



**TEST REPORT
IEC 60598-2-20
Luminaires
Part 2: Particular requirements
Section 20: Lighting Chains**

Report Number..... : SHES240300580201

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Name of Testing Laboratory preparing the Report : SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Applicant's name : Linhai Yule Lighting Co., Ltd.

Address..... : 1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City, Taizhou, Zhejiang, China

Test specification:

Standard : IEC 60598-2-20:2022 for use in conjunction with IEC 60598-1:2020

Test procedure : GS-mark

Non-standard test method : N/A

TRF template used..... : IECEE OD-2020-F1:2022, Ed.1.5

Test Report Form No. : IEC60598_2_20H

Test Report Form(s) Originator : Intertek Semko AB

Master TRF : Dated 2022-10-14

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Test item description :	LED lighting	
Trade Mark(s)	--	
Manufacturer	Linhai Yule Lighting Co., Ltd. 1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City, Taizhou, Zhejiang, China	
Model/Type reference	YL-abcd-eV-f (Details see "General product information")	
Ratings	Lighting Chain: 3-36 V AC or DC, Class III, IP44; Max. 12 W LED driver: Pri: 220-240 V AC, 50/60 Hz; Class II; IP44; Sec: 3-36 V AC or DC; Max. 12 W; SELV	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB 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) :	Philip SHI, PE <i>Philip Shi</i>
	Approved by (name, function, signature) ... :	Edward GUO, Reviewer <i>Edward Guo</i>
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	N/A
<input type="checkbox"/>	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

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>1. Attachment I - EU Group difference (1 page)</p> <p>2. Attachment II - the assessments according to EN 60598-2-4:2018 (2 pages)</p> <p>3. Attachment III - Photo documentation (15 pages)</p>	
<p>Summary of testing:</p>	
<p>Tests performed (name of test, test clause and date test performed):</p> <p>Full tests</p>	<p>Testing location:</p> <p>SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.</p> <p>588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China</p>
<p>Summary of compliance with National Differences (List of countries addressed):</p> <p>1. EU Group Differences: Yes</p> <p>2. EU Special National Conditions : None</p> <p>3. EU A-deviations : None</p> <p><input checked="" type="checkbox"/> The product fulfils the requirements of EN 60598-2-20:2015, EN IEC 60598-1:2021+A11:2022, EN 60598-2-4:2018, EN 62493:2015+A1:2022, BS EN 60598-2-20:2015, BS EN IEC 60598-1:2021+A11:2022, BS EN 60598-2-4:2018, BS EN 62493:2015+A1:2022, EK1 671-18 and EK1 187-03 are evaluated, but EK1 187-03 found to be not applicable, Risk analysis and evaluation for PAH has been performed (ref. AfPS GS 2019:01 PAK, EK1 601-15)</p>	

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: YL-2000LCWW-36V-M
2000L LED lamps
36 V AC, 12 W

IP44



- For indoor and outdoor use!
- The lamps are not replaceable.
- This lighting chain must only be used with the provided LED driver.

Linhai Yule Lighting Co., Ltd.
1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City, Taizhou,
Zhejiang, China

REP Europe GmbH
Annastr. 9 B, 64347 Griesheim, Germany

Marking on connector

L1
Linhai Yule Lighting Co., Ltd.

Packing or instruction marking

Type: YL-2000LCWW-36V-M
2000L LED lamps
36 V AC , 12 W
Non-replaceable lamps
Class III for lighting chain



IP44



Lighting chain with LED driver:
Input voltage: 220-240 V~; 50/60 Hz,
Output voltage: 36 V AC
Class II for LED driver



- Do not connect to the mains while the lighting chain is inside the packing!
- The lamps are not replaceable. If the lamps are mechanically damaged the lighting chain must not be used and must be discarded!
- For indoor and outdoor use!
- The external fixed flexible supply cord cannot be replaced. If the supply cord, the mains plug or any other part of the lighting chain is damaged, the lighting chain must be discarded.
- **WARNING – THIS LIGHTING CHAIN MUST NOT BE USED WITHOUT ALL GASKETS BEING IN PLACE**



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

Linhai Yule Lighting Co., Ltd.
1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City, Taizhou,
Zhejiang, China

Label

Type: YL-2000LCWW-36V-M
 2000L LED lamps
 36 V AC, 12 W



UK
CA



IP44

- For indoor and outdoor use!
- LED driver for indoor use only!
- The lamps are not replaceable.
- This lighting chain must only be used with the provided LED driver.

Linhai Yule Lighting Co., Ltd.
 1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City,
 Taizhou, Zhejiang, China

Packing or instruction marking

Type: YL-2000LCWW-36V-M
 2000L LED lamps
 36 V AC , 12 W
 Non-replaceable lamps
 Class III for lighting chain



IP44

Lighting chain with LED driver:
 Input voltage: 220-240 V~; 50/60 Hz,
 Output voltage: 36 V AC
 Class II for LED driver

UK
CA



- Do not connect to the mains while the lighting chain is inside the packing!
- The lamps are not replaceable. If the lamps are mechanically damaged the lighting chain must not be used and must be discarded!
- For indoor and outdoor use!
- LED driver for indoor use only!
- The external fixed flexible supply cord cannot be replaced. If the supply cord, the mains plug or any other part of the lighting chain is damaged, the lighting chain must be discarded.
- Warning – This lighting chain must not be used without all gaskets being in place"



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

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 1-4F, No. 5-28 Sanjia East Road, Xuanzhu Village, Dongcheng Town Linhai City, Taizhou,
 Zhejiang, China

For lighting chains intended for UK countries, the lighting chain and packing shall be add the following warning:

LED driver for indoor use only!

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 place 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 :	LED lighting
Classification of installation and use:	Class III 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	2024-03-19
Date (s) of performance of tests	2024-03-19 to 2024-04-03
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p><input type="checkbox"/> This Test Report Form contains requirements according to IEC/ISO Standard dated and includes Corrigendum dated</p> <p>(Note: The above text maybe removed if not applicable)</p> <p>This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.</p> <p>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.</p> <p>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.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC/IEC 02:	
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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 including following models
 They have the same construction, LED and wire except rated power, LED driver and color of LED.
 They may with or without control function, with or without different kinds of decorations or motif frame.
 All of motif frame used with spike or hook to installation for outdoor use.

Model list:

YL-abcd-eV-f

“a” means for number of LEDs, from 10(10 LEDs) to 2000(2000 LEDs);

“b” means the shape of the lighting chain, it could be L, I, N, C:
 L(Line), I(Icicle), N(Net), C(Curtain);

“c” could be “C” means LED driver with control function, or blank means LED driver without control function;

“d” means the colour of LED, it can be YL(Yellow), RD(Red), BL (Blue), GR(Green), WH(White), WW(Warm white), PK(Pink), PU(Purple), MC(Multi colour);

“e” could be from “3” to “36”, stand for the voltage of the lighting chain, means 3V to 36V;

“f” could be “D” means with decoration, or blank means without decoration, “M” means with motif, or blank means without motif.

Number of LEDs	Voltage of lighting chain	Wattage of single LED lamp	Wattage of lighting chain
10 - 500	3 V - 36 V	0,0072 W - 0,06 W	0,6 W - 6 W
501 - 800	4,5 V - 36 V	0,0048 W - 0,009 W	2,4 W - 7,2 W
801 - 1200	12 V - 36 V	0,0045 W - 0,007 W	3,6 W - 9 W
1201 - 2000	24 V - 36 V	0,005 W - 0,06 W	6 W - 12 W

Full tests were performed on model YL-2000LCWW-36V-M.

