.11(5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm^2).....:		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
20.11(5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
20.11(5.3.1.3)	Double or reinforced insulation for class II		N/A
20.11(5.3.1.4)	Conductors without insulation		N/A
20.11(5.3.1.5)	SELV current-carrying parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
20.11(5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
20.11(5.3.2)	Sharp edges etc.	There is no sharp edges can damage the internal wiring	P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
20.11(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
20.11(5.3.4)	Joints and junctions effectively insulated		N/A
20.11(5.3.5)	Strain on internal wiring		N/A
20.11(5.3.6)	Wire carriers		N/A
20.11(5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
20.11.2 (-)	**Cables for lighting chains**		P
	Type of cable..... :		P
	Cables not lighter than IEC 60227 or IEC 60245 for class II chain		P
	Cables not lighter than insulation according to 5.3.1 of part 1 for class III chain		N/A
	Nominal cross-sectional area (mm^2)..... :		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Mechanical properties according 4.14.1 and 4.14.2 of part 1		N/A
20.11.3 (-)	**Cord anchorage test**		P
	Pull test 30 N 25 times on single-core cable		P
20.11.4 (-)	**Plugs and cable length**		P
	Splash-proof plug or permanent connection if for outdoor use		P
	Length of the cable between the plug and first lamp or lampholder not less than 1,5 m		P
20.11.5 (-)	**Maximum length of extendable class II lighting chains**		P
	Maximum length 100 m for 0,5 mm² cable		N/A
	Maximum length 150 m for 0,75 mm² cable		P
20.11(5.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(See Annex 2)	N/A
	No damage to luminaire wiring after test		N/A

20.12 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
20.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	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		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	requirements		
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	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
20.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
20.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
20.12 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
20.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- touch current .....:		N/A
	- no-load voltage.....:		N/A
	Other than ordinary luminaire:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- nominal voltage ..... :		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
20.12 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
20.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
20.12 (8.2.6)	Covers reliably secured		P
20.12.2 (-)	**Divisible plug**		N/A
	Divisible plug in compliance with Figure 1		N/A
	Parts of the connector do not separate with a pull force of 10 N		N/A
20.12.3 (-)	**Electrification of decorations**		N/A
	Test with flat probe		N/A
20.12.4 (-)	**Contact of push-in lampholders**		N/A
	Lampholder contacts in push-in lampholders is reliably secured		P
	Contacts move maximum 0,8 mm during the endurance test		P
20.12.5 (-)	**Blanking plugs**		N/A
	Blanking plugs provided if chain designed to be used without lamp in every lampholder		N/A
20.12 (8.2.7)	Discharging of capacitors ≥ 0,5 µF		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Discharge device on or within capacitor		N/A
	Discharge device mounted Decarately		N/A

20.13 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
20.13 (-)	If IP > IP 20 relevant test of (12.4), (120.5) and (120.6) after (9.2) before (9.3) specified in 4.13		—
20.13 (12.3)	Endurance test:		P
	- mounting- position..... :	As normal used	—
	- test temperature (°C)..... :	40°C+10°C=50°C	—
	- total duration (h)..... :	240h	—
	- supply voltage: Un factor; calculated voltage (V). :	264V	—
	- lamp used..... :	LED	—
20.13 (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
20.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
20.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
20.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
20.13 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) ..... :		—
	- case of abnormal conditions..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	- track- mounted luminaires		N/A
20.13 (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
20.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
20.13 (12.7.1)	Luminaire without temperature sensing control		N/A
20.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 120.7.1.1 or Annex W ..... :		—
	Test according to 120.7.1.1:		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 Table 20.16 (13.2.1)	N/A
20.13 (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 Table 20.16 (13.2.1)	N/A
20.13 (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
20.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....:	Yes ☐ No ☐	—
	- manual reset cut-out..... :	Yes ☐ No ☐	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- auto reset cut-out..... :	Yes ☐ No ☐	—
	- case of abnormal conditions..... :		—
	- highest measured temperature of fixing point/ exposed part (°C):..... :		—
	Ball-pressure test:..... :	See Table 20.16 (13.2.1)	N/A
20.13.3 (-)	Wiring, for connection to the supply, not reach unsafe temperature		N/A
	- measured temperature of the cable (°C) ..... :		N/A
20.13. 4(-)	Test for air-handling luminaires under static operating conditions:		N/A
	Normal operation		N/A
	Abnormal operation		N/A

