



<b>TEST REPORT</b> <b>IEC 60598-2-4</b> <b>Luminaires, Part 2: Particular requirements</b> <b>Section 4: Portable general purpose luminaires</b>	
<b>Report Number..... :</b>	NBES200200046001
<b>Date of issue..... :</b>	2020-05-14
<b>Total number of pages .....</b>	45
<b>Name of Testing Laboratory preparing the Report .....</b>	SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch
<b>Applicant's name .....</b>	Cixi Leonlux Technology Co., Ltd.
<b>Address..... :</b>	BeiSanhuan West Road, Zonghan Street, 315301, Cixi, Ningbo, Zhejiang, People's Republic of China
<b>Test specification:</b>	
<b>Standard .....</b>	IEC 60598-2-4:2017 used in conjunction with IEC 60598-1:2014, AMD1:2017
<b>Test procedure .....</b>	SGS-CSTC
<b>Non-standard test method .....</b>	N/A
<b>Test Report Form No. .... :</b>	IEC60598_2_4H
<b>Test Report Form(s) Originator .... :</b>	UL(US)
<b>Master TRF .....</b>	2020-02-14
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<b>Test item description</b> ..... :	Portable luminaires (LED Luminaire)	
<b>Trade Mark</b> ..... :	Leonlux	
<b>Manufacturer</b> .....	Same as applicant	
<b>Model/Type reference</b> .....	30A01A, 30R01D, 30R01D1, 30A02A, 30R02D, 30R02D1, 31C02, 31R02, 31R02-1, 31C03, 31R03, 31R03-1, 31C04, 33A02, 33A03, 33A04, 32A20, 32R20, 32A20A, 32R20A	
<b>Ratings</b> .....	220 V – 240 V; 50 Hz; IP54; Class I; Other details see “General product information”	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch
<b>Testing location/ address</b> ..... :		No.1177, Lingyun Road, Hi-Tech Zone, Ningbo, Zhejiang, China
<b>Tested by (name, function, signature)</b> ..... :		Kelvin Zhang, PE <i>Kelvin Zhang</i>
<b>Approved by (name, function, signature)</b> ... :		Leo Du, Reviewer <i>Leo Du</i>
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	N/A
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> ..... :		
<b>Approved by (name, function, signature)</b> ... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	N/A
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		
<b>Witnessed by (name, function, signature) . :</b>		
<b>Approved by (name, function, signature)</b> ... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	N/A
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	N/A
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> ..... :		
<b>Witnessed by (name, function, signature) . :</b>		
<b>Approved by (name, function, signature)</b> ... :		
<b>Supervised by (name, function, signature) :</b>		

<b>List of Attachments (including a total number of pages in each attachment):</b> <ol style="list-style-type: none"> <li>Attachment A – European group differences – attachment 2 pages</li> <li>Attachment B – The requirement of EN 62031:2008 +A1:2013 + A2:2015 – attachment 5 pages</li> <li>Attachment C – The requirement of EN 61347-2-13:2014 + A1:2017 used in conjunction with EN 61347-1:2015 – attachment 7 pages</li> <li>Attachment D – Photo documentation – attachment 23 pages</li> </ol>	
<b>Summary of testing:</b>	
<b>Tests performed (name of test and test clause):</b> Full tests except for Clause 4.7 (4.20), EN 62493 and IEC/TR 62778  EN 62493 and IEC/TR 62778  Clause 4.7 (4.20)	<b>Testing location:</b> SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch No.1177, Lingyun Road, Hi-Tech Zone, Ningbo, Zhejiang, China  SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. 588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China  SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch Building 12, New Industry Square, No.78 Xinglin Street, SIP, Suzhou, China. 215021
<b>Summary of compliance with National Differences (List of countries addressed):</b> <ol style="list-style-type: none"> <li>EU Group Differences: Yes</li> <li>EU Special National Conditions: Yes</li> <li>EU A-deviations: No</li> </ol> <p><input checked="" type="checkbox"/> <b>The product fulfils the requirements of</b>  EN 60598-1:2015 + A1:2018  EN 60598-2-4:2018  EN 62493:2015</p>	
<b>Statement concerning the uncertainty of the measurement systems used for the tests</b> <p><input type="checkbox"/> <b>Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:</b>  <b>Procedure number, issue date and title:</b></p> <p>Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.</p> <p><input checked="" type="checkbox"/> <b>Statement not required by the standard used for type testing</b></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.**

Model: 31C04

Input Voltage: 220-240V~ 50Hz

Protection Grade: IP54

130W Class I LED



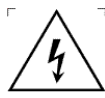
Manufacturer: Cixi Leonlux Technology Co., Ltd.

Postal address: BeiSanhuan West Road,  
Zonghan Street, 315301, Cixi, Ningbo, Zhejiang,  
People's Republic of China

Importer name:

Postal address:

For model 30A01A, 30R01D, 30R01D1, 30A02A, 30R02D, 30R02D1, 31C02, 31R02, 31R02-1, 31C03, 31R03, 31R03-1, 31C04, 33A02, 33A03, 33A04:



On the lamp cover

For model 32A20A, 32R20A:

For DE, DK, NF sockets:

220-240V  
Max. 16A  
Max. 3000W

For BS sockets:

220-240V  
Max. 13A  
Max. 3000W

For Swiss sockets:

220-240V  
Max. 10A  
Max. 2400W

For model 30A01A, 30R01D, 30R01D1, 30A02A, 30R02D, 30R02D1, 31C02, 31R02, 31R02-1, 31C03, 31R03, 31R03-1, 31C04, 32A20, 32R20:

For DE, DK, NF sockets:

220-240V  
2 sockets Max. 16A  
2 sockets Max. 3000W

For BS sockets:

220-240V  
2 sockets Max. 13A  
2 sockets Max. 3000W

For Swiss sockets:

220-240V  
2 sockets Max. 10A  
2 sockets Max. 2400W

Label for other models is same as the above except model name and ratings.

Note 1: 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 height of symbol for "Caution, risk of electric shock" shall not be less than 15mm.

Note 2: As declared by the applicant, the importer's name, registered trade name or registered trade mark and the postal address will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Note 3: 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.

<b>Test item particulars.....:</b>	
<b>Classification of installation and use.....:</b> Portable; Rough service use	
<b>Supply Connection .....</b> Supply cord with plug	
<b>Possible test case verdicts:</b>	
- 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)	
<b>Testing.....:</b>	
<b>Date of receipt of test item .....</b> 2020-02-24	
<b>Date (s) of performance of tests .....</b> 2020-02-24 to 2020-04-20	
<b>General remarks:</b>	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p><b>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</b></p> <p>This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</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 1 month only.</p> <p>Clause numbers between brackets refer to clauses in IEC 60598-1</p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60598-1:</b>	
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
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies) .....</b>	Same as applicant

**General product information and other remarks:**

These products are portable LED Luminaire, IP54, Class I, for rough service use.

There are 20 models covered in the report.

All models have similar construction except for appearance, rated power, quantity of LEDs, LED tube length, quantity of socket, with or without side lamp. For model 32A20, 32R20, 32A20A, 32R20A, the luminaires are equipped with non replaceable light sources. Others are equipped with non-user replaceable light sources. For model 30A01A, 30R01D, 30R01D1, 30A02A, 30R02D, 30R02D1, the luminaires are equipped with counterweight (1,6 Kg). Details see below table.

Model	Rated power (W)	Quantity of LED	LED tube length (cm)	Side lamp	Quantity of socket
30A01A	40+10	42*6+28	60	with	2
30R01D	20+10	42*6+28	60	with	2
30R01D1	40+10	42*6+28	60	with	2
30A02A	65+10	84*6+28	90	with	2
30R02D	30+10	84*6+28	90	with	2
30R02D1	60+10	84*6+28	90	with	2
31C02	65	42*6	90	without	2
31R02	20	42*6	90	without	2
31R02-1	40	42*6	90	without	2
31C03	90	84*6	120	without	2
31R03	40	84*6	120	without	2
31R03-1	60	84*6	120	without	2
31C04	130	84*6	150	without	2
33A02	65	42*6	90	without	0
33A03	90	84*6	120	without	0
33A04	130	84*6	150	without	0
32A20	20	28	without	without	2
32R20	20	28	without	without	2
32A20A	20+10	28+28	without	with	1
32R20A	20+10	28+28	without	with	1

After review, model C1304 was performed on the full tests according to EN 60598-2-4:2018 used in conjunction with EN 60598-1:2015 + A1:2018.

Tests for clause 4.7.3 (-), 4.7 (4.12, 4.14.3, 4.20), 4.8 (11), 4.13 (12.4), 4.16 (13) were performed on model 30A02A.

Tests for clause 4.7.3 (-), 4.7 (4.14.1), 4.8 (11), 4.13 (12.4), 4.14 (9.2), 4.15 (10) were performed on model 32A20A.

Tests for clause 4.7.3 (-), 4.7 (4.12.5), 4.8 (11), 4.11 (5.2.10.3) were performed on model 33A04.

The integral LED driver of model C1304 was selected to perform the tests according to EN 61347-2-13:2014 + A1:2017 used in conjunction with EN 61347-1:2015.

The LED module of model C1304 was performed the tests according to EN 62031:2008 + A1:2013 + A2:2015.

Model 31C04 was classified as RG1 at 200 mm according to IEC/TR 62778.

The submitted appliances were found to be in compliance with the standard EN 62493:2015 according to the clause 4.2.2.

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4.4 (0)</b>	<b>GENERAL TEST REQUIREMENTS</b>		<b>P</b>
4.4 (0.3)	More sections applicable..... :	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Section/s:	—
<b>4.4 (0.7)</b>	<b>Information for luminaire design in light sources standards</b>		—
4.4 (0.7.2)	Light source safety standard .....	EN 62031	—
	Luminaire design in the light source safety standard		P
<b>4.5 (2)</b>	<b>CLASSIFICATION OF LUMINAIRES</b>		<b>P</b>
4.5 (2.2)	Type of protection .....	Class I	P
4.5 (2.3)	Degree of protection.....	IP 54	P
4.5 (2.5)	Luminaire for normal use .....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Luminaire for rough service .....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.5.1 (-)	Ordinary luminaire .....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.5.2 (-)	Portable luminaire for outdoor use .....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Classified IPX4 or higher		P
4.5.3 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces .....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
<b>4.6 (3)</b>	<b>MARKING</b>		<b>P</b>
4.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.6 (3.3)	Additional information		P
	Language of instructions	In English	P
4.6 (3.3.1)	Combination luminaires		N/A
4.6 (3.3.2)	Nominal frequency in Hz	50 Hz	P
4.6 (3.3.3)	Operating temperature		N/A
4.6 (3.3.5)	Wiring diagram		N/A
4.6 (3.3.6)	Special conditions		N/A
4.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
4.6 (3.3.8)	Limitation for semi-luminaires		N/A
4.6 (3.3.9)	Power factor and supply current		P
4.6 (3.3.10)	Suitability for use indoors		N/A
4.6 (3.3.11)	Luminaires with remote control		N/A
4.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
4.6 (3.3.13)	Specifications of protective shields		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (3.3.14)	Symbol for nature of supply	~	P
4.6 (3.3.15)	Rated current of socket outlet		P
4.6 (3.3.16)	Rough service luminaire		P
4.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
4.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
4.6 (3.3.19)	Protective conductor current in instructions, if applicable		N/A
4.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
4.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non replaceable (for model 32A20, 32R20, 32A20A, 32R20A) Non-user replaceable (for other models)	P
	Cautionary symbol		P
4.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
4.6 (3.3.23)	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
4.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
4.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
4.6.1 (-)	Luminaire not suitable for outdoor application		N/A
	Required symbol		N/A
	Information in the instructions		N/A
4.6.2 (-)	Outdoor use, socket outlet incorporated in the luminaire		P
	Maximum power rating marked		P
	Position of the marking		P
<b>4.7 (4)</b>	<b>CONSTRUCTION</b>		P
4.7 (4.2)	Components replaceable without difficulty		P
4.7 (4.3)	Wireways smooth and free from sharp edges		P
<b>4.7 (4.4)</b>	<b>Lampholders</b>		N/A
4.7 (4.4.1)	Integral lampholder		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.4.2)	Wiring connection		N/A
4.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.7 (4.4.4)	Positioning		N/A
	- pressure test (N) .....		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N) .....		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
4.7 (4.4.5)	Peak pulse voltage		N/A
4.7 (4.4.6)	Centre contact		N/A
4.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.7 (4.4.8)	Lamp connectors		N/A
4.7 (4.4.9)	Caps and bases correctly used		N/A
4.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
<b>4.7 (4.5)</b>	<b>Starter holders</b>		<b>N/A</b>
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
<b>4.7 (4.6)</b>	<b>Terminal blocks</b>		<b>N/A</b>
	Tails		N/A
	Unsecured blocks		N/A
<b>4.7 (4.7)</b>	<b>Terminals and supply connections</b>		<b>P</b>
4.7 (4.7.1)	Contact to metal parts		P
4.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.7 (4.7.3)	Terminals for supply conductors		P
4.7 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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
4.7 (4.7.4)	Terminals other than supply connection		P
4.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
4.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
<b>4.7 (4.8)</b>	<b>Switches</b>		<b>P</b>
	- adequate rating		P
	- adequate fixing		P
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
<b>4.7 (4.9)</b>	<b>Insulating lining and sleeves</b>		<b>P</b>
4.7 (4.9.1)	Retainment		P
	Method of fixing ..... : Heat-shrinkable tube; Insulation tube		P
4.7 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 °C to the wire temperature or		P
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) ..... :		N/A
<b>4.7 (4.10)</b>	<b>Double or reinforced insulation</b>		<b>P</b>
4.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
4.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N/A
	- lining in lampholder		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.10.4)	Protective impedance device		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
<b>4.7 (4.11)</b>	<b>Electrical connections and current-carrying parts</b>		<b>P</b>
4.7 (4.11.1)	Contact pressure		P
4.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.7 (4.11.4)	Material of current-carrying parts		P
4.7 (4.11.5)	No contact to wood or mounting surface		P
4.7 (4.11.6)	Electro-mechanical contact systems		N/A
<b>4.7 (4.12)</b>	<b>Screws and connections (mechanical) and glands</b>		<b>P</b>
4.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	2,0; Bracket 1	P
	Torque test: torque (Nm); part..... :	0,4; Bracket 2	P
	Torque test: torque (Nm); part..... :	1,2; Lamp cover	P
	Torque test: torque (Nm); part..... :	1,2; Base	P
	Torque test: torque (Nm); part..... :	0,6; Cord anchorage	P
	Torque test: torque (Nm); part..... :	1,2; Socket	P
	Torque test: torque (Nm); part..... :	0,8; Earthing	P
	Torque test: torque (Nm); part..... :	0,5; LED board (Side lamp for model 30A02A)	P
	Torque test: torque (Nm); part..... :	0,5; Lamp cover (Side lamp for model 30A02A)	P
4.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.7 (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