Following additional test items were perform on YL-500LWW-36V-D

CI 20.13 Endurance test and thermal test

CI 20.16 Resistance to heat, fire and tracking


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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Section/s: EN 60598-2-4	—
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 LUMINAIRES		P
20.5 (2.2)	Type of protection	Class III (lighting chain) Class II (LED driver)	P
20.5 (2.3)	Degree of protection.....	IP44	—
20.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
20.5 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
20.5.1 (-)	Ordinary luminaire classified "for indoor use only" ...	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Luminaires other than ordinary classified "for indoor use only"	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Luminaires other than ordinary classified for "outdoor use" and "for indoor use"	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
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 IP 44 or higher	IP44	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 and German	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		P
20.6.1 (3.3.10)	Suitability for use indoors	Indoor and outdoor use	P
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

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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:		N/A
	– “Do not interconnect parts of this lighting chain with parts of another manufacturer's lighting chain”		N/A
	– “Interconnection shall be made only by the use of the supplied connectors. Any open ends must be sealed-off before use”;		N/A
	– maximum system length that may be interconnected		N/A
	– maximum number of lamps or max system wattage that may be interconnected		N/A
	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)	Wireways smooth and free from sharp edges		P
20.7.1 (4.4)	Lampholders		N/A

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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		N/A
20.7.1 (4.7.2)	Test 8 mm live conductor		N/A
	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 Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
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)	Retainment		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

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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

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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: 0,5	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		N/A
20.7.1 (4.13.3)	Straight test finger		N/A
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

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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-shelve. 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		P
	Mass (kg)	0,41	—
	Stress in conductors (N/mm ²)	13,4	P
	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

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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)	Ignitors 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 P)		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_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 .. :		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		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 ($^{\circ}\text{C}$) :		—
	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 ES1 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 60309-1		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:		N/A
	- 0.5 Nm (marked "for indoor use only")		N/A
	- 0.7 Nm (without marking "for indoor use only")		N/A
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 <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	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 \hat{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_P	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)	0,15	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		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 ≤ 25 V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12 V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12 V 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)	Mains 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		N/A
	- IEC 60083		N/A
	- other standard		N/A
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).....		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 (mm ²) :	0,15	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.d)	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 60 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 (12.2)	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 Un, 264V	—
	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 (12.5)	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 W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—

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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 <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- 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, 264V	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 (9)	RESISTANCE TO DUST AND MOISTURE		P
20.14 (-)	If IP > IP 20 the order of tests as specified in clause 20.13		P
20.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP44	—
	- mounting position during test..... :	Mounting on the most unfavourable position	—
	- fixing screws tightened; torque (Nm)..... :	N/A	—
	- tests according to clauses..... :	9.2.0 & 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

20.15 (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 :	Covered by metal foil	P
	Insulation resistance (MΩ):		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	2960V	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
20.15 (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 (650°C) :	See Test Table 20.16 (13.3.2)	P
20.16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 20.16 (13.4)	P

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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 30 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	2,6	0,2	11.1B	2,6	1,2	11.1A
Working voltage (V)					36		—
PTI					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_P if applicable (kV)					--		—
Supplementary information: Between live parts & accessible parts							
Distance 2:							
Working voltage (V)							—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_P if applicable (kV)							—
Supplementary information:							
Distance 3:							
Working voltage (V)							—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_P 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

20.8 (11.2)	TABLE II: Creepage distances and clearances						N/A
	Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages						
	Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2						
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:							
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/>	≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)							—
Supplementary information:							
Distance 2:							
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/>	≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)							—
Supplementary information:							
Distance 3:							
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/>	≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} 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 Annex1	125°C	0,9	
Support inside SELV connector	See Annex1	125°C	1,1	
SELV Connector	See Annex1	75°C	1,3	
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)	Verdict
Lamp support inside sleeve	See Annex1	10	No	No flame	P
Support inside SELV connector	See Annex1	10	No	No flame	P
Supplementary information: N/A					

20.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests				P
Object/ Part No./ Material	Manufacturer/ trademark	GWT (°C): 650			Verdict
		t _E (s)	t _I (s)	t _R (s)	
SELV Connector	See Annex1	0	No flame	No flame	P
Motif	See Annex1	0	No flame	No flame	P
Decoration	See Annex1	0	No flame	No flame	P
Heat shrinkable tube	See Annex1	0	No flame	No flame	P
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)				P	
Test voltage PTI			175 V		—	
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict	
Lamp support inside sleeve	See Annex1	Yes	Yes	Yes	P	
Support inside SELV connector	See Annex1	Yes	Yes	Yes	P	
Supplementary information: N/A						

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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/FCxVyW-I3-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01563	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-I3; JT-EL/FCxVyW-I3-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2103003826 LMA01	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-A2-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 20 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/01122	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-A2; JT-DCxVyW-A2-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 20 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2205007794 LM	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M3-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 24 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01704	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M3; JT-DCxVyW-M3-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 24 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2106010940 LMA01	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M4-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 36 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/01124	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M4; JT-DCxVyW-M4-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 36 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2206010225 LM	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-A1-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01423	

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-A1; JT-DCxVyW-A1-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2103005212 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-E4-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 7,2 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01095
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-E4; JT-DCxVyW-E4-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 7,2 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2109018905 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-F5-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01355
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-F5; JT-DCxVyW-F5-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2101000577 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-L2-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01400
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-L2; JT-DCxVyW-L2-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2101000576 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-N2-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01703
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-N2; JT-DCxVyW-N2-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2103004842 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-H5-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 7,2 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01507

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-H5; JT-DCxVyW-H5-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 7,2 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2012024550 LMA02
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-H10-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 – 36 Vdc, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00436
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-H10; JT-DCxVyW-H10-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2112025763 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 – 36 Vdc, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/01548
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW; JT-DCxVyW-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2208014615 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-G5-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01398
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-G5; JT-EL/FCxVyW-G5-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2101000965 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-G3-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01290
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-G3; JT-EL/FCxVyW-G3-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2306010869 LM

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M1-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vdc, Max 24 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00353
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-DCxVyW-M1; JT-DCxVyW-M1-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vdc, Max 24 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2212022958 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H9-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 7,2 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01238
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H9-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 7,2 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/01188
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H9; JT-EL/FCxVyW-H9-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 7,2 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2011024059 LMA02
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H9; JT-EL/FCxVyW-H9-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 7,2 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2206011179 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H2-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01426
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H2; JT-EL/FCxVyW-H2-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2101001990 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H7-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 7,2 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01236

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H7; JT-EL/FCxVyW-H7-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 7,2 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2012025280 LMA01
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H15-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 13 Vdc, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00509
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H15; JT-EL/FCxVyW-H15-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 13 Vdc, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2302001522 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H16-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 13 Vdc, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00618
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H16; JT-EL/FCxVyW-H16-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 13 Vdc, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2302002911 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H10-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00436
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H10; JT-EL/FCxVyW-H10-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD SHES2112025763 LM
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-H13-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00070
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-BT3-IP44	Input: 220 – 240 V~, 50 – 60 Hz; IP44 Output: 3 - 36 Vac, Max 10 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/21/HEL/01250

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Jutai Electronic Co., Ltd.	JT-EL/FCxVyW-BT3; JT-EL/FCxVyW-BT3-IP44	Input: 220 – 240 V~, 50 – 60 Hz Output: 3 - 36 Vac, Max 10 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA SHES2401000259 LM
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 100 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 6 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/19/HEL/11845
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 6 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00005
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 9 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00054
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00112

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 6 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00800
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 6 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/22/HEL/00424
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 - 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 7,2 W, SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00016
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3,5 - 36 Vdc or ac, Max 18 W, SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00766
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 10 W, SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01415

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 9 W, SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01689
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 6 W, SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/01690
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY(ZZ); GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY(ZZ)-1CZ; GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT(ZZ); GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 100 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 6 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD NBES2107003739 LM

