

TEST REPORT
IEC 60598-2-4
Luminaires
Part 2: Particular requirements –
Section 4: Portable general purpose luminaires

Report Number.....: LCSB01035066S

Date of issue.....: July 25, 2025

Total number of pages..... 93 pages

Name of Testing Laboratory preparing the Report.....: **Shenzhen Southern LCS Compliance Testing Co., Ltd.**

Applicant's name.....: **Shenzhen Bling Lighting Technologies Co., Ltd.**

Address.....: 3rd Floor, Bldg A, China National Nuclear Corporation Industrial Park, Qiyu rd, East of Baishixia, Fuyong Bao'an Dist Shenzhen, Guangdong 518103 CHINA

Test specification:

Standard.....: IEC 60598-2-4:2017 for use in conjunction with IEC 60598-1:2024

Test procedure.....: CE-LVD

Non-standard test method.....: N/A

Test Report Form No.....: IEC60598_2_4_LCSa

Test Report Form(s) Originator.....: /

Master TRF.....: /

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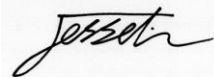
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 Tel: +(86) 0755-29871520 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

Test item description:	LED Floor Lamp	
Trade Mark:	N/A	
Manufacturer:	Shenzhen Bling Lighting Technologies Co., Ltd.	
Address:	3rd Floor, Bldg A, China National Nuclear Corporation Industrial Park, Qiyu rd, East of Baishixia, Fuyong Bao'an Dist Shenzhen, Guangdong 518103 CHINA	
Model/Type reference:	See "General product information"	
Ratings:	See "General product information"	
<input checked="" type="checkbox"/>	Testing Laboratory:	
Testing location/ address:	Shenzhen Southern LCS Compliance Testing Co., Ltd. Room 101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China	
Tested by:	Alyson Zhang (Engineer)	
Check by:	Torres He (Director)	
Approved by:	Jesse Liu (Manager)	
List of Attachments (including a total number of pages in each attachment):		
Attachment No. 1: European group differences and national differences according to EN 60598-2-4:2018 used in conjunction with EN IEC 60598-1:2021+A11:2022		
Attachment No. 2: Report IEC/EN IEC 62031.		
Attachment No. 3: Report IEC TR 62778.		
Attachment No. 4: Photo documentation.		
Summary of testing:		
Tests performed (name of test and test clause):	Testing location:	
IEC 60598-2-4:2017	Shenzhen Southern LCS Compliance Testing Co., Ltd.	
IEC 60598-1:2024	Room 101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China	
IEC TR 62778:2014		
IEC 62031:2018		
IEC 62493:2015+A1:2022		
Note: standard IEC 60598-1:2024 has more onerous requirements so it can cover IEC 60598-1:2020, that means product(s) included in this TR also conform to IEC 60598-1:2020.		
Summary of compliance with National Differences:		
List of countries addressed		
European Group differences		



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The product fulfils the requirements of
EN 60598-2-4:2018; EN IEC 60598-1:2021+A11:2022; EN 62493:2015+A1:2022;
EN IEC 62031:2020+A11:2021








Copy of marking plate:

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

Label located on the Light:

<p>LED Floor Lamp Model: FX325A 24V , 1.66A, 39.84W</p> <p>   </p> <p>Shenzhen Bling Lighting Technologies Co., Ltd. Importer: xxxxxxxx Address: xxxxxxxx</p> <p style="text-align: right;">MADE IN CHINA</p>

Label located on the package:

<p>LED Floor Lamp Model: FX325A Input of Adapter: 100-240V~, 50/60Hz Input of Light: 24V , 1.66A, 39.84W</p> <p>   </p> <p>Shenzhen Bling Lighting Technologies Co., Ltd. Importer: xxxxxxxx Address: xxxxxxxx</p> <p style="text-align: right;">MADE IN CHINA</p>
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Remarks:

1. Representative markings of FX325A, markings of all models are identical except for the model name and rating.
2. Height of CE mark at least 5mm, height of WEEE symbol should not less than 7mm, height of other marks at least 5mm, height of letters and numerals at least 2mm.






Test item particulars :									
Classification of installation and use :	Portable general purpose luminaires								
Supply Connection :	Adapter plug								
Protection Class :	Class II								
Degree of Protection :	IP20								
Possible test case verdicts:									
- test case does not apply to the test object..... : N/A									
- test object does meet the requirement..... : P (Pass)									
- test object does not meet the requirement..... : F (Fail)									
Testing :									
Date of receipt of test item :	June 09, 2025								
Date (s) of performance of tests :	June 09, 2025 - July 09, 2025								
General remarks:									
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Clause numbers with "*" were not within the scope of CNAS recognition. Clause numbers between brackets refer to clauses in IEC/EN IEC 60598-1. The general information of applicant and manufacturer (such as the name and address), product name, model/type reference, trademark and other similar information contained in this report are all provided by the applicant, the laboratory is not responsible for verifying its authenticity.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.</p> <p style="text-align: center;">Modified Information</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Version</th> <th style="width: 25%;">Report No.</th> <th style="width: 25%;">Revision Date</th> <th style="width: 25%;">Summary</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">V1.0</td> <td style="text-align: center;">LCSB01035066S</td> <td style="text-align: center;">/</td> <td style="text-align: center;">Original Version</td> </tr> </tbody> </table>		Version	Report No.	Revision Date	Summary	V1.0	LCSB01035066S	/	Original Version
Version	Report No.	Revision Date	Summary						
V1.0	LCSB01035066S	/	Original Version						
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60598-1:									
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable								
When differences exist; they shall be identified in the General product information section.									
Name and address of factory (ies) : Same as manufacturer									




General product information:

- All models have similar construction except appearance, adapter and power are difference.
- The same series models have similar construction and appearance except model name are difference.
- Unless otherwise specified, the model FX325A was chosen as representative model to perform all test and partial tests are subjected to model FLH-036-R2, FLD-030-O2, FLL-018-F5.

Model List:

Model	Rating	Adapter	Photo	Series
FX325A	Input of Adapter: 100-240V~, 50/60Hz Input of Light: DC24V, 1.66A, 39.84W Class II, IP20, ta25°C	J302B-2401660EX		1
FX325B				
HD-M6X				
FLH-036-R2	Input of Adapter: 100-240V~, 50/60Hz Input of Light: DC24V, 1.5A, 36W Class II, IP20, ta25°C	CW2401500EU		2
FLH-036-F1				
FLH-036-F2				
FLH-036-F3				
FLH-036-R1				
FLH-042-F1				
FLH-042-R1				
FLH-024-F5				
FLH-024-F9				
FLH-030-F1				
FLH-030-F6				
FLH-30-F9				
FLH-036-F8				
FLH-036-R8				
FLH-042-R7				
FLD-030-O2	Input of Adapter: 100-240V~, 50/60Hz Input of Light: DC24V, 1.25A, 30W Class II, IP20, ta25°C	CW2401250EU		3
FLD-030-O5				
FLD-030-XR				
FLD-030-R5				
FLD-036-F1				
FLD-036-F2				
FLE-036-F1				
FLE-036-F2				
FLD-012-F1				
FLD-024-F2				
FLD-024-F9				



FLE-042-F1				
FLE-042-F2				
LDD-25-C				
LDD-25-D				
LDD-30-C				
FLD-036-F2-C58-K1-US-PNN				
FLD-036-F2-C58-K1-US-PNH				
FLD-036-F2-C58-K1-ee-fff				
FLE-042-F2-C58-K1-ee-fff				
FLC-042-WN-C38-K1-ee-fff				
FLL-018-F5				
FLL-018-F1	Input of Adapter: 100-240V~, 50/60Hz Input of Light: DC24V, 0.75A, 18W Class II, IP20, ta25°C	BI18G-240075-Adv		4
FLL-018-F2				
FLL-018-R5				
FLL-007-F2				
FLL-017-F2				
FLL-017-R5				
FLL-018-F6				
FLL-018-R6				
FLL-015-F2				
FLL-012-F3				
FLL-024-F1				
FLL-024-R2				
FLD-018-R3				
FLD-012-F3				



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.4 (4)	GENERAL TEST REQUIREMENTS		P
4.4 (4.1.2)	More sections applicable.....:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Section/s:	—
4.4 (4.2.2)	Luminaires containing batteries or EDLCs and their accessories (e.g. remote control), except for emergency lighting luminaires additionally comply with the requirements given in Annex W		—

4.5 (5)	CLASSIFICATION OF LUMINAIRES		P
4.5 (5.2)	Type of protection	Class II	—
4.5 (5.3)	Degree of protection.....:	IP20	—
4.5 (5.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.5 (5.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.5.1 (-)	Ordinary luminaire classified “for indoor use only”.....:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaires other than ordinary classified “for indoor use only”.....:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Luminaires other than ordinary classified for “outdoor use” and “for indoor use”.....:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.5.2 (-)	Portable luminaire for outdoor use classified IPX4 or higher		N/A
4.5.3 (-)	Luminaires designed for standing on a floor or table classified as suitable for direct mounting on normally flammable surfaces		P

4.6 (6)	MARKING		P
4.6 (6.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.6 (6.4.1)	Additional information		P
	Language of instructions	English	P
4.6 (6.4.2)	Combination luminaires		N/A
4.6 (6.4.3)	Nominal frequency in Hz	50/60Hz	P
4.6 (6.4.4)	Operating temperature		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (6.4.5)	Wiring diagram		N/A
4.6 (6.4.6)	Special conditions		N/A
4.6 (6.4.7)	Metal halide lamp luminaire – warning		N/A
4.6 (6.4.8)	Limitation for semi-luminaires		N/A
4.6 (6.4.9)	Power factor and supply current		P
4.6 (6.4.10)	Luminaires with remote control		N/A
4.6 (6.4.11)	Clip-mounted luminaire – warning		N/A
4.6 (6.4.12)	Specifications of protective shields		N/A
4.6 (6.4.13)	Rough service luminaire		N/A
4.6 (6.4.14)	Mounting instruction for type Y, type Z and some type X attachments	Type Y (for input wire of lamp part)	P
4.6 (6.4.15)	Non-ordinary luminaires with PVC cable		N/A
4.6 (6.4.16)	Protective conductor current in instruction if applicable		N/A
4.6 (6.4.17)	Provided with information if not intended to be mounted within arm's reach		N/A
4.6 (6.4.18)	Non replaceable and non-user replaceable light sources information provided	Non replaceable light sources	P
4.6 (6.4.19)	Controllable luminaires, classification of insulation provided		N/A
4.6 (6.4.20)	Luminaires without controlgear provided with necessary information for selection of appropriate component		N/A
4.6 (6.4.21)	If not supplied with terminal block, information on the packaging		N/A
4.6 (6.4.22)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
4.6 (6.4.23)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
4.6 (6.4.24)	Non-replaceable and non-user replaceable controlgear information and any associated servicing or operational adjustment of these parts provided	Non-user replaceable controlgear	P
4.6 (6.5)	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



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Required symbol		N/A
	Information in the instructions		N/A
4.6.2 (-)	Outdoor use, socket outlet incorporated in the luminaire		N/A
	Maximum power rating marked		N/A
	Position of the marking		N/A