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.12.5)	Screwed glands; force (Nm)..... :	3,25 (For model 33A04)	P
<b>4.7 (4.13)</b>	<b>Mechanical strength</b>		<b>P</b>
4.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm) ..... :		N/A
	- other parts; energy (Nm)..... :	All parts; 0,7	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
4.7 (4.13.3)	Straight test finger		P
4.7 (4.13.4)	Rough service luminaires		P
	- IP54 or higher		P
	a) fixed		P
	b) hand-held		N/A
	c) delivered with a stand		P
	d) for temporary installations and suitable for mounting on a stand		N/A
4.7 (4.13.6)	Tumbling barrel		N/A
<b>4.7 (4.14)</b>	<b>Suspensions, fixings and means of adjusting</b>		<b>P</b>
4.7 (4.14.1)	Mechanical load:		P
	A) four times the weight	32A20A	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) ..... :		—
	Metal rod. diameter (mm) ..... :		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm <sup>2</sup> ) ..... :		N/A
	Mass (kg) of semi-luminaire ..... :		N/A
	Bending moment (Nm) of semi-luminaire ..... :		N/A
4.7 (4.14.3)	Adjusting devices:		P
	- flexing test; number of cycles..... :	150 cycles (30A02A)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- strands broken .....	No broken	P
	- electric strength test afterwards		P
4.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		P
4.7 (4.14.5)	Guide pulleys		N/A
4.7 (4.14.6)	Strain on socket-outlets		N/A
<b>4.7 (4.15)</b>	<b>Flammable materials</b>		<b>P</b>
	- glow-wire test 650°C .....	See Test Table 4.15 (13.3.2)	P
	- spacing $\geq 30$ 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
4.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
<b>4.7 (4.16)</b>	<b>Luminaires for mounting on normally flammable surfaces</b>		<b>P</b>
	No lamp control gear .....	(compliance with Section 12)	N/A
4.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.7 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.7 (4.16.3)	Design to satisfy the test of 12.6 .....	(see clause 12.6)	N/A
<b>4.7 (4.17)</b>	<b>Drain holes</b>		<b>N/A</b>
	Clearance at least 5 mm		N/A
<b>4.7 (4.18)</b>	<b>Resistance to corrosion</b>		<b>P</b>
4.7 (4.18.1)	- rust-resistance		P
4.7 (4.18.2)	- season cracking in copper		P
4.7 (4.18.3)	- corrosion of aluminium		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.19)	Igniters compatible with ballast		N/A
4.7 (4.20)	Rough service vibration	30A02A	P
<b>4.7 (4.21)</b>	<b>Protective shield</b>		<b>N/A</b>
4.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
4.7 (4.21.3)	No direct path		N/A
4.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 4.15 (13.3.2)	N/A
4.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
4.7 (4.23)	Semi-luminaires comply Class II		N/A
<b>4.7 (4.24)</b>	<b>Photobiological hazards</b>		<b>P</b>
4.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.7 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778 .....	RG1	—
	Luminaires with $E_{thr}$ :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 .. :		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
<b>4.7 (4.25)</b>	<b>Mechanical hazard</b>		<b>P</b>
	No sharp point or edges		P
<b>4.7 (4.26)</b>	<b>Short-circuit protection</b>		<b>N/A</b>
4.7 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
4.7 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>4.7 (4.27)</b>	<b>Terminal blocks with integrated screwless earthing contacts</b>		<b>N/A</b>
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 $\Omega$		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 $\Omega$		N/A
	Voltage drop test, resistance < 0,05 $\Omega$		N/A
<b>4.7 (4.28)</b>	<b>Fixing of thermal sensing control</b>		<b>N/A</b>
	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
<b>4.7 (4.29)</b>	<b>Luminaires with non-replaceable light source</b>		<b>P</b>
	Not possible to replace light source		P
	Live part not accessible after parts have been opened by hand or tools		P
<b>4.7 (4.30)</b>	<b>Luminaires with non-user replaceable light source</b>		<b>P</b>
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		P
	Minimum two fixing means		P
<b>4.7 (4.31)</b>	<b>Insulation between circuits</b>		<b>P</b>
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
<b>4.7 (4.31.1)</b>	<b>SELV circuits</b>		<b>N/A</b>
	Used SELV source		N/A
	Voltage $\leq$ ELV		N/A
	Insulating of SELV circuits from LV supply		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
4.7 (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 enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
4.7 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
4.7 (4.32)	<b>Overvoltage protective devices</b>		<b>N/A</b>
	Comply with IEC 61643-11		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
4.7.1 (-)	Insulation not damaged when moving, adjusting or placing on support		P
4.7.2 (-)	Wiring fixed, to avoid rubbing		P
	Carrier or clips of insulation material or with insulating lining		P
4.7.3 (-)	Luminaire not overturn at angle 6°		P
	Outdoor use luminaire not overturn at an angle 15°		P
4.7.4 (-)	Candlestick luminaires with E5 or E10 lampholders provided with a switch		N/A
	Switch part of the luminaire or within 300 mm of the luminaire if with cord		N/A
4.7.5 (-)	Voltage not exceeding 25 V for E5 lampholders		N/A
	E10 lampholder voltage:		N/A
	- not exceeding 60 V for series connection) or		N/A
	- not exceeding 250 V for parallel connections		N/A
	Maximum rated wattage not exceed 100 W		N/A
4.7.6 (-)	Portable luminaires for outdoor use tails not provided		P
4.7.7 (-)	Portable luminaires for outdoor use, cable entries		P
4.7.8 (-)	Portable luminaires for outdoor use, socket-outlet degree of protection at least same as the luminaire but not less than IPX4.		P
	Degree of protection maintained with or without a plug inserted into the socket-outlet.		P
	Class II luminaires, mains socket-outlets comply with the standard and only allow connection to Class II luminaires		N/A
	Class I luminaires, mains socket-outlets comply with the standard and only allow connection to Class I or Class II luminaires		P
4.7.9 (-)	Portable luminaires for outdoor use, lampholders and plugs are of material resistant to tracking		P
	Compliance to clause 13.4		P
<b>4.8 (11)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		P
	Impulse withstand category (Normal category II) (Category III Annex U, Table U.1) .....	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—

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Clause	Requirement + Test	Result - Remark	Verdict
4.8 (11.2.1)	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
4.8 (11.2.2)	Creepage distances for frequency up to 30 kHz..... :	See Test Table 4.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and $f_{UOUT}$ according IEC 61347-1, clause 7.1, item w) .....	See Test Table 4.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347..... :	See Test Table 4.7 (11.2) II	N/A
4.8 (11.2.3)	Clearances for frequency up to 30 kHz..... :	See Test Table 4.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $U_P$ ..... :	See Test Table 4.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347..... :	See Test Table 4.7 (11.2) II	N/A
<b>4.9 (7)</b>	<b>PROVISION FOR EARTHING</b>		<b>P</b>
4.9 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 $\Omega$ ..... :	Max. 0,025 $\Omega$	P
	Self-tapping screws used		P
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
4.9 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		P
4.9 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
4.9 (7.2.5)	Earth terminal integral part of connector socket		P
4.9 (7.2.6)	Earth terminal adjacent to mains terminals		P
4.9 (7.2.7)	Electrolytic corrosion of the earth terminal		P
4.9 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.9 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
<b>4.10 (14)</b>	<b>SCREW TERMINALS</b>		N/A
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire ..... :	(see Annex 3)	N/A
<b>4.10 (15)</b>	<b>SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS</b>		P
	Separately approved; component list..... :	(see Annex 1)	P
	Part of the luminaire ..... :	(see Annex 4)	N/A
<b>4.11 (5)</b>	<b>EXTERNAL AND INTERNAL WIRING</b>		P
<b>4.11 (5.2)</b>	<b>Supply connection and external wiring</b>		<b>P</b>
4.11 (5.2.1)	Means of connection ..... :	Supply cord with plug	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV $\leq 25$ V a.c./60 V d.c. or protected from outdoor environment		P
4.11 (5.2.2)	Type of cable ..... :	(See Annex 1)	P
	Nominal cross-sectional area (mm <sup>2</sup> ) ..... :	(See Annex 1)	P
	Cables equal to IEC 60227 or IEC 60245		P
4.11 (5.2.3)	Type of attachment, X, Y or Z ..... :	Type Y	P
4.11 (5.2.5)	Type Z not connected to screws		N/A
4.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.11 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
4.11 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
4.11 (5.2.9)	Locking of screwed bushings		N/A
4.11 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
4.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
4.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
4.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) ..... :	80 (31C04); 60 (33A04)	P
	- torque test: torque (Nm) ..... :	0,35 (31C04); 0,25 (33A04)	P
	- displacement $\leq 2$ mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
4.11 (5.2.11)	External wiring passing into luminaire		P
4.11 (5.2.12)	Looping-in terminals		N/A
4.11 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
4.11 (5.2.14)	Mains plug same protection		P
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.11 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard		P
<b>4.11 (5.3)</b>	<b>Internal wiring</b>		<b>P</b>
4.11 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A) ..... : (see Annex 2)		P
	- temperatures ..... : (see Annex 2)		P
	Green-yellow for earth only		P
4.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm <sup>2</sup> )..... : (See Annex 1)		P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
4.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm <sup>2</sup> )..... : (See Annex 1)		P
4.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
4.11 (5.3.1.4)	Conductors without insulation		N/A
4.11 (5.3.1.5)	SELV current-carrying parts		N/A
4.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
4.11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		P
	No twisting over 360°		P
4.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
4.11 (5.3.4)	Joints and junctions effectively insulated		N/A
4.11 (5.3.5)	Strain on internal wiring		N/A
4.11 (5.3.6)	Wire carriers		N/A
4.11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
<b>4.11 (5.4)</b>	<b>Test to determine suitability of conductors having a reduced cross-sectional area</b>		<b>N/A</b>
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A
4.11.1 (-)	Indoor use luminaire The requirement of one part of cord anchorage to be fixed to the luminaire not applied for table lamps of glass or ceramic		—
4.11.2 (-)	Class I and class II indoor use Luminaire with a mass less than 1 kg the current $\leq 2,5$ A and cable $\leq 2$ m and conductor $\geq 0,5$ mm <sup>2</sup>		N/A
4.11.3 (-)	Terminals, a cord anchorage and an inlet opening for the proper connection of the flexible cable or cord if for outdoor use and delivered without a flexible cable or cord and a plug.		N/A
4.11.4 (-)	Portable luminaires for outdoor use Insulation class I and class II, non-detachable flexible cables or cords at least type 245 IEC 57.		P
<b>4.12 (8)</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		<b>P</b>
4.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		P
	Basic insulated parts not accessible with $\varnothing 50$ mm probe from outside, other types of luminaires		N/A
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
4.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
4.12 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.12 (8.2.3.b)	BC lampholder of metal in class I luminaires is earthed		N/A
4.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load (V) .....		N/A
	- no-load voltage (V) .....		N/A
	- touch current if applicable (mA) .....		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage (V) .....		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
4.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		P
4.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
4.12 (8.2.6)	Covers reliably secured		N/A
4.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 $\mu$ F not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 $\mu$ F (0.25) not exceed 34 V 1 s after disconnection	12 V	P



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Clause	Requirement + Test	Result - Remark	Verdict
	Other luminaires with capacitor > 0,1 $\mu$ F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A
4.12. (-)	Class I luminaire with bayonet lampholder:		N/A
	1) cap not accessible with test finger		N/A
	2) metal lampholder is earthed		N/A

<b>4.13 (12)</b>	<b>ENDURANCE TEST AND THERMAL TEST</b>		<b>P</b>
4.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) specified in 4.13		—
<b>4.13 (12.2)</b>	<b>Selection of lamps and ballasts</b>		—
	Lamp used according Annex B .....	See Annex 2 for lamp used	—
	Controlgear if separate and not supplied .....	See Annex 2 for controlgear used	—
4.13 (12.3)	Endurance test:		<b>P</b>
	a) mounting-position.....	Normal use position	—
	b) test temperature (°C) .....	35	—
	c) total duration (h) .....	240	—
	d) supply voltage (V).....	264	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A) .....	—	—
	e) luminaire ceases to operate		—
4.13 (12.3.2)	After endurance test:		<b>P</b>
	- no part unserviceable		<b>P</b>
	- luminaire not unsafe		<b>P</b>
	- no damage to track system		N/A
	- marking legible		<b>P</b>
	- no cracks, deformation etc.		<b>P</b>
<b>4.13 (12.4)</b>	<b>Thermal test (normal operation) .....</b>	(see Annex 2)	<b>P</b>
<b>4.13 (12.5)</b>	<b>Thermal test (abnormal operation).....</b>	(see Annex 2)	<b>P</b>
<b>4.13 (12.6)</b>	<b>Thermal test (failed lamp control gear condition):</b>		N/A
4.13 (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 ....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- measured mounting surface temperature (°C) at 1,1 Un .....		N/A
	- calculated mounting surface temperature (°C) .....		N/A
	- track-mounted luminaires		N/A
4.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions .....		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C) .....		N/A
	- track-mounted luminaires		N/A
<b>4.13 (12.7)</b>	<b>Thermal test (failed lamp control gear in plastic luminaires):</b>		N/A
4.13 (12.7.1)	Luminaire without temperature sensing control		N/A
4.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions .....		—
	- Ballast failure at supply voltage (V) .....		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions .....		—
	- measured winding temperature (°C): at 1,1 Un .....		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un .....		—
	- calculated temperature of fixing point/exposed part (°C) .....		—
	Ball-pressure test .....	See Table 4.15 (13.2.1)	N/A
4.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions .....		—
	- measured winding temperature (°C): at 1,1 Un .....		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- calculated temperature of fixing point/exposed part (°C) .....		—
	Ball-pressure test .....	See Table 4.15 (13.2.1)	N/A
4.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions .....		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
4.13 (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 Table 4.15 (13.2.1)	N/A
4.13 (-)	Indoor use luminaire, Test overturned position (overturns < 15°)	No overturned	N/A
<b>4.14 (9)</b>	<b>RESISTANCE TO DUST AND MOISTURE</b>		<b>P</b>
4.14 (-)	If IP > IP 20 the order of tests as specified in clause 4.12		<b>P</b>
4.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		<b>P</b>
	- classification according to IP .....	IP54	—
	- mounting position during test .....	Normal use position	—
	- fixing screws tightened; torque (Nm) .....	2/3 torque	—
	- tests according to clauses .....	Clause 9.2.1 & Clause 9.2.5	—
	- electric strength test afterwards		<b>P</b>
	a) no deposit in dust-proof luminaire		<b>P</b>
	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		<b>P</b>
	c.1) For luminaires without drain holes – no water entry		<b>P</b>
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight or pressure watertight luminaire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		P
	g) no damage of protective shield or glass envelope		P
4.14 (9.3)	Humidity test 48 h		P
4-14 (-)	Portable luminaire for outdoor use tested in the most unfavourable of the overturned positions likely to occur		P
<b>4.15 (10)</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		<b>P</b>
4.15 (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	—
	Insulation resistance (MΩ) .....	See below	—
	SELV		N/A
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire .....		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 .....		N/A
	Other than SELV		P
	- between live parts of different polarity .....	> 500 MΩ	P
	- between live parts and mounting surface .....	> 500 MΩ	P
	- between live parts and metal parts .....	> 500 MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 .....		N/A
4.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Luminaires with manual ignitors		N/A
	Test voltage (V) .....	See below	P
	SELV		N/A
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire .....		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 .....		N/A
	Other than SELV		P
	- between live parts of different polarity .....	1480 V	P
	- between live parts and mounting surface .....	2960 V	P
	- between live parts and metal parts .....	1480 V for earthing parts 2960 V for unearthing parts	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 .....		N/A
4.15 (10.3)	Touch current or protective conductor current (mA):	0,43	P
<b>4.16 (13)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		P
4.16 (13.2.1)	Ball-pressure test .....	See Test Table 4.15 (13.2.1)	P
4.16 (13.3.1)	Needle-flame test (10 s) .....	See Test Table 4.15 (13.3.1)	P
4.16 (13.3.2)	Glow-wire test (650°C) .....	See Test Table 4.15 (13.3.2)	P
4.16 (13.4)	Proof tracking test (IEC 60112) .....	See Test Table 4.15 (13.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict

4.7 (11.2)	TABLE I: Creepage distances and clearances							P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages							P
	Applicable part of IEC 60598-1 Table 11.1A*, 11.1B* and 11.2*							P
	Insulation type **	Measured clearance	Required		Measured creepage	Required		
			clearance	*Table		creepage	*Table	
Distance 1:	B	1)	1,5	11.1.B	1)	2,5	11.1.A	
Working voltage (V) .....					220 - 240		—	
PTI .....					< 600 ☒ ≥ 600 ☐		—	
Pulse voltage if applicable (kV) .....					N/A		—	
Supplementary information: 1) Between live parts of different polarity: Min. Cl. = Cr. = 2,6 mm. Between live parts and earthing part: Min. Cl. = Cr. = 2,6 mm.								
Distance 2:	R	2	3,0	11.1.B	2)	5,0	11.1.A	
Working voltage (V) .....					220 - 240		—	
PTI .....					< 600 ☒ ≥ 600 ☐		—	
Pulse voltage if applicable (kV) .....					N/A		—	
Supplementary information: 2) Between live parts and supporting surface: Min. Cl. = Cr. = 5,1 mm. Between live parts and unearthing part: Min. Cl. = Cr. = 5,1 mm.								
Distance 3:	—	—	—	—	—	—	—	
Working voltage (V) .....					—		—	
PTI .....					< 600 ☐ ≥ 600 ☐		—	
Pulse voltage if applicable (kV) .....					—		—	
Supplementary information: N/A								
** 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

4.7 (11.2)	TABLE II: Creepage distances and clearances						N/A
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages							
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2							
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	—	—	—	—	—	—	—
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: N/A							
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: N/A							
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: N/A							
** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.							

4.15a (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 cover	See Annex 1	75	0,7	
Plastic enclosure	See Annex 1	75	1,2	
PCB Board	See Annex 1	125	0,8	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: N/A

<b>4.15b (13.3.1)</b>	<b>TABLE: Needle-flame test (IEC 60695-11-5)</b>				<b>P</b>
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
PCB board	See Annex 1	10	No	0	P
LED board	See Annex 1	10	No	0	P
Supplementary information: N/A					

4.15c (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)				P
Glow wire temperature ..... :		650°C			—
Object/ Part No./ Material	Manufacturer/ trademark		Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Lamp cover	See Annex 1		No	0	P
Plastic enclosure	See Annex 1		No	0	P
Heat-shrinkable tube	See Annex 1		No	0	P
Closed-end connector	See Annex 1		No	0	P
Insulation tube	See Annex 1		No	0	P
Telescopic tube	See Annex 1		No	0	P
Supplementary information: N/A					

<b>4.15d (13.4)</b>	<b>TABLE: Proof tracking test (IEC 60112)</b>				<b>P</b>
<b>Test voltage PTI</b> .....		175 V			—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Lamp cover	See Annex 1	No failure	No failure	No failure	P
Plastic enclosure	See Annex 1	No failure	No failure	No failure	P
PCB board	See Annex 1	No failure	No failure	No failure	P
Plug	See Annex 1	No failure	No failure	No failure	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 <sup>1)</sup>	
Plug	B	HangZhou YongQiang Cable Co., Ltd.	YK003-F	AC 250 V; 16 A; IP44	DIN VDE 0620-2-1	VDE (40008463)	
Alternative	D	Ningbo Huashun Electronics Co., Ltd.	GH-003F	AC 250 V; 16 A; IP44	DIN VDE 0620-1	VDE (40018227)	
Alternative	D	Ningbo Xuanshi Electronics Co., Ltd.	JL-3F	AC 250 V; 16 A; IP44	DIN VDE 0620-1	VDE (40021067)	
Alternative	D	Shangyu Jintao Electron Co., Ltd.	JT003-F	AC 250 V; 16 A; IP44	DIN VDE 0620-2-1/A1	VDE (40023496)	
Alternative	D	Yuyao Siji Wire Industry Co., Ltd.	SJ-3	AC 250 V; 16 A; IP44	DIN VDE 0620-2-1	VDE (40041676)	
Alternative	D	Zhejiang Shuangyang Group Co., Ltd.	SY-11	AC 250 V; 16 A; IP44	DIN VDE 0620-2-1/A1	VDE (40005502)	
FR Plug	D	Ningbo Huashun Electronics Co., Ltd	GH-003F	250 V~; 16 A; IP44	NF C 61-314	LICE N° (643599/A)	
FR Plug	D	Zhejiang Shuangyang Group Co., Ltd	SY-11	250 V~; 16 A; IP44	NF C 61-314	LICE N° (648821)	
FR Plug	D	Shangyu Jintao Electron Co., Ltd.	JT003	250 V~; 16 A; IP20	NF C 61-314	LICE N° (624057)	
GB Plug	D	Shangyu Jintao Electron Co., Ltd.	JT006A	250 V~; 13 A; Rough use	BS 1363-1	Licence No. (1120)	
GB plug	D	Zhejiang Shuangyang Group Co., Ltd	SY-28	250 V~; 13 A; Rough use	BS 1363-1	Licence No. (1034)	
DK Plug	D	Zhengjiang Jinting Nuclear Cable Co., Ltd	D3-16	250 V~ ;16 A; IP20	DS 60884-2-D1	DEMKO (D-06793)	
Swiss Plug	D	Shangyu Jintao Electron Co., Ltd.	R3-10	250 V~; 10 A; IP20	IEC 60884-1, SEV 1011	+S (18.0053)	
Power cord (for all models except model 33A02, 33A03, 33A04)	B	HangZhou YongQiang Cable Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40016862)	
Alternative	D	Shangyu Jintao Electron Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40018106)	
Alternative	D	Ningbo Huashun Electronics Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40014082)	
Alternative	D	Ningbo Huashun Electronics Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40017772)	

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Clause	Requirement + Test			Result - Remark		Verdict
Alternative	D	Yuyao Siji Wire Industry Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40019332)
Alternative	D	Ningbo Shunchi Wire & Cable Co., Ltd.	H07RN-F	3 x 1,5 mm <sup>2</sup>	EN 50525-2-21	VDE (40015877)
Power cord (for model 33A02, 33A03, 33A04)	B	HangZhou YongQiang Cable Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40016862)
Alternative	D	Shangyu Jintao Electron Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40018106)
Alternative	D	Ningbo Huashun Electronics Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40014082)
Alternative	D	Ningbo Huashun Electronics Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40017772)
Alternative	D	Yuyao Siji Wire Industry Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40019332)
Alternative	D	Ningbo Shunchi Wire & Cable Co., Ltd.	H05RN-F	3 x 1,0 mm <sup>2</sup>	EN 50525-2-21	VDE (40015877)
Socket	B	Ningbo Znpon Electrical Appliance Co., Ltd.	P901	250 V~;16 A; IP54	DIN VDE 0620-1 DIN VDE 0620-2-1	Intertek (10SHN2206-02)
Alternative (GB Socket)	D	Ningbo Znpon Electrical Appliance Co., Ltd.	Z134E	250 V~;13 A; IP54	BS 1363-2	Intertek (16SHN1357-01)
Alternative (FR Socket)	D	Ningbo Znpon Electrical Appliance Co., Ltd.	Z134F, Z134F-1	250 V~;16 A; IP54	NF C 61-314	Intertek (16SHN1624-01)
Alternative (DK Socket)	D	Ningbo Znpon Electrical Appliance Co., Ltd.	Z134K	250 V~;16 A; IP54	IEC 60884-1 DS 60884-2-D1	Intertek (1514833)
Alternative (Swiss Socket)	D	Ningbo Znpon Electrical Appliance Co., Ltd.	Z134S	250 V~;10 A; IP54	IEC 60884-1 SEV 1011	+S (18.0849)
Internal wire (lead to socket)	B	NingBo Haoguang Electric Appliance Co.,Ltd	H07V-K	1*1,5 mm <sup>2</sup>	EN 50525-2-31	VDE (126062)
Alternative	D	NingBo Haoguang Electric Appliance Co.,Ltd	3135, 3239	15 AWG; 200 °C	EN 60598-1 EN 60598-2-4	UL (E192545) + tested with appliance
Earthing wire	B	NingBo Haoguang Electric Appliance Co.,Ltd	H07V-K	1*1,5 mm <sup>2</sup>	EN-50525-2-31	VDE (126062)

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Clause	Requirement + Test			Result - Remark		Verdict
Internal wire (lead to LED driver)	B	Ningbo Haoguang Electric Appliance Co.,Ltd.	H05V-K	1*0,5...0,75 mm <sup>2</sup>	EN 50525-2-31	VDE (126062)
Alternative	D	NingBo Haoguang Electric Appliance Co.,Ltd	1015, 1569	20 AWG; 105 °C	EN 60598-1 EN 60598-2-4	UL (E192545) + tested with appliance
Internal wire (lead to LED board)	B	YANG TAI WIRE & CABLE CO LTD	1015	20 AWG; 105 °C	EN 60598-1 EN 60598-2-4	UL (E214859) + tested with appliance
Alternative	D	YANG TAI WIRE & CABLE CO LTD	1332	22 AWG; 200 °C	EN 60598-1 EN 60598-2-4	UL (E214859) + tested with appliance
Close end-connector	C	HEAVY POWER CO LTD	CE2	150 °C	EN 60598-1 EN 60598-2-4	UL (E113650) + tested with appliance
Fuse	B	AEM Components (Suzhou) Co., Ltd.	MF2410	AC 250 V, 2 A	EN 60127-1 EN 60127-4	VDE (40034853)
Alternative	D	Dongguan Chevron Electronic Technology Co., Ltd.	SBT	AC 250 V, 5 A	EN 60127-1 EN 60127-7	VDE (40049351)
Varistor	B	Shenzhen Jinyang Electronics Co., Ltd	YVDR-07D471; YVDR-10D471	AC 470 V; 40/125/56; V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	TUV SUD (B 094255 0002 Eev.00)
Switch (for all models except model 33A02, 33A03, 33A04)	B	Yueqing Daier Electron Co., Ltd.	KCD22325; KCD22125	AC 250 V; 16 A; T85	EN 61058-1	TUV Rheinland (R50309457)
LED	C	Shenzhen Diranda Optoelectronics Co.,Ltd	DRD-0.5WS31A4-XX	3 V 150 mA; 6V 100 mA	EN 60598-1 EN 60598-2-4	Tested with appliance
LED board	C	GUANGZHOU REN HE WEI CHANG P C B FACTORY	WF-01	V-0; 130 °C	EN 60598-1 EN 60598-2-4	UL (E323001) + tested with appliance
Alternative	D	HUIZHOU SEA INDUSTRY LTD	HC-02	V-0; 130 °C	EN 60598-1 EN 60598-2-4	UL (E346036) + tested with appliance
PCB	C	Shenzhen Hongshengheng Electronic Technology Co.,Ltd	KB-6167A	V-0; 130 °C	EN 60598-1 EN 60598-2-4	UL (E123995) + tested with appliance

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Clause	Requirement + Test			Result - Remark		Verdict
Plastic enclosure	C	Cixi Leonlux Technology Co.,Ltd	31C04-1	ABS	EN 60598-1 EN 60598-2-4	Tested with appliance
Lamp cover	C	Cixi Leonlux Technology Co.,Ltd	31C04-2	PC	EN 60598-1 EN 60598-2-4	Tested with appliance
Reflector (for side lamp)	C	Cixi Leonlux Technology Co.,Ltd	31C04-3	PC	EN 60598-1 EN 60598-2-4	Tested with appliance
Telescopic tube	C	Cixi Leonlux Technology Co.,Ltd	31C04-4	PC	EN 60598-1 EN 60598-2-4	Tested with appliance
Insulation tube	C	DONG GUAN HUANG FENG INSULATION MATERIAL CO LTD	HFT-2	600 V; 125 °C	EN 60598-1 EN 60598-2-4	UL (E236485) + tested with appliance
Heat-shrinkable tube	C	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	600 V; 200 °C	EN 60598-1 EN 60598-2-4	UL (E203950) + tested with appliance
PCB terminal block	B	BJB GmbH & Co.KG	46.141	320 V; 3 A; 125 °C	EN 60947-7-4	VDE (40040866)
Remark: IP20 plugs must work at dry environment, other plugs can pass IP54 test during working						
<p>Supplementary information:</p> <p><sup>1)</sup> Provided evidence ensures the agreed level of compliance. See OD-CB2039.</p> <p>The codes above have the following meaning:</p> <p>A - The component is replaceable with another one, also certified, with equivalent characteristics</p> <p>B - The component is replaceable if authorised by the test house</p> <p>C - Integrated component tested together with the appliance</p> <p>D - Alternative component</p>						

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference .....	31C04	—
	Lamp used.....	LED	—
	Lamp control gear used.....	Integral LED driver	—
	Mounting position of luminaire .....	Normal use position	—
	Supply wattage (W) .....	3155	—
	Supply current (A) .....	12,41	—
	Temperatures in test 1 - 4 below are corrected for $t_a$ (°C) .....	25	—
	- abnormal operating mode .....	10% LEDs short circuit	—
4.12 (12.4)	- test 1: rated voltage.....	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....	N/A	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage .....	1,06 x 240 V = 254,4 V	—
	Through wiring or looping-in wiring loaded by a current of A during the test .....	N/A	—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....	1,1 x 240 V = 264 V	—

#### Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	25	—	—	36,9	90	—	—
Switch	25	—	—	25,5	85	—	—
Socket	25	—	—	26,3	Ref.	—	—
Internal wire	25	—	—	31,8	90	—	—
Internal wire (Socket)	25	—	—	35,2	90	—	—
Earthing wire	25	—	—	32,2	90	—	—
PCB board	25	—	—	60,5	Ref.	—	—
LED board	25	—	—	121,3	Ref.	—	—
Varistor	25	—	—	55,0	125	—	—
Plastic enclosure	25	—	—	25,8	Ref.	—	—
Lamp cover	25	—	—	46,6	Ref.	—	—
Handle	25	—	—	26,1	75	—	—

IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
Adjustment device	25	—	—	40,5	75	—	—
Mounting surface	25	—	—	26,5	90	26,4	130
Lighted object	25	—	—	25,4	90	26,2	175
Supplementary information: N/A							

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference .....	30A02A	—
	Lamp used.....	LED	—
	Lamp control gear used.....	Integral LED driver	—
	Mounting position of luminaire .....	Normal use position	—
	Supply wattage (W) .....	3101	—
	Supply current (A) .....	12,18	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) .....	25	—
	- abnormal operating mode .....	N/A	—
4.12 (12.4)	- test 1: rated voltage.....	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....	N/A	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage .....	1,06 x 240 V = 254,4 V	—
	Through wiring or looping-in wiring loaded by a current of A during the test .....	N/A	—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....	N/A	—

Temperature measurements, (°C)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	25	—	—	35,9	90	—	—
Switch	25	—	—	25,5	85	—	—
Socket	25	—	—	26,3	Ref.	—	—
Internal wire	25	—	—	28,9	90	—	—
Internal wire (Socket)	25	—	—	34,5	90	—	—
Earthing wire	25	—	—	29,5	90	—	—
PCB board	25	—	—	45,7	Ref.	—	—
LED board	25	—	—	102,9	Ref.	—	—
LED board (Side lamp)	25	—	—	117,3	Ref.	—	—
Varistor	25	—	—	42,3	125	—	—
Varistor (Side lamp)	25	—	—	114,4	125	—	—
Plastic enclosure	25	—	—	25,5	Ref.	—	—

IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
Lamp cover	25	—	—	80,0	Ref.	—	—
Lamp cover (Side lamp)	25	—	—	86,7	Ref.	—	—
Handle	25	—	—	25,3	75	—	—
Adjustment device	25	—	—	28,7	75	—	—
Adjustment device (Side lamp)	25	—	—	39,7	75	—	—
Mounting surface	25	—	—	25,7	90	—	—
Lighted object	25	—	—	25,5	90	—	—
Supplementary information: N/A							



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference .....	32A20A	—
	Lamp used.....	LED	—
	Lamp control gear used.....	Integral LED driver	—
	Mounting position of luminaire .....	Normal use position	—
	Supply wattage (W) .....	3079	—
	Supply current (A) .....	12,05	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) .....	25	—
	- abnormal operating mode .....	N/A	—
4.12 (12.4)	- test 1: rated voltage.....	N/A	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....	N/A	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage .....	1,06 x 240 V = 254,4 V	—
	Through wiring or looping-in wiring loaded by a current of A during the test .....	N/A	—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....	N/A	—

Temperature measurements, (°C)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	25	—	—	41,1	90	—	—
Switch	25	—	—	28,1	85	—	—
Socket	25	—	—	31,9	Ref.	—	—
Internal wire	25	—	—	35,9	90	—	—
Internal wire (Socket)	25	—	—	42,0	90	—	—
Earthing wire	25	—	—	25,7	90	—	—
LED board	25	—	—	121,7	Ref.	—	—
LED board (Side lamp)	25	—	—	115,7	Ref.	—	—
Varistor	25	—	—	120,4	125	—	—
Varistor (Side lamp)	25	—	—	115,9	125	—	—
Plastic enclosure	25	—	—	27,9	Ref.	—	—
Lamp cover	25	—	—	39,2	Ref.	—	—

IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
Lamp cover (Side lamp)	25	—	—	88,9	Ref.	—	—
Mounting surface	25	—	—	29,0	90	—	—
Lighted object	25	—	—	26,0	90	—	—
Supplementary information: N/A							

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 3</b>	<b>Screw terminals (part of the luminaire)</b>		N/A
<b>(14)</b>	<b>SCREW TERMINALS</b>		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 <sup>2</sup> )..... :		—
(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 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 4</b>	<b>Screwless terminals (part of the luminaire)</b>		N/A
<b>(15)</b>	<b>SCREWLESS TERMINALS</b>		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 60598-2-4										
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									N/A
	Voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV) ..... :					—				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
	Voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV) ..... :					—				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
	Continued ageing: voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV) ..... :					—				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV) ..... :					—				—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	—	—	—	—	—	—	—	—	—	—
Supplementary information: N/A										

— End of main report —

IEC60598_2_4S2 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<b>ATTACHMENT TO TEST REPORT IEC 60598-2-4</b> <b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b> Luminaires Part 2: Particular requirements Section 4: Portable general purpose luminaires			
<b>Differences according to</b> ..... EN 60598-2-4:2018 used in conjunction with EN 60598-1:2015 + A1:2018			
<b>Annex Form No</b> ..... EU_GD_IEC60598_2_4H <b>Annex Form Originator</b> ..... SGS <b>Master Annex Form</b> ..... 2020-04			
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	<b>CENELEC COMMON MODIFICATIONS (EN)</b>	<b>P</b>
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<b>4.5 (3)</b>	<b>MARKING</b>	<b>P</b>
4.11.4	For luminaires not supplied with terminal block: Adequate warning on the package	N/A

<b>4.6 (4)</b>	<b>CONSTRUCTION</b>	<b>P</b>
4.6 (4.11.6)	Electro-mechanical contact systems	N/A

<b>4.10 (5)</b>	<b>EXTERNAL AND INTERNAL WIRING</b>	<b>P</b>
4.10 (5.2.1)	Connecting leads	N/A
	- without a means for connection to the supply	N/A
	- terminal block specified	N/A
	- relevant information provided	N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	N/A
4.10 (5.2.2)	Cables equal to EN 50525	P
	Replace table 5.1 – Supply cord	P
4.11.4	For class I and class II portable luminaires for outdoor use, non-detachable flexible cables or cords shall be not lighter than cords for the type H05RN-F	P

<b>4.12 (12)</b>	<b>ENDURANCE TESTS AND THERMAL TESTS</b>	<b>P</b>
4.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring	N/A

## Attachment A

<b>ZB</b>	<b>ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)</b>		<b>P</b>
(3.3)	DK: power supply cords of class I luminaires with label		P
(4.5.1)	DK: socket-outlets		P
(5.2.1)	CY, DK, FI, GB: type of plug		P
4.4.4	DK: In Denmark, luminaires for outdoor use shall be classified as class II or class III		P

<b>ZC</b>	<b>ANNEX ZC, NATIONAL DEVIATIONS (EN)</b>		<b>N/A</b>
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings  (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage)  Glow-wire test for outer parts of luminaires:		N/A
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

— End of Attachment A—

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>GENERAL REQUIREMENTS</b>		<b>P</b>
4.4	Integral modules tested assembled in the luminaire		P
4.5	Independent modules complies with requirements in IEC 60598-1		N/A
<b>5</b>	<b>GENERAL TEST REQUIREMENTS</b>		<b>P</b>
5.5	SELV-operated LED modules comply with Annex I of IEC 61347-2-13		N/A
	General conditions for tests in Annex A	(see Annex A)	P
<b>6</b>	<b>CLASSIFICATION</b>		<b>P</b>
	Built-in module ..... : Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		—
	Independent module..... : Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		—
	Integral module ..... : Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		—
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		—
<b>7</b>	<b>MARKING</b>		<b>N/A</b>
	Integral module		N/A
<b>8</b>	<b>TERMINALS</b>		<b>P</b>
	Refer to main report		—
<b>9 (9)</b>	<b>PROVISION FOR PROTECTIVE EARTHING</b>		<b>P</b>
	Refer to main report		—
<b>10 (10)</b>	<b>PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS</b>		<b>P</b>
- (10.1)	Controlgear protected against accidental contact with live parts		P
- (A2)	The current flowing between the part concerned and earth is measured and does not exceed 0,7 mA (peak) or 2 mA d.c. ....:		N/A
- (A2)	For frequencies above 1 kHz, the current does not exceed 0,7 mA (peak) multiplied by the value of the frequency in kilohertz or 70 mA (peak) ....:		N/A
- (A3)	The voltage between the part concerned and any accessible part is measured and does not exceed 34 V (peak).....:		N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		P
	Adequate mechanical strength on parts providing protection		P



EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
- (10.2)	Capacitors > 0,5 $\mu$ F: voltage after 1 min (V): < 50 V .....:		N/A
- (10.3)	Controlgear providing SELV		N/A
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		N/A
	No connection between output circuit and the body or protective earthing circuit		N/A
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		N/A
	SELV outputs separated by at least basic insulation		N/A
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1		N/A
- (10.4)	Accessible conductive parts in SELV circuits		N/A
	Output voltage under load $\leq 25$ V r.m.s. or $\leq 60$ V d.c.		N/A
	If output voltage > 25 V r.m.s. or > 60 V d.c.; No load output $\leq 35$ V peak or $\leq 60$ V d.c and touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ....:		N/A
	One conductive part is insulated if output voltage or current exceeding the values above and withstand test voltage 500 V		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
<b>11 (11)</b>	<b>MOISTURE RESISTANCE AND INSULATION</b>		<b>P</b>
	Refer to main report		—
<b>12 (12)</b>	<b>ELECTRIC STRENGTH</b>		<b>P</b>
	Refer to main report		—
<b>13 (14)</b>	<b>FAULT CONDITIONS</b>		<b>P</b>
- (14)	When operated under fault conditions the controlgear:		<b>P</b>
	- does not emit flames or molten material		<b>P</b>
	- does not produce flammable gases		<b>P</b>
	- protection against accidental contact not impaired		<b>P</b>

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)		N/A
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664-3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile		N/A
- (14.4)	Short-circuit across electrolytic capacitors		N/A
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq 1 \text{ M}\Omega$ .....	> 500 M $\Omega$	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		N/A
<b>13.2</b>	<b>Overpower condition</b>		P
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P
	Molten material does not ignite tissue paper, spread below the module		P
<b>15</b>	<b>CONSTRUCTION</b>		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
<b>16 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		P
	Refer to main report		—
<b>17 (17)</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		P
	Refer to main report		—

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
<b>18 (18)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		P
	Refer to main report		—
<b>19 (19)</b>	<b>RESISTANCE TO CORROSION</b>		P
	Refer to main report		—
<b>20</b>	<b>INFORMATION FOR LUMINAIRE DESIGN</b>		P
	Information in Annex D (informative)		—
<b>21</b>	<b>HEAT MANAGEMENT</b>		N/A
	No need such tests		—
<b>22</b>	<b>PHOTOBIOLOGICAL SAFETY</b>		P
<b>22.1</b>	<b>UV radiation</b>		N/A
	Luminous radiation not exceed 2mW/klm		N/A
<b>22.2</b>	<b>Blue light hazard</b>		P
	Assessed according to IEC TR 62778	RG1	P
<b>22.3</b>	<b>Infrared radiation</b>		N/A
	Requirements for infrared radiation when required		N/A
<b>A</b>	<b>ANNEX A - TESTS</b>		P
	All tests performed in accordance with the advice given in Annex H of IEC 61347-1, if applicable		P
<b>13 (14)</b>	<b>TABLE: tests of fault conditions</b>		P
<b>Part</b>	<b>Simulated fault</b>		<b>Hazard</b>
One LED	Short-circuit; the short-circuit LED no operation, others normal operation		NO
U2	Short-circuit; normal operation		NO

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 1</b>	<b>SELV-operated LED modules</b>	N/A
	No need such tests	—

ANNEX 2	TABLE: Critical components information						P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1)</sup>	
Refer to main report for details							
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							

	<b>ANNEX 3: screw terminals (part of the luminaire)</b>	N/A
	No need such tests	N/A

	<b>ANNEX 4: screwless terminals (part of the luminaire)</b>	N/A
	No need such tests	N/A

— End of Attachment B —

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

4 (4)	GENERAL REQUIREMENTS		P
- (4)	<u>Insulation materials</u> according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of <u>independent controlgear enclosure</u> with IEC 60598-1		N/A
- (4)	<u>Built-in electronic controlgear</u> with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
4 (4)	<u>SELV controlgear</u> comply with Annex I of this part 2 and Annex L of IEC 61347-1	(see Annex L)	N/A
4 (-)	Transformer comply with IEC 61558		N/A
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage $\leq 300$ V		N/A

6 (6)	CLASSIFICATION			P
	Built-in controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Independent controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Integral controlgear .....	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	—
6 (-)	Auto-wound controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Separating controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Isolating controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	SELV controlgear .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—

7 (7)	MARKING	N/A
	Integral controlgear	N/A

8 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS	P
	Refer to main report	—

9 (8)	TERMINALS	N/A
	No need such tests	—

10 (9)	PROVISION FOR PROTECTIVE EARTHING	N/A
	No need such tests	—

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

<b>11 (11)</b>	<b>MOISTURE RESISTANCE AND INSULATION</b>		<b>P</b>
	Refer to main report		—

<b>12 (12)</b>	<b>ELECTRIC STRENGTH</b>		<b>P</b>
	Refer to main report		—

<b>14 (14)</b>	<b>FAULT CONDITIONS</b>		<b>P</b>
- (14.1)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (after any reduction in 14.2 - 14.5)	(see appended table)	N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
14 (-)	Reversed voltage polarity if d.c. supplied control gear	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq 1 \text{ M}\Omega$ ..... :	$> 500 \text{ M}\Omega$	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power a.c. supply		—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