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY(ZZ); GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY(ZZ)-1CZ; GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT(ZZ); GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 9 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD NBES2109004889 LM
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd.	GP-SWXXXDCYY YY(ZZ); GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY(ZZ)-1CZ; GP-SWXXXDCYY YYT(ZZ); GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD NBES2111005712 LM

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY(ZZ); GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY(ZZ)-1CZ; GP-SWXXXDCYY YY-IP44(ZZ)-1CZ; GP-SWXXXDCYY YYT(ZZ); GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc or ac, Max 7,2 W, SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD NBES2209004891 LM
LED driver (Alternative)	D	Ningbo Golden Power Electronic Co., Ltd	GP-SWXXXDCYY YY(ZZ); GP-SWXXXDCYY YY-IP44(ZZ); GP-SWXXXDCYY YY(ZZ)-1CZ; GP-SWXXXDCYY YYT(ZZ); GP-SWXXXDCYY YYT-IP44(ZZ)	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 9 W, SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA LVD NBES2309004990 LM
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	WDLX-IP-**, WDLX-IP-**-T; LRLX-IP-**	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 – 36 Vdc, Max 10,8 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4909027.21001
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	LRLX-IP-**, WDLX-IP-**, WDLX-IP-**-T	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 – 36 Vdc, Max 10,8 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4909027.22001
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	LRLX-IP-**, LRLS-IP-**, WDLX-IP-**, WDLX-IP-**-T; WDLX-IP-**-T	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4909027.22002

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	BS WDLX-IP-**, BS WDLX-IP-**-T; BS LRLX-IP-**	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 10,8 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA NBES2107003739 LM
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	BS WDLX-IP-**, BS WDLX-IP-**-T; BS LRLX-IP-**	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 10,8 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA NBES2107003739 LM
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	BS LRLX-**; BS WDLX-**; BS WDLX-**-T	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc or ac, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA NBES2111005712 LM
LED driver (Alternative)	D	Liyang Wonderland Electric Appliance Co., Ltd	BS LRLX-**; BS WDLX -**; BS WDLX-**-T	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 10,8 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA NBES2111005712 LM
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz; IP44 Output: 3 - 36 Vdc, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4914018.19001-1
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz; IP44 Output: 3 - 36 Vdc, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4914018.22001
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz; IP44 Output: 3 - 36 Vdc/ac, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4914018.24001

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP20; EDD-aaabbb-IP20; EDK-aaabbb-IP20; EDDK-aaabbb-IP20; ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz Output: 3 - 36 Vdc, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	SGS UKCA NBES2111005712 LM
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP20; EDD-aaabbb-IP20; EDK-aaabbb-IP20; EDDK-aaabbb-IP20; ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz Output: 3 - 36 Vdc, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	DEKRA 4914018.22001
LED driver (Alternative)	D	Changzhou Nanfang Enterprise Co., Ltd	ED-aaabbb-IP20; EDD-aaabbb-IP20; EDK-aaabbb-IP20; EDDK-aaabbb-IP20; ED-aaabbb-IP44; EDD-aaabbb-IP44; EDK-aaabbb-IP44; EDDK-aaabbb-IP44	Input: 220 – 240 V~, 50 Hz Output: 3 - 36 Vdc/ac, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	DEKRA 6120839.02AOC
LED driver (Alternative)	D	Taizhou Sanshan Electrical Appliance Co., Ltd.	22SXXXXG*** HZD	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 15 W; SELV	EN 61347-1 EN 61347-2-13	TUV SUD No. Z1A 002609 0020 Rev. 00

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Clause	Requirement + Test			Result - Remark	Verdict	
LED driver (Alternative)	D	Zhejiang Lvli Intelligent Technology Co., Ltd.	LL-xxxxaaaa(E)-IP44; LL-xxxxaaaa-C(E)-IP44; LL-xxxxbbbb-C(E)-IP44; LL-xxxxaaaa-CT(E)-IP44; LL-xxxxbbbb-CT(E)-IP44; LL-xxxxaaaa-T(E)-IP44; LL-xxxxbbbb-T(E)-IP44	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	DEKRA 4922040.23002-1
LED driver (Alternative)	D	Zhejiang Lvli Intelligent Technology Co., Ltd.	LL-xxxxaaaa(E)-IP20; LL-xxxxaaaa(E)-IP44; LL-xxxxaaaa-T(E)-IP20; LL-xxxxaaaa-T(E)-IP44; LL-xxxxbbbb-T(E)-IP20; LL-xxxxbbbb-T(E)-IP44 LL-xxxxaaaa-C(E)-IP20; LL-xxxxaaaa-C(E)-IP44; LL-xxxxaaaa-CT(E)-IP20; LL-xxxxaaaa-CT(E)-IP44; LL-xxxxbbbb-C(E)-IP20; LL-xxxxbbbb-C(E)-IP44; LL-xxxxbbbb-CT(E)-IP20; LL-xxxxbbbb-CT(E)-IP44	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc or ac, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	DEKRA 4922040.23002-1
LED driver (Alternative)	D	Taizhou Sanshan Electrical Appliance Co., Ltd.	22SXXXXG*** HZD; 22SXXXXB*** HZD	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc, Max 15 W; SELV	BS EN 61347-1 BS EN 61347-2-13	TUV SUD No. N8AUK 002609 0024 Rev. 00
LED driver (Alternative)	D	Linhai Dingshun Electronic Co., Ltd	DS-xxxDCaaaa**s-IP44; DS-xxxDCcccc**s-IP44	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	TUV SUD No. Z1A 003560 0018 Rev. 01

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Clause	Requirement + Test			Result - Remark	Verdict	
			DS- zzzACaaaa**s- IP44; DS- zzzACcccc**s- IP44	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vac, Max 12 W; SELV		
			DS- yyyACbbbb**s- IP44; DS- yyyACcccc**s- IP44	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 24 - 36 Vac, Max 7,5 W; SELV		
LED driver (Alternative)	D	Linhai Dingshun Electronic Co., Ltd	DS- DZxxxDCaaaa **-BS	Input: 100 – 240 V~, 50 / 60 Hz Output: 3 – 36 Vdc, Max 12 W; SELV	BS EN 61347- 1 BS EN 61347- 2-13	SGS UKCA SHES2110020814 01LMC
LED driver (Alternative)	D	Linhai Dingshun Electronic Co., Ltd	DS- DZzzzACaaaa* *-BS	Input: 100 – 240 V~, 50 / 60 Hz Output: 3 – 36 Vac, Max 12 W; SELV	BS EN 61347- 1 BS EN 61347- 2-13	SGS UKCA SHES2110020815 01LMC
LED driver (Alternative)	D	Linhai Dingshun Electronic Co., Ltd	DS- DZyyyACbbbb* *-BS	Input: 100 – 240 V~, 50 / 60 Hz Output: 24 – 36 Vac, Max 6 W; SELV	BS EN 61347- 1 BS EN 61347- 2-13	SGS UKCA SHES2110020815 01LMC
LED driver (Alternative)	D	Linhai Dingshun Electronic Co., Ltd	DS- DZxxxDCaaaa- BS	Input: 100 – 240 V~, 50 / 60 Hz Output: 3 – 36 Vdc, Max 12 W; SELV	BS EN 61347- 1 BS EN 61347- 2-13	SGS UKCA SHES2110020816 01LMC

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Clause	Requirement + Test		Result - Remark	Verdict		
LED driver (Alternative)	D	Taizhou Jiaojiang Yingxing Electronic Co., Ltd.	YJ-LaaD*bbW; YJ-LCxx*yymt-bbW; YJ-LaaD*tg-bbW; YJ-LSaaDO-bbW; YJ-LSCxxOyymt-bbW; YJ-LSaaDOtg-bbW; YJ-LSaaDOX-bbW; YJ-HLaaD###-zzW; YJ-HLSaaDO-zzW; YJ-HLCxx###yymti-zzW; YJ-HLSCxxOyymti-zzW; YJ-HLaaD###tgi-zzW; YJ-HLSaaDOtgi-zzW; YJ-HLaaD###X-zzW; YJ-HLSaaDOX-zzW	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 12 W; SELV	EN 61347-1 EN 61347-2-13	TUV SUD No. Z1A 046772 0010 Rev. 02