4.7 (7)	CONSTRUCTION		P
4.7 (7.2)	Components replaceable without difficulty		P
4.7 (7.3)	Wireways smooth and free from sharp edges		P
4.7 (7.4)	Lampholders		N/A
4.7 (7.4.1)	Integral lampholder		N/A
4.7 (7.4.2)	Wiring connection		N/A
4.7 (7.4.3)	Lampholder for end-to-end mounting		N/A
4.7 (7.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)		—
	After test the lampholder has not moved from its position and show no permanent deformation		N/A
4.7 (7.4.5)	Peak pulse voltage		N/A
4.7 (7.4.6)	Centre contact		N/A
4.7 (7.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.7 (7.4.8)	Lamp connectors		N/A
4.7 (7.4.9)	Caps and bases correctly used		N/A
4.7 (7.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
4.7 (7.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (7.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
4.7 (7.7)	Terminals and supply connections		P
4.7 (7.7.1)	Contact to metal parts		N/A
4.7 (7.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.7 (7.7.3)	Terminals for supply conductors		P
4.7 (7.7.4)	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 17.5.2		N/A
	- electrical test according to 17.5.3		N/A
	- heat test according to 17.5.3.3.4 and 17.5.3.3.5		N/A
4.7 (7.7.5)	Terminals other than supply connection		N/A
4.7 (7.7.6)	Heat-resistant wiring/sleeves		N/A
4.7 (7.7.7)	Multi-pole plug		N/A
	- test at 30 N		N/A
4.7 (7.8)	Switches		P
	- adequate rating	Switch approved	P
	- adequate fixing		P
	- polarized supply		N/A
	- compliance with IEC 61058-1-1 or IEC 60669-1 for mechanical switches		P
	- for switches complying with IEC 61058-1-1, minimum 10,000 operating cycles		N/A
	- compliance with IEC 61058-1-2 or IEC 60669-2-1 for electronic switches		N/A
	- compliance with IEC 61058-2-1 for cord switch		N/A
	The above requirements are not applicable in the case of switches operating in ELV circuits with power lower than 15 W and a current lower than 0,5 A		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (7.9)	Insulating lining and sleeves		P
4.7 (7.9.1)	Retainment		P
	Method of fixing.....:	By self construction	—
4.7 (7.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
4.7 (7.10)	Double or reinforced insulation		P
4.7 (7.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
4.7 (7.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.7 (7.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N/A
4.7 (7.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384-14		N/A
	Resistors comply with test in Clause G.10 of IEC 62368-1:2018		N/A
4.7 (7.11)	Electrical connections and current-carrying parts		P
4.7 (7.11.1)	Contact pressure		P
4.7 (7.11.2)	Screws:		N/A
	- self-tapping screws		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- thread-cutting screws		N/A
4.7 (7.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.7 (7.11.4)	Material of current-carrying parts		P
4.7 (7.11.5)	No contact to wood or mounting surface		P
4.7 (7.11.6)	Electro-mechanical contact systems		P
4.7 (7.12)	Screws and connections (mechanical) and glands		P
4.7 (7.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	Fixed enclosure: 0,5Nm	P
	Torque test: torque (Nm); part.....:	Plastic screw bearing directly on the cable used as cord anchorage: 0,5Nm	P
	Torque test: torque (Nm); part.....:	Fixed switch PCB: 0,5Nm (for 18W / 30W / 36W models)	P
	Torque test: torque (Nm); part.....:	Fixed LED PCB: 0,5Nm (for 18W / 30W / 36W models)	P
4.7 (7.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.7 (7.12.3)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
4.7 (7.12.4)	Screwed glands; force (Nm).....:		N/A
4.7 (7.13)	Mechanical strength		P
4.7 (7.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:		N/A
	- other parts; energy (Nm).....:	0,5Nm, no damage	P
	1) hazardous live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
4.7 (7.13.2)	Metal parts have adequate mechanical strength		P
4.7 (7.13.3)	Straight test finger		P



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (7.13.4)	Tumbling barrel		N/A
4.7 (7.14)	Suspensions, fixings and means of adjusting		P
4.7 (7.14.1)	Mechanical load:		N/A
	- Magnets not be used as the primary fixing of a fixed luminaire to the mounting surface	No such device used	N/A
	A) four times the weight		N/A
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.7 (7.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Comply to mass and stress or special cable or cord used, pull test applied for a period of 1 h with a force of 15 times the force normally applied to the cable		—
	- no breakage of the cable		N/A
	- no degradation of the electrical insulation		N/A
	- no unsafe deformation of the fixing devices		N/A
	Mass (kg) of semi-luminaire		—
	Bending moment (Nm) of semi-luminaire		N/A
4.7 (7.14.3)	Adjusting devices:		P
	- flexing test; number of cycles..... :	1500 cycles	P
	- strands broken..... :	No broken	P
	- electric strength test afterwards		P
4.7 (7.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.7 (7.14.5)	Guide pulleys		N/A
4.7 (7.14.6)	Strain on socket-outlets		N/A
4.7 (7.15)	Flammable materials		P



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- glow-wire test 650°C..... :	See Test Table 4.16 (15.3.3)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 15.3.2		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
4.7 (7.15.2)	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
4.7 (7.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear..... :	(compliance with Section 14)	N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
4.7 (7.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.7 (7.16.2)	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 (7.16.3)	Design to satisfy the test of 14.6	(see clause 14.6)	N/A
4.7 (7.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
4.7 (7.18)	Resistance to corrosion		P
4.7 (7.18.1)	- rust-resistance		N/A
4.7 (7.18.2)	- season cracking in copper		P
4.7 (7.18.3)	- corrosion of aluminium		N/A
4.7 (7.19)	Ignitors compatible with ballast		N/A
4.7 (7.20)	Rough service luminaires		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (7.20.1)	Rough service vibration		N/A
4.7 (7.20.2)	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
4.7 (7.21)	Protective shield		N/A
4.7 (7.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.7 (7.21.2)	Particles from a shattering lamp not impair safety		N/A
4.7 (7.21.3)	No direct path		N/A
4.7 (7.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 4.16 (15.3.3)	N/A
4.7 (7.22)	Attachments to lamps not cause overheating or damage		N/A
4.7 (7.23)	Semi-luminaires comply Class II		N/A
4.7 (7.24)	Photobiological hazards		P
4.7 (7.24.1)	Actinic UV hazards for skin and eye (200 nm to 400 nm)		N/A
	UV emission		N/A
4.7 (7.24.2)	UV-A hazard for the eye lens (315 nm to 400 nm)	no UV-A is intentionally added to the visible light	N/A
4.7 (7.24.3)	Retinal blue light hazard		P
4.7 (7.24.3.2)	Assessment according to IEC 62471-7		N/A
	- assessment distances		N/A
	- risk level		N/A
4.7 (7.24.3.3)	Assessment according to IEC TR 62778	RG0 (for other models) RG1 (only for 36W models)	—
	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 6.3.22		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	b) Portable and handheld luminaires		N/A
	- marking according 6.3.22 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
4.7 (7.24.4)	Retinal thermal hazard (380 nm to 1 400 nm)		N/A
	Only for white light sources with a blue light hazard radiance L_B higher than $100\,000\text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	$\leq 280\,000\text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$	N/A
4.7 (7.24.5)	Infrared hazard for the eye (780 nm to 3 000 nm)	no IR radiation is intentionally added to the visible light	N/A
4.7 (7.24.6)	Thermal hazard for the skin (380 nm to 3 000 nm)		N/A
4.7 (7.25)	Mechanical hazard		P
	No sharp point or edges		P
4.7 (7.26)	Short-circuit protection		N/A
4.7 (7.26.1)	Adequate means of uninsulated accessible SELV or PELV parts		N/A
4.7 (7.26.2)	Short-circuit test with test chain		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 21 and 22		N/A
4.7 (7.27)	Terminal blocks with integrated screwless protective earthing contacts		N/A
	Test according Annex R		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
4.7 (7.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Max. temperature on adhesive material (°C)		—
	100 cycles between t_{min} and t_{max}		N/A
	Temperature sensing control still in position		N/A
4.7 (7.29)	Luminaires with non-replaceable light source		P
	Not possible to replace light source	For light sources: by glue	P
	Live part not accessible after parts have been opened by hand or tools		N/A
4.7 (7.30)	Luminaires with non-user replaceable light source and non-user serviceable components		P
	If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol:		N/A
	At least one fixing means requiring use of tool	For controlgear	P
4.7 (7.31)	Insulation between circuits		P
4.7 (7.31.1)	Circuits insulated from LV supply fulfil requirements according 7.31.2 – 7.31.5		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 7.31.2 – 7.31.5		N/A
4.7 (7.31.2)	SELV or PELV circuits		P
	Used SELV or PELV source		P
	Voltage \leq ELV		P
	Insulating of SELV or PELV circuits from LV supply		P
	Insulating of SELV or PELV circuits from other non SELV or PELV circuits		N/A
	Insulating of SELV or PELV circuits from FELV		N/A
	Insulating of SELV or PELV circuits from other SELV or PELV circuits		N/A
	SELV or PELV circuits insulated from accessible parts according Table T.1		P
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
4.7 (7.31.3)	FELV circuits		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	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 T.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets have protective conductor contact		N/A
4.7 (7.31.4)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table T.1		N/A
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 9.2.3 of above		N/A
	- conductive part does not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in applications where one or more luminaires are supplied by another		N/A
	- supplying luminaire provided with terminal for accessible conductive parts of other luminaires		N/A
	- other luminaire constructed as class I		N/A
4.7 (7.31.5)	Additional requirements for luminaires using controllable controlgear providing SELV output(s)		N/A
	Insulating of SELV output(s) and the SELV control port		N/A
4.7 (7.32)	Overvoltage protective devices		N/A
4.7 (7.32.1)	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
4.7 (7.32.2)	SPD Comply with IEC 61643-11		N/A
4.7 (7.32.3)	Surge protective components (SPCs)		N/A
4.7 (7.32.3.1)	General		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Connected across the mains (L to L or L to N)		N/A
	Not connected to earth or to other conductive parts of the luminaire		N/A
	Comply with IEC 61051-2:2021 or IEC 61643-331:2020 and additional requirements as listed in 7.32.3.2 to 7.32.3.6		N/A
4.7 (7.32.3.2)	Climatic conditions		N/A
	Option A – Climatic categories (IEC 61051-2), or		N/A
	- maximum SPC ambient temperature suitable for the condition inside the luminaire		N/A
	- Damp heat steady state severity: Duration 21 days; Temperature: 45±2°C; Relative humidity 85±3% (Test Cab IEC 60068-2-78)		N/A
	Option B –Operating and storage temperature ranges (IEC 61643-331)		N/A
	- maximum SPC ambient temperature suitable for the condition inside the luminaire		N/A
4.7 (7.32.3.3)	Maximum continuous voltage		N/A
	maximum continuous voltage rating of the SPC device is: - 1.25 times the rated voltage of the luminaire or - 1.25 times the upper voltage of the rated voltage range of the luminaire		N/A
4.7 (7.32.3.4)	Surge capability		N/A
	SPC is suitable for the nominal discharge current (used in the combination wave test)		N/A
4.7 (7.32.3.5)	SPC resistance to fire		N/A
	SPC comply with the needle flame test according to IEC 60695-11-5		N/A
	- Needle-flame test (10 s), flame duration after removal (s).....:		N/A
	- no burning drop from the sample ignite the tissue paper		N/A
	body of the SPC is a heated part		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (7.32.3.6)	SPC overload test	See test Table 4.7 (7.32.3.6)	N/A
4.7 (7.33)	Luminaire powered via information technology communication cabling		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
4.7 (7.34)	Electromagnetic fields (EMF)		P
	No harmful electromagnetic fields		P
4.7 (7.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	- hardness less than D60 Shore		N/A
	- peripheral speed less than 15 m/s		N/A
	- input power of fan ≤ 2 W at rated voltage		N/A
4.7 (7.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		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 does not overturn:		P
	- at an angle of 6° for indoor use		P
	- at an angle 15° for outdoor use		N/A
4.7.4 (-)	Candlestick luminaires provided with switch		N/A
	Switch in candlestick luminaires with E5 or E10 lampholders switches all lamps on and off simultaneously		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



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Clause	Requirement + Test	Result - Remark	Verdict
	E10 lampholder voltage:		N/A
	- not exceeding 60 V for series connection		N/A
	- not exceeding 250 V for parallel connection		N/A
	Maximum rated wattage does not exceed 100 W		N/A
4.7.6 (-)	Tails not provided for luminaires for outdoor use		N/A
4.7.7 (-)	Not more than two cable entries for luminaires for outdoor use		N/A
4.7.8 (-)	Portable luminaires for outdoor use, socket-outlet degree of protection at least same as the luminaire but not less than IPX4.		N/A
	Degree of protection maintained with or without a plug inserted into the socket-outlet.		N/A
	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		N/A
4.7.9 (-)	Lampholders and plugs resistant to tracking for luminaires for outdoor use	See Test Table 4.16 (15.4)	N/A
	Compliance to clause 15.4		N/A

