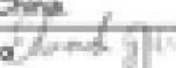




Test Report issued under the
responsibility of:

TEST REPORT IEC 60598-2-20 Luminaires Part 2: Particular requirements Section 20: Lighting Chains	
Report Number.....	SHES260400705601
Date of issue	2023-07-13
Total number of pages	43
Name of Testing Laboratory preparing the Report	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Applicant's name	Taizhou Tail Lighting Co., Ltd
Address	2nd floor, Unit 2, NO.11 Building, Gaideng Park, Dongcheng ,Linhai, 317000 Taizhou, Zhejiang Sheng, China
Test specification:	
Standard	IEC 60598-2-20:2022 for use in conjunction with IEC 60598-1:2020
Test procedure.....	SGS-CSTC
Non-standard test method.....	N/A
TRF template used	IECEE QD-2020-F1:2022, Ed.1.5
Test Report Form No.....	IEC60598_2_20H
Test Report Form(s) Originator.....	Interlek Semko AB
Master TRF	Dated 2022-10-14
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This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
General disclaimer:	
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Test item description.....:	Christmas light	
Trade Mark(s).....:	"	
Manufacturer.....:	Same as applicant	
Model/Type reference.....:	See "General product information"	
Ratings.....:	Lighting Chain: 31 V AC; Max. 7.2 W; Class III; IP44 LED driver: Pri: 220-240 V AC, 50-60 Hz; Class II; IP44; Sec: 31 V AC; Max. 7.2 W; SELV	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
 Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.	
Testing location/ address.....:	588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.	
Tested by (name, function, signature).....:	Edward Guo  PE	
Approved by (name, function, signature).....:	Nancy ZHANG  Reviewer	
☐ Testing procedure: CTF Stage 1:	N/A	
Testing location/ address.....:	N/A	
Tested by (name, function, signature).....:	N/A	
Approved by (name, function, signature).....:	N/A	
☐ Testing procedure: CTF Stage 2:	N/A	
Testing location/ address.....:	N/A	
Tested by (name + signature).....:	N/A	
Witnessed by (name, function, signature) ..:	N/A	
Approved by (name, function, signature).....:	N/A	
☐ Testing procedure: CTF Stage 3:	N/A	
☐ Testing procedure: CTF Stage 4:	N/A	
Testing location/ address.....:	N/A	
Tested by (name, function, signature).....:	N/A	
Witnessed by (name, function, signature) ..:	N/A	
Approved by (name, function, signature).....:	N/A	
Supervised by (name, function, signature) :	N/A	

List of Attachments (including a total number of pages in each attachment):

1. Attachment I - IEC 60598_1_2024 (5 pages)
2. Attachment II - EU Group difference (1 page)
3. Attachment III - IEC TR 62775:2014 (2 pages)
4. Attachment IV - Photo documentation (4 pages)

Summary of testing:

Tests performed (name of test, test clause and date test performed):

Full tests

Testing location:

SQS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Summary of compliance with National Differences (List of countries addressed):

1. EU Group Differences: Yes
2. EU Special National Conditions : None
3. EU A-deviations : None

☒ The product fulfils the requirements of EN IEC 60598-2-26:2024+A11:2024, EN IEC 60598-1:2024+A11:2024, EN 62483:2015+A1:2022.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Label

Type: TLA-C 1200
 1200LED Christmas light
 Lighting-chain:
 Input: 220-240 V~, 50-60 Hz, 0.12A, IP44
 Output: 31VAC, 7.2W

IP44

For indoor and outdoor use

The lamps are not replaceable.

This lighting chain must only be used with the provided LED-driver

Taizhou Tail Lighting Co., Ltd

2nd floor, Unit 2, NO.11 Building, Caideng Park, Dongcheng, Linhai, 317000 Taizhou,
 Zhejiang, China

Marking on connector

E1
 Taizhou Tail Lighting Co., Ltd

Note:

1. As declared by the applicant, the importer's name, registered trade name or registered trade mark and the postal address will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
2. Marking on the packaging or in a document accompanying the electrical equipment is only acceptable if it is not possible to place such markings on the product.
3. The height of graphical symbols shall not be less than 5 mm, and the height of letters and numerals shall not be less than 2 mm. The height of WEEE symbol shall not be less than 7 mm.

The copies of marking plate for other models were the same as above except for model name and technical ratings.

Test item particulars :	Christmas light
Classification of installation and use _____:	Class II lighting chain with Class II LED driver, IP44
Supply Connection _____:	LED driver
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 _____:	2026-04-24
Date (s) of performance of tests _____:	2026-04-24 to 2026-07-10
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 separator. ☐ This Test Report Form contains requirements according to IEC/ISO _____ Standard dated _____ and includes Corrigendum dated _____ (Note: The above text maybe removed if not applicable) This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sps.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sps.com/en/Terms-and-Conditions/Terms-e-Documents.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECIE 603:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided _____:	☐ Yes ☒ Not applicable
When differences exist, they shall be identified in the General product information section.	
Name and address of factory (ies) _____: Same as applicant	

General product information and other remarks:

The products are LED lighting chains including following models

They have the same construction, LED and wire except rated power, LED driver.

Max 18 m for the lighting chain may be interconnected.

Max 1200 LEDs or Max 7.2 W for the lighting chain may be interconnected.

Model list:

TLA_X1_X2_X3

X1: represents the light string type: S light string, I is icicle light, C curtain light, N is net light, F is firecracker light, P leather wine light, X is other

X2: indicates the number of lights: 1-1200

X3: represents the appearance of colored lights: B: round ball, S: star, C6: C6 shape light, C8: C8 shape light, SN: snowflake, X: other

Full tests were performed on model TLA_C_1200.

The products are deemed to comply with the requirements of EN 62493:2015+A1:2022 without testing according to its clause 4.2.2.