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Clause	Requirement + Test		Result - Remark	Verdict		
LED driver (Alternative)	D	Taizhou Jiaojiang Yingxing Electronic Co., Ltd.	YJ-HLaaD###-zzW; YJ-HLSaaDO-zzW; YJ-HLCxx###yymti-zzW; YJ-HLSCxxOyymti-zzW; YJ-HLCAxx###yymti-zzW; YJ-HLSCAxxOyymti-zzW; YJ-HLaaD###tgi-zzW; YJ-HLSaaDOtgi-zzW; YJ-HLaaD###c-zzW; YJ-HLSaaDOc-zzW; YJ-HLbbD###tgi-24W	Input: 100 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc or ac, Max 24 W; SELV	EN 61347-1 EN 61347-2-13	SGS GS/23/HEL/00298

IEC 60598-2-20						
Clause	Requirement + Test		Result - Remark	Verdict		
LED driver (Alternative)	D	Taizhou Jiaojiang Yingxing Electronic Co., Ltd.	YJ-HLaaD###- zzW; YJ-HLSaaDO- zzW; YJ- HLCxx###yy mti- zzW; YJ- HLSCxxOyy mti- zzW; YJ- HLCaxx###yy mti- zzW; YJ- HLSCAxxOyy mti- zzW; YJ- HLaaD###tgi- zzW; YJ- HLSaaDOtgi- zzW; YJ- HLaaD###c- zzW; YJ- HLSaaDOc- zzW; YJ- HLbbD###tgi- 24W; YJ-CaaByymt- zzW	Input: 100 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc or ac, Max 24 W; SELV	BS EN 61347- 1 BS EN 61347- 2-13	SGS UKCA LVD SHES2301000088 LMA02

IEC 60598-2-20						
Clause	Requirement + Test			Result - Remark		Verdict
LED driver (Alternative)	D	Taizhou Jiaojiang Yingxing Electronic Co., Ltd.	YJ-HLaaDO-bbW; YJ-HLaaDI-bbW; YJ-HLaaDB-bbW; YJ-HLaaDS-bbW; YJ-HLSaaDO-bbW; YJ-HLCxxOyymti-zzW; YJ-HLCxxlyymti-zzW; YJ-HLCxxByymti-zzW; YJ-HLCxxSyymti-zzW; YJ-HLSCxxOyymti-zzW; YJ-HLaaDOtgi-zzW; YJ-HLaaDltgi-zzW; YJ-HLaaDBtgi-zzW; YJ-HLaaDStgi-zzW; YJ-HLSaaDOtgi-zzW; YJ-HLaaDOxeeW; YJ-HLaaDlxeeW; YJ-HLaaDBxeeW; YJ-HLaaDSxeeW; YJ-HLSaaDOxeeW;	Input: 220 – 240 V~, 50 / 60 Hz Output: 3 - 36 Vdc or ac, Max 12 W; SELV	BS EN 61347-1 BS EN 61347-2-13	DEKRA 6120772.02AOC
LED driver (Alternative)	D	DONGGUAN RICO ELECTRONIC CO LTD	RKPO-DExxxxyyyIP4 4-1; RKPO-DExxxxyyyIP4 4-1B	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 5 W; SELV	EN 61347-1 EN 61347-2-13	TUV SUD No. Z1A 090755 0068 Rev. 00

IEC 60598-2-20						
Clause	Requirement + Test			Result - Remark		Verdict
LED driver (Alternative)	D	DONGGUAN RICO ELECTRONIC CO LTD	RKPO-DExxxxxyyIP4 4-1; RKPO-DExxxxxyyIP4 4-1B	Input: 220 – 240 V~, 50 / 60 Hz; IP44 Output: 3 - 36 Vdc, Max 5 W; SELV	EN 61347-1 EN 61347-2-13	TUV SUD No. N8A 090755 0067 Rev. 00
LED	B	Zhejiang Feitian Optoelectronic Co.,Ltd.	FT#-*@X-§※ £	1.8 V to 2.2 V, 20 mA 2.8 V to 3.6 V, 20 mA	EN 62471 IEC/TR 62778	BV CIYR-ESH- P23110507
LED (alternative)	D	MLS Co Ltd	Ø3mm, Ø5mm,	1,8 V – 2,4 V, 2,8 V – 3,4 V, 20 mA	EN 62471 IEC/TR 62778	TUV-SUD 704021724802-03
Wire	C	Linhai Yule Lighting Co., Ltd.	PVC and rubber insulated copper wire	0,15mm ²	EN 60598-1 EN 60598-2-20	Tested with appliance
SELV Connector	C	Linhai Yule Lighting Co., Ltd.	L1	PVC	EN 60598-1 EN 60598-2-20	Tested with appliance
Decoration	C	Linhai Yule Lighting Co., Ltd.	Decoration	PVC/ABS/PP	EN 60598-1 EN 60598-2-20	Tested with appliance
Motif	C	Linhai Yule Lighting Co., Ltd.	M	PVC/ABS/PP	EN 60598-1 EN 60598-2-20	Tested with appliance
Lamp support inside sleeve	C	Linhai Yule Lighting Co., Ltd.	--	PP/PBT	EN 60598-1 EN 60598-2-20	Tested with appliance
Support inside SELV connector	C	Linhai Yule Lighting Co., Ltd.	--	PVC	EN 60598-1 EN 60598-2-20	Tested with appliance
Heat-shrinkable tube	C	Linhai Yule Lighting Co., Ltd.	PVC	PVC	EN 60598-1 EN 60598-2-20	Tested 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						

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

ANNEX 2	TABLE: Thermal tests of Section 12		P
	Type reference	YL-2000LCWW-36V-M	—
	Lamp used	Original LED bulb	—
	Lamp control gear used	JT-EL/FC36V12W-I3-IP44	—
	Mounting position of luminaire	Normal position	—
	Supply wattage (W)	12,3 (at 254,4)	—
	Supply current (A)	0,085	—
	Temperatures in test 1 - 4 below are corrected for t_a (°C)	25	—
	- abnormal operating mode	LEDs short-circuited	—
20.13 (12.4)	- test 1: rated voltage	240V	P
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 times rated voltage	P
	- test 3: Load on wiring to socket-outlet, 1,06 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
20.13 (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	--	26,3	--	Ref	--	--
Wire near LED	25	--	26,5	--	90	--	--
SELV Connector	25	--	33,6	--	Ref	--	--
T _c of LED driver	25	57,8	--	--	75	--	--
Case intended to be gripped by hand (LED driver)	25	--	56,1	--	75	57,2	75
Plug / socket surface	25	--	28,7	--	70	--	--
Button	25	--	39,5	--	55	--	--
Motif	25	--	26,1	--	Ref	--	--
Mounting surface	25	--	25,3	--	90	26,2	130

Supplementary information: N/A

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

ANNEX 2	TABLE: Thermal tests of Section 12		P
	Type reference	YL-500LWW-36V-D	—
	Lamp used	Original LED bulb	—
	Lamp control gear used	JT-DC36V7.2W-E4-IP44	—
	Mounting position of luminaire	Normal position	—
	Supply wattage (W)	6,3 (at 254,4)	—
	Supply current (A)	0,049	—
	Temperatures in test 1 - 4 below are corrected for t_a (°C)	25	—
	- abnormal operating mode	LEDs short-circuited	—
20.13 (12.4)	- test 1: rated voltage	240V	P
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06 times rated voltage	P
	- test 3: Load on wiring to socket-outlet, 1,06 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
20.13 (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	--	26,1	--	Ref	--	--
Wire near LED	25	--	26,3	--	90	--	--
SELV Connector	25	--	32,0	--	Ref	--	--
T _c of LED driver	25	56,7	--	--	75	--	--
Case intended to be gripped by hand (LED driver)	25	--	49,5	--	75	50,2	75
Plug / socket surface	25	--	30,1	--	70	--	--
Decoration	25	--	25,9	--	Ref	--	--
Mounting surface	25	--	25,2	--	90	25,6	130