4.8 (13)	CREEPAGE DISTANCES AND CLEARANCES		P
4.8 (13.2.1)	Impulse withstand category (Normal category II)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	Category III according Annex Q		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
4.8 (13.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 4.8 (13.2) 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 4.8 (13.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (13.2) II	N/A
4.8 (13.2.3)	Clearances for frequency up to 30 kHz	See Test Table 4.8 (13.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 4.8 (13.2) II	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (13.2) II	N/A

4.9 (9)	PROVISION FOR EARTHING		N/A
4.9 (9.2.1 + 9.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω.....:		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex R		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
4.9 (9.2.2 + 9.2.3)	Protective earthing continuity in joints, etc.		N/A
4.9 (9.2.4)	Locking of clamping means		N/A
	Compliance with 7.7.3		N/A
4.9 (9.2.5)	Earth terminal integral part of connector socket		N/A
4.9 (9.2.6)	Earth terminal adjacent to mains terminals		N/A
4.9 (9.2.7)	Electrolytic corrosion of the protective earth terminal		N/A
4.9 (9.2.8)	Material of protective earth terminal		N/A
	Contact surface bare metal		N/A
4.9 (9.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.9 (9.2.11)	Protective earthing core coloured green-yellow		N/A
	Length of protective earthing conductor		N/A
4.9 (9.2.12)	PELV circuit connected to protective earth for functional purpose		N/A

4.10 (16)	SCREW TERMINALS		N/A
	Separately approved; component list.....:	(see Annex 1)	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Part of the luminaire..... :	(see Annex 3)	N/A
4.10 (17)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire..... :	(see Annex 4)	N/A
4.11 (8)	EXTERNAL AND INTERNAL WIRING		P
4.11 (8.2)	Supply connection and external wiring		P
4.11 (8.2.1)	Means of connection..... :	Adapter plug	P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
4.11 (8.2.2)	Type of cable..... :	Input wire of lamp part: 2464	P
	Nominal cross-sectional area (mm ²)..... :	3x0,3247mm ²	P
	Cables equal to IEC 60227 or IEC 60245		N/A
4.11 (8.2.3)	Type of attachment, X, Y or Z	Type Y	P
4.11 (8.2.5)	Type Z not connected to screws		P
4.11 (8.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.11 (8.2.7)	Cable entries through rigid material have rounded edges		N/A
4.11 (8.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
4.11 (8.2.9)	Locking of screwed bushings		N/A
4.11 (8.2.10)	Cord anchorages shall be in accordance with the requirements of 8.2.10.1 to 8.2.10.5		P
4.11 (8.2.10.1)	Cord anchorage:		P
	- covering protected from abrasion		P



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Clause	Requirement + Test	Result - Remark	Verdict
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
4.11 (8.2.10.2)	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 (8.2.10.3)	Adequate cord anchorage for type Y and type Z attachment		P
4.11 (8.2.10.4)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N)..... :		N/A
	- torque test: torque (Nm)..... :		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
	- function independent of electrical connection		N/A
4.11 (8.2.10.5)	Luminaire with/ designed for use with supply cord with maximum current of 2A:		P
	- Ordinary Class III luminaire supplied with SELV ≤ 25 V RMS/60V DC		P
	- Ordinary Class III luminaire supplied with PELV ≤ 12 V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12 V RMS/30V DC		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Pull test of 30 N		P
4.11 (8.2.11)	External wiring passing into luminaire		P
4.11 (8.2.12)	Looping-in terminals		N/A
4.11 (8.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
4.11 (8.2.14)	Mains plug same protection		P
	Class III luminaire plug		P
	No unsafe compatibility		P
4.11 (8.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
4.11 (8.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
4.11 (8.2.17)	No standardized interconnecting cables properly assembled		N/A
4.11 (8.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard		P
4.11 (8.3)	Internal wiring		P
4.11 (8.3.1.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)..... :		N/A
	- temperatures..... : (see Annex 2)		N/A
	Green- yellow for protective earth only		N/A
4.11 (8.3.1.2)	Internal wiring connected directly to fixed wiring		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Cross-sectional area (mm ²)..... :	See Annex 1	N/A
	Insulation thickness (mm)		N/A
	Extra insulation added where necessary		N/A
4.11 (8.3.1.3)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm ²)..... :	See Annex 1	P
4.11 (8.3.1.4)	Double or reinforced insulation for class II		P
4.11 (8.3.1.5)	Conductors without insulation		N/A
4.11 (8.3.1.6)	SELV or PELV current-carrying parts		P
4.11 (8.3.1.7)	Insulation thickness other than PVC or rubber		N/A
4.11 (8.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
4.11 (8.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
4.11 (8.3.4)	Joints and junctions effectively insulated		N/A
4.11 (8.3.5)	Strain on internal wiring		N/A
4.11 (8.3.6)	Wire carriers		N/A
4.11 (8.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
4.11 (8.4)	Test to determine suitability of conductors having a reduced cross-sectional area		N/A
	Under test the temperature of the luminaire wiring insulation does not exceed the limits stated in Table 22	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.11.1 (-)	Cord anchorage of luminaire for indoor use made of glass or ceramic not fixed or integral		N/A
4.11.2 (-)	For Class I and Class II luminaires for indoor use, if:		N/A
	- mass < 1 kg (kg).....:		N/A
	- rated current ≤ 2,5 A (A).....:		N/A
	- cable length ≤ 2 m (m).....:		N/A
	- the nominal cross-sectional area of copper conductor ≥ 0,5 mm ² (mm ²)..... :		N/A
4.11.3 (-)	Terminals, cord anchorage and inlet opening provided for luminaire for outdoor use delivered without a flexible cable or cord and a plug.		N/A
4.11.4 (-)	Non-detachable flexible cables or cords not lighter than type 245 IEC 57 for Class I and Class II luminaires for outdoor use.		N/A

4.12 (10)	PROTECTION AGAINST ELECTRIC SHOCK		P
4.12 (10.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		P
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		N/A
	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 6.3.18 fitted to the luminaire		N/A
4.12 (10.2.2)	Portable luminaire adjusted in most unfavourable position		P



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Clause	Requirement + Test	Result - Remark	Verdict
4.12 (10.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible		N/A
	- required insulation from live parts in compliance with Table T.1		P
	- glass protective shields not used as supplementary insulation		N/A
4.12 (10.2.3.b)	Metal BC lampholder in class I luminaires connected to protective earth		N/A
4.12 (10.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	- interrupted DC voltage (V).....:		N/A
	- touch current if applicable (mA)		N/A
	One conductive part insulated		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	- interrupted DC voltage (V).....:		N/A
4.12 (10.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V).....:		N/A
	- voltage under load/ no-load DC (V).....:		N/A
	Pole not connected to earth insulated		N/A
	Class III luminaire only for connection to SELV or PELV		N/A
4.12 (10.2.4)	Portable luminaire has protection independent of supporting surface		P
4.12 (10.2.5)	Compliance with the standard test finger or relevant probe		P



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Clause	Requirement + Test	Result - Remark	Verdict
4.12 (10.2.6)	Covers reliably secured		P
4.12 (10.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 μ F (0,25) not exceed 34 V 1 s after disconnection	0V	P
	Other luminaires with capacitor > 0,1 μ F (0,25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A
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

4.13 (14)	ENDURANCE TEST AND THERMAL TEST		P
4.13 (-)	If IP > IP 20 relevant test of (14.4), (14.5), (14.6) and (14.7) after (11.2) but before (11.3) specified in 4.14		—
4.13 (14.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	—
4.13 (14.3)	Endurance test		P
	a) mounting- position	As normal used	—
	b) test temperature ($^{\circ}$ C).....	25 $^{\circ}$ C+10 $^{\circ}$ C	—
	c) total duration (h)	240h	—
	d) supply voltage (V).....	1,1x240V	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A)	--	—
4.13 (14.3.2d)	d) Class III luminaires powered via information technology communication cable:		—
	- voltage under normal operation (V).....		—
	- voltage under abnormal operation (V).....		N/A
	e) luminaire ceases to operate		—
	f) luminaire with a constant light output function		N/A
4.13 (14.3.3)	After endurance test:		P
	- no part unserviceable		P



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
4.13 (14.4)	Thermal test (normal operation)	(Annex 2)	P
4.13 (14.5)	Thermal test (abnormal operation)	(Annex 2)	P
4.13 (14.6)	Thermal test (failed lamp control gear condition):		N/A
4.13 (14.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
4.13 (14.6.2)	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
4.13 (14.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
4.13 (14.7.2)	Luminaire without temperature sensing control		N/A
4.13 (14.7.2.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 14.7.2.1 or Annex S		—
	Test according to 14.7.2.1:		N/A
	- case of abnormal conditions.....		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- Test with standard test finger after the test		N/A
	Test according to Annex S:		N/A
	- case of abnormal conditions.....:		—
	- measured winding temperature (°C): at 1,1 Un.....:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test.....:	See Test Table 4.16 (15.2.2)	N/A
4.13 (14.7.2.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions.....:		—
	- measured winding temperature (°C): at 1,1 Un.....:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test.....:	See Test Table 4.16 (15.2.2)	N/A
4.13 (14.7.2.3)	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 (14.7.3)	Luminaire with temperature sensing control		N/A
	- thermal link.....:	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out.....:	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out.....:	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions.....:		—
	- highest measured temperature of fixing point/exposed part (°C):.....:		—
	Ball-pressure test.....:	See Test Table 4.16 (15.2.2)	N/A
4.13 (-)	Luminaire for indoor use tested in overturned position (overturns < 15°)		P



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.14 (11)	RESISTANCE TO DUST AND MOISTURE		P
4.14 (-)	If IP > IP 20 the order of tests as specified in clause 4.13		P
4.14 (11.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....: IP20		—
	- mounting position during test.....: Normal used		—
	- fixing screws tightened; torque (Nm).....: --		—
	- tests according to clauses.....: Clause 11.2.2		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold-water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		P
	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		N/A
	g) no damage of protective shield or glass envelope		N/A
4.14 (11.3)	Humidity test 48 h	25°C, 93%RH	P
4.15 (12)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
4.15 (12.2.2)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø :		—
	Insulation resistance (MΩ):		—
	SELV or PELV:		P



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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	>100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....:	>100 MΩ	P
	- 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 8		N/A
	Other than SELV or PELV:		P
	- between hazardous live parts of different polarity...:	Adapter approved	P
	- between hazardous live parts and mounting surface.....:	>100 MΩ	P
	- between hazardous live parts and metal parts.....:	>100 MΩ	P
	- between hazardous 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 8		N/A
4.15 (12.2.3)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Luminaires with ignitors provided with ballasts conforming to IEC 61347-2-9		N/A
	SELV or PELV:		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	500V	P
	- between current-carrying parts and metal parts of the luminaire.....:	500V	P
	- 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 8		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Other than SELV/PELV:		P
	- between hazardous live parts of different polarity....:	Adapter approved	P
	- between hazardous live parts and mounting surface:	2960V	P
	- between hazardous live parts and metal parts.....:	2960V	P
	- between hazardous 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 8		N/A
4.15 (12.3)	Touch current (mA).....:	0,11mA; limit: 0,7mA	P
	Protective conductor current (mA).....:		N/A

4.16 (15)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
4.16 (15.2.2)	Ball-pressure test.....:	See Test Table 4.16 (15.2.2)	P
4.16 (15.3.2)	Needle-flame test (10 s).....:	See Test Table 4.16 (15.3.2)	P
4.16 (15.3.3)	Glow-wire test (650°C).....:	See Test Table 4.16 (15.3.3)	P
4.16 (15.4)	Proof tracking test (IEC 60112).....:	See Test Table 4.16 (15.4)	N/A




IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX W	Battery/EDLC-operated luminaires		N/A
W.1	General		—
	Additional requirements for luminaires or their accessories (e.g. remote control) containing or operating from batteries/EDLCs		—
	Applicable to luminaires using replaceable, non-user replaceable and nonreplaceable batteries, rechargeable and non-rechargeable batteries, EDLCs		—
	For battery/EDLC chargers when incorporated in the luminaire It does not cover remote battery/EDLC chargers		—
	Not cover requirements for emergency lighting luminaires		—
W.2	General test requirements and verification		—
W.3	Marking		N/A
W.3.1	The marking to be observed when replacing batteries, shall be according to W.3.3, W.3.4, W.3.5 and W.3.6		N/A
W.3.1	Instructions shall be delivered with the luminaire in the form of an instruction paper or on the packaging		N/A
W.3.2	Luminaires with replaceable battery		N/A
	The instructions for luminaires include the following information:		N/A
	- the types of batteries that may be used and a warning that fire or explosion can result from the use of the incorrect battery		N/A
	- the orientation of the battery with regard to polarity		N/A
	- how to remove and insert the batteries		N/A
	- if the product is not suitable for non-rechargeable batteries		N/A
	- WARNINGS stating: <ul style="list-style-type: none"> • Non-rechargeable batteries are not to be recharged • Supply terminals are not to be short-circuited • Different types of batteries are not to be mixed • New and used batteries are not to be mixed • Keep batteries out of reach of children 		N/A
W.3.3	Coin and button batteries		N/A




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Clause	Requirement + Test	Result - Remark	Verdict
	Luminaires using replaceable coin and button batteries carry the substance of the following warning, positioned in accordance with 6.2, item c):		N/A
	- WARNING – Contains coin or button battery. Hazardous if swallowed – see instructions, or		N/A
	- symbol ISO 7000-0790 (2004-01) and caution sign ISO 7000-0434A, in conjunction with a supplementary sign		N/A
	For coin battery:		N/A
	For button battery:		N/A
	Luminaires using replaceable coin or button batteries carry the substance of the following warnings in the instructions:		N/A
	- WARNING – This product contains a coin or button battery. A coin or button battery can cause serious internal chemical burns or death if swallowed.		N/A
	- WARNING – Dispose of used batteries immediately. Keep new and used batteries away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.		N/A
W.3.4	Other standardized batteries (e.g. AAA or AA)		N/A
	The battery compartment incorporating batteries that are intended to be replaced by the user is marked with information in accordance with 6.2, item a):		N/A
	- battery voltage		N/A
	- the polarity of the terminals		N/A
	<i>Example:</i> 		—
W.3.5	Luminaires with non-standardized replaceable rechargeable battery		N/A
	Luminaires using non-standardized replaceable rechargeable batteries is marked with information in accordance with 6.2, item a):		N/A
	- the technology, for example NiCd		N/A
	- the rated capacity (in mAh or Ah)		N/A
	- voltage of the battery		N/A
	In addition, the instruction shall provide a warning:		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- the battery may only be replaced by the battery provided or indicated by the luminaire manufacturer		N/A
	In the case of batteries that are provided with mechanical keys that prevent the use of other types of batteries from other manufacturers, the above information is not required		N/A
W.3.6	Luminaires with non-user replaceable battery/EDLC		N/A
	Luminaires using non-user replaceable batteries is marked with information in accordance with 6.2, item a):		N/A
	- the technology, for example NiCd		N/A
	- the rated capacity (in mAh or Ah)		N/A
	- voltage of the battery		N/A
	In addition, the instruction provide substance:		N/A
	- The battery/EDLC contained in this luminaire shall only be replaced by the manufacturer or their service agent or a similarly skilled person		N/A
	If the manufacturer indicates that the battery or EDLC is only replaceable with a specific type, information below provided:		N/A
	- type reference or the code of the replaceable battery or EDLC		N/A
	If the battery or EDLC is replaceable with another type, the following additional details are provided:		N/A
	- type of battery or EDLC		N/A
	- temperature rating or classification		N/A
	- dimensions		N/A
	Luminaires with a non-user replaceable battery or EDLC, where, after opening for battery or EDLC replacement, give access to hazardous live parts, is marked with the "Caution, electric shock risk" warning symbol:		N/A
W.3.7	Luminaires with non-replaceable battery/EDLC		N/A
	The instruction provide substance:		N/A
	- The battery/EDLC of this luminaire is not replaceable; when the battery/EDLC reaches its end of life the whole luminaire shall be taken out of service		N/A
W.3.8	Luminaires supplied by external dedicated power supply units	Suitable for using general battery charger	N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	For luminaires intended to be supplied from a dedicated detachable supply unit for the purposes of recharging, the battery/EDLC is marked with:		N/A
	- Use only with <model designation> supply unit	It is placed in close proximity to the symbol below	N/A
	- symbol		N/A
	In addition, the instruction provide substance:		N/A
	- Do not use any charger other than the one provided specifically for use with the device		N/A
W.3.9	Rechargeable luminaires other than ordinary		N/A
	For battery/EDLC-operated other than ordinary luminaires to be recharged with an external charger, where the IP degree cannot be maintained during the charge operation, provided with instructions stating that the electrical connection during the charging operation shall be done indoors		N/A
W.3.10	Conditions for charging		N/A
	Instructions regarding battery charging and the ambient temperature range for the charging system during charging is provided.		N/A
W.4	Construction		N/A
W.4.1	General		N/A
	For luminaires with a replaceable battery/EDLC, the battery or EDLC compartment is designed by one of the following means:		N/A
	- a tool is required to open the battery compartment; or		N/A
	- the battery compartment door or cover requires the application of a minimum of two independent and simultaneous movements to open by hand		N/A
	For luminaires with a non-replaceable battery/EDLC, isn't possible to gain access to the battery or EDLC without breaking the luminaire or its parts		N/A
	Battery/EDLC-operated luminaires with replaceable batteries, where non-rechargeable and rechargeable batteries having the same dimension and shape can be available, does not provide a recharging function		N/A
W.4.2	Small batteries (coins, button and other non-standardized batteries)		N/A
	Batteries that fit wholly within the small parts cylinder aren't removable without the aid of a tool		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	For parts of luminaires that contain batteries, if the part fit wholly within the small parts cylinder aren't removable without the aid of a tool		N/A
	Compliance:		N/A
	50N push and pull force test with test probe, together with 10N fingernail force test (if applicable)		N/A
	2/4Nm torque test, applied at the same time as the pull or push force		N/A
	The part shall not become detached		N/A
	The battery compartment shall have adequate mechanical strength		N/A
	Compliance:		N/A
	Impact test		N/A
	The battery compartment does not become open		N/A
W.4.3	Battery compartment fasteners for small batteries and other standardized batteries (e.g. AAA or AA)		N/A
	If screws or similar fasteners are used to secure a door or cover providing access to the battery compartment, the screw or similar fastener shall be captive to ensure that they remain with the door, cover or equipment		N/A
	Compliance:		N/A
	20N force test		N/A
	The screw or similar fastener does not become separated from the door, cover or equipment		N/A
W.4.4	Battery/EDLC chargers incorporated in luminaires		N/A
	Electronic circuits used in battery/EDLC chargers within the luminaire comply with IEC 61347-2-11		N/A
	If the battery/EDLC charger is also considered to be a controlgear, comply with the applicable controlgear standard dependent on the light source (e.g. IEC 61347-2-13 for controlgear for LED modules)		N/A
W.4.5	Short-circuit protection		N/A
	The battery/EDLC-operated luminaire and any cords except supply cords, as appropriate, are tested with the battery connected, under the following fault conditions applied one at a time:		N/A



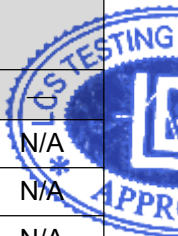
IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- any cord provided between the battery/EDLC-operated luminaire and a separable battery/EDLC shall be short-circuited at the point along its length likely to produce the most adverse effects		N/A
	- for luminaires with batteries/EDLCs that are replaceable and that can be removed without the aid of a tool, and with terminals that can be short-circuited by a thin straight bar, the terminals of the battery are short-circuited		N/A
	- charging terminals of the battery/EDLC-operated luminaire that are simultaneously accessible with the test probe 13 of IEC 61032 are short-circuited so as to produce the most unfavourable result		N/A
	During and after the tests has been carried out on samples:		N/A
	Not emit flames		N/A
	No molten metal		N/A
	No ignitable gas in hazardous amount		N/A
	No explosion or ignition of the battery occur		N/A
	Venting of the cells is permitted provided that they have not vented by any means other than through their vents		N/A
W.4.6	Electrical parameters of the batteries operation		N/A
W.4.6.1	General conditions for testing lithium-ion battery charging		N/A
	Single pole resistive-capacitive low pass filter		—
	The location of thermocouples		—
	Average currents during battery charging		—
	A battery comprising a single cell		—
	Battery designs where there is a series arrangement of parallel clusters of cells		—
	Not apply to luminaires that are intended to charge general purpose cells or batteries installed by the user		N/A
W.4.6.2	Normal charging of lithium-ion systems		N/A
	Charging of lithium-ion battery under normal conditions did not exceed specified operating region for charging of the cell		N/A
	Charging procedure as specified		N/A
	Voltage, temperature and charging current monitored for all individual cells		N/A



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Clause	Requirement + Test	Result - Remark	Verdict										
	Test repeated with imbalanced battery		N/A										
W.4.7	Protection against overpressure for Li-ion batteries used in luminaires		N/A										
	The enclosure or compartment of a battery-operated luminaire that contains a battery that uses Li-ion chemistry with a single cell capacity of 0,2 Ah or greater, can withstand the pressure generated when a cell vents during failure		N/A										
	Compliance by a) or b):		N/A										
	a) The total area of the unobstructed openings in the enclosure allowing gasses to pass is not less than the value specified in Table W.2 Table W.2 – Total area of openings for Li-ion cells <table border="1" data-bbox="352 815 983 1003"> <thead> <tr> <th>Capacity of the single Li-ion cell with the highest capacity Ah</th> <th>Minimum total area of openings mm²</th> </tr> </thead> <tbody> <tr> <td>0,2 ≤ Ah < 5</td> <td>20</td> </tr> <tr> <td>5 ≤ Ah < 25</td> <td>30</td> </tr> <tr> <td>25 ≤ Ah < 100</td> <td>50</td> </tr> <tr> <td>Ah ≥ 100</td> <td>100</td> </tr> </tbody> </table>	Capacity of the single Li-ion cell with the highest capacity Ah	Minimum total area of openings mm ²	0,2 ≤ Ah < 5	20	5 ≤ Ah < 25	30	25 ≤ Ah < 100	50	Ah ≥ 100	100		N/A
Capacity of the single Li-ion cell with the highest capacity Ah	Minimum total area of openings mm ²												
0,2 ≤ Ah < 5	20												
5 ≤ Ah < 25	30												
25 ≤ Ah < 100	50												
Ah ≥ 100	100												
	b) a volume of air of the amount specified in Table W.3 shall be injected through a (2,85 ± 0,05) mm diameter orifice into the enclosure at an initial overpressure of 2 070 kPa with a tolerance of ±10 % Table W.3 – Volume of air injected at 2 070 kPa <table border="1" data-bbox="352 1200 983 1388"> <thead> <tr> <th>Capacity of the single Li-ion cell with the highest capacity Ah</th> <th>Volume of air (±10 %) ml</th> </tr> </thead> <tbody> <tr> <td>0,2 ≤ Ah < 5</td> <td>20</td> </tr> <tr> <td>5 ≤ Ah < 25</td> <td>30</td> </tr> <tr> <td>25 ≤ Ah < 100</td> <td>50</td> </tr> <tr> <td>Ah ≥ 100</td> <td>100</td> </tr> </tbody> </table>	Capacity of the single Li-ion cell with the highest capacity Ah	Volume of air (±10 %) ml	0,2 ≤ Ah < 5	20	5 ≤ Ah < 25	30	25 ≤ Ah < 100	50	Ah ≥ 100	100		N/A
Capacity of the single Li-ion cell with the highest capacity Ah	Volume of air (±10 %) ml												
0,2 ≤ Ah < 5	20												
5 ≤ Ah < 25	30												
25 ≤ Ah < 100	50												
Ah ≥ 100	100												
	- The overpressure within the enclosure drop below 70 kPa within 30 s without any unintended rupturing damage to the enclosure		N/A										
W.4.8	Protection against the consequence of failure of cells or EDLCs		N/A										
	Vents of cells isn't obstructed in such a way as to defeat their operation		N/A										
	Space shall be provided to allow EDLC expansion during the failure mode		N/A										
W.5	Protection against electric shock		N/A										
	Battery/EDLC-operated luminaires using a replaceable battery/EDLC		N/A										