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.4 (0)	GENERAL TEST REQUIREMENTS		P
20.4 (0.3)	More sections applicable: Yes ☐ No ☒	Section/s:	—
20.4 (0.5)	Components	(See Annex 1)	—
20.4 (0.7)	Information for luminaire design in light sources standards		—
20.4 (0.7.2)	Light source safety standard		—
	Luminaire design in the light source safety standard	IEC/TR 62778	P
20.5 (2)	CLASSIFICATION OF LUMNAIRES		P
20.5 (2.2)	Type of protection	Class III (lighting chain) Class II (LED driver)	P
20.5 (2.3)	Degree of protection	IP20	—
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 ☒	—
20.5.1 (-)	Ordinary luminaire classified "for indoor use only" ...:	Yes ☐ No ☒	—
	Luminaires other than ordinary classified "for indoor use only"	Yes ☐ No ☒	—
	Luminaires other than ordinary classified for "outdoor use" and "for indoor use"	Yes ☒ No ☐	—
20.5.2 (-)	Lighting chains shall be classified as Class II or Class III	Class III (lighting chains) Class II (LED driver)	P
20.5.3 (-)	Lighting chains for outdoor use shall have a protective index IP44 or higher		P
20.6 (3)	MARKING		P
20.6.1 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
20.6.1 (3.3)	Additional information		P
	Language of instructions	English	P
20.6.1 (3.3.1)	Combination luminaires		N/A
20.6.1 (3.3.2)	Nominal frequency in Hz		P
20.6.1 (3.3.3)	Operating temperature		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.6.1 (3.3.5)	Wiring diagram		N/A
20.6.1 (3.3.6)	Special conditions		N/A
20.6.1 (3.3.7)	Metal halide lamp luminaire – warning		N/A
20.6.1 (3.3.8)	Limitation for semi-luminaires		N/A
20.6.1 (3.3.9)	Power factor and supply current		N/A
20.6.1 (3.3.10)	Suitability for use indoors		N/A
20.6.1 (3.3.11)	Luminaires with remote control		N/A
20.6.1 (3.3.12)	Clip-mounted luminaire – warning		N/A
20.6.1 (3.3.13)	Specifications of protective shields		N/A
20.6.1 (3.3.14)	Symbol for nature of supply		P
20.6.1 (3.3.15)	Rated current of socket outlet		N/A
20.6.1 (3.3.16)	Rough service luminaire		N/A
20.6.1 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Z	P
20.6.1 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
20.6.1 (3.3.19)	Protective conductor current in instruction if applicable		N/A
20.6.1 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
20.6.1 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non-replaceable	P
20.6.1 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
20.6.1 (3.3.23)	Luminaires without controlgear provided with necessary information for selection of appropriate component		N/A
20.6.1 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
20.6.1 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.6.1 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
20.6.1 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
20.6.2 (-)	Lighting chain marking		P
	The following information shall be marked on the lighting chain:		P
	– rated voltage of the complete chain		P
	– rated wattage of the complete chain		P
	Where the information is on the cable, it shall be marked on a durable non-removable sleeve or label		P
20.6.3 (-)	Lighting chain and packaging marking		N/A
	The following marking shall be placed on the lighting chain and on the accompanying packaging of lighting chains for indoor use only:		N/A
	– "FOR INDOOR USE ONLY"		N/A
	– As an alternative to the text, the lighting chain can be marked with the symbol  The symbol shall be explained in the instructions.		N/A
20.6.4 (-)	Packaging or instruction marking		P
	The following or similar marking shall be placed on the accompanying packaging or instructions		P
	a) For all lighting chains where the packaging has not been adapted for display purposes		P
	– "Do not connect the chain to the supply while it is in the packaging".		P
	b) For lighting chains with replaceable lamps:		N/A
	– voltage and wattage or manufacturer's article number of replacement lamps		N/A
	– "Do not remove or insert lamps while the chain is connected to the supply"		N/A
	– "Ensure that all lampholders are fitted with a lamp"		N/A
	c) Lighting chains designed to be used without a lamp in every lampholder:		N/A
	– adequate information about required blanking plug(s)		N/A
	d) For chains with replaceable series-connected lamps:		N/A
	– "Replace failed lamps immediately by lamps of the same type as delivered or of a type specified by the manufacturer".		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
	e) For lighting chains with 'fuse' lamp(s):		N/A
	- "Do not replace a 'fuse' lamp with a non-'fuse' lamp"; in order to indicate the difference from 'ordinary' lamps, 'fuse' lamps shall be partly coloured white.		N/A
	- information indicating that the chain is provided with 'fuse' lamps and explanation of their function.		N/A
	f) For lighting chains with non-replaceable lamps:		P
	- "The lamps are not replaceable"		P
	g) For class II lighting chains with non-replaceable lamps, the substance of the following:		N/A
	- where breakage or damage to lamps occurs the chain must not be used/energised but disposed of safely		N/A
	h) For lighting chains which rely on gaskets to provide the specified degree of protection against dust, solid objects and moisture		P
	- "WARNING – THIS LIGHTING CHAIN MUST NOT BE USED WITHOUT ALL GASKETS BEING IN PLACE"		P
	i) For lighting chains intended for interconnection:		P
	- "Do not interconnect parts of this lighting chain with parts of another manufacturer's lighting chain"		P
	- "Interconnection shall be made only by the use of the supplied connectors. Any open ends must be sealed-off before use".		P
	- maximum system length that may be interconnected		P
	- maximum number of lamps or max system wattage that may be interconnected		P
	j) For lighting chains incorporating lamp bridging device(s):		N/A
	- information stating that the chain is fitted with a bridging device(s).		N/A
	k) For class III lighting chains delivered without a supply source:		N/A
	- relevant information concerning the required supply source		N/A
	l) For mains voltage lighting chains with series connected lamps:		N/A
	- "WARNING – RISK OF ELECTRIC SHOCK IF LAMPS ARE BROKEN OR MISSING. DO NOT USE"		N/A
20.7 (4)	CONSTRUCTION		P
20.7.1 (4.2)	Components replaceable without difficulty		N/A
20.7.1 (4.3)	Wineways smooth and free from sharp edges		P
20.7.1 (4.4)	Lampholders		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (4.4.1)	Integral lampholder		N/A
20.7.1 (4.4.2)	Wiring connection		N/A
20.7.1 (4.4.3)	Lampholder for end-to-end mounting		N/A
20.7.1 (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 has not moved from its position and show no permanent deformation		N/A
20.7.1 (4.4.5)	Peak pulse voltage		N/A
20.7.1 (4.4.6)	Centre contact		N/A
20.7.1 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
20.7.1 (4.4.8)	Lamp connectors		N/A
20.7.1 (4.4.9)	Caps and bases correctly used		N/A
20.7.1 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
20.7.1 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
20.7.1 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
20.7.1 (4.7)	Terminals and supply connections		P
20.7.1 (4.7.1)	Contact to metal parts		P
20.7.1 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (4.7.3)	Terminals for supply conductors		P
20.7.1 (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 2 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
20.7.1 (4.7.4)	Terminals other than supply connection		P
20.7.1 (4.7.5)	Heat-resistant wiring/sleeves		P
20.7.1 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
20.7.1 (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
20.7.1 (4.9)	Insulating lining and sleeves		P
20.7.1 (4.9.1)	Retention		P
	Method of fixing _____: Heat shrinkable tube		P
20.7.1 (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
20.7.1 (4.10)	Double or reinforced insulation		N/A
20.7.1 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
	Capacitors and switches		N/A
20.7.1 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
20.7.1 (4.10.3)	Retention of insulation:		N/A
	- fixed		N/A
	- unable to be replaced, luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
20.7.1 (4.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
20.7.1 (4.11)	Electrical connections and current-carrying parts		P
20.7.1 (4.11.1)	Contact pressure		P
20.7.1 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
20.7.1 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
20.7.1 (4.11.4)	Material of current-carrying parts		P
20.7.1 (4.14.7)	No contact to wood or mounting surface		P
20.7.1 (4.14.7)	Electro-mechanical contact systems		N/A
20.7.1 (4.12)	Screws and connections (mechanical) and glands		N/A