20.14 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
1.13 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
20.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP.....:	IP44	—
	- mounting position during test..... :	Normal use	—
	- fixing screws tightened; torque (Nm)..... :		—
	- tests according to clauses.....:		—
	- 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		N/A
	d) i) For luminaires without drain holes – no water entry		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		P
	f) no contact with live parts (IP3X and IP4X)		P
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A
20.14 (9.3)	Humidity test 48 h	25°C, 93%	P

20.15 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
20.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø :		—
	Insulation resistance (MΩ)..... :		—
	SELV		P
	- between current-carrying parts of different polarity:		P
	- between current-carrying parts and mounting surface ..... :		P
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	＞100 MΩ	P
	- between live parts and mounting surface.....:	＞100 MΩ	P
	- between live parts and metal parts.....:		N/A
	- 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
20.15 (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)..... :		P
	SELV		P
	- between current-carrying parts of different polarity:	＞100 MΩ	P
	- between current-carrying parts and mounting surface:	＞100 MΩ	P
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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.....:		N/A
	- 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
20.15 (10.3)	Touch current or protective conductor current (mA):	0.032mA	P

20.16 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
20.16 (13.2.1)	Ball-pressure test..... :	See Test Table 20.16 (13.2.1)	P
20.16 (13.3.1)	Needle-flame test (10 s).....:	See Test Table 20.16 (13.3.1)	P
20.16 (13.3.2)	Glow- wire test (650°C).....:	See Test Table 20.16 (13.3.2)	N/A
20.16 (13.4)	Proof tracking test (IEC 60112).....:		N/A

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Clause	Requirement + Test			Result - Remark			Verdict
20.8 (11.2)	**TABLES: Creepage distances and clearances**						P
Table 11.1	**Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages**						P
RMS working voltage (V) not exceeding		50	150	250	500	750	1000
Creepage distances							
Required basic insulation, PTI ≥ 600		0,6	0,8	1,5	3	4	5,5
Measured							
Required basic insulation, PTI < 600		1,2	1,6	2,5	5	8	10
Measured				>2.5			
Required supplementary insulation PTI ≥ 600		-	0,8	1,5	3	4	5,5
Measured							
Required supplementary insulation PTI < 600		-	1,6	2,5	5	8	10
Measured							
Required reinforced insulation		-	3,2	5	6	8	11
Measured				>5.0			
Clearances							
Required basic insulation		0,2	0,8	1,5	3	4	5,5
Measured				>2.5			
Required supplementary insulation		-	0,8	1,5	3	4	5,5
Measured							
Required reinforced insulation		-	1,6	3	6	8	11
Measured				>3.0			

Table 11.2	**Minimum distances (mm) for non-sinusoidal pulse voltages**	**N/A**

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Clause	Requirement + Test				Result - Remark			Verdict
Rated pulse voltage (peak kV)		2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances		1,0	1,5	2	3	4	5,5	8
Measured								
Rated pulse voltage (peak kV)		10	12	15	20	25	30	40
Required clearances		11	14	18	25	33	40	60
Measured								
Rated pulse voltage (peak kV)		50	60	80	100	-	-	-
Required clearances		75	90	130	170	-	-	-
Measured								

20.16 (13.2.1)	**TABLE: Ball Pressure Test of Thermoplastics**			**P**
Allowed impression diameter (mm) .....:				—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (C)	Impression diameter (mm)	
DC connector	--	125	1.12	
Support part for LED	--	125	1.18	
Supplementary information:				

20.16 (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
Support part for LED	--	10	No	0	P