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Clause	Requirement + Test	Result - Remark	Verdict
	Hazardous live parts not accessible when the luminaire is opened as necessary for replacing batteries, even if the operation cannot be achieved by hand		N/A
	Battery/EDLC-operated luminaires using a non-user battery/EDLC		N/A
	If hazardous live parts are accessible when the luminaire is opened as necessary for replacing non-user replaceable batteries or EDLCs, a protective cover is provided requiring the use of a tool for its removal, and		N/A
	The cover shall be marked according to W.3.6		N/A
W.6	Endurance test and thermal test		N/A
W.6.1	Endurance test		N/A
	a) mounting- position	On the 20 cm thick, matt non-metallic black paint, wood-fibre board	—
	b) test temperature (°C).....	°C	—
	c) total duration (h)	390h/240h	—
	<p><i>Luminaires with charging function:</i> Total duration of 390 h, made up of 10 successive cycles of 36 h and a final normal operation for 30 h, the luminaire was operated normally from maximum supply voltage (range) for 30 h and for 6 h supplied by the battery/EDLC, in each of the 10 cycles.</p> <p><i>Luminaires without charging function:</i> Total duration of 240 h without interruption.</p>		—
	d) supply voltage (V).....		—
	After endurance test:		N/A
	- no part unserviceable		N/A
	- luminaire not unsafe		N/A
	- no damage to track system		N/A
	- marking legible		N/A
	- no cracks, deformation etc.		N/A
W.6.2	Thermal test (normal operation)		N/A
	The thermal tests given in 14.4 carried out in both the charging mode and battery/EDLC operating mode		N/A
	If during the charging mode, it is possible to operate the light source, the test in the charging mode carried out in this condition		N/A
	Cell surface temperature (°C).....	See Annex 2	N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Battery surface temperature (°C)..... :	See Annex 2	N/A
W.6.3	Thermal test (abnormal operation)		N/A
	Additional to 14.5 abnormal operating conditions below:		N/A
	- For battery/EDLC-operated luminaires with charging function, the batteries or EDLCs replaced by a short-circuit link		N/A
	- Battery-operated luminaires with replaceable batteries are supplied at rated voltage in charge mode and under normal operating conditions in discharge mode, but with one battery removed or inserted in the battery compartment with the polarity reversed		N/A
	Temperature rise of surfaces of accessible batteries (< 45 K)..... :	See Annex 2	N/A
	Temperature rise of surface of non-accessible batteries (< 60 K)..... :	See Annex 2	N/A
W.6.4	Lithium-ion charging systems – Fault conditions		N/A
	Risk of fire and explosion as a result of fault condition during charging of a lithium-ion battery is obviated as far as is practical		N/A
	No charring or burning of gauze or tissue paper, no explosion resulted when battery tool and battery pack were subjected to any abnormal conditions a) to c)	See Table W.6.4	N/A
	The cells did not exceed the upper limit charging voltage by more than 150 mV unless...		N/A
not possible to recharge the battery after the test has been completed		N/A
	No evident damage to the cell vent		N/A
	Hazardous live parts not become accessible		N/A



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

4.7 (7.32.3.6)	TABLE: Abnormal operating condition tests							N/A
Ambient temperature (°C)							—	
Power source for EUT: Manufacturer, model/type, output rating ...:							—	
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
--	--	--	--	--	--	--	--	--
Supplementary information:--								

4.8 (13.2)	TABLE I: Creepage distances and clearances							P
Approved Class II independent SELV output adapter used. The output of adapter is not more than SELV 60 V d.c., No creepage distance and clearance values are specified for working voltages below 60 V d.c. as the test voltage of electric strength is considered sufficient.								
Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages							P	
Applicable part of IEC 60598-1 Table 18*, 19* and 20*							P	
	Insulation type **	Measured clearance	Required		Measured creepage	Required		
			clearance	*Table		creepage	*Table	
Distance 1:	B	--	1,5	Table 19	--	2,5	Table 18	
Distance 2:	R	--	3,0	Table 19	--	5,0	Table 18	
Distance 3:	R	--	3,0	Table 19	--	5,0	Table 18	
Working voltage (V).....					240V~		—	
PTI.....					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—	
Pulse voltage or U_P if applicable (kV)					--		—	
Supplementary information: Distance 1: Between current-carrying parts of different polarity. Distance 2: Between current-carrying parts and accessible parts. Distance 3: Between current-carrying parts and mounting surface.								

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



IEC 60598-2-4					
Clause	Requirement + Test			Result - Remark	Verdict
4.16 (15.2.2)	TABLE: Ball Pressure Test of Thermoplastics				P
Allowed impression diameter (mm)				2,0mm	—
Object/ Part No./ Material		Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
LED cover		See Annex 1	81°C	1,1mm	
DC connector		See Annex 1	125°C	0,8mm	
Supplementary information:--					

4.16 (15.3.2)	TABLE: Needle-flame test (IEC 60695-11-5)				P	
Object/ Part No./ Material		Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
DC connector		See Annex 1	10s	No	0s	P
Supplementary information:--						

4.16 (15.3.3)	TABLE: Glow-wire test (IEC 60695-2-11)				P	
Glow wire temperature				650°C	—	
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
LED cover		See Annex 1	30s	No	0s	P
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....					Yes	
Supplementary information:--						

4.16 (15.4)	TABLE: Proof tracking test (IEC 60112)				N/A
Test voltage PTI				175 V	—
Object/ Part No./ Material		Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens		Verdict
--		--	--	--	--
Supplementary information:--					

W.6.4	TABLE: Lithium-ion charging systems – Abnormal Conditions				N/A
--------------	--	--	--	--	------------



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IEC 60598-2-4						
Clause	Requirement + Test			Result - Remark	Verdict	
	Abnormal conditions	Explosion occurred?	Charring or burning of test materials?	Upper limit charging voltage not exceeded by >150 mV ¹⁾	Charging system permanently disabled? ²⁾	Cell vent damaged?
	a) Components in the charging system fault	--	--	--	--	--
	b) One cell 50% charged in a fully discharged battery	--	--	--	--	--
	c) Charging of a series configured battery with all cells 50% charged, one cell shorted	--	--	--	--	--
Supplementary Information: One of conditions ¹⁾ or ²⁾ is sufficient to achieve compliance with this subclause.						

W.6.4 a)	TABLE: Fault Condition Tests				N/A
	Ambient temperature (°C)..... :				—
	Fuse-link Current (A)				—
Component	Fault Condition		Test Voltage (V)	Test Duration*	Comment/Result
--	--		--	--	--
Supplementary Information: * Tests were continued until – steady conditions are established; or – the test samples return to within 5 K of the ambient temperature; or – a test period of 3 h has elapsed.					



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

ANNEX 1	TABLE: Critical components information						--
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Adapter (for 39.84W models)	B	Shenzhen Junchen Technology Co., Ltd.	J302B-2401660EX	Input: 100-240V~, 50/60Hz, 1.5A Output: DC24V, 1.66A, 39.84W, Independent, SELV, Class II, ta40°C, tc75°C	EN 61347-1 EN 61347-2-13	CE	
Adapter (for 36W models)	B	Shenzhen Cenwell Technology Co., Ltd.	CW2401500E U	Input: 100-240V~, 50/60Hz, 1.2A Max. Output: DC24V, 1.5A, 36W, Independent, SELV, Class II, ta40°C, tc70°C	EN 61347-1 EN 61347-2-13	WTY200803 01001S	
Adapter (for 30W models)	B	Shenzhen Cenwell Technology Co., Ltd.	CW2401250E U	Input: 100-240V~, 50/60Hz, 0.8A Max. Output: DC24V, 1.25A, 30W, Independent, SELV, Class II, ta40°C, tc70°C	EN 61347-1 EN 61347-2-13	WTY200803 01001S	
Adapter (for 18W models)	B	Dong Guan Royal Intelligent Co., Ltd	BI18G-240075-Adv	Input: 100-240V~, 50/60Hz, 0.8A Output: DC24V, 0.75A, 18W, Independent, SELV, Class II, ta40°C, tc75°C	EN 61347-1 EN 61347-2-13	CT-04133SY701	
Output wire of Adapter	C	SHENZHEN YUEDENG ELECTRONICS CO LTD	2464	22AWG, 300V, 80°C	--	UL E471418	
DC connector	C	TORAY INDUSTRIES INC	CM3004-V0(rr)	PA66; V-0	--	UL E41797	
Input wire of lamp part	C	SHENZHEN BOSITAI COMPUTER ACCESSORY CO LTD	2464	300V, 80°C, 22AWG	--	UL E341894	



IEC 60598-2-4						
Clause	Requirement + Test			Result - Remark		Verdict
Switch (for 39.84W models)	B	Shenzhen Bling Lighting Technologies Co., Ltd.	S1	DC24V, 2A	EN 61058-1	DEKRA
Switch (for 36W / 30W / 18W models)	B	Shenzhen Bling Lighting Technologies Co., Ltd.	TH1	DC24V, 1.5A	IEC 61058-1	IEC Test Report
Fiberglass sleeving	C	DONGGUAN DAYONGLAI NEW MATERIAL TECHNOLOGY CO LTD	DYL1500-10000	600V, 200°C	--	UL E499455
Internal wire	C	Shenzhen Dingyu Electrical Technology Co Ltd	2464	24AWG, 80°C, 300V	--	UL E365423
LED PCB	C	JiangMen YaoKe Electronics Co Ltd	YK-A	V-0, 130°C, metal base	--	UL E505288
LED	C	Jiangxi MTC Lighting Co., Ltd	2835	IF: Max.150mA, VF: 2.9-3.3V	IEC TR 62778	Test with appliance
RGB LED (only for 36W models)	C	Ledestar	3030 RGB	IF: 50mA, VF: R=2.2-2.4V, G=2.8-3.4V, W=2.8-3.4V	IEC TR 62778	Test with appliance
LED cover	C	Teijin Limited Resin And Plastic	LN-1250G(#)(*)	V-0, 125°C	--	UL E50075

Supplementary information:

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

The codes above have the following meaning:

- A - The component is replaceable with another one, also certified, with equivalent characteristics
- B - The component is replaceable if authorised by the test house
- C - Integrated component tested together with the appliance
- D - Alternative component



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

ANNEX 2	TABLE: Thermal tests of Section 14			P			
	Type reference.....:	FX325A		—			
	Lamp used.....:	LED module		—			
	Lamp control gear used.....:	J302B-2401660EX		—			
	Mounting position of luminaire.....:	See product manual		—			
	Supply wattage (W)	36,9W		—			
	Supply current (A)	0,356A		—			
	Calculated power factor.....:	0,407		—			
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C		—			
	- abnormal operating mode.....:	1) 15° overturned 2) 30N force		—			
4.13 (14.4)	- test 1: rated voltage			—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06x240V		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:			—			
	Through wiring or looping-in wiring loaded by a current of A during the test			—			
4.13 (14.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:	1,1x240V		—			
Temperature measurements (°C)							
Part	Ambient	Cl. 14.4 – normal				Cl. 14.5 – abnor.	
		test 1	test 2	test 3	limit	test 4	limit
tc of Adapter	25	--	40,9	--	75	--	--
Output wire of Adapter	25	--	30,1	--	80	--	--
DC connector	25	--	28,6	--	Ref.	--	--
Input wire of lamp part	25	--	32,1	--	80	--	--
Switch surface	25	--	26,9	--	55	--	--
LED PCB	25	--	66,9	--	130	--	--
Internal wire near LED	25	--	60,1	--	80	--	--
LED cover	25	--	53,2	--	Ref.	--	--