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (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
20.7.1 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
20.7.1 (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
20.7.1 (4.12.5)	Screwed glands; force (Nm)		N/A
20.7.1 (4.13)	Mechanical strength		P
20.7.1 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm)	LED driver: 0,7	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
20.7.1 (4.13.2)	Metal parts have adequate mechanical strength		P
20.7.1 (4.13.3)	Straight test finger		P
20.7.1 (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
20.7.1 (4.13.6)	Tumbling barrel		P

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (4.14)	Suspensions, fixings and means of adjusting		P
20.7.1 (4.14.1)	Mechanical load:		P
	A) four times the weight		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-shelf. Thickness (mm) _____:		N/A
	Metal rod, diameter (mm) _____:		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
20.7.1 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) _____:		—
	Stress in conductors (N/mm ²) _____:		N/A
	Mass (kg) of semi-luminaire _____:		N/A
	Bending moment (Nm) of semi-luminaire _____:		N/A
20.7.1 (4.14.3)	Adjusting devices:		N/A
	- flexing test, number of cycles _____:		N/A
	- strands broken _____:		N/A
	- electric strength test afterwards		N/A
20.7.1 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
20.7.1 (4.14.5)	Guide pulleys		N/A
20.7.1 (4.14.6)	Strain on socket-outlets		N/A
20.7.1 (4.15)	Flammable materials		P
	- glow-wire test 650°C _____:	See Test Table 20.15 (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

IEC 60598-2-20			
Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (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
20.7.1 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear _____ : (Compliance with Section 12)		N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
20.7.1 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
20.7.1 (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
20.7.1 (4.16.3)	Design to satisfy the test of 12.6	(See clause 12.6)	N/A
20.7.1 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
20.7.1 (4.18)	Resistance to corrosion		N/A
20.7.1 (4.18.1)	- rust-resistance		N/A
20.7.1 (4.18.2)	- season cracking in copper		N/A
20.7.1 (4.18.3)	- corrosion of aluminium		N/A
20.7.1 (4.19)	Ignitons compatible with ballast		N/A
20.7.1 (4.20)	Rough service vibration		N/A
20.7.1 (4.21)	Protective shield		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
20.7.1 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
20.7.1 (4.21.3)	No direct path		N/A
20.7.1 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... ;	See Test Table 20.15 (13.3.2)	N/A
20.7.1 (4.22)	Attachments to lamps not cause overheating or damage		N/A
20.7.1 (4.23)	Semi-luminaires comply Class II		N/A
20.7.1 (4.24)	Photobiological hazards		P
20.7.1 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex B)		N/A
20.7.1 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778 ;	RG0	—
	Luminaires with E_{uv} :		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		P
	- 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
20.7.1 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
20.7.1 (4.26)	Short-circuit protection		N/A
20.7.1 (4.26.1)	Adequate means of uninsulated accessible SELV or PELV parts		N/A
20.7.1 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Supply source ES1 PSE		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
20.7.1 (4.27)	Terminal blocks with integrated screwless protective 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
20.7.1 (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
	Max. temperature on adhesive material (°C) _____ :		---
	100 cycles between t_{min} and t_{max}		N/A
	Temperature sensing control still in position		N/A
20.7.1 (4.29)	Luminaires with non-replaceable light source		P
	Not possible to replace light source		P
	Live part not accessible after parts have been opened by hand or tools		P
20.7.1 (4.30)	Luminaires with non-user replaceable light source		N/A
	If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol		N/A
	At least one fixing means requiring use of tool		N/A
20.7.1 (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		P