<b>15 (-)</b>	<b>TRANSFORMER HEATING</b>		<b>P</b>
	No need such tests		—

<b>16 (15)</b>	<b>CONSTRUCTION</b>		<b>P</b>
<b>- (15.1)</b>	<b>Wood, cotton, silk, paper and similar fibrous material</b>		<b>P</b>
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
<b>- (15.2)</b>	<b>Printed circuits</b>		<b>P</b>
	Printed circuits used as internal connections complies with clause 14		P
<b>- (15.3)</b>	<b>Plugs and socket-outlets used in SELV or ELV circuits</b>		<b>N/A</b>
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV $\leq 3 \text{ A}$ , $\leq 25 \text{ V r.m.s.}$ or $\leq 60 \text{ V d.c.}$ and $\leq 72 \text{ W}$ comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
<b>- (15.4)</b>	<b>Insulation between circuits and accessible parts</b>		<b>P</b>
<b>- (15.4.2)</b>	<b>SELV circuits</b>		<b>N/A</b>
	Source used to supply SELV circuits:		N/A
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	Voltage in the circuit not higher than ELV		N/A
	SELV circuits insulated from LV by double or reinforced insulation		N/A
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
- (15.4.3)	FELV circuits		N/A
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating controlgear providing basic insulation between input and output circuits in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	- source in circuits separated by the LV supply by basic insulation		N/A
	Voltage in the circuit not higher than ELV		N/A
	FELV circuits insulated from LV supply by at least basic insulation		N/A
	FELV circuits insulated from other FELV circuits if functional purpose		N/A
	FELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
	Plugs and socket-outlets for FELV system comply with:		N/A
	- plugs not able to enter socket-outlets of other voltage systems		N/A
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		P
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according Table 6 in 15.4.5.		P
- (15.4.5)	Insulation between circuits and accessible conductive parts		P
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		P
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A



## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A
--	--	--	-----

<b>17 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	Refer to main report		—

<b>18 (17)</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		<b>P</b>
	Refer to main report		—

<b>19 (18)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		<b>P</b>
	Refer to main report		—

<b>20 (19)</b>	<b>RESISTANCE TO CORROSION</b>		<b>N/A</b>
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

<b>21 (-)</b>	<b>MAXIMUM WORKING VOLTAGE (<math>U_{out}</math>) IN ANY LOAD CONDITION</b>		<b>N/A</b>
	Not exceed declared maximum working voltage $U_{out}$ in any load condition		N/A

<b>14</b>	<b>TABLE: tests of fault conditions</b>		<b>P</b>
<b>Part</b>	<b>Simulated fault</b>		<b>Hazard</b>
DB207	Short circuit; No operation, no danger		NO
VR1	Short circuit; Fuse broken, no operation, no danger		NO
VR2	Short circuit; No operation, no danger		NO

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

17 (16)	TABLE: clearance and creepage distance measurements (mm)	P
Applicable part of IEC 61347-1 Table 7 – 11*		
Refer to main report for details.		

(A)	ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK		N/A
	No need such tests		—

(C)	ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING		N/A
	No need such tests		—

(D)	ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A

(F)	ANNEX F – DRAUGHT-PROOF ENCLOSURE		P
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A

(H)	ANNEX H - TESTS		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P

I (L)	ANNEX I IN THIS PART 2 – PARTICULAR ADDITIONAL REQUIREMENTS FOR SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEARS FOR LED MODULES		N/A
	No need such tests		—

J (-)	ANNEX J IN THIS PART 2 – PARTICULAR ADDITIONAL SAFETY REQUIREMENTS FOR A.C., A.C./D.C. OR D.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR EMERGENCY LIGHTING		N/A
	No need such tests		—

## Attachment C

EN 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

(N)	<b>ANNEX N: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION</b>		N/A
	No need such tests		—

(O)	<b>ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION</b>		N/A
	No need such tests		—

(P)	<b>Creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting</b>		N/A
	No need such tests		—

<b>ANNEX 1</b>	<b>TABLE: Critical components information</b>						<b>P</b>
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1)</sup>	
Refer to main report for details.							
Supplementary information:							
<sup>1)</sup> 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							

	<b>ANNEX 2: screw terminals (part of the luminaire)</b>		N/A
(14)	<b>SCREW TERMINALS</b>		N/A
	No such parts		N/A

	<b>ANNEX 3: screwless terminals (part of the luminaire)</b>		N/A
(15)	<b>SCREWLESS TERMINALS</b>		N/A
	No such parts		N/A

Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

Detail of: 31C04

View:

☒ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom



Detail of: 31C04

View:

☒ general

☐ front

☐ rear

☐ right

☐ left

☐ top

☐ bottom

Marking plate position



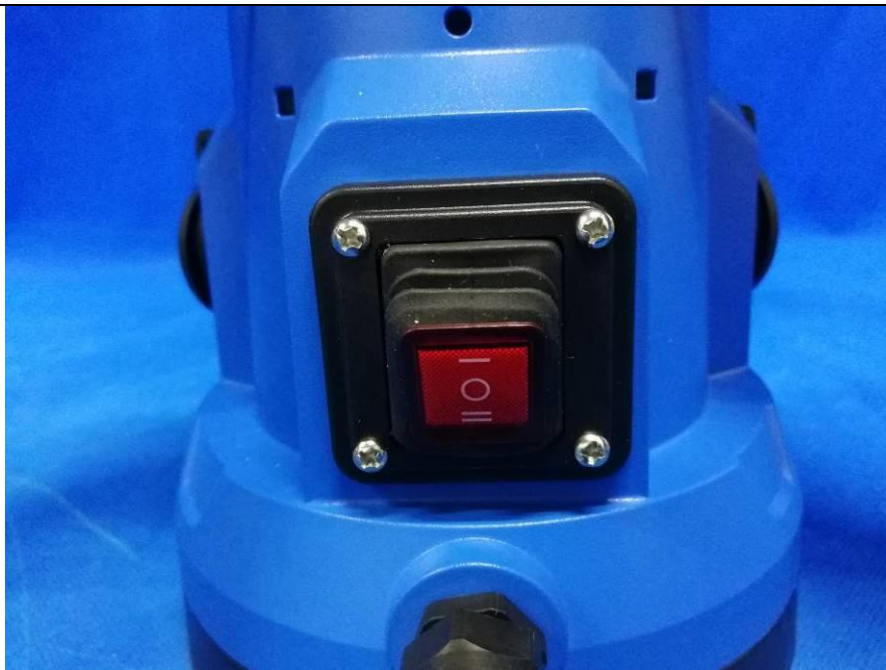
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Switch for model 31C04

View:

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



**Detail of:** Socket for model 31C04

View:

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





Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Socket for model 31C04

View:

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



**Detail of:** Cable entry for model 31C04

View:

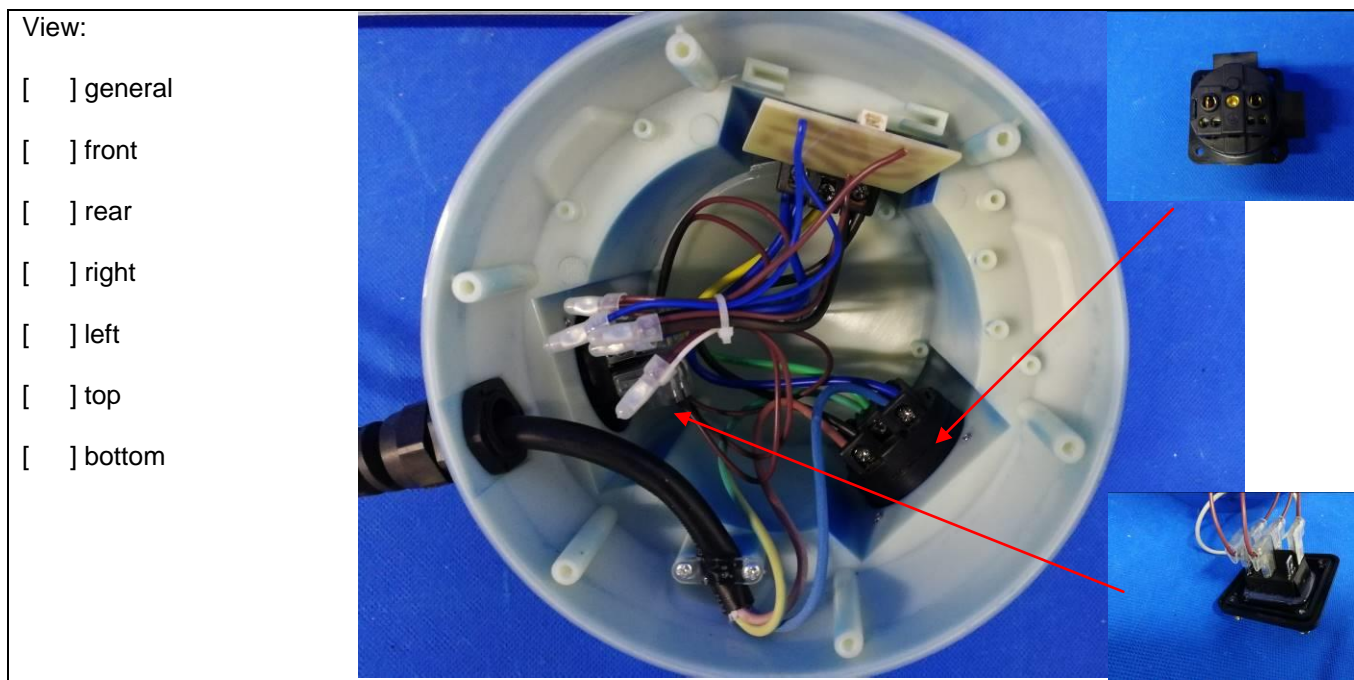
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 31C04



**Detail of:** Internal view for model 31C04



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Base for model 31C04

View:

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



**Detail of:** Cord anchorage for model 31C04

View:

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





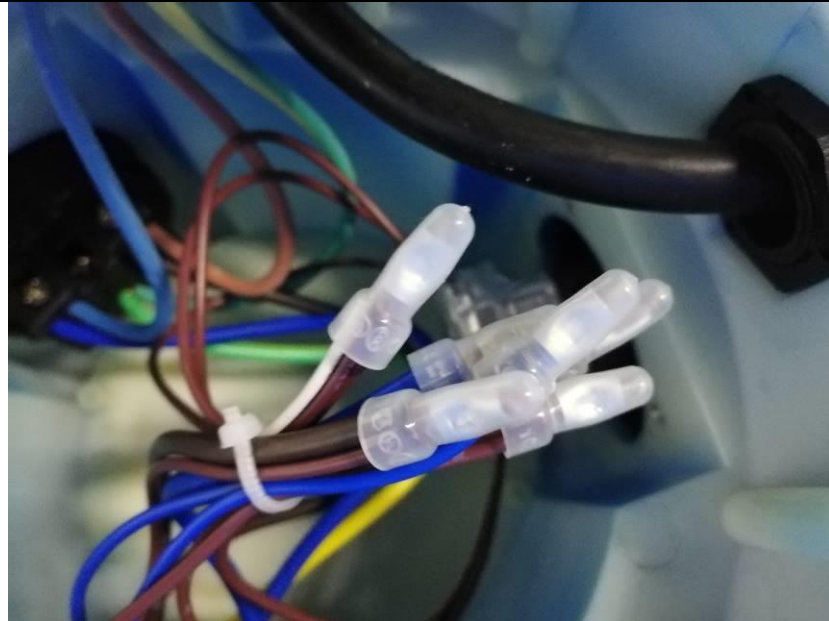
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 31C04

View:

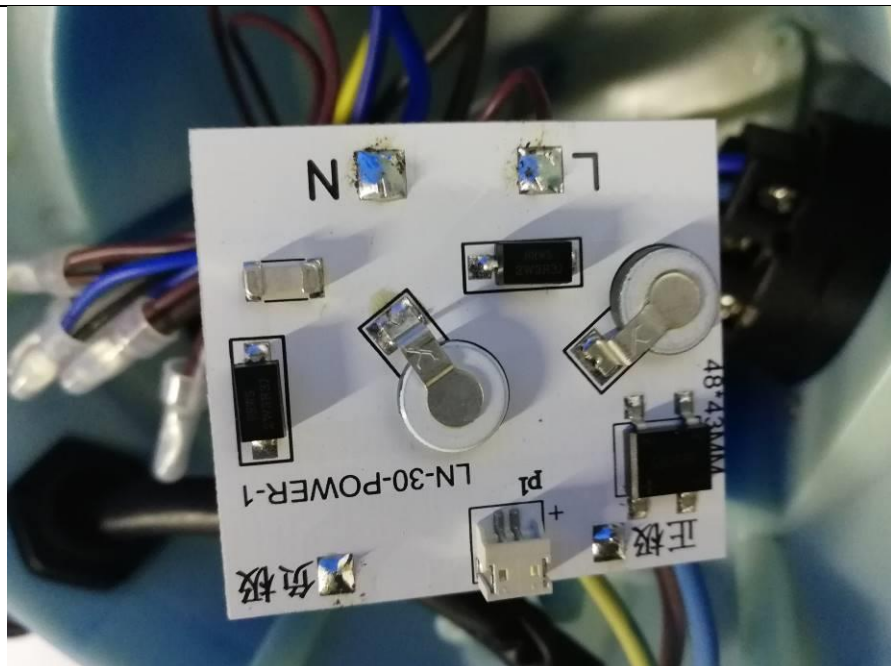
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** LED driver for model 31C04

View:

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



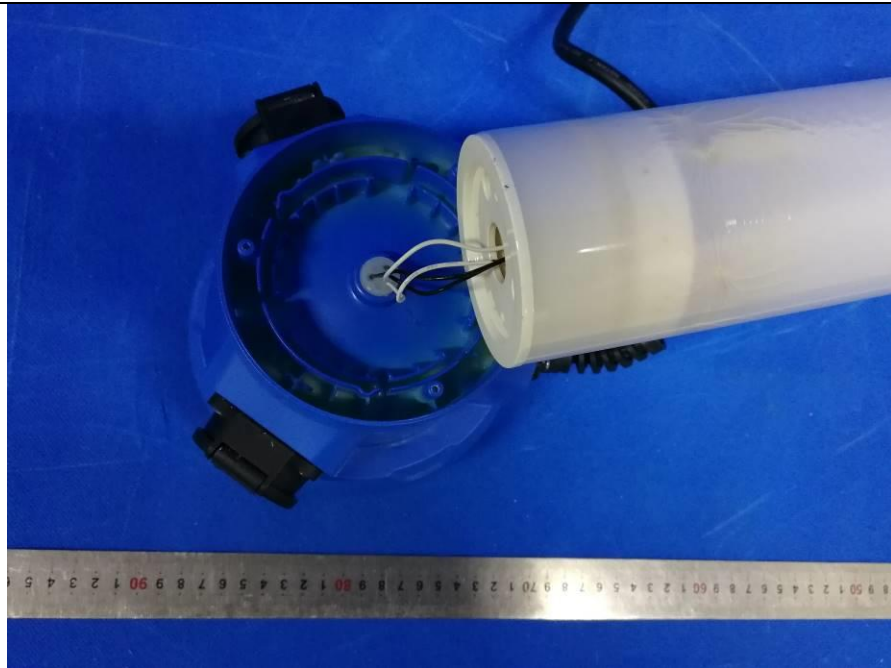
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 31C04

View:

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



**Detail of:** Internal view for model 31C04

View:

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



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 31C04



**Detail of:** Plug for model 31C04

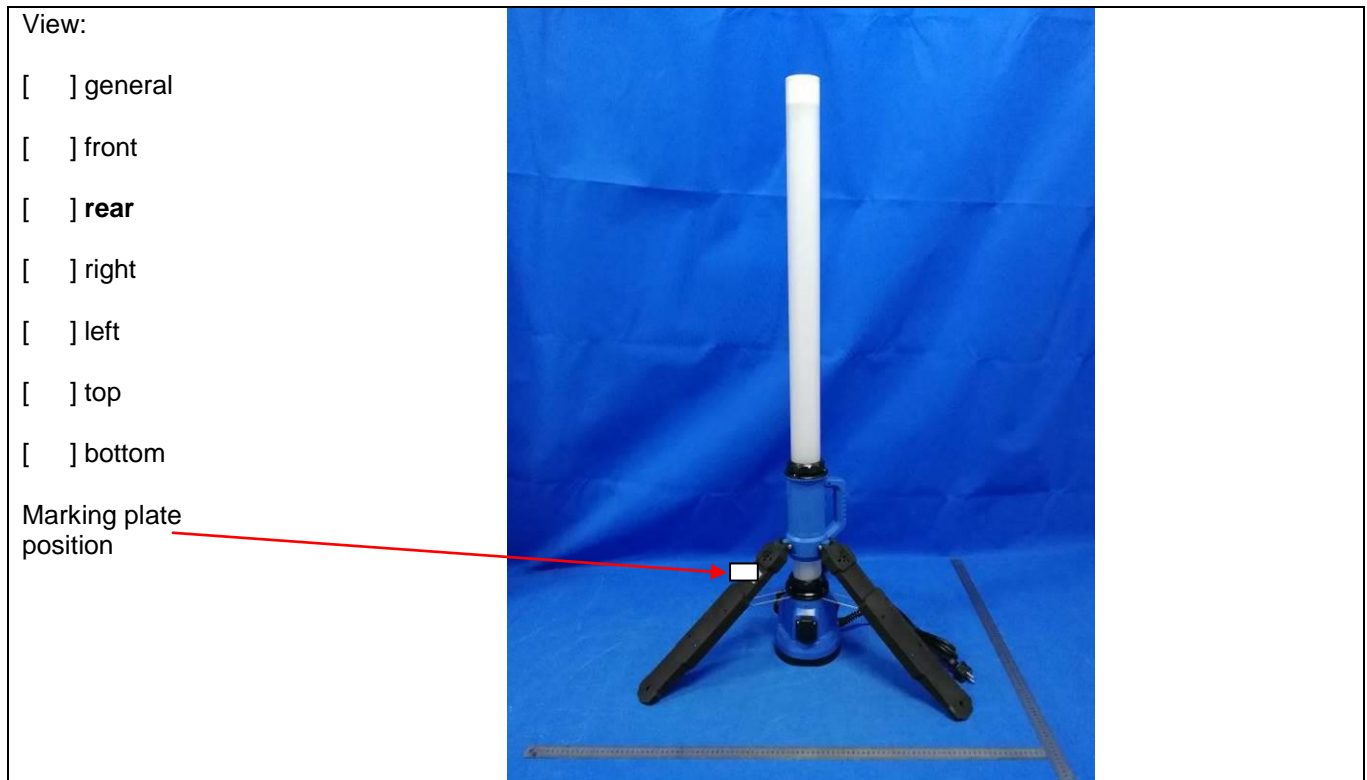




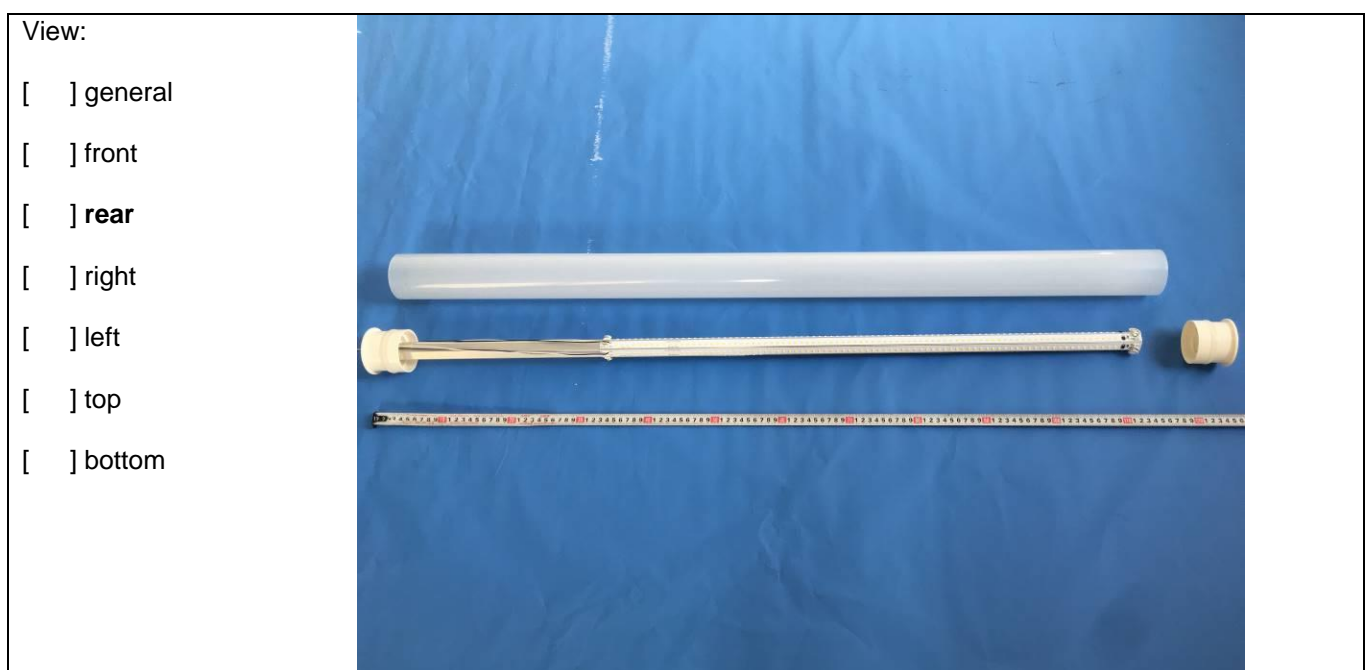
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

Detail of: 31C03



Detail of: Internal view for model 31C03



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
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Report No.: NBES200200046001

Detail of: 32A20A



Detail of: 32A20A



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

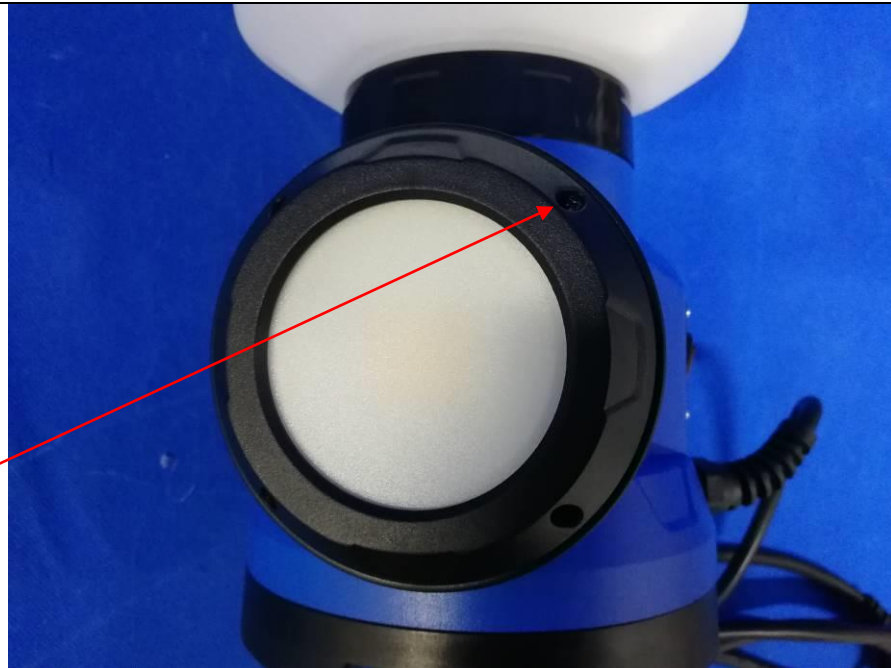
Report No.: NBES200200046001

**Detail of:** Side lamp of model 32A20A

View:

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

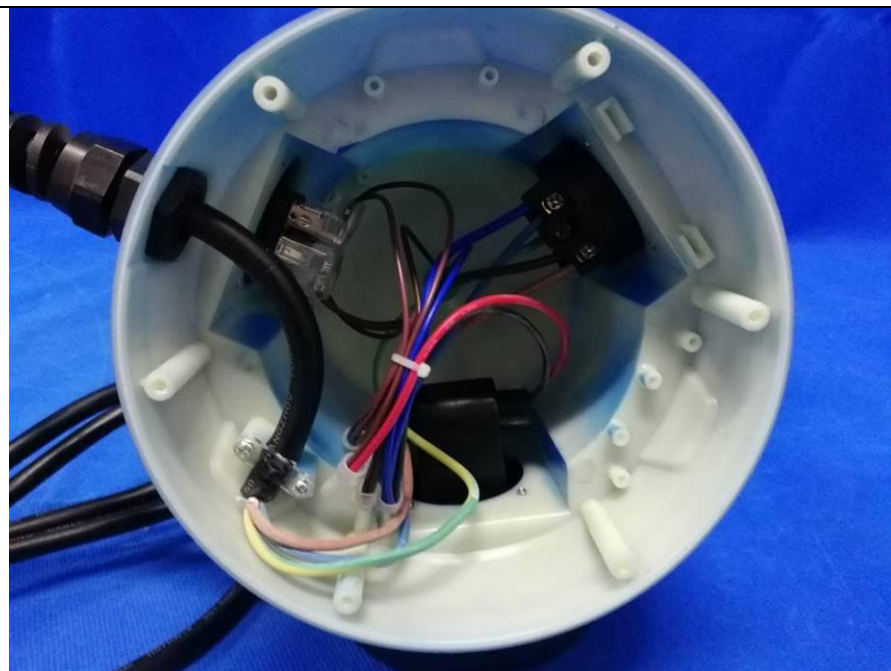
Fixed with glued  
(Four screws)



**Detail of:** Internal view for model 32A20A

View:

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





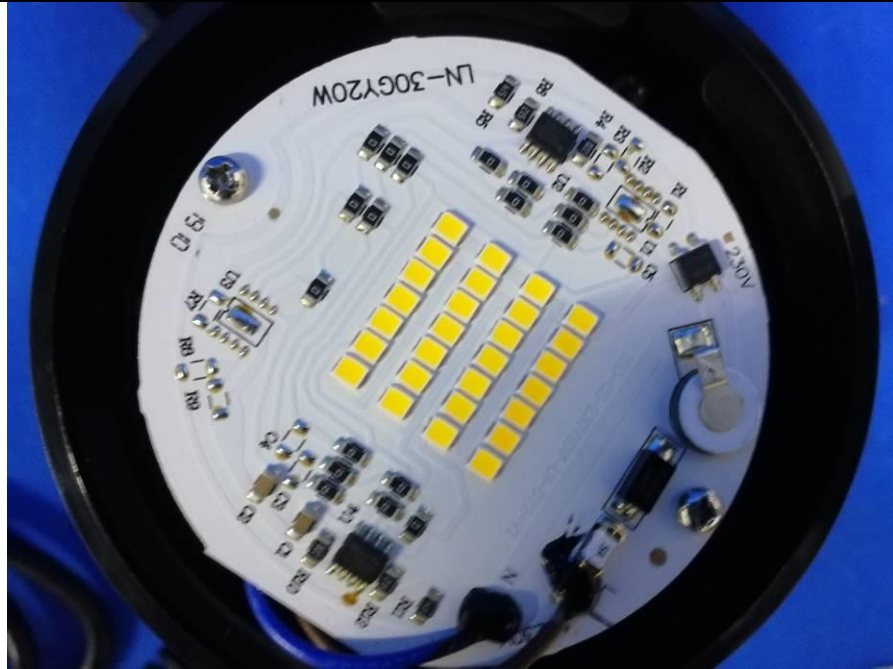
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Main lamp for model 32A20A

View:

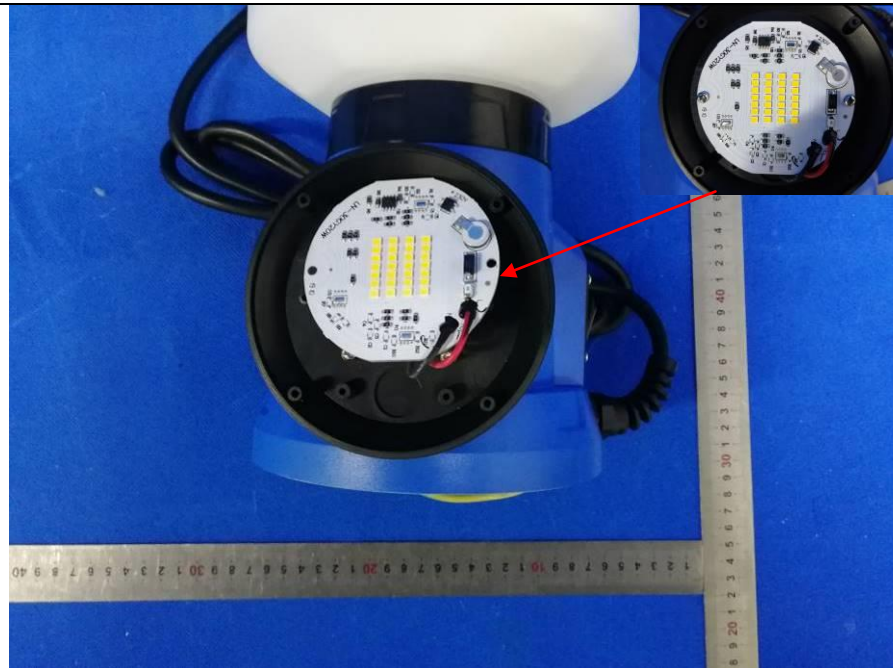
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** Side lamp for model 32A20A

View:

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



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

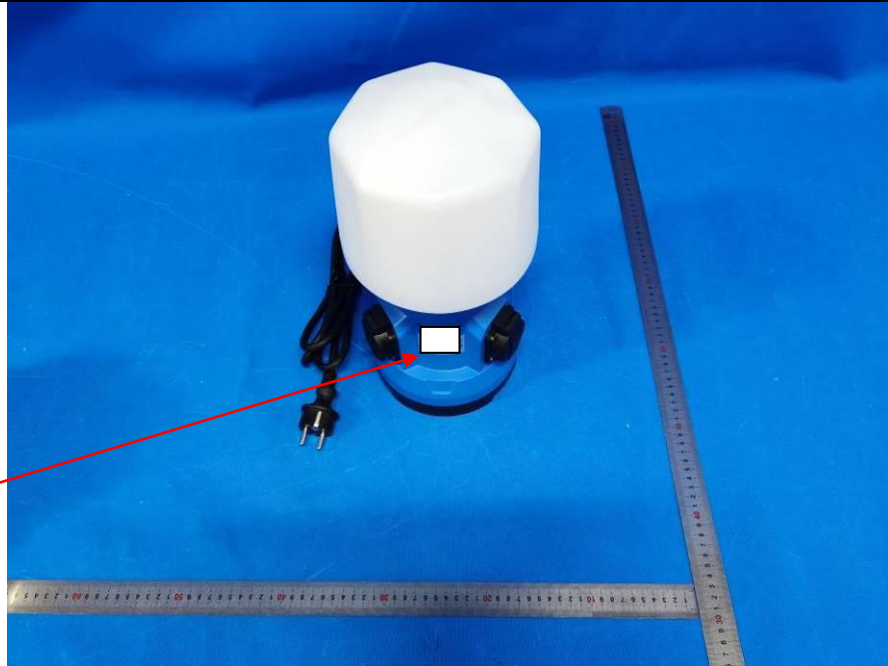
Report No.: NBES200200046001

Detail of: 32A20

View:

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

Marking plate position



Detail of: 30A02A

View:

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

Marking plate position

Equipped with counterweight (1,6 Kg)





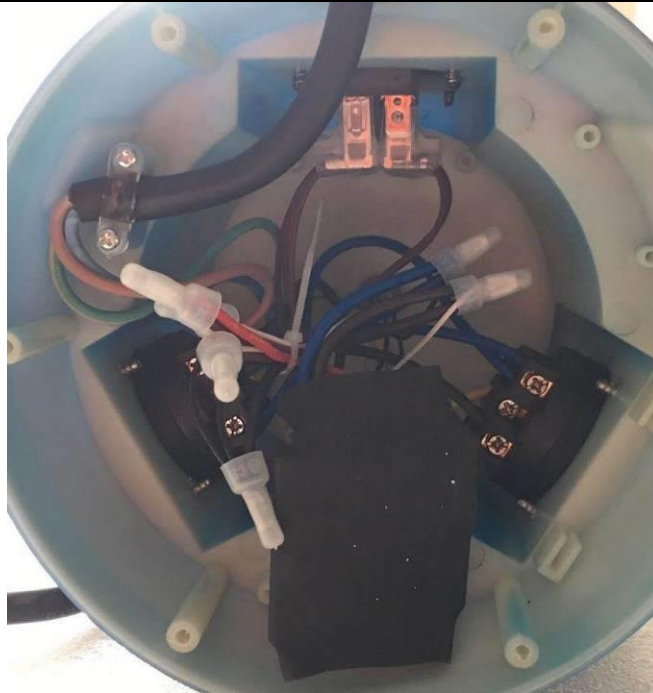
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 30A02A

View:

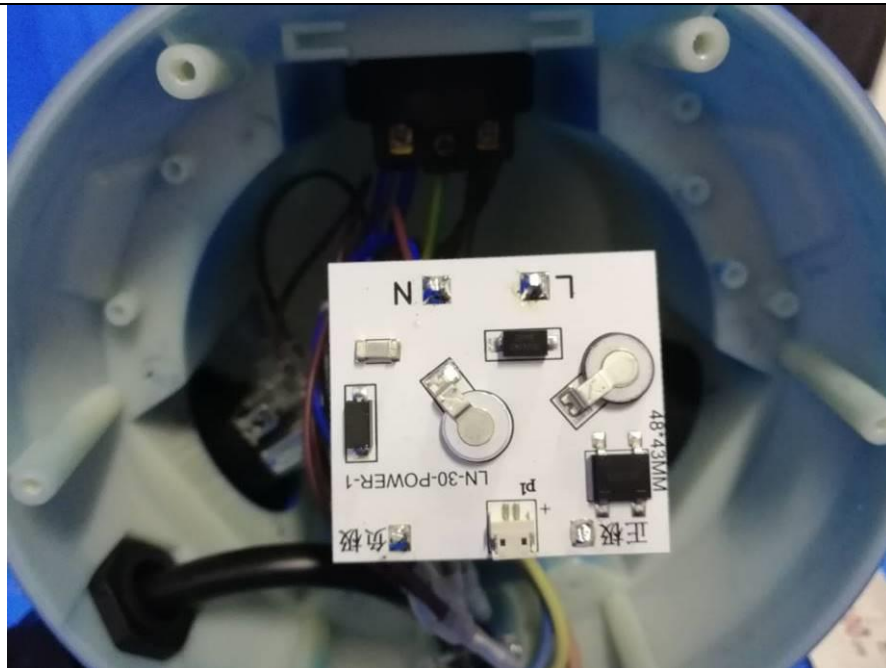
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** LED driver for model 30A02A

View:

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



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 30A02A

View:

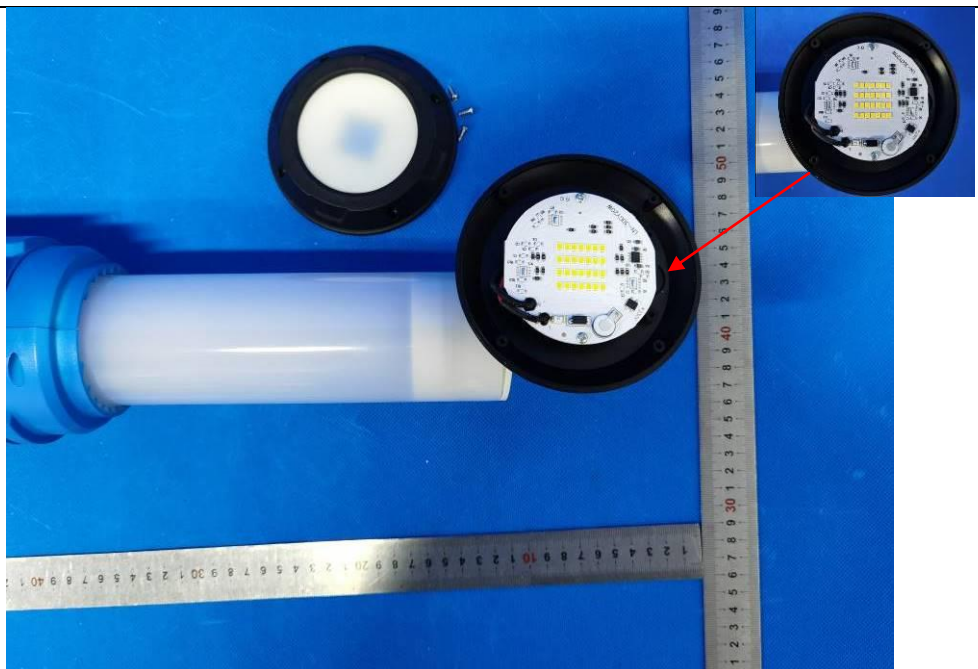
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** Side lamp for model 30A02A

View:

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



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Telescopic tube for model 30A20A

View:

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

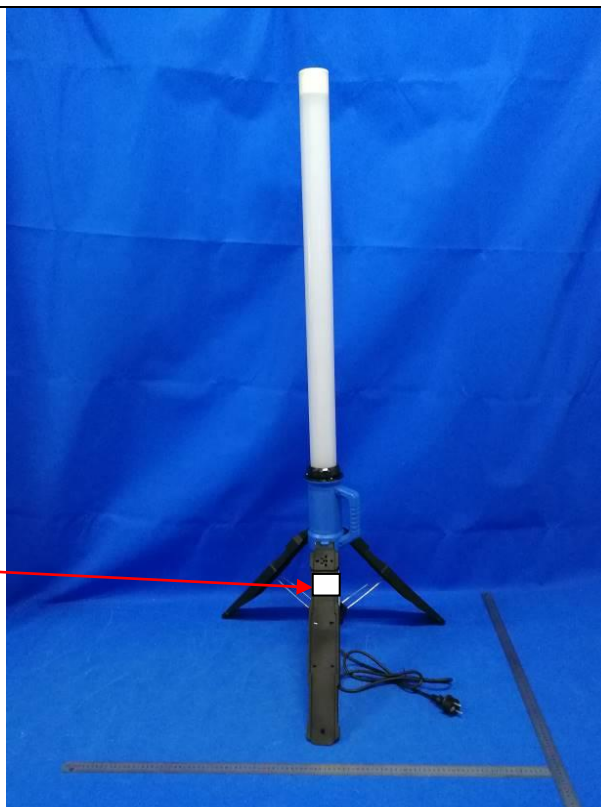


**Detail of:** 33A04

View:

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

Marking plate position



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Cable entry for model 33A04

View:

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



**Detail of:** Internal view for model 33A04

View:

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





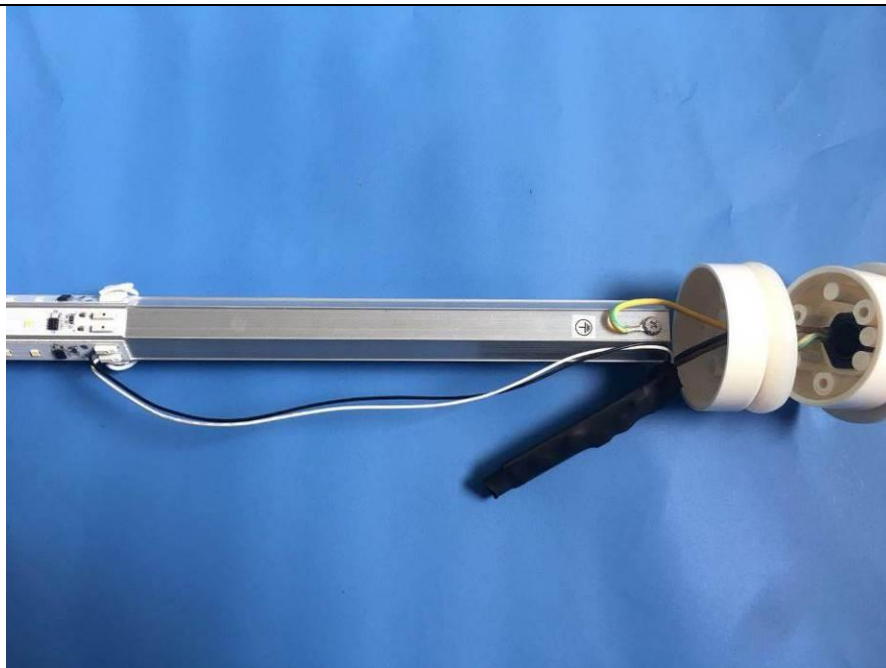
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 33A04

View:

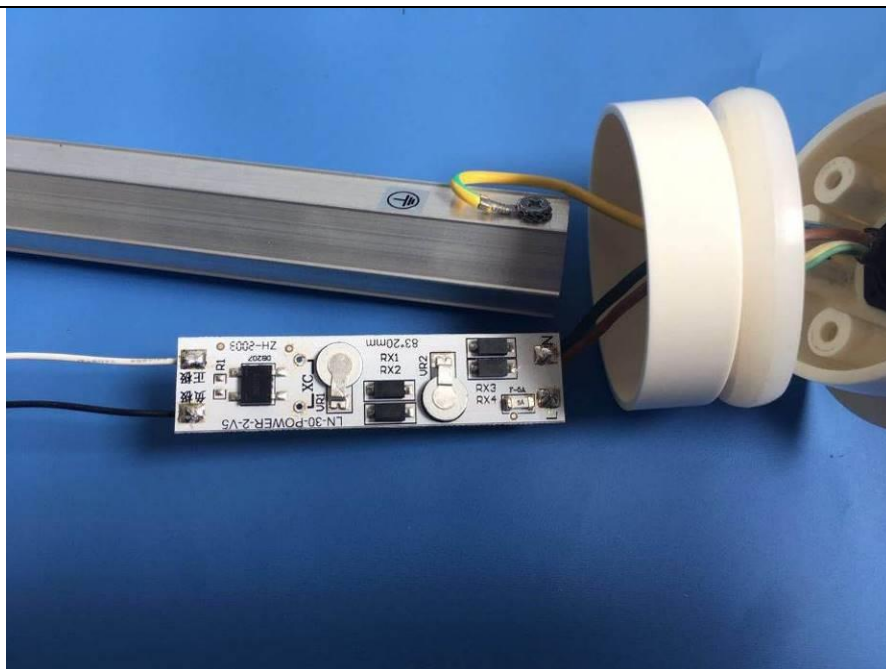
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** LED driver for model 33A04

View:

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



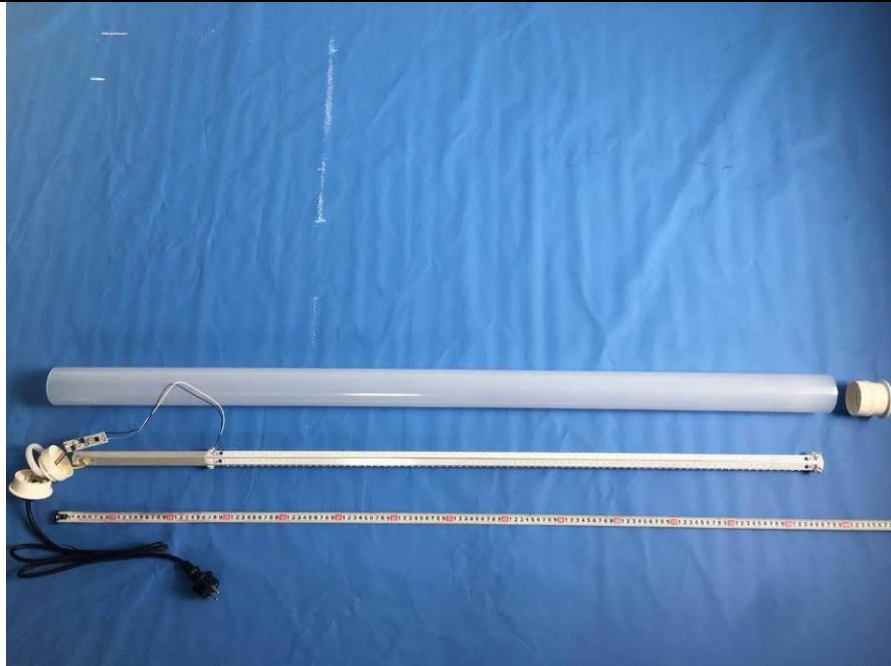
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Internal view for model 33A04

View:

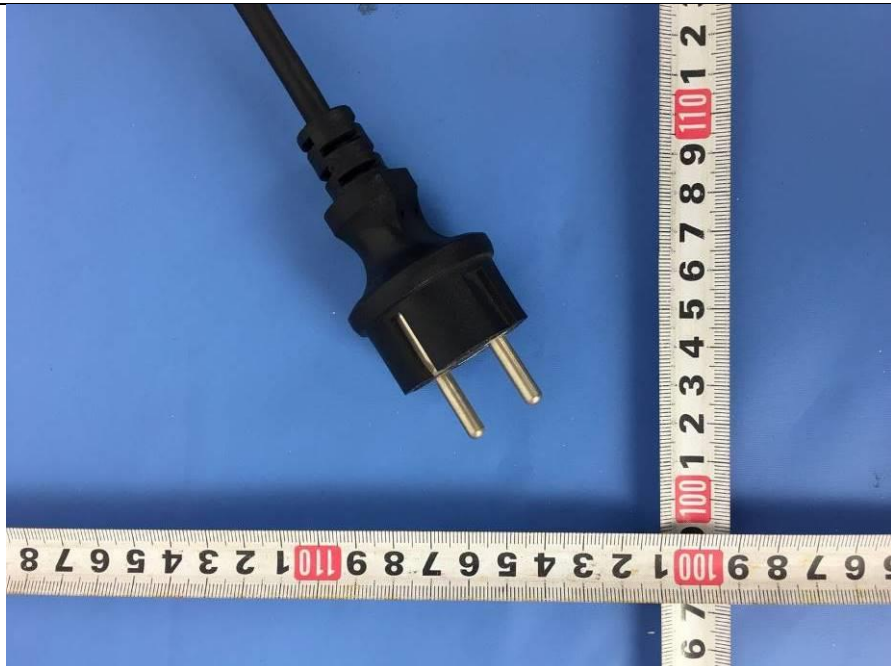
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** FR Plug

View:

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



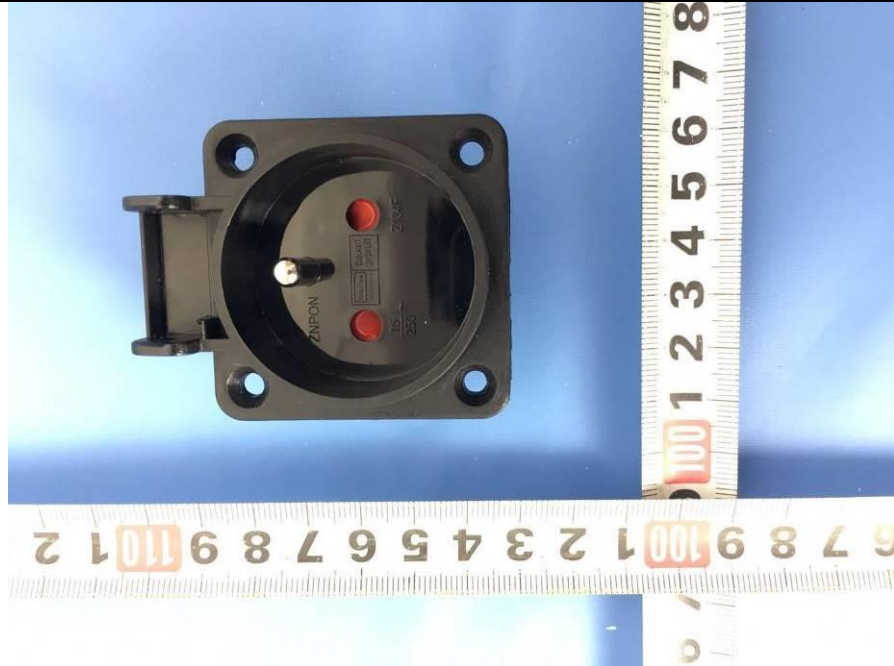
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** FR Socket

View:

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



**Detail of:** GB Plug

View:

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



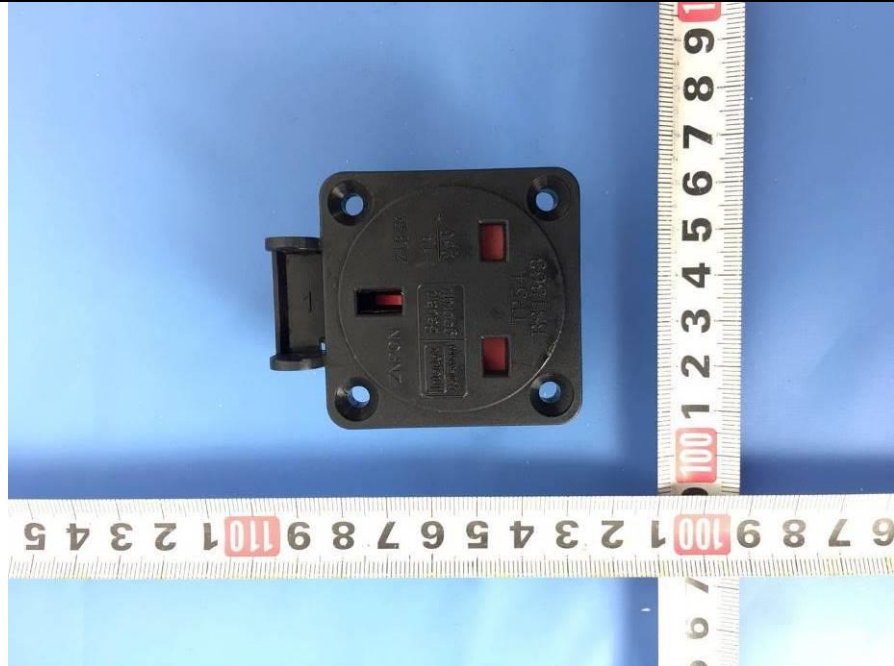
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** GB Socket

View:

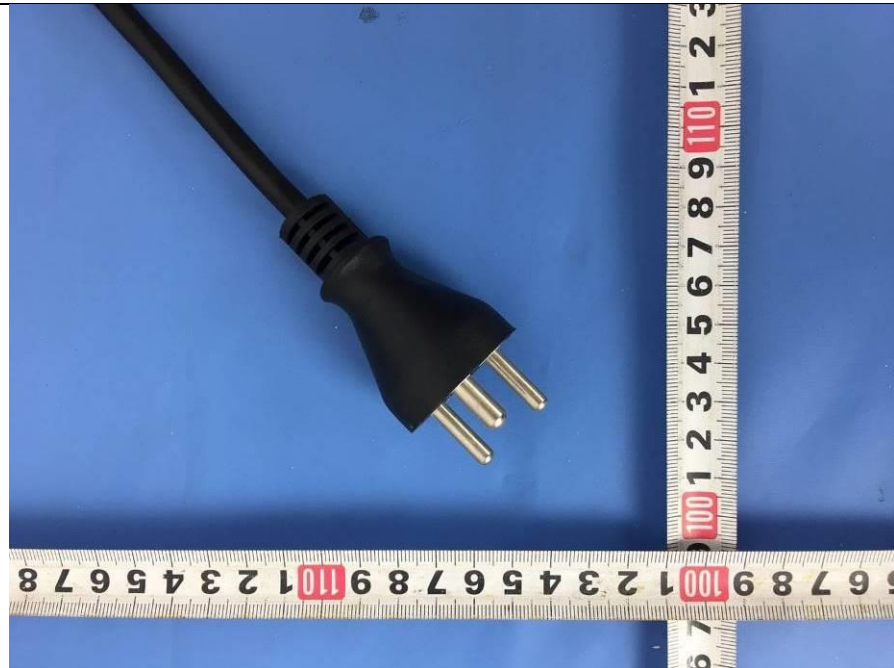
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** DK Plug

View:

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





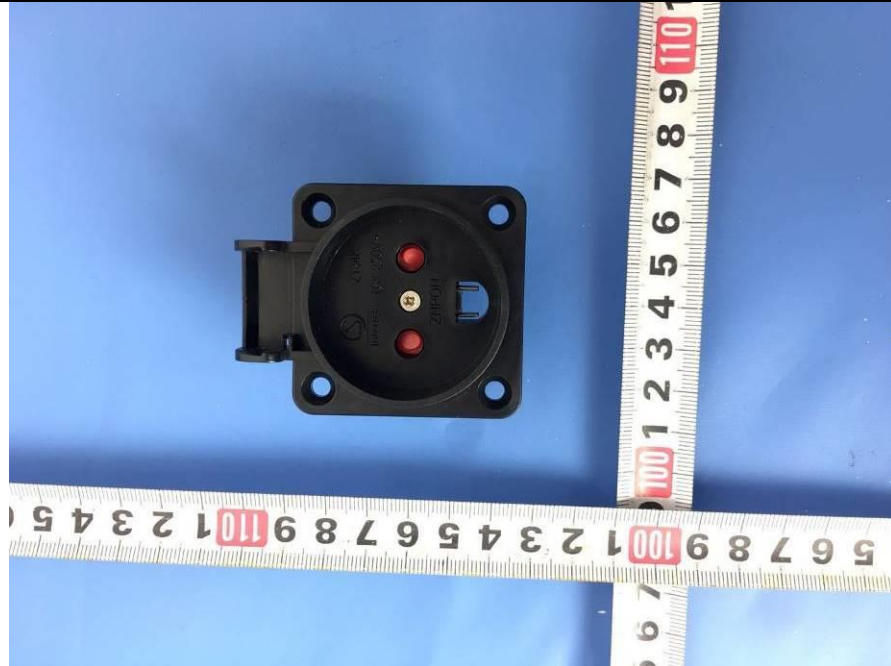
Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** DK Socket

View:

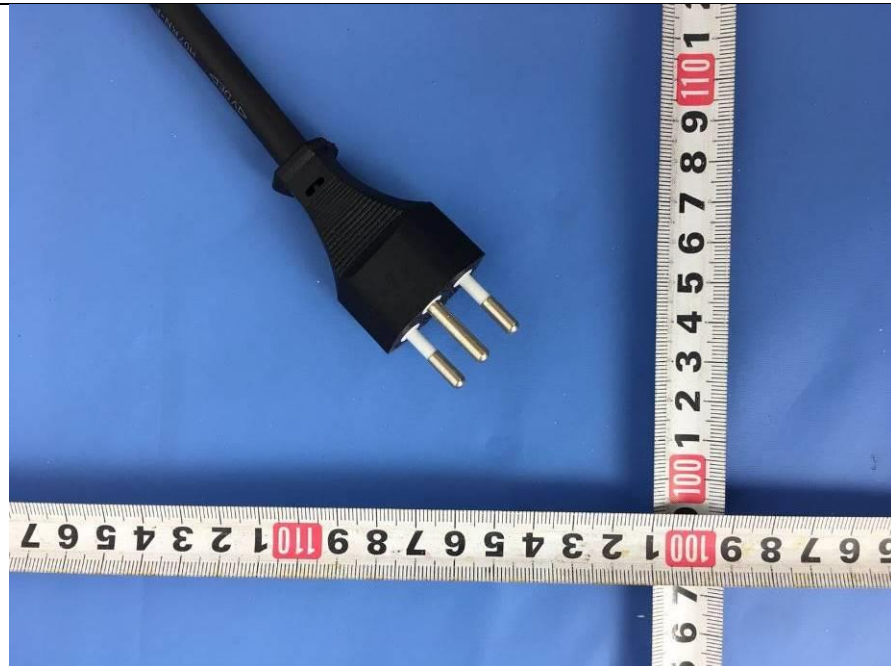
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



**Detail of:** Swiss Plug

View:

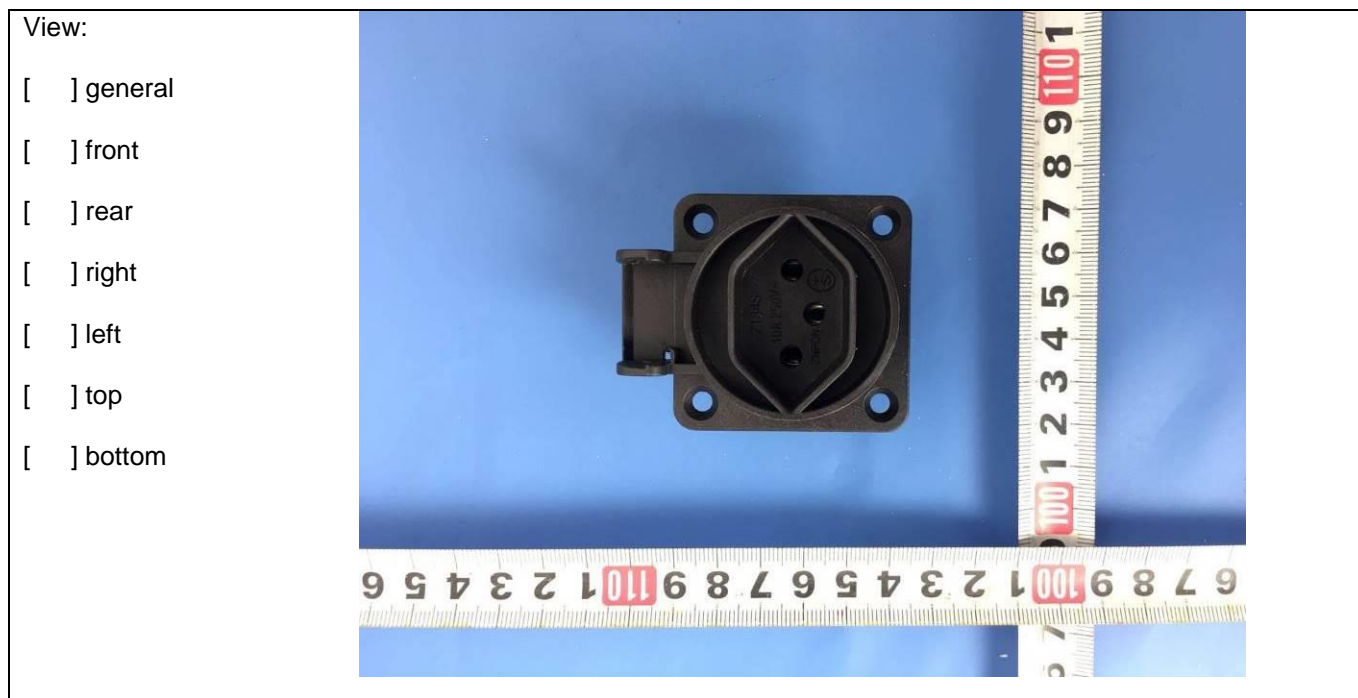
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Attachment D  
Photo documentation  
Portable luminaires (LED Luminaire)  
See main report

Report No.: NBES200200046001

**Detail of:** Swiss Socket



— End of Attachment D —