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IEC 60598-2-4							
Clause	Requirement + Test			Result - Remark			Verdict
Metal enclosure	25	--	38,5	--	60	--	--
Support surface	25	--	27,1	--	90	28,5	130
Irradiation surface	25	--	29,4	--	90	30,9	175
Supplementary information:--							

ANNEX 2	TABLE: Thermal tests of Section 14			P			
	Type reference.....:	FLH-036-R2		—			
	Lamp used.....:	LED module		—			
	Lamp control gear used.....:	CW2401500EU		—			
	Mounting position of luminaire.....:	See product manual		—			
	Supply wattage (W)	35,9W		—			
	Supply current (A)	0,34A		—			
	Calculated power factor.....:	0,414		—			
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C		—			
	- abnormal operating mode.....:	1) 15° overturned 2) 30N force		—			
4.13 (14.4)	- test 1: rated voltage			—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06x240V		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:			—			
	Through wiring or looping-in wiring loaded by a current of A during the test			—			
4.13 (14.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:	1,1x240V		—			
Temperature measurements (°C)							
Part	Ambient	Cl. 14.4 – normal				Cl. 14.5 – abnor.	
		test 1	test 2	test 3	limit	test 4	limit
tc of Adapter	25	--	41,4	--	70	--	--
Output wire of Adapter	25	--	30,9	--	80	--	--
DC connector	25	--	29,1	--	Ref.	--	--



IEC 60598-2-4							
Clause	Requirement + Test			Result - Remark			Verdict
Input wire of lamp part	25	--	32,9	--	80	--	--
Switch surface	25	--	30,4	--	55	--	--
LED PCB	25	--	62,7	--	130	--	--
Internal wire near LED	25	--	58,2	--	80	--	--
LED cover	25	--	49,8	--	Ref.	--	--
Metal enclosure	25	--	36,7	--	60	--	--
Support surface	25	--	26,9	--	90	27,8	130
Irradiation surface	25	--	29,7	--	90	30,5	175
Supplementary information:--							

ANNEX 2	TABLE: Thermal tests of Section 14	P	
	Type reference.....:	FLD-030-O2	—
	Lamp used.....:	LED module	—
	Lamp control gear used.....:	CW2401250EU	—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W)	29,0W	—
	Supply current (A)	0,253A	—
	Calculated power factor.....:	0,451	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C	—
	- abnormal operating mode.....:	1) 15° overturned 2) 30N force	—
4.13 (14.4)	- test 1: rated voltage		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06x240V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:		—
	Through wiring or looping-in wiring loaded by a current of A during the test		—
4.13 (14.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....:	1,1x240V	—
Temperature measurements (°C)			



IEC 60598-2-4							
Clause	Requirement + Test	Result - Remark				Verdict	
Part	Ambient	Cl. 14.4 – normal				Cl. 14.5 – abnor.	
		test 1	test 2	test 3	limit	test 4	limit
tc of Adapter	25	--	43,7	--	70	--	--
Output wire of Adapter	25	--	32,9	--	80	--	--
DC connector	25	--	28,8	--	Ref.	--	--
Input wire of lamp part	25	--	35,7	--	80	--	--
Switch surface	25	--	32,9	--	55	--	--
LED PCB	25	--	71,5	--	130	--	--
Internal wire near LED	25	--	68,5	--	80	--	--
LED cover	25	--	55,2	--	Ref.	--	--
Metal enclosure	25	--	39,6	--	60	--	--
Support surface	25	--	29,1	--	90	30,6	130
Irradiation surface	25	--	33,8	--	90	34,5	175
Supplementary information:--							

ANNEX 2	TABLE: Thermal tests of Section 14	P	
	Type reference.....:	FLL-018-F5	—
	Lamp used.....:	LED module	—
	Lamp control gear used.....:	BI18G-240075-AdV	—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W)	17,0W	—
	Supply current (A)	0,149A	—
	Calculated power factor.....:	0,449	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C	—
	- abnormal operating mode.....:	1) 15° overturned 2) 30N force	—
4.13 (14.4)	- test 1: rated voltage		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06x240V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:		—



IEC 60598-2-4							
Clause	Requirement + Test	Result - Remark				Verdict	
	Through wiring or looping-in wiring loaded by a current of A during the test					—	
4.13 (14.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage.....	1,1x240V				—	
Temperature measurements (°C)							
Part	Ambient	Cl. 14.4 – normal				Cl. 14.5 – abnor.	
		test 1	test 2	test 3	limit	test 4	limit
tc of Adapter	25	--	43,9	--	75	--	--
Output wire of Adapter	25	--	31,2	--	80	--	--
DC connector	25	--	27,8	--	Ref.	--	--
Input wire of lamp part	25	--	32,2	--	80	--	--
Switch surface	25	--	30,4	--	55	--	--
LED PCB	25	--	69,9	--	130	--	--
Internal wire near LED	25	--	62,9	--	80	--	--
LED cover	25	--	51,1	--	Ref.	--	--
Metal enclosure	25	--	38,1	--	60	--	--
Support surface	25	--	28,5	--	90	29,3	130
Irradiation surface	25	--	31,1	--	90	32,7	175
Supplementary information:--							

ANNEX 3	Screw terminals (part of the luminaire)	N/A
(16)	SCREW TERMINALS	N/A
(16.2)	Type of terminal.....	—
	Rated current (A).....	—
(16.3.2.1)	One or more conductors	N/A
(16.3.2.2)	Special preparation	N/A
(16.3.2.3)	Terminal size	N/A
	Cross-sectional area (mm ²).....	—
(16.3.3)	Conductor space (mm).....	N/A
(16.4)	Mechanical tests	N/A
(16.4.1)	Minimum distance	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
(16.4.2)	Cannot slip out		N/A
(16.4.3)	Special preparation		N/A
(16.4.4)	Nominal diameter of thread (metric ISO thread)..... :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(16.4.5)	Corrosion		N/A
(16.4.6)	Nominal diameter of thread (mm)..... :		N/A
	Torque (Nm)..... :		N/A
(16.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(16.4.8)	Without undue damage		N/A

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(17)	SCREWLESS TERMINALS		N/A
(17.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(17.3.1)	Material		N/A
(17.3.2)	Clamping		N/A
(17.3.3)	Stop		N/A
(17.3.4)	Unprepared conductors		N/A
(17.3.5)	Pressure on insulating material		N/A
(17.3.6)	Clear connection method		N/A
(17.3.7)	Clamping independently		N/A
(17.3.8)	Fixed in position		N/A
(17.3.10)	Conductor size		N/A
	Type of conductor		N/A
(17.5)	Terminals and connections for internal wiring		N/A
(17.5.1)	Mechanical tests		N/A
(17.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(17.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Insertion force not exceeding 50 N		N/A
(17.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(17.5.2)	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
(17.6)	Terminals and connections for external wiring		N/A
(17.6.1)	Conductors		N/A
	Terminal size and rating		N/A
17.6.2	Mechanical tests		N/A
(17.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
(17.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(17.6.3)	Electrical tests		N/A
	Tests according 17.6.3.1 + 17.6.3.2 in IEC 60598-1		N/A

(17.6.3.1)	TABLE: Contact resistance test / Heating tests										N/A
(17.6.3.2)	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop of two inseparable joints										
	Voltage drop after 10th alt. 25th cycle										
	Max. allowed voltage drop (mV)..... :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											



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



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	ANNEX 5: EMF test result according to IEC/EN 62493		P
4	LIMITS		P
4.1	General		P
	Comply with Van der Hoofden test limit in 4.2.3 or inherently compliant in 4.2.2 and pass assessment procedure for intentional radiators in 4.3		P
4.2	Unintentional radiating part of lighting equipment		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
	1) electronic controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	2) incandescent-lamp technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	3) LED-light-source technology	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	4) OLED-light-source technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	5) high-pressure discharge lamp	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	7) independent auxiliary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Not fulfil any of 1-7 above subject to 4.2.3		—
4.2.3	Applications of limits		N/A
	Not fulfil any of 1-7 in 4.2.2 but the compliance factor F is ≤ 1		N/A
4.3	Intentional radiating part of lighting equipment		N/A
	Comply with one of methods in Clause 7 if intentional radiator		N/A
6	MEASUREMENT PROCEDURE FOR THE VAN DER HOOFDEN TEST		N/A
6.1	General		N/A
	Measurements carried out under conditions according Clause 6.1 – 6.6	See Table 6	N/A
7	ASSESSMENT PROCEDURE INTENTIONAL RADIATORS		N/A
7.2	Low-power exclusion method		N/A
7.2.1	Input $P_{\text{int,rad}}$:		—
	Exclusion level P_{max}:		—
	Input power $P_{\text{int,rad}} < \text{exclusion level } P_{\text{max}}$		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Application of the EMF product standard for body worn-equipment		N/A
	If not Clause 7.2 is met and expose distance ≤ 0.05 m, comply with IEC 62209-2		N/A
7.4	Application of the EMF product standard for base stations		N/A
	If not Clause 7.2 is met and if intentional radiator is base station, comply with IEC 62232		N/A
7.5	Application of another EMF standard		N/A
	If not Clause 7.2 is met and if intentional radiator cannot be considered as in Clause 7.3 or 7.4, comply with IEC 62311		N/A

6	TABLE: Measurement results with Van der Hoofden test head				N/A
Location of EUT	Test model	Measuring distance	Result(F)	Limit(F)	Verdict
Reference Annex B of IEC/EN 62493:2015+A1:2022	--	--	--	≤ 1.0	N/A



Attachment No.1

IEC 60598_2_4_LCSa-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60598-2-4
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
LUMINAIRES
PART 2: PARTICULAR REQUIREMENTS
SECTION 4: PORTABLE GENERAL PURPOSE LUMINAIRES**

Differences according to..... : EN 60598-2-4:2018 used in conjunction with
EN IEC 60598-1:2021+A11:2022

	CENELEC COMMON MODIFICATIONS (EN)	P
--	--	---

4.11 (8)	EXTERNAL AND INTERNAL WIRING	N/A
4.11.4	For class I and class II portable luminaires for outdoor use, non-detachable flexible cables or cords not lighter than type H05RN-F	N/A

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	N/A
4.4.4	DK: Luminaires for outdoor use classified as class II or class III	N/A



Attachment No.2

IEC/EN IEC 62031			
LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
4.2	Classification		---
	Built-in.....:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Independent.....:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Integral.....:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.6	Independent modules comply with requirements in IEC 60598-1:2024		N/A
4.8	Modules with integrated controlgear providing SELV comply with requirements according to IEC 61347-1:2015/AMD1:2017 clause L.5 to L.11.	(see Annex 1)	N/A
6	Marking		N/A
6.2	Contents of marking for built-in and for independent LED modules		N/A
6.3	Location of marking for built-in LED modules		N/A
6.4	Location of marking for independent LED modules		N/A
6.5	Marking of integral LED modules		P
6.6	Durability and legibility of marking		N/A
7	Terminals		N/A
8 (9)	EARTHING		N/A
9 (10)	Protection against accidental contact with live parts		N/A
10 (11)	Moisture resistance and insulation		P
11 (12)	Electric strength		P*
12 (14)	Fault conditions		P
12.1	Fault conditions according to IEC 61347-1, Clause 14		P
12.2	Overpower condition	No damage	P
14 (15)	Construction		P
- (15.1)	Wood, cotton, silk, paper and similar fibrous material		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	Printed circuits		P
	Printed circuits used as internal connections complies with clause 14		P