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Clause	Requirement + Test			Result - Remark		Verdict
Supplementary information:						
20.16 (13.3.2)	**TABLE: Resistance to heat and fire - Glow wire tests**					**N/A**
Object/Part No./ Material	Manufacturer/ trademark	GWT (°C) : 650				Verdict
		t_E (s)	t_I (s)	t_R (s)		
--	--	--	--	--		--
Ignition of the specified layer placed underneath the test specimen (Yes/No)..... :						No
Supplementary information:						

20.16 (13.4)	**TABLE: Proof tracking test (IEC 60112)**				**N/A**
Test voltage PTI.....					—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
--	--	-	--	--	--
Supplementary information: N/A					

ANNEX A	**Requirements for interconnecting connectors for use in lighting chains**		N/A
	This Annex A consist relevant requirements and modifications of IEC 61984		N/A
5.2	**Classification according to protection against electric shock**		N/A
	Only enclosed connectors		N/A
5.3	**Classification according to the style of connector**		N/A
	Only free connectors		N/A
5.4	**Classification according to additional characteristics of connectors**		N/A
	According b), d), e), f), h), and j)		N/A
6.2.1	**Identification**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	According a) and b)		N/A
6.4.1	**Non accessibility of live parts**		N/A
	Test with test finger on class II chain		N/A
6.9.1	**Polarisation**		N/A
	Improper connection of mating parts is prevented		N/A
	No unsafe compatibility between connectors for class II and class III chains of the same manufacturer		N/A
	Male part of class III chains not make contact in the female contact of low voltage connectors (e.g. IEC 60320)		N/A
	Manufacturer designed connectors, no unsafe compatibility with systems according IEC 60320 and IEC 60906 and national domestic plug and socket-outlet systems in the country where the chain is placed on the market		N/A
6.9.3	**Connection of conductors**		N/A
	Cross sectional area of the contact making part of the interconnecting coupler not less than the corresponding conductor in the interconnected cable		N/A
6.10	**Design of a CBC**		N/A
	Adequate breaking capacity		N/A
	Female part at the end of the chain, other than ordinary, provided with sealing device securely fixed to the coupler		N/A
6.13	**Dielectric strength**		N/A
	Test according clause 20.15 of this standard		N/A
6.17	**Cable clamp**		N/A

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Clause	Requirement + Test		Result - Remark		Verdict
	Test according clause 20.11.3 of this standard				N/A
ANNEX 1	**TABLE: Critical components information**				**P**
Object / part No.	**Manufacturer/trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity**
Plug	Interchangeable	Interchangeable	250 VAC; 10 A;	DIN VDE 0620-2-1	VDE
LED Driver	Interchangeable	JT-EL/FC31V3.6 W-H9-IP44	Input:AC220-240V, 50-60Hz, 0.12A Output:DC31V, 3.6W	EN 61347-1 EN 61347-2-13	BE-55993
Internal wire	interchangeable	interchangeable	2*0.75mm²	EN 60598-1 EN 60598-2-20	Test with appliance

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: Temperature measurements, thermal tests of Section 12**		P
	Type reference ..... :	20100C-31	
	Lamp used..... :	LED	
	Lamp control gear used..... :	LED Driver	
	Mounting position of luminaire ..... :	Normal use position	
	Supply wattage (W) ..... :	4.32W	
	Supply current (A) ..... :	0.035A	
	Calculated power factor..... :	0.514	
	Table: measured temperatures corrected for ta = 40°C:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- abnormal operating mode ..... :		
	- test 1: rated voltage..... :		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	1.06×240V	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :		
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :		
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :		

Temperature measurements, (°C)

Part	Clause 12.4 – normal				Clause 120.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
DC connector	--	44.8	--	Ref.		
LED Driver(tc)	--	52.6	--	90	--	--
Internal wire	--	41.9	--	90	--	--
External Line	--	39.8	--	90	--	--
LED	--	43.1	--	Ref.	--	--
Mounting surface	--	41.4	--	Ref.	--	--
ambient	--	40.0(23.8)	--	Ref.	--	--

Supplementary information: N/A

ANNEX 3	**Screw terminals (part of the luminaire)**	N/A
(14)	**SCREW TERMINALS**	N/A
(14.2)	Type of terminal..... :	—