Supplementary information: N/A

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

ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) :	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
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

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

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

IEC 60598-2-20			
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---

IEC60598_2_20G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60598-2-20 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part 2: Particular requirements Section 20 – Lighting Chains			
Differences according to		EN 60598-2-20:2015 used in conjunction with EN IEC 60598-1:2021 + AMD11:2022	
	CENELEC COMMON MODIFICATIONS (EN)		P
20.6 (3)	MARKING		P
20.6 (3.2.12)	Note 4 deleted		N/A
20.7 (4)	CONSTRUCTION		P
20.7 (4.11.6)	Electro-mechanical contact systems: electric strength test at 1 500 V		P
20.11 (5)	EXTERNAL AND INTERNAL WIRING"		N/A
20.11 (5.2.2)	Cables equal to EN 50525 (all parts)		N/A
	Paragraph 2 deleted		N/A
	Replace table 5.1 – Supply cord		N/A
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)		P
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(5.2.1)	CY, DK, FI, UK: type of plug		P
(5.2.18)	DK: socket-outlets		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 <i>(Decree of 30 December 2011 on safety regulations for the construction of high-rise buildings and their protection against fire and panic risks; Section VIII; Article GH 48, Lighting)</i> 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
	UK: Requirements according to United Kingdom Building Regulation		P

Attachment II

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.4 (0)	GENERAL TEST REQUIREMENTS		P
	Refer to main report		—
4.5 (2)	CLASSIFICATION		P
	Refer to main report		—
4.6 (3)	MARKING		P
	Refer to main report		—
4.7 (4)	CONSTRUCTION		P
4.7.1 (-)	Insulation not damaged when placing on support		P
4.7.2 (-)	Wiring fixed, to avoid rubbing		P
4.7.3 (-)	Stability 6° for indoor use		P
	Stability 15° for outdoor use	Used spike or hook	P
4.7.4 (-)	Candlestick luminaires with switch		N/A
4.7.5 (-)	E5 lampholders		N/A
	Others refer to main report		—
4.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Refer to main report		—
4.9 (7)	PROVISION FOR EARTHING		N/A
	Refer to main report		—
4.10 (14)	SCREW TERMINALS		N/A
	Refer to main report		—
4.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Refer to main report		—
4.11 (5)	EXTERNAL AND INTERNAL WIRING		P
	Refer to main report		—
4.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
4.12.1 (-)	Class I luminaire with bayonet lampholder:		N/A

Attachment II

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- cap not accessible with test finger		N/A
	- metal lampholder is earthed		N/A
	Others refer to main report		—
4.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
4.13 (-)	Test overturned position for indoor use (overturns < 15°)	Refer to main report	N/A
	Others refer to main report		—
4.14 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
4.14 (-)	If IP > IP 20 the order of the test specified in clause 4.13		—
	Others refer to main report		—
4.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
	Refer to main report		—
4.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
	Refer to main report		—

— End of Attachment II —

Attachment III Photo documentation
LED lighting
YL-abcd-eV-f

Detail of: Lighting chains YL-2000LCWW-36V-M (with approved LED driver)

View:

general

front

rear

right

left

top

bottom



Detail of: Lighting chains YL-2000LCWW-36V

View:

general

front

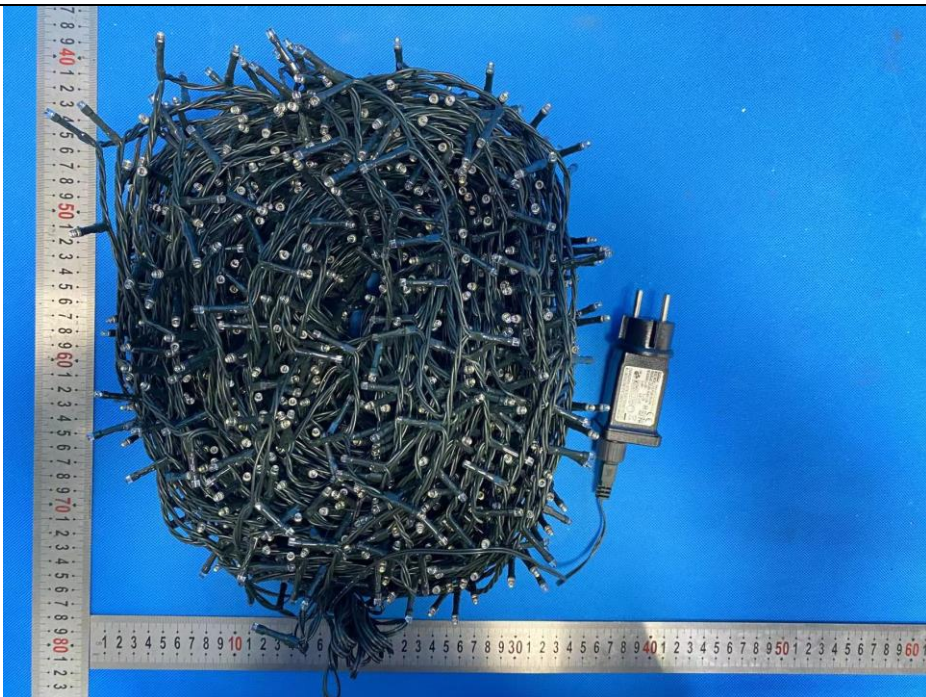
rear

right

left

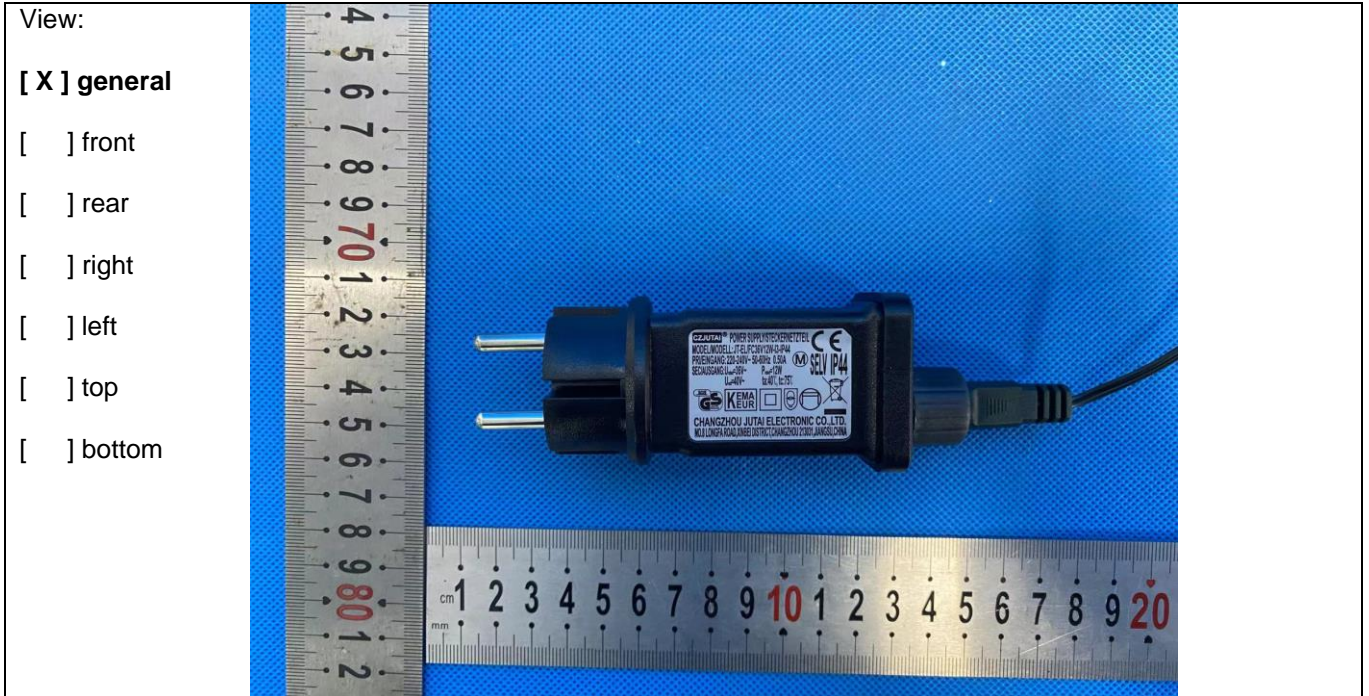
top

bottom



Attachment III Photo documentation
LED lighting
YL-abcd-eV-f

Detail of: Approved LED driver

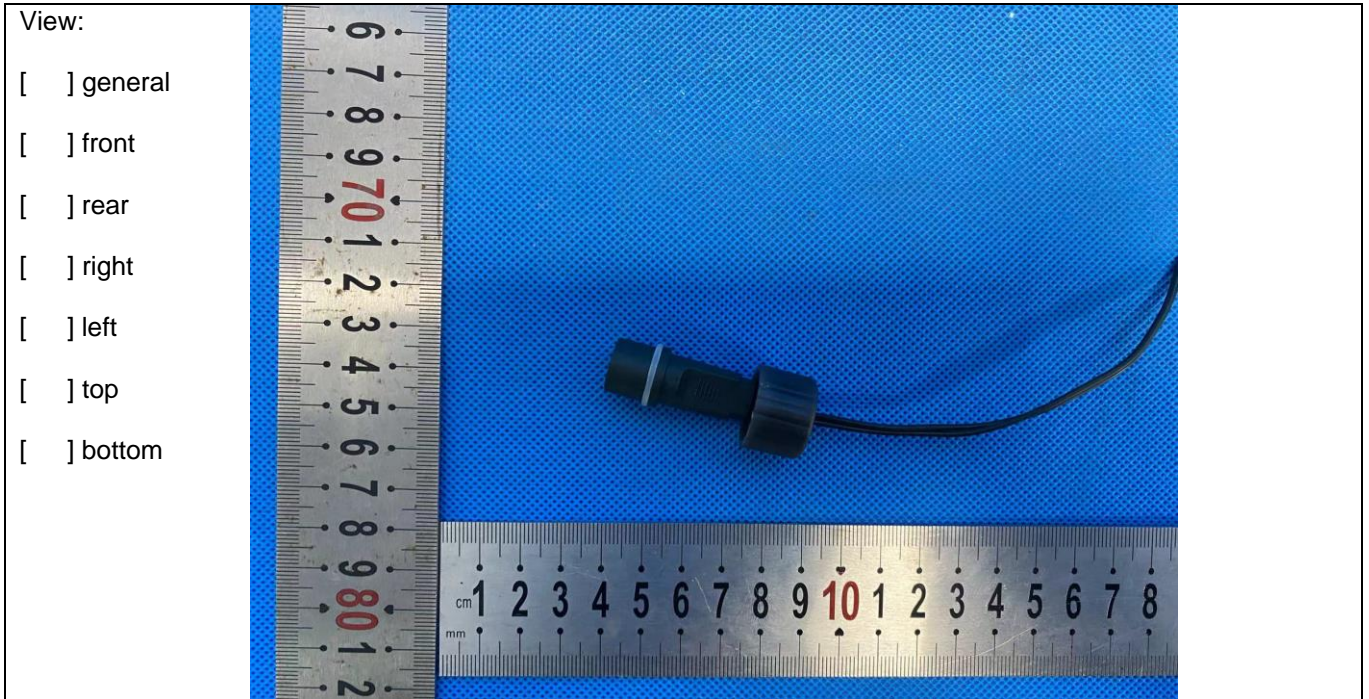


Detail of: Connection between lighting chains and LED driver

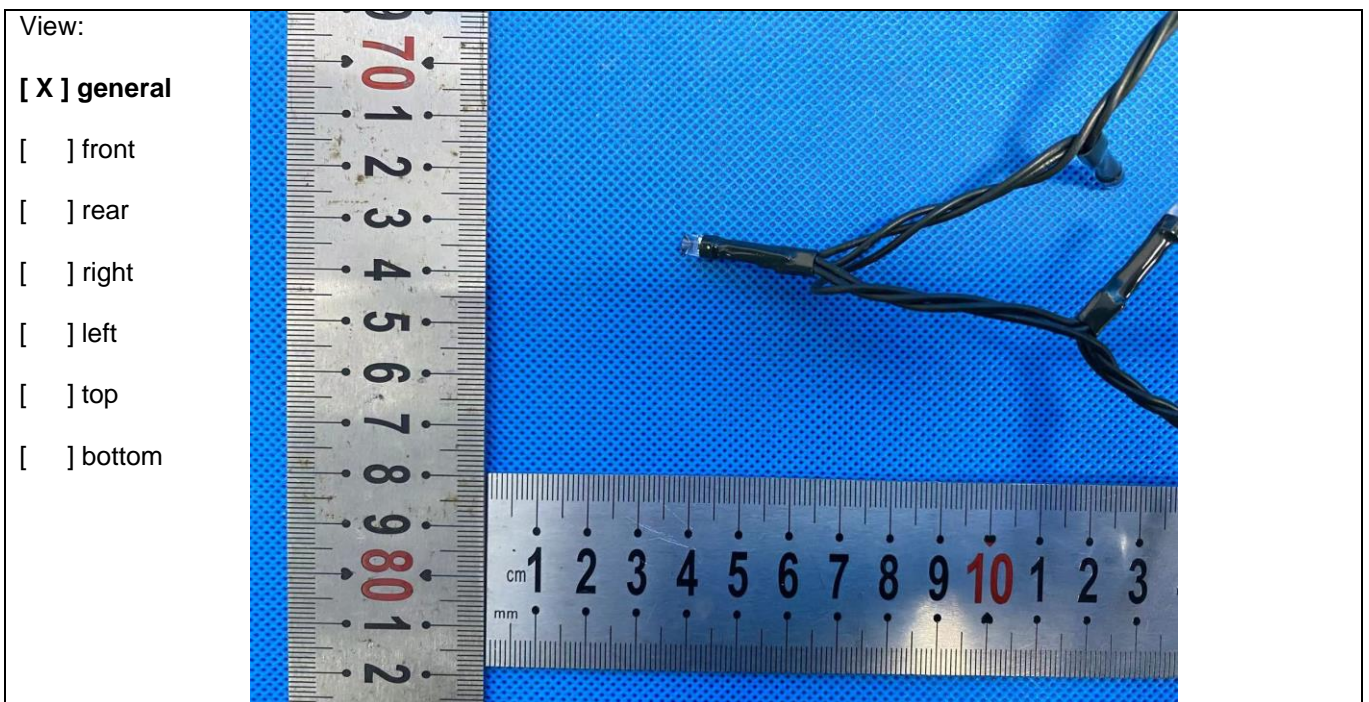


Attachment III Photo documentation
LED lighting
YL-abcd-eV-f

Detail of: SELV Connector



Detail of: LED

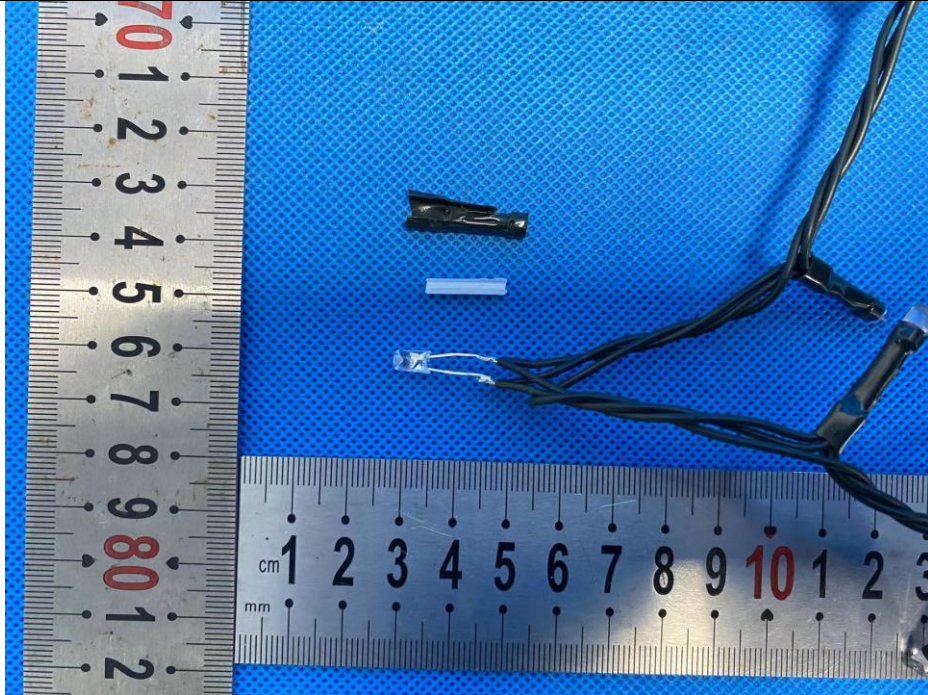


Attachment III Photo documentation
LED lighting
YL-abcd-eV-f

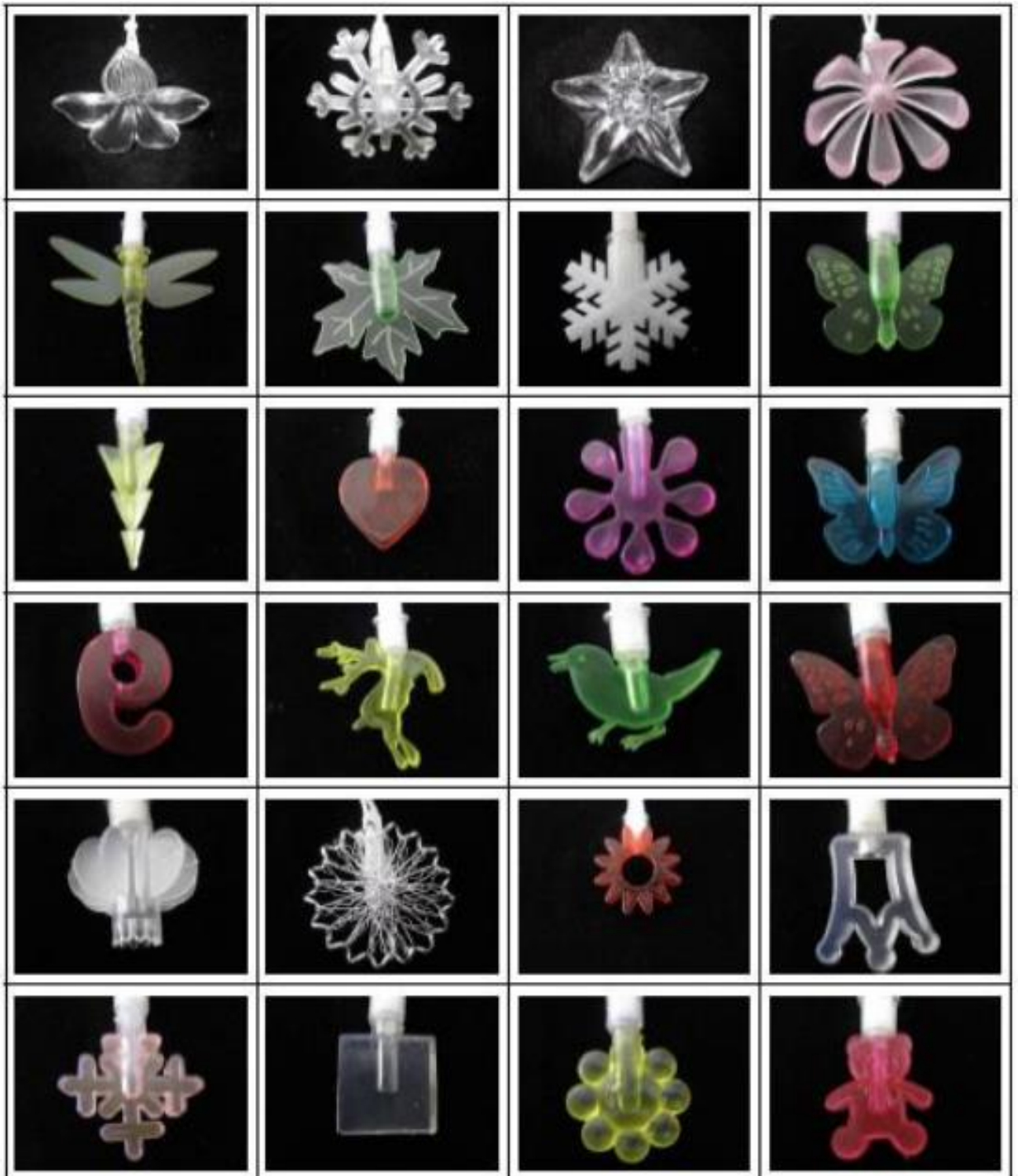
Detail of: LED

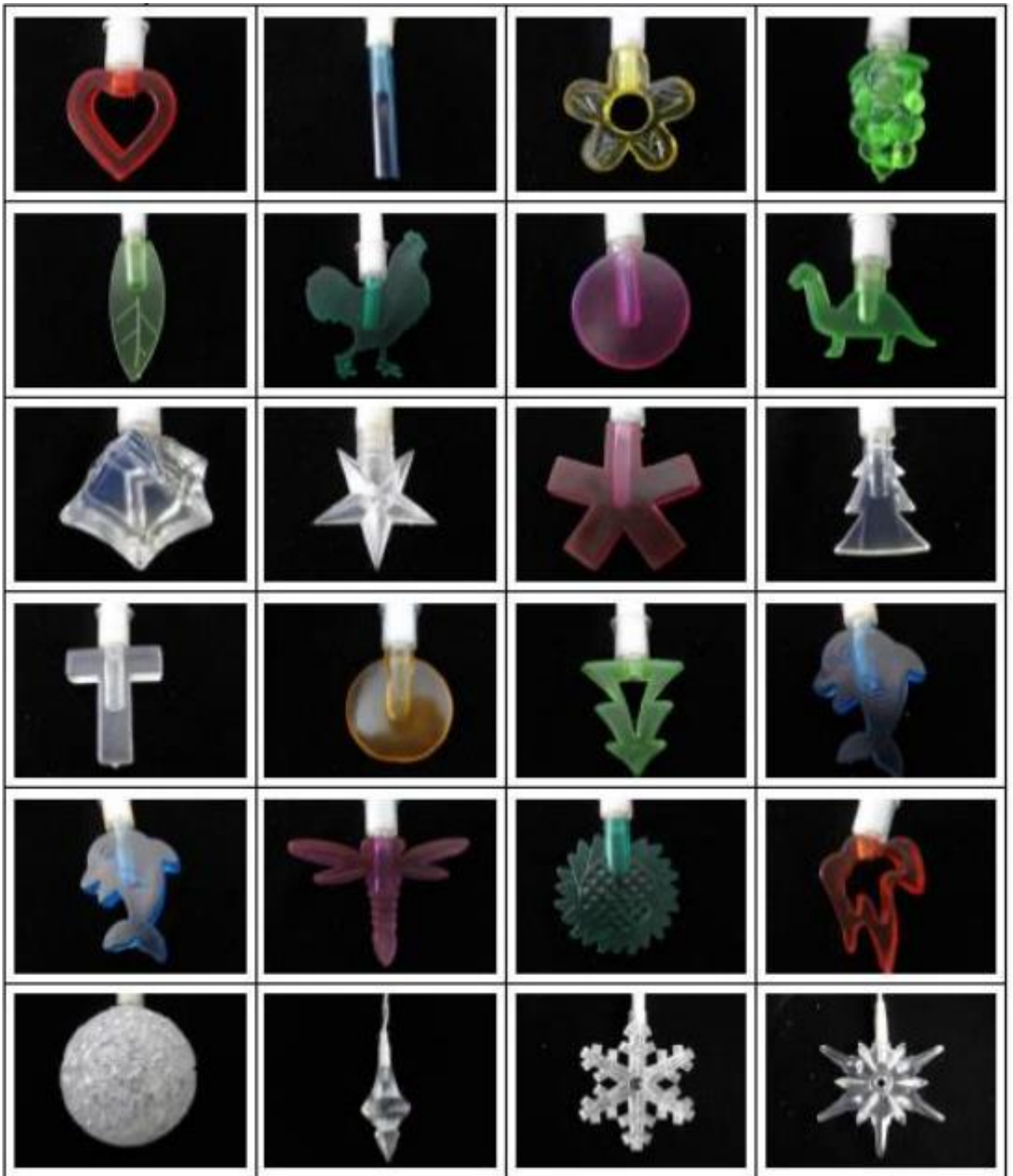
View:

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



Decoration and motif





Attachment III Photo documentation

LED lighting

YL-abcd-eV-f




































Attachment III Photo documentation
LED lighting
YL-abcd-eV-f





















			
YL-72LWWW-31V-M (YL-72TWWW01/ 830-550V80WT/ 830-550V70WT)	YL-96LWWW-31V-M (YL-96TWWW01/ 830-550V91WT/ 830-550V71WT/ 830-550V81WT)	YL-96LWWW-31V-M (YL-96TWWW02/ 830-550V72WT/ 830-550V82WT) 830-550V92WT)	YL-300TWWW04
			
YL-300TWWW05	YL-300TWWW06	YL-60TWWW06	YL-120TWWW01
			