Attachment No.2

IEC/EN IEC 62031			
LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
15 (16)	Creepage distances and clearances		N/A
16 (17)	Screws, current-carrying parts and connections		N/A
17 (18)	Resistance to heat, fire and tracking		N/A
18	Resistance to corrosion		N/A
20	Heat management		N/A
22	Photobiological safety		P
22.1	UV radiation		N/A
22.2	Blue light hazard		P
	Assessed according to IEC TR 62778		P
22.3	Infrared radiation		N/A



Attachment No.3

IEC TR 62778			
Photobiological safety of lamps and lamp systems			
Clause	Requirement + Test	Result - Remark	Verdict

4.7 (7.24.3.3)	Spectroradiometric measurement			--
	Measurement performed on:	Luminaire		--
	Model number	FX325A		--
	Test voltage (V)	240V		--
	Test current (mA)	--		--
	Test frequency (Hz)	50		--
	Ambient, t (°C)	25,0		--
	Measurement distance	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		--
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : mm		--
	Field of view	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)		--
Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	--	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L _B	W/(m ² •sr ¹)	51	<input checked="" type="checkbox"/> RG0: <100 <input type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E _B	W/m ²	--	--
Luminance	L	cd/m ²	--	--
Illuminance	E	lx	--	--
Supplementary information:				

4.7 (7.24.3.3)	Spectroradiometric measurement			--
	Measurement performed on:	Luminaire		--
	Model number	FLH-036-R2 (for RGB light)		--
	Test voltage (V)	240V		--
	Test current (mA)	--		--
	Test frequency (Hz)	50		--



Shenzhen Southern LCS Compliance Testing Co., Ltd.
 Add: Room 101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China
 Tel: +(86) 0755-29871520 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

Attachment No.3

IEC TR 62778				
Photobiological safety of lamps and lamp systems				
Clause	Requirement + Test		Result - Remark	Verdict
	Ambient, t (°C).....		25,0	--
	Measurement distance.....		<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	Source size		<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : mm	--
	Field of view		<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--
Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	--	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L _B	W/(m ² •sr ¹)	186	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E _B	W/m ²	--	--
Luminance	L	cd/m ²	--	--
Illuminance	E	lx	--	--
Supplementary information:				