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Clause	Requirement + Test	Result + Remark	Verdict
20.7.1 (4.31.1)	SELV or PELV circuits		P
	Used SELV or PELV source		P
	Voltage $\leq$ ELV		P
	Insulating of SELV or PELV circuits from LV supply		P
	Insulating of SELV or PELV circuits from other non SELV or PELV circuits		N/A
	Insulating of SELV or PELV circuits from FELV		N/A
	Insulating of SELV or PELV circuits from other SELV or PELV circuits		N/A
	SELV or PELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		P
	Socket outlets does not admit plugs of other voltage systems		P
	Plugs and socket-outlets does not have protective conductor contact		P
20.7.1 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage $\leq$ ELV		N/A
	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 make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets have protective conductor contact		N/A
20.7.1 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	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 does not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
20.7.1 (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
20.7.1 (4.33)	Luminaire powered via information technology communication cabling		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ESI and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(See Annex 2)	N/A
20.7.1 (4.34)	Electromagnetic fields (EMF)		P
	No harmful electromagnetic fields		P
20.7.1 (4.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	- hardness less than D60 Shore		N/A
	- peripheral speed less than 15 m/s		N/A
	- input power of fan ≤ 2 W at rated voltage		N/A
20.7.1 (4.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570-2003/AMD2:2019		N/A
20.7.2 (-)	Lamp holders		N/A
	Tested as part of the lighting chain if non-standardised lampholders		N/A
	E5, E10, E14 and E27 according to IEC 60238		N/A
	Bayonet according to IEC 61184		N/A
	Insulating piercing terminals only if SELV circuit or permanent non-rewireable connections in class II chain		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	Maximum voltage used for E5, E10 and small lampholders		N/A
	Body of insulating material		N/A
20.7.3 (-)	Terminal blocks		N/A
	Clause 4.6 of IEC 60598-1 referring to terminal blocks does not apply		N/A
20.7.4 (-)	Terminals and supply connections		P
	Comply with Annex A		P
	Plugs and socket-outlets with temporarily installed protected lighting (TPL) conform to IEC 60598-1		N/A
20.7.5 (-)	Gaskets		P
	Gasket weather resistant if outdoor use		P
	Gasket remains in place and fit tightly		P
20.7.6 (-)	Mechanical strength		P
	Mechanical strength requirements according to Clause 16 of IEC 61184-2017 or Clause 16 of IEC 60238-2016.		N/A
	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
20.7.8 (-)	Control units and control gear		P
	Forming an integral part enclosed in non-flammable insulating material tested according 20.16		P
	Securely fixed to the cable		P
	Electronic control unit complies with IEC 61347-2-11		N/A
	LED control gear complies with IEC 61347-2-13		P
	Impact test on enclosure of electronic control unit:		P
	- 0.5 Nm (marked "for indoor use only")		N/A
	- 0.7 Nm (without marking "for indoor use only")		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 and withdrawal force		P
	Pull force up to 3 N for push-in lamps	10 N (non-replaceable)	P
	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

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Clause	Requirement + Test	Result + Remark	Verdict
20.7.11 (-)	Lamp mechanical requirements		N/A
	Impact test of 0,2 Nm on lamps (other than supplied by SELV):		N/A
	- non-removable lamps		N/A
	- non-standardized lamps		N/A
20.7.12 (-)	Temporarily installed protected lighting (TPL) chains		N/A
	Comply with requirements for rough service luminaires in Part 1		N/A

20.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
20.8 (11.2.1)	Impulse withstand -category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according to Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
20.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 20.8 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\bar{U}_{out}$ and f_{out} according to IEC 61347-1, clause 7.1, item w	See Test Table 20.8 (11.2) II	N/A
	- Requirements according to IEC 60664-4 for control gear not covered by IEC 61347	See Test Table 20.8 (11.2) II	N/A
20.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 20.8 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_i	See Test Table 20.8 (11.2) II	N/A
	- Requirements according to IEC 60664-4 for control gear not covered by IEC 61347	See Test Table 20.8 (11.2) II	N/A

20.10 (14)	SCREW TERMINALS		N/A
	Separately 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
	Separately 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
20.11.1 (5.2)	Supply connection and external wiring		P

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Clause	Requirement + Test	Result + Remark	Verdict
20.11.1 (5.2.1)	Means of connection _____;	Connector (provided with approved LED driver)	P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment	Class III	P
20.11.1 (5.2.2)	Type of cable _____;	(see Annex 1)	P
	Nominal cross-sectional area (mm ²) _____;	(see Annex 1)	P
	Cables equal to IEC 60227 or IEC 60245		N/A
20.11.1 (5.2.3)	Type of attachment, X, Y or Z	Type Z	P
20.11.1 (5.2.5)	Type Z not connected to screws		P
20.11.1 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
20.11.1 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
20.11.1 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
20.11.1 (5.2.9)	Locking of screwed bushings		N/A
20.11.1 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
20.11.1 (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

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Clause	Requirement + Test	Result + Remark	Verdict
	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
20.11.1 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Z	P
20.11.1 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) : 30		P
	- torque test: torque (Nm)..... :		N/A
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
20.11.1 (5.2.10.4)	Luminaire with/ designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV ≤ 25V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12V RMS/30V DC		N/A
	Pull test of 30 N		N/A
20.11.1 (5.2.11)	External wiring passing into luminaire		N/A
20.11.1 (5.2.12)	Looping-in terminals		N/A
20.11.1 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned; no cold flow		N/A
20.11.1 (5.2.14)	Main plug same protection		P
	Class III luminaire plug		P
	No unsafe compatibility		P

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Clause	Requirement + Test	Result + Remark	Verdict
20.11.1 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
20.11.1 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
20.11.1 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
20.11.1 (5.2.18)	Used plug in accordance with		P
	- IEC 60683		N/A
	- other standard		P
20.11.1 (5.3)	Internal wiring		N/A
20.11.1 (5.3.1)	Internal wiring of suitable size and type		N/A
	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 protective earth only		N/A
20.11.1 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²) _____:		N/A
	Insulation thickness (mm) _____:		N/A
	Extra insulation added where necessary		N/A
20.11.1 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm ²) _____: (see Annex 1)		N/A
20.11.1 (5.3.1.3)	Double or reinforced insulation for class II		N/A
20.11.1 (5.3.1.4)	Conductors without insulation		N/A
20.11.1 (5.3.1.5)	SELV or PELV current-carrying parts		N/A
20.11.1 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
20.11.1 (5.3.2)	Sharp edges etc.		N/A

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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°		N/A
20.11.1 (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
20.11.1 (5.3.4)	Joints and junctions effectively insulated		N/A
20.11.1 (5.3.5)	Strain on internal wiring		N/A
20.11.1 (5.3.6)	Wire carriers		N/A
20.11.1 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
20.11.1 (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 does not exceed the limits stated in Table 12.2	(See Annex 2)	N/A
	No damage to luminaire wiring after test		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		N/A
	Cables not lighter than insulation according to 5.3.1 of part 1 for class III chain		P
	Nominal cross-sectional area (mm²) _____ : (see Annex 1)		P
	Mechanical properties according 4.14.1 and 4.14.2 of part 1		P
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