YL-200TWWW01	YL-100TWWW02	YL-300TWWW07	YL-600TCW01
			
830-600V90KK YL-301TWWW01	830-602V90WT YL-151TWWW01	830-629V90WT YL-151TWWW02	830-775V70BN YL-301TWWW02

			
830-775V71BN YL-301TWW03	830-775V72BN YL-301TWW04	YL-201TWW01	YL-122TWW01
			
YL-300TWW01	YL-300TWW02	YL-201TWW01	YL-600TWW09
			
YL-120TWW02	YL-120TWW03	YL-600TWW10	YL-300TWW03
			
YL-120LWW-31V-M (YL-120TWW01-D/8 30-549V90BK	YL-150LWW-31V-M (YL-150TWW01-D/830 -549V91BK	YL-150LWW-4.5V-M (YL-150TWW01-WC/ 830-551V90GD)	

Attachment III Photo documentation

LED lighting



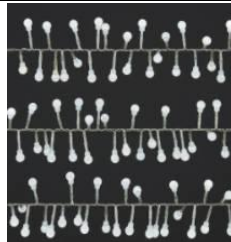






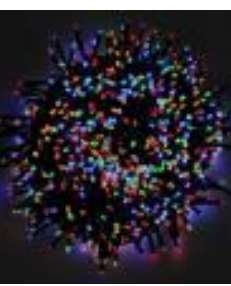


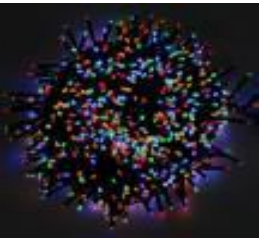


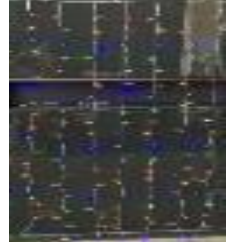




YL-abcd-eV-f

			
YL-120LWW-31V-M (YL-120TWW01-D/ 830-549V90BK)	YL-150LWW-31V-M (YL-150TWW01-D/ 830-549V91BK)	YL-72LWW-31V-M (YL-72TWW01/ 830-550V70WT)	YL-96LWW-31V-M (YL-96TWW01/ 830-550V71WT)
			
YL-96LWW-31V-M (YL-96TWW02/ 830-550V91WT)	YL-150LWW-4.5V-M (YL-150TWW01-WC/ 830-551V90GD)	YL-96LWH-31V-M (YL-96TWH01/ 830-552V90WT)	YL-120LCWW-31V-D (YL-120LCWW01-S5/ UOML2213)
			
YL-120LCMC-31V-D (YL-120LCMC01-S5/ UOML2214)	YL-120LCWW-31V-D (YL-120LCWW01-WB/ UOML2215)	YL-120LCWH-31V-D (YL-120LCWH01-WB/ UOML2216)	YL-120LCMC-31V-D (YL-120LCCC01-WB/ UOML2217)
			
YL-120LCRD-31V-D (YL-120LCRD01-WB/ UOML2218)	YL-240LCWW-31V-D (YL-240LCWW01-WB/ UOML2219)	YL-240LCWH-31V-D (YL-240LCWH01-WB/ UOML2220)	YL-240LCMC-31V-D (YL-240LCCC01-WB/ UOML2221)

Attachment III Photo documentation

LED lighting


YL-abcd-eV-f

			
YL-240LCRD-31V-D (YL-240LCRD01-WB/ UOML2222)	YL-240LCWW-31V-D (YL-240LCWW02-WB/ UOML2223)	YL-240LCWH-31V-D (YL-240LCWH02-WB/ UOML2224)	YL-240LCMC-31V-D (YL-240LCCC021-W B/UOML2225)
			
YL-300LCWW-31V (YL-300LCWW02/ UOML9117)	YL-300LCWH-31V (YL-300LCWH02/ UOML9118)	YL-300LCMC-31V (YL-300LCMC02/ UOML9119)	YL-1000LCWW-31V (YL-1000LCWW02/ UOML9120)
			
YL-1000LCWH-31V (YL-1000LCWH02/ UOML9121)	YL-1000LCMC-31V (YL-1000LCMC02/ UOML9122)	YL-2000LCWW-31V (YL-2000LCWW02/ UOML9123)	YL-2000LCWH-31V (YL-2000LCWH02/ UOML9124)
			
YL-2000LCMC-31V (YL-2000LCMC02/ UOML9125)	YL-240CCWW-4.5V (YL-240CCWW01/ UOML2002)	YL-240CCWH-4.5V (YL-240CCWH01/ UOML2003)	YL-240CCMC-4.5V (YL-240CCMC01/ UOML2004)
			
YL-8CCWH-4.5V-D (YL-8CCWH02-SF/ UOML2226)	YL-72LWW01	YL-120LWW01	YL-72LWW-31V-M (YL-72TWW01/ 830-550V70WT/ 830-550V80WT/ 830-550V90WT)

Attachment III Photo documentation

LED lighting

YL-abcd-eV-f

				
830-909V90WT				

-End of Attachment III-