Attachment No.4

Photo Documentation

Model: FX325A

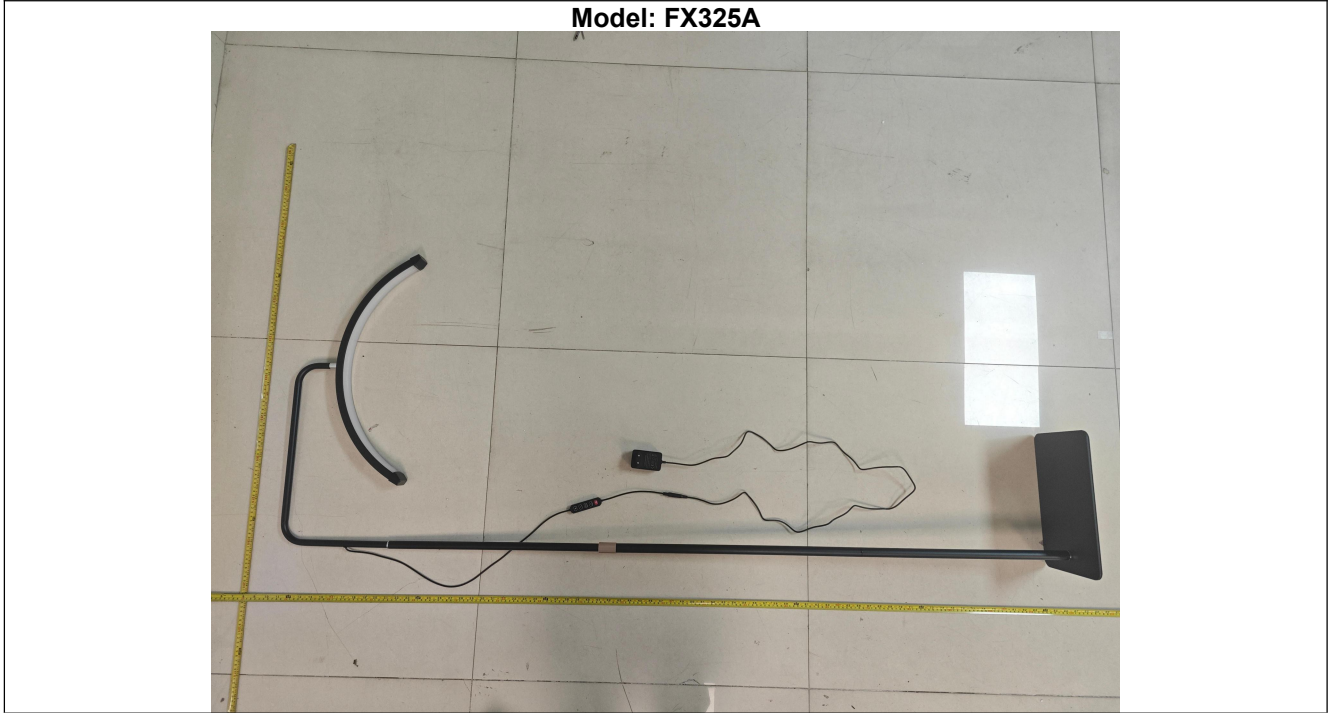


Photo 1

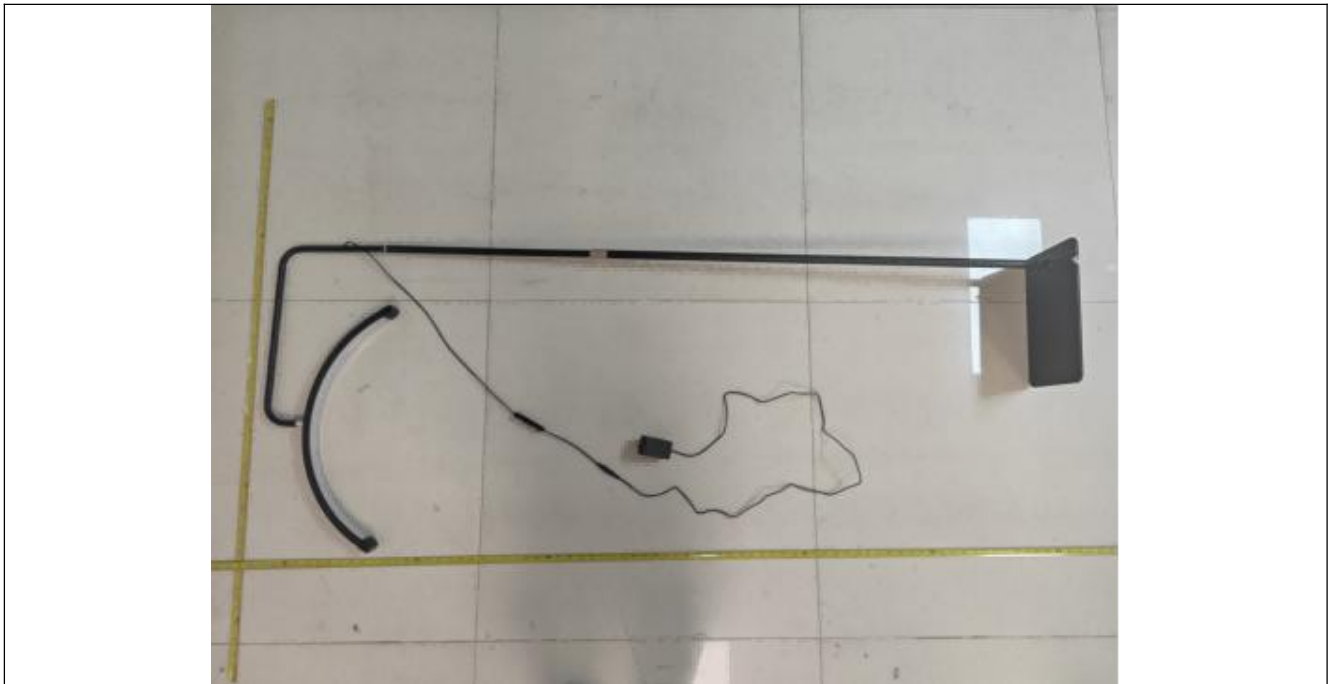


Photo 2



Attachment No.4

Photo Documentation



Photo 3



Photo 4



Attachment No.4

Photo Documentation



Photo 5



Photo 6



Attachment No.4

Photo Documentation



Photo 7



Photo 8



Attachment No.4

Photo Documentation



Photo 9



Photo 10



Attachment No.4

Photo Documentation



Photo 11



Photo 12



Attachment No.4

Photo Documentation



Photo 13

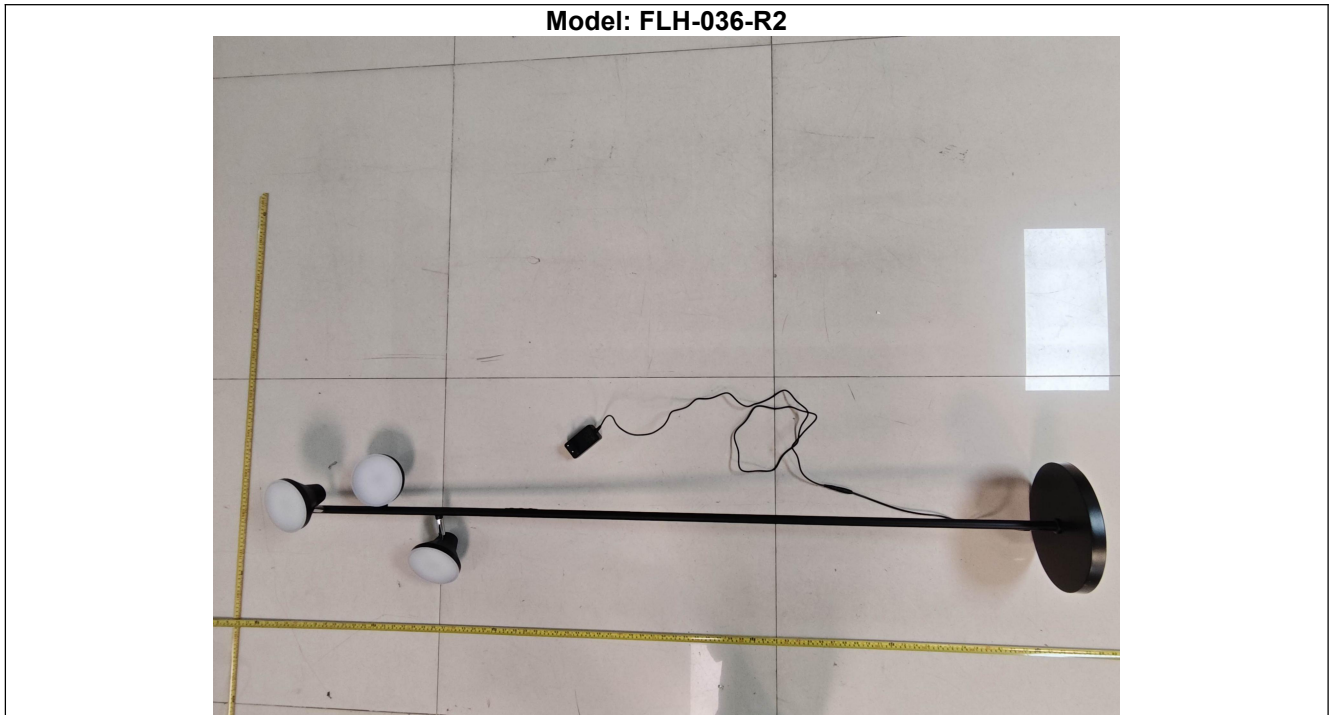


Photo 14



Attachment No.4

Photo Documentation



Photo 15



Photo 16



Attachment No.4

Photo Documentation



Photo 17

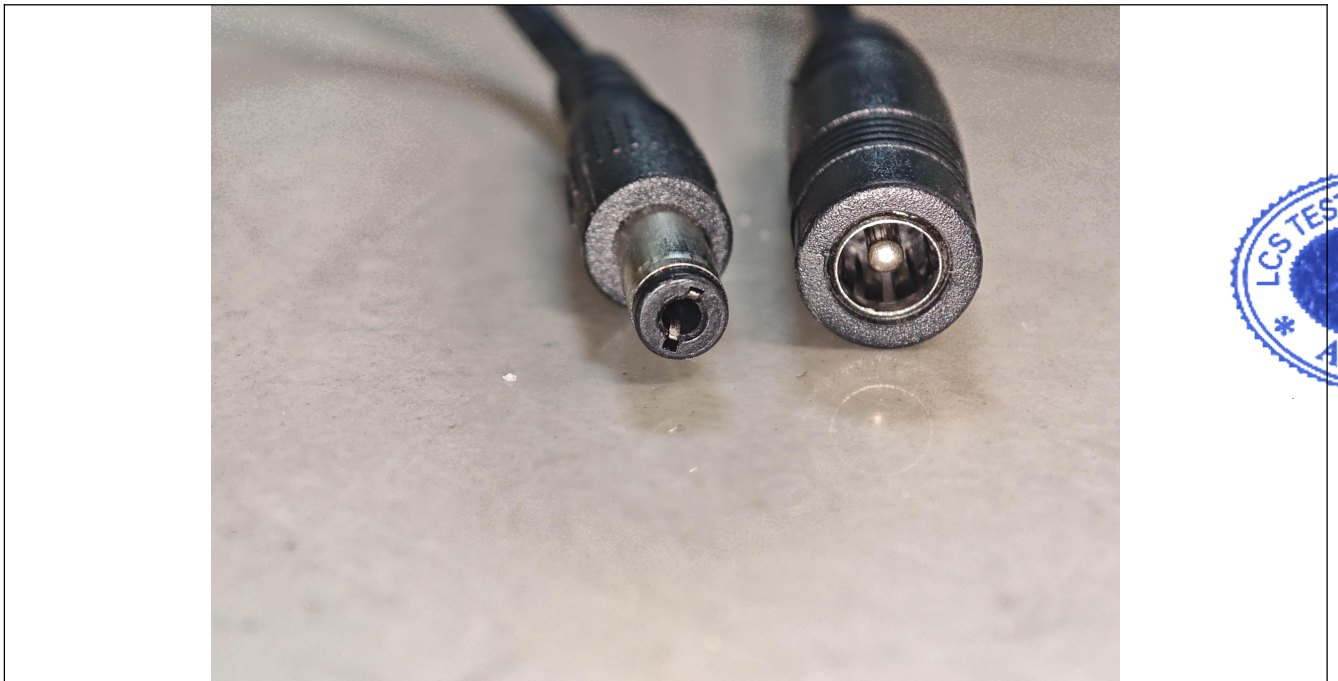


Photo 18



Attachment No.4

Photo Documentation



Photo 19



Photo 20



Attachment No.4

Photo Documentation

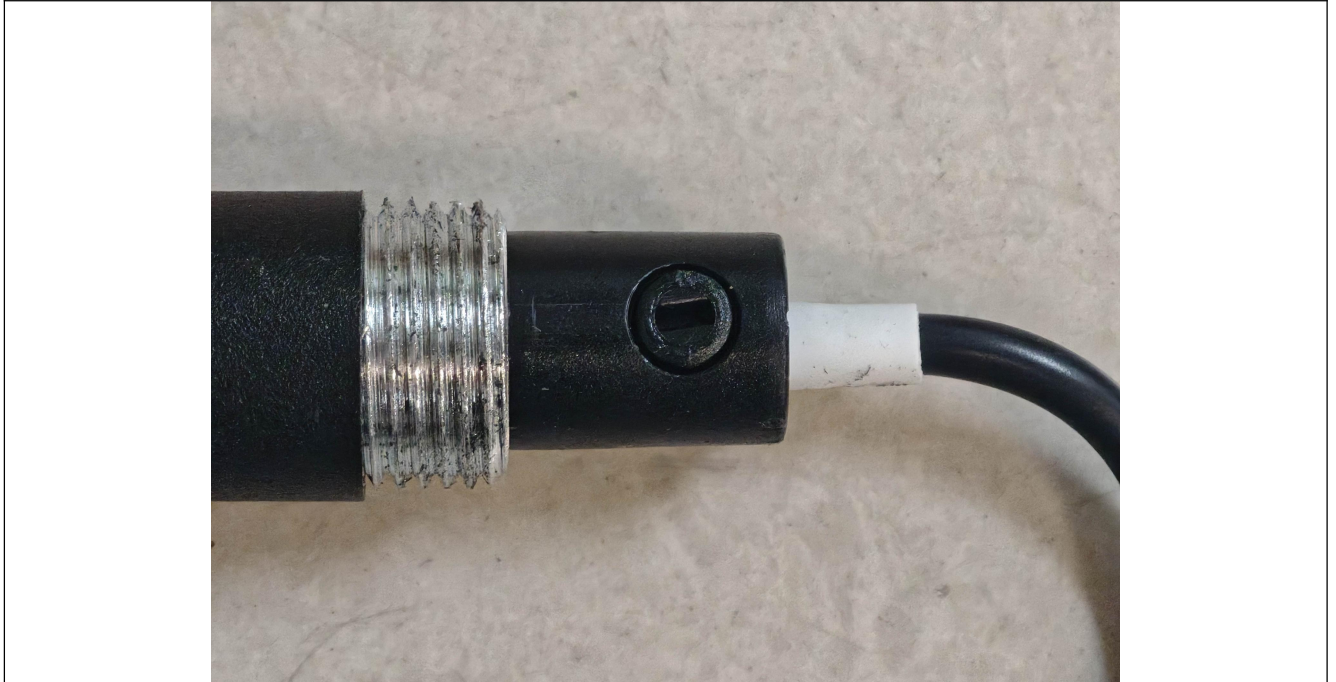


Photo 21



Photo 22



Attachment No.4

Photo Documentation

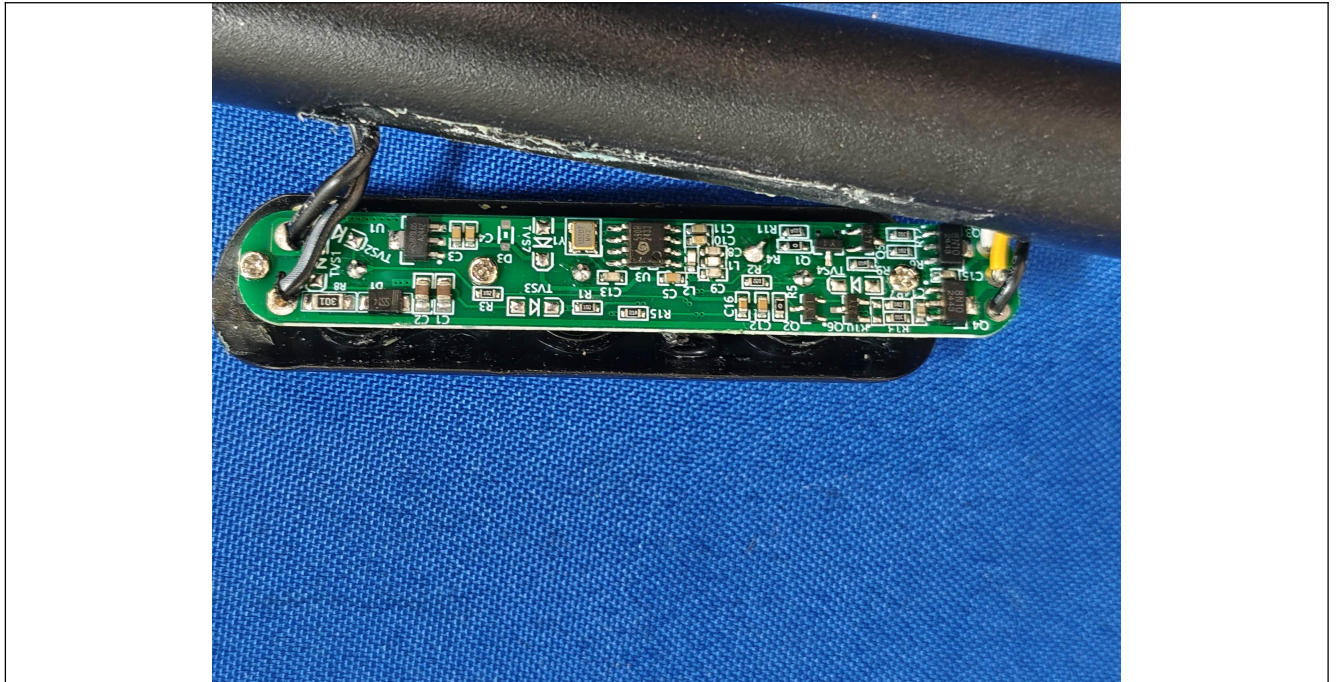


Photo 23

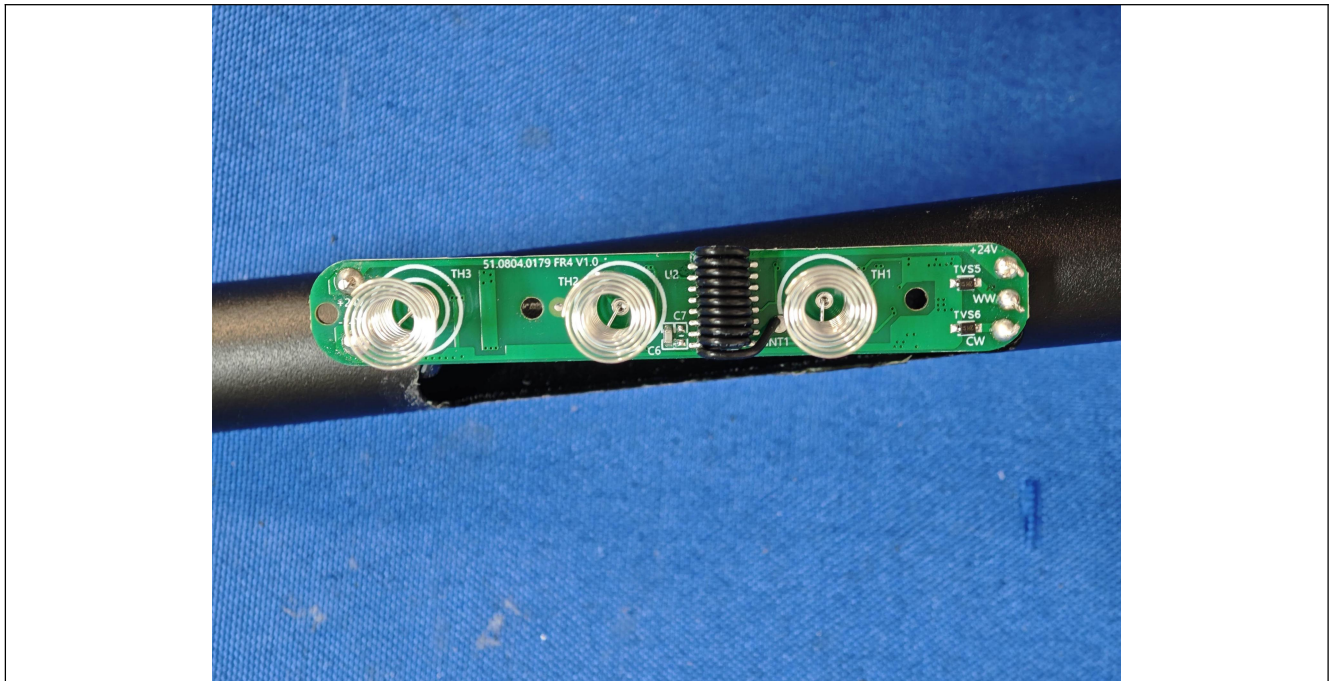


Photo 24



Attachment No.4

Photo Documentation



Photo 25