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Clause	Requirement + Test	Result + Remark	Verdict
	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		N/A
	Maximum length 100 m for 0,5 mm ² cable		N/A
	Maximum length 150 m for 0,75 mm ² cable		N/A
20.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK.		P
20.12.1 (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		P
	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		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
20.12.1 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
20.12.1 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible		N/A
	- required insulation from live parts in compliance with Table X.1		N/A
	- glass protective shields not used as supplementary insulation		N/A
20.12.1 (8.2.3.b)	Metal BC lampholder in class I luminaires connected to protective earth		N/A
20.12.1 (8.2.3.c)	SELV circuits with exposed current-carrying parts:		N/A
	Ordinary luminaire:		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	- voltage under load/ no-load AC (V) _____ :		N/A
	- voltage under load/ no-load DC (V) _____ :		N/A
	- interrupted DC voltage (V) _____ :		N/A
	- touch current if applicable (mA) _____ :		N/A
	One conductive part insulated		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V) _____ :		N/A
	- voltage under load/ no-load DC (V) _____ :		N/A
	- interrupted DC voltage (V) _____ :		N/A
20.12.1 (8.2.3-e)	PELV circuits with exposed current-carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V) _____ :		N/A
	- voltage under load/ no-load DC (V) _____ :		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V) _____ :		N/A
	- voltage under load/ no-load DC (V) _____ :		N/A
	Pole not connected to earth insulated		N/A
	Class III luminaire only for connection to SELV or PELV		N/A
20.12.1 (8.2.4)	Portable luminaire has protection independent of supporting surface		P
20.12.1 (8.2.5)	Compliance with the standard test finger or relevant probe		P
20.12.1 (8.2.6)	Covers reliably secured		P
20.12.1 (8.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 μ F (0,25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μ F (0,25) with plug and track adaptors not exceed 50 V 5 s after disconnection		N/A
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

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Clause	Requirement + Test	Result + Remark	Verdict
20.12.4 (-)	Contact of push-in lampholders		N/A
	Lampholder contacts in push-in lampholders is reliably secured		N/A
	Contacts move maximum 0.8 mm during the endurance test		N/A
20.12.5 (-)	Blanking plugs		N/A
	Blanking plugs provided if chain designed to be used without lamp in every lampholder		N/A

20.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
20.13.1 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) but before (9.3) specified in 20.14		—
20.13.1 (12.3)	Selection of lamps and ballasts		—
	Lamp used according to Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	—
20.13.1 (12.3)	Endurance test		P
	a) mounting-position	Normal mounting as instruction	—
	b) test temperature (°C)	35	—
	c) total duration (h)	240	—
	d) supply voltage (V)	U=1,1 U _n , 254V	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A)	—	—
20.13.1 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		—
	- voltage under normal operation (V)		—
	- voltage under abnormal operation (V)		—
	e) luminaire ceases to operate		—
	f) luminaire with a constant light output function		N/A
20.13.1 (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
20.13.1 (12.4)	Thermal test (normal operation)	(See Annex 2)	P

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Clause	Requirement + Test	Result + Remark	Verdict
20.13.1 (12.6)	Thermal test (abnormal operation)	(See Annex 2)	P
20.13.1 (12.6)	Thermal test (failed lamp control gear condition):		N/A
20.13.1 (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
	- track-mounted luminaires		N/A
20.13.1 (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
20.13.1 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
20.13.1 (12.7.1)	Luminaire without temperature sensing control		N/A
20.13.1 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex VI _____:		—
	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 VI:		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 _____:		—

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Clause	Requirement + Test	Result + Remark	Verdict
	- calculated temperature of fixing point/exposed part (°C): _____;		—
	Ball-pressure test _____;	See Test Table 20.15 (13.2.1)	N/A
20.13.1 (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 20.15 (13.2.1)	N/A
20.13.1 (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
20.13.1 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link _____; Yes ☐ No ☐		—
	- manual reset out-out _____; Yes ☐ No ☐		—
	- auto reset out-out _____; Yes ☐ No ☐		—
	- case of abnormal conditions _____;		—
	- highest measured temperature of fixing point/exposed part (°C): _____;		—
	Ball-pressure test _____;	See Test Table 20.15 (13.2.1)	N/A
20.13.2 (-)	Test voltage		P
	Provision of 12.3.1 d) of part 1 and if class III chain 1,1 x rated voltage of transformer/convertor	U=1,1 Un, 254V	p
	Provision of 12.4.1 d) of part 1 and if class III chain 1,06 x rated voltage of transformer/convertor	U=1,06 Un, 254,4V	p
20.13.3 (-)	Lamp bridging devices		N/A
	Lamp bridging not cause temperature which impair safety		N/A
	Temperature of lampholders and cables not exceed values in Table 12.1 when bridging device operate successively on each lamp		N/A
20.13.4 (-)	Short-circuit test of rectifier		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	No emission of flames or molten material or production of flammable gases and no live parts accessible when short-circuit output of the rectifier		N/A

20.14 (8)	RESISTANCE TO DUST AND MOISTURE		P
20.14 (-)	If IP > IP 20 the order of tests as specified in clause 20.13		N/A
20.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP _____ :	IP44	---
	- mounting position during test _____ :	Normal mounting as instruction	---
	- fixing screws tightened; torque (Nm) _____ :	N/A	---
	- tests according to clauses _____ :	9.2.6 & 9.2.5	---
	- 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, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold-water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		P
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	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		N/A
20.14 (9.3)	Humidity test 48 h		P

20.16 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
20.16 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø :	Covered by metal foil	P
	Insulation resistance (MO):		P
	SELV or PELV:		P

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Clause	Requirement + Test	Result + Remark	Verdict
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface ::	>100	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
	- insulation bushings as described in Section 5 ::		N/A
	Other than SELV or PELV:		P
	- between live parts of different polarity ::		N/A
	- between live parts and mounting surface ::	>100	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
	Luminaires with ignitors provided with ballasts conforming to IEC 61347-2-9		N/A
	SELV or PELV:		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface ::	500V	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
	- insulation bushings as described in Section 5 ::		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity ::		N/A
	- between live parts and mounting surface ::	2500V	P
	- between live parts and metal parts ::		N/A

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Clause	Requirement + Test	Result + Remark	Verdict
	- 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
20.16 (10.3)	Touch current (mA)..... :		N/A
	Protective conductor current (mA)..... :		N/A

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 (550°C)..... :	See Test Table 20.16 (13.3.2)	N/A
20.16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 20.16 (13.4)	N/A

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Clause	Requirement + Test	Result + Remark	Verdict

20.8 (11.2)	TABLE I: Creepage distances and clearances						P						
Minimum distances (mm) for a.c. up to 20 kHz sinusoidal voltages													
Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2* and Table U.1*													
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required							
			clearance	*Table		creepage	*Table						
Distance 1:	B	1.5	0.2	11.1B	1.5	1.2	11.1A						
Working voltage (V) _____:					Max. 31		—						
PTI _____:					< 600 ☐ ≥ 600 ☐		—						
Pulse voltage or U_h if applicable (kV) _____:					—		—						
Supplementary information: Between live parts & accessible parts													
Distance 2:													
Working voltage (V) _____:							—						
PTI _____:					< 600 ☐ ≥ 600 ☐		—						
Pulse voltage or U_h if applicable (kV) _____:							—						
Supplementary information:													
Distance 3:													
Working voltage (V) _____:							—						
PTI _____:					< 600 ☐ ≥ 600 ☐		—						
Pulse voltage or U_h if applicable (kV) _____:							—						
Supplementary information:													
** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.													