EN IEC 60598-2-20			
Clause	Requirement + Test	Result - Remark	Verdict
	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..... :		—

EN IEC 60598-2-20			
Clause	Requirement + Test	Result - Remark	Verdict
	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 inDecarable 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

EN IEC 60598-2-20			
Clause	Requirement + Test	Result - Remark	Verdict
	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)										
	Voltage drop of two inseparable joints									
	Voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										

EN IEC 60598-2-20										
Clause	Requirement + Test					Result - Remark				Verdict
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										

ATTACHMENT 1

ATTACHMENT TO TEST REPORT IEC 60598-2-2

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Luminaires

Part 2: Particular requirements Section 2: Recessed luminaires

Differences according to.....:	EN IEC 60598-2-20:2024+A11:2024 used in conjunction with EN IEC 60598-1:2021+A11:2022
Annex Form No..... **:**	EU_GD_IEC60598_2_2E
Annex Form Originator.....**:**	OVE
Master Annex Form..... **:**	2022

	CENELEC COMMON MODIFICATIONS (EN)	P

20.6 (3)	**MARKING**		P
20.6 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		P

20.7 (4)	**CONSTRUCTION**		N/A
20.7 (4.11.6)	Electro-mechanical contact systems		N/A

20.11(5)	**EXTERNAL AND INTERNAL WIRING**		P
20.11(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,		N/A

	12 and 13.2 of Part 1		
20.11(5.2.2)	Cables equal to EN 50525		N/A
	Replace table 5.1 – Supply cord		P

20.13 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		P
20.13 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		P

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
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

Photo documentation

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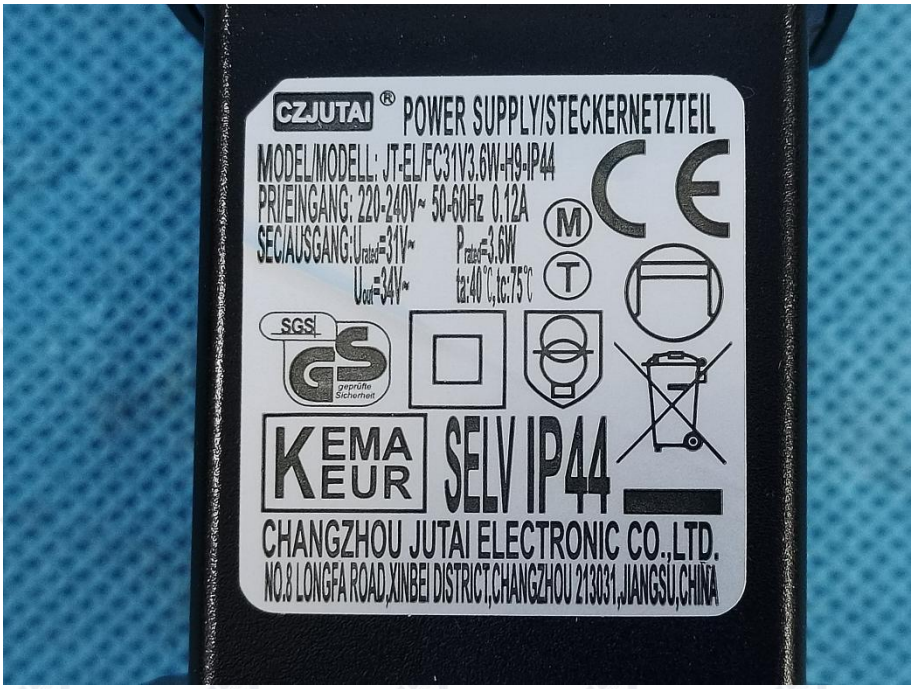