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Clause	Requirement + Test	Result + Remark	Verdict

30.8 (11.2)	TABLE II: Creepage distances and clearances						N/A
	Minimum distances (mm) for a.c. higher than 50 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:							
Working voltage (V) _____:							---
Frequency if applicable (kHz) _____:							---
PTI _____:					< 600 ☐ ≥ 600 ☐		---
Peak value of the working voltage $\hat{U}_w$ if applicable (kV) _____:							---
Supplementary information:							
Distance 2:							
Working voltage (V) _____:							---
Frequency if applicable (kHz) _____:							---
PTI _____:					< 600 ☐ ≥ 600 ☐		---
Peak value of the working voltage $\hat{U}_w$ if applicable (kV) _____:							---
Supplementary information:							
Distance 3:							
Working voltage (V) _____:							---
Frequency if applicable (kHz) _____:							---
PTI _____:					< 600 ☐ ≥ 600 ☐		---
Peak value of the working voltage $\hat{U}_w$ if applicable (kV) _____:							---
Supplementary information:							
** Insulation type: B – Basic; S – Supplementary; R – Reinforced.							

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Clause	Requirement + Test	Result + Remark	Verdict

20.16 (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)	
Lamp support inside sleeve	See Annex I	125°C	1,28	
Supplementary information: N/A				

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)
	Support inside SELV Connector	—	10	No	No flame
	Lamp support inside sleeve	See Annex1	10	No	No flame
Supplementary information: N/A					

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 ₁ (s)	t ₂ (s)	t ₃ (s)		
Ignition of the specified layer placed underneath the test specimen (Yes/No) _____:					No	
Supplementary information:						
N/A						

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Clause	Requirement + Test	Result + Remark	Verdict

20.16 (13.4)	TABLE: Proof tracking test (IEC 60112)					N/A
Test voltage (PT) _____ :				175 V		—
Object/ Part No./ Material		Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Supplementary information:						

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Clause	Requirement + Test	Result + Remark	Verdict

ANNEX 1		TABLE: Critical components information					P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
LED driver	B	Changzhou Jutai Electronic Co., Ltd.	JT-EL/PC31V7.2W-H9-IP44	Input: 220 ~ 240 V~, 50 ~ 60 Hz, 0.12A, IP44 Output: 31V, 7.2W	EN 61347-1 EN 61347-2-13	SGS SHE5251102 152101	
LED	B	Taizhou Rixin Optoelectronic s Co. Ltd.	RXX-W	1.8 V to 3.2 V, 20 mA 2.8 V to 3.6 V, 20 mA	EN 62471 IEC/TR 62778	BY-LCIE CNYR-E5H-P25100189	
Wire	C	Taizhou Tali Lighting Co., Ltd	Insulated copper wire	0.15mm ²	EN 60598-2-20 EN IEC 60598-1	Tested with appliance	
Heat shrinkable tube	C	Taizhou Tali Lighting Co., Ltd	PVC	PVC	EN 60598-2-20 EN IEC 60598-1	Tested with appliance	
Lamp support inside sleeve	C	Taizhou Tali Lighting Co., Ltd	PVC	PVC	EN 60598-2-20 EN IEC 60598-1	Tested with appliance	
SELV Connector	C	Taizhou Tali Lighting Co., Ltd	E1	–	EN 60598-2-20 EN IEC 60598-1	Tested with appliance	
Supplementary information:							
¹⁾ Provided evidence ensures the agreed level of compliance. See CO-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							

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Clause	Requirement + Test	Result + Remark	Verdict

ANNEX 2	TABLE: Thermal tests of Section 12		P				
	Type reference.....:	TLA_C_1200	—				
	Lamp used.....:	Original LED bulb	—				
	Lamp control gear used.....:	JT-EL/FC31V7.2W-H9-IP44	—				
	Mounting position of luminaire.....:	Normal position	—				
	Supply wattage (W).....:	8.7	—				
	Supply current (A).....:	0.054	—				
	Temperatures in test 1 - 4 below are corrected for t_a (°C).....:	25	—				
	- abnormal operating mode.....:	LEDs short-circuited	—				
4.13 (12.4)	- test 1: rated voltage	240V	P				
	- test 2: 1,05 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....:	1,05 times rated voltage	P				
	- test 3: Load on wiring to socket-outlet, 1,05 times voltage or 1,05 times wattage.....:	--	N/A				
	Through wiring or looping-in wiring loaded by a current of A during the test.....:	--	N/A				
4.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:	1,1 times rated voltage	P				
Temperature measurements (°C)							
Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnor.	
		test 1	test 2	test 3	limit	test 4	limit
1 st LED bulb	25	--	26,9	--	Ref	--	--
Lamp support inside sleeve	25	--	26,4	--	Ref	--	--
Wire near LED	25	--	26,0	--	90	--	--
SELV Connector	25	--	26,4	--	Ref	--	--
T _c of LED driver	25	50,9	--	--	75	--	--
Case intended to be gripped by hand (LED driver)	25	--	57,5	--	75	56,7	75
Plug / socket surface	25	--	36,4	--	70	--	--
Button	25	--	36,1	--	55	--	--
Mounting surface	25	--	25,6	--	90	25,7	130
Interconnecting connector	25	--	25,2	--	Ref	--	--
Supplementary information: N/A							

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Clause	Requirement + Test	Result + Remark	Verdict

ANNEX 3	Screw terminals (part of the luminaires)		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).....:	M	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
	Mandrel terminal		N/A
	Pull test; pull (N).....:		N/A
(14.4.8)	Without undue damage		N/A

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Clause	Requirement + Test	Result + Remark	Verdict

ANNEX 4	Screwless terminals (part of the luminaires)		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

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Clause	Requirement + Test	Result + Remark	Verdict
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)											
	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:											

—End of main Report—

IEC 60598-1:2024 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60598-1 LUMINAIRES – PART 1: GENERAL REQUIREMENTS AND TESTS			
Differences according to: IEC 60598-1:2020			

4	GENERAL TEST REQUIREMENTS		P
-	Section 0 (IEC 60598-1:2020) change to Section 4 (IEC 60598-1:2024)		—
4.3.4	Batteries/EDLCs for luminaires	See Annex W	—
4.4	Information for luminaire design in light sources and controlgear standards		—
4.4	Light source safety standard		—
	Controlgear safety standard	EN 61347-2:13	—
	Luminaire design in the light source safety standard	IEC/TR 62776	P

5	CLASSIFICATION OF LUMINAIRES		P
-	Section 2 (IEC 60598-1:2020) change to Section 5 (IEC 60598-1:2024)		—

6	MARKING		P
-	Section 3 (IEC 60598-1:2020) change to Section 6 (IEC 60598-1:2024)		P
6.3.5	Class III symbol for battery/EDLC-operated luminaires		N/A
6.3.8	Rated input power Class III battery/EDLC-operated luminaires		N/A
6.3.27	The rated current for mains socket outlet incorporated in the luminaire		N/A
6.4.18	Non replaceable and non-user replaceable light sources information provided, or the pictogram with explanation		P
6.4.34	Non serviceable and non-user serviceable controlgear information provided, or the pictogram with explanation		P

7	CONSTRUCTION		P
-	Section 4 (IEC 60598-1:2020) change to Section 7 (IEC 60598-1:2024)		P
7.8	Switches		N/A
	- adequate rating		N/A
	- adequate fixing		N/A

IEC 60598-1:2024 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- polarized supply		N/A
	- compliance with IEC 61058-1-1 or IEC 60669-1 for mechanical switches		N/A
	- compliance with IEC 61058-1-2 or IEC 60669-2-1 for electronic switches		N/A
	- switches operating in ELV circuits with power lower than 15 W and a current lower than 0,5 A		N/A
7.14	Suspensions, fixings and means of adjusting		N/A
7.14.1	Magnets shall not be used as the primary fixing of a fixed luminaire to the mounting surface.		N/A
7.14.2	Load to flexible cables		N/A
	Special cable or cord		N/A
7.24	Photobiological hazards		P
7.24.1	Luminaires shall not emit excessive UV radiation when used with light sources according to IEC 62471-7:2023		N/A
7.24.1	Luminaires shall not emit excessive UV-A radiation when used with light sources according to IEC 62471-7:2023		N/A
7.24.3	Retinal blue light hazard		N/A
7.24.3.2	Assessed according to IEC 62471-7:2023, Table 2 ...		—
7.24.3.3	Or Class of risk group assessed according to IEC/TR 62778:2014	RG0	—
	Luminaires with E _h ...		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 60598-3-10 and Mains socket outlet nightlights IEC 60598-3-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
7.24.4	Luminaires retinal thermal hazard according to IEC 62471-7:2023		N/A
7.24.5	Luminaires Infrared hazard according to IEC 62471-7:2023		N/A
7.24.6	Luminaires Thermal hazard according to IEC 62471-7:2023		N/A
7.31	Insulation between circuits		P

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Clause	Requirement + Test	Result - Remark	Verdict
7.31.5	luminaires using controllable controlgear providing SELV output(s)		P
7.32	Overvoltage protective devices external to controlgear		N/A
7.32.2	Surge protective devices (SPDs) Comply with IEC 61643-11		N/A
7.32.3	Surge protective components (SPCs):		N/A
7.32.3.1	- not be connected to earth or to other conductive parts of the luminaire		N/A
	- comply with IEC 61651-2:2021 or IEC 61643-331:2020		N/A
7.32.3.2	-Climatic conditions:		N/A
	Option A – Climatic categories, or		N/A
	Option B -Operating and storage temperature ranges		N/A
7.32.3.3	- Maximum continuous voltage:		N/A
7.32.3.4	-Surge capability		N/A
	discharge current.....A		N/A
7.32.3.5	-SPC resistance to fire		N/A
	duration of application of the test flame: 10 s; flame duration after removal: 5 s		N/A
7.32.3.6	-SPC overload test		N/A
13	CREEPAGE DISTANCES AND CLEARANCES		P
-	Section 11 (IEC 60598-1:2020) change to Section 13 (IEC 60598-1:2024)		—
9	PROVISION FOR EARTHING		N/A
-	Section 7 (IEC 60598-1:2020) change to Section 9 (IEC 60598-1:2024)		—
16	SCREW TERMINALS		N/A
	Section 14 (IEC 60598-1:2020) change to Section 16 (IEC 60598-1:2024)		—
17	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Section 15 (IEC 60598-1:2020) change to Section 17 (IEC 60598-1:2024)		—
8	EXTERNAL AND INTERNAL WIRING		P
-	Section 5 (IEC 60598-1:2020) change to Section 8 (IEC 60598-1:2024)		—

IEC 60598-1:2024 _ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

10	PROTECTION AGAINST ELECTRIC SHOCK		P
-	Section 8 (IEC 60598-1:2020) change to Section 10 (IEC 60598-1:2024)		---

14	ENDURANCE TEST AND THERMAL TEST		P
-	Section 12 (IEC 60598-1:2020) change to Section 14 (IEC 60598-1:2024)		---

11	RESISTANCE TO DUST AND MOISTURE		P
	Section 9 (IEC 60598-1:2020) change to Section 11 (IEC 60598-1:2024)		---

12	INSULATION RESISTANCE AND ELECTRIC STRENGTH, TOUCH CURRENT AND PROTECTIVE CONDUCTOR CURRENT		P
-	Section 10 (IEC 60598-1:2020) change to Section 12 (IEC 60598-1:2024)		---