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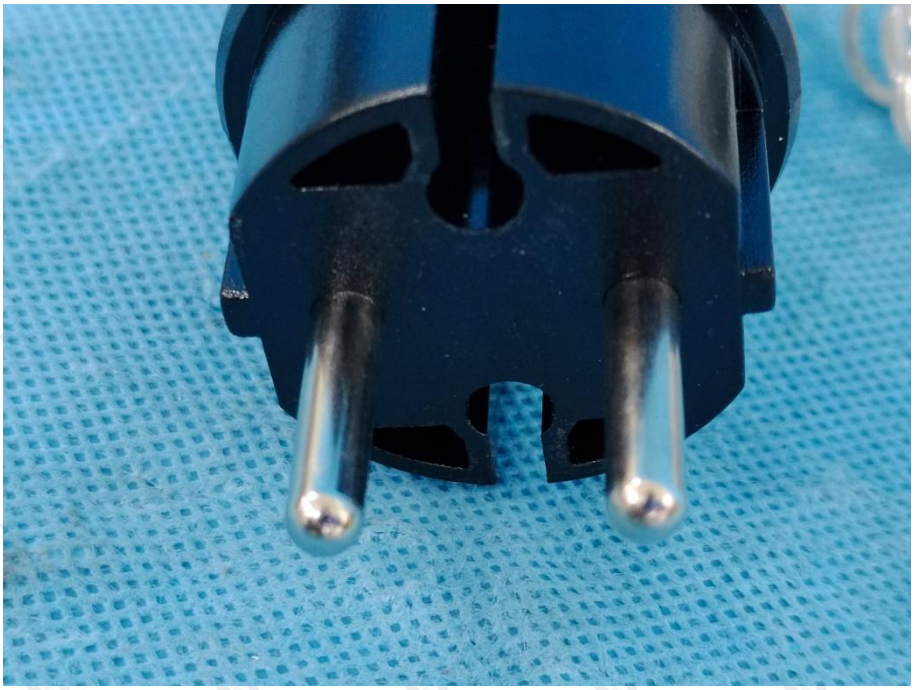

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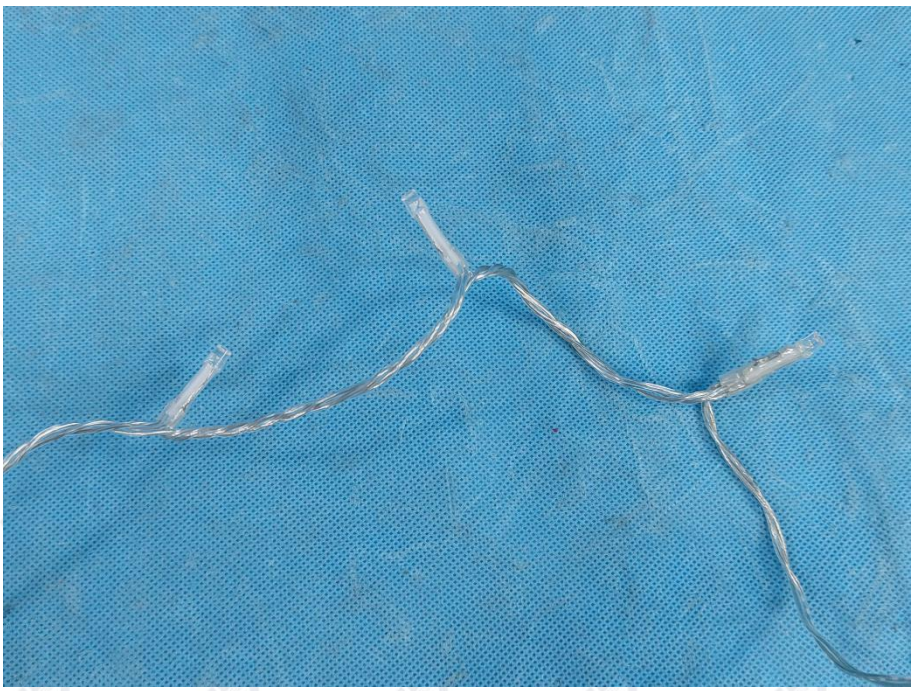

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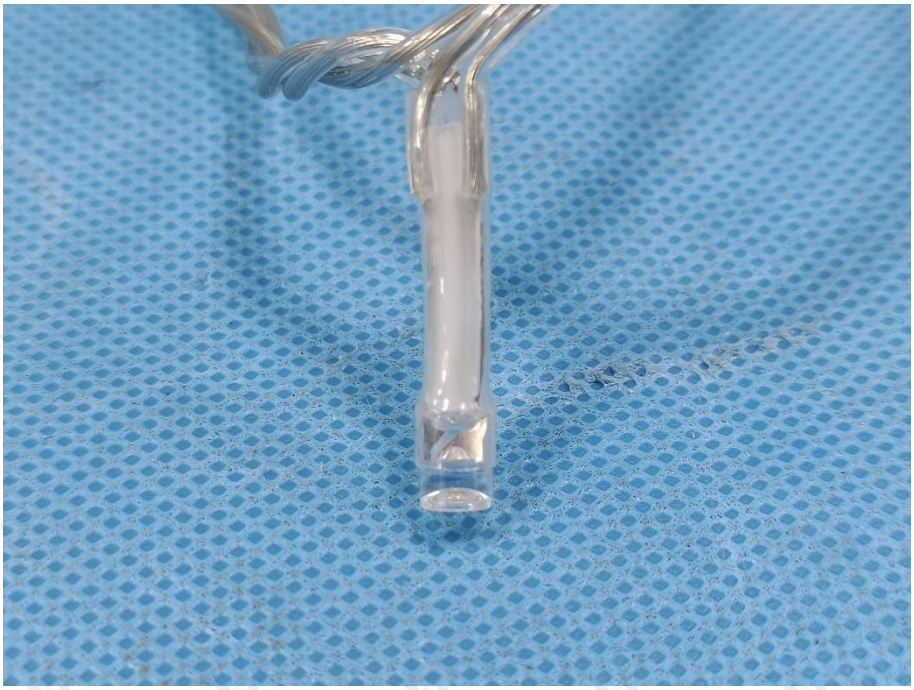

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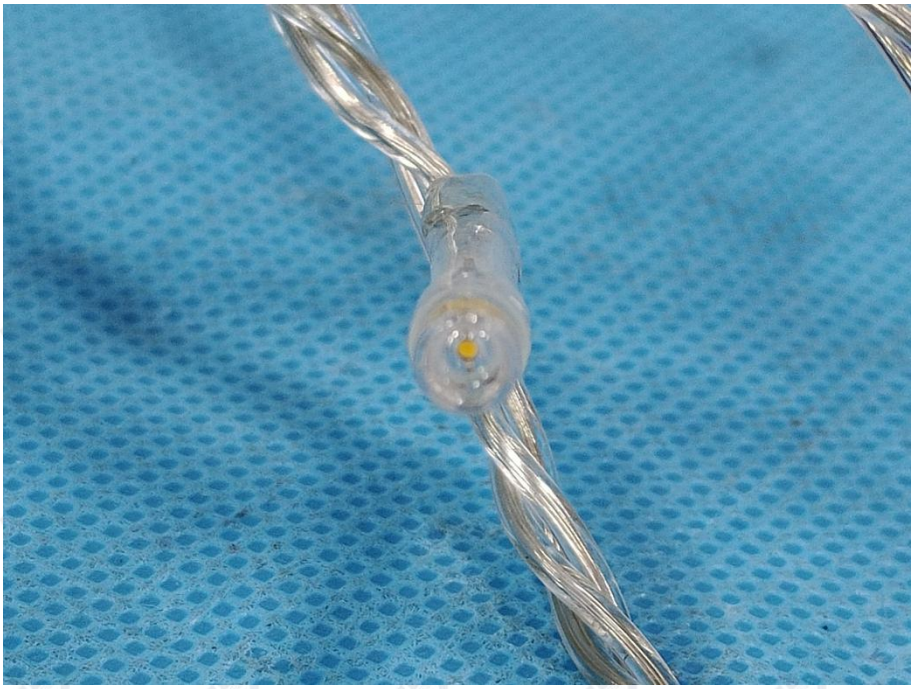

*** End of Report ***