15	RESISTANCE TO HEAT, FIRE AND TRACKING		P
	Section 13 (IEC 60598-1:2020) change to Section 15 (IEC 60598-1:2024)		---

Annex W	Battery/EDLC-operated luminaires		N/A
W.3	Marking		N/A
W.3.2	Luminaires with replaceable battery		N/A
W.3.3	Coin and button batteries		N/A
W.3.4	Other standardized batteries (e.g. AAA or AA)		N/A
W.3.5	Luminaires with non-standardized replaceable rechargeable battery		N/A
W.3.6	Luminaires with non-user replaceable battery/EDLC		N/A
W.3.7	Luminaires with non-replaceable battery/EDLC		N/A
W.3.8	Luminaires supplied by external dedicated power supply units		N/A
W.3.9	Rechargeable luminaires other than ordinary		N/A
W.3.10	Conditions for charging		N/A
W.4	Construction		N/A
W.4.2	Small batteries (coins, button and other non-standardized batteries)		N/A
	-shall not be removable without the aid of a tool.		N/A
W.4.3	Battery compartment fasteners for small batteries and other standardized batteries (e.g. AAA or AA)		N/A
W.4.4	Battery/EDLC chargers incorporated in luminaires		N/A

IEC 60598-1:2024 _ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
W.4.5	Short-circuit protection		N/A
W.4.6	Electrical parameters of the batteries operation		N/A
W.4.6.1	General conditions for testing lithium-ion battery charging		N/A
W.4.6.2	Normal charging of lithium-ion systems		N/A
W.4.7	Protection against overpressure for Li-ion batteries used in luminaires		N/A
W.4.8	Protection against the consequence of failure of cells or EOLCs		N/A
W.5	Protection against electric shock		N/A
	live parts are not accessible when the luminaire is opened		N/A
W.6	Endurance test and thermal test		N/A
W.6.1	Endurance test		N/A
	total duration of 300 h with charging function of the batteries or EOLCs		N/A
	total duration of 240 h without interruption without charging function		N/A
W.6.2	Thermal test (normal operation)		N/A
	maximum surface temperature of the battery	See TABLE: Thermal tests	N/A
W.6.3	Thermal test (abnormal operation)		N/A
	The temperature rise of surfaces of accessible batteries shall not exceed 45 K.	See TABLE: Thermal tests	N/A
	The temperature rise of non-accessible batteries shall not exceed 60 K.	See TABLE: Thermal tests	N/A
W.6.4	Lithium-ion charging systems – Fault conditions		N/A
	There has been no explosion during the test.		N/A
	No charring or burning of the gauze or tissue paper has resulted.		N/A
	The cells shall not have exceeded the upper limit charging voltage by more than 150 mV or ...		N/A
	There shall be no evidence of damage to any cell vent.		N/A
	Hazardous live parts shall not become accessible		N/A

—End of Attachment I—

ATTACHMENT to TRF IEC60598_2_20H			
Standard Reference Number IEC 60598-2-20:2022 EUROPEAN GROUP DIFFERENCES AND EUROPEAN NATIONAL DIFFERENCES Luminaires - Part 2-20: Particular requirements - Lighting chains			
Differences according to _____: EN IEC 60598-2-20:2024/A11:2024			
TRF template used _____: IECEE CD-2020-F2:2024, Ed. 2			
Attachment Form No. _____: EU_GD_IEC60598_2_20H			
Attachment Originator _____: Intertek Semko AB			
Master Attachment _____: Dated 2025-06-05			
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Clause	Requirement + Test	Result - Remark	Verdict
	GENELEC COMMON MODIFICATIONS		P
	1 Modification to Table 1, "Cables or cords types for lighting chains"		P
	Table 1 — Cables or cords types for lighting chains		P
	Type of lighting chains	Cable or cord type	P
	Class II Ordinary		NA
	Class II Lighting		NA
	Class II SELV		P
	Temporary installed (TPL)		NA

—End of Attachment II—

Attachment III

IEC TR 62778			
Clause	Requirement + Test	Result + Remark	Verdict
7	MEASUREMENT INFORMATION FLOW		P
7.1	Basic flow		P
	'Law of conservation of luminance' applied		P
	Use of only true luminance/radiance values		P
	In case of luminaire: The light source is operated in the luminaire under similar conditions as when tested as a component		P
	In case E_{lv} value for RG2 was established the peak value was derived from angular light distribution		NA
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		NA
7.3	Special cases (i): Replacement by a lamp or LED module of another type		NA
	Light source is a white light source		NA
	Evaluation done based on highest luminance		NA
	Evaluation done based on CCT value		NA
7.4	Special cases (ii): Arrays and clusters of primary light sources		NA
	LED package is evaluated as _____ : ☐ RG0 unlimited ☐ RG1 unlimited		NA
	E_{lv} of LED package applies to array		NA
8	RISK GROUP CLASSIFICATION		P
	Risk group achieved:		P
	- ...Risk Group 0 unlimited		P
	- ...Risk Group 1 unlimited		NA
	- E_{lv} _____ (lx) : Distance to reach RG1 _____ (m) :		NA

Attachment III

IEC TR 62778			
Clause	Requirement + Test	Result + Remark	Verdict

TABLE: Spectroradiometric measurement				P
Measurement performed on:		☐ LED package ☐ LED module ☐ Lamp ☒ Luminaire		—
Model number _____		TLA_C_1200		—
Test voltage (V) _____		240		—
Test current (mA) _____		—		—
Test frequency (Hz) _____		50		—
Ambient, t(°C) _____		25		—
Measurement distance _____		☒ 20 cm ☐ ... cm		—
Source size _____		☐ Non-small ☐ Small : ... mm		—
Field of view _____		☐ 100 mrad ☒ 11 mrad ☐ 1,7 mrad (for small sources)		—
Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	—	—
x/y colour coordinates			—	—
Blue light hazard radiance	L _b	W/(m ² ·sr)	4.670e+001	R00
Blue light hazard irradiance	E _b	W/m ²	—	—
Luminance	L	cd/m ²	2.763e+004	—
Illuminance	E	lx	—	—
Supplementary information:—				

TABLE: Angular light distribution					N/A
N/A					

— End of Attachment III —

Detail of: Overview of sampleDetail of: Approved LED driver

Detail of: Connection between lighting chains and LED driver

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Detail of: SELV Connector

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Detail of: Construction

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom

Detail of: Construction

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Detail of: LEDDetail of: LED

—End of Attachment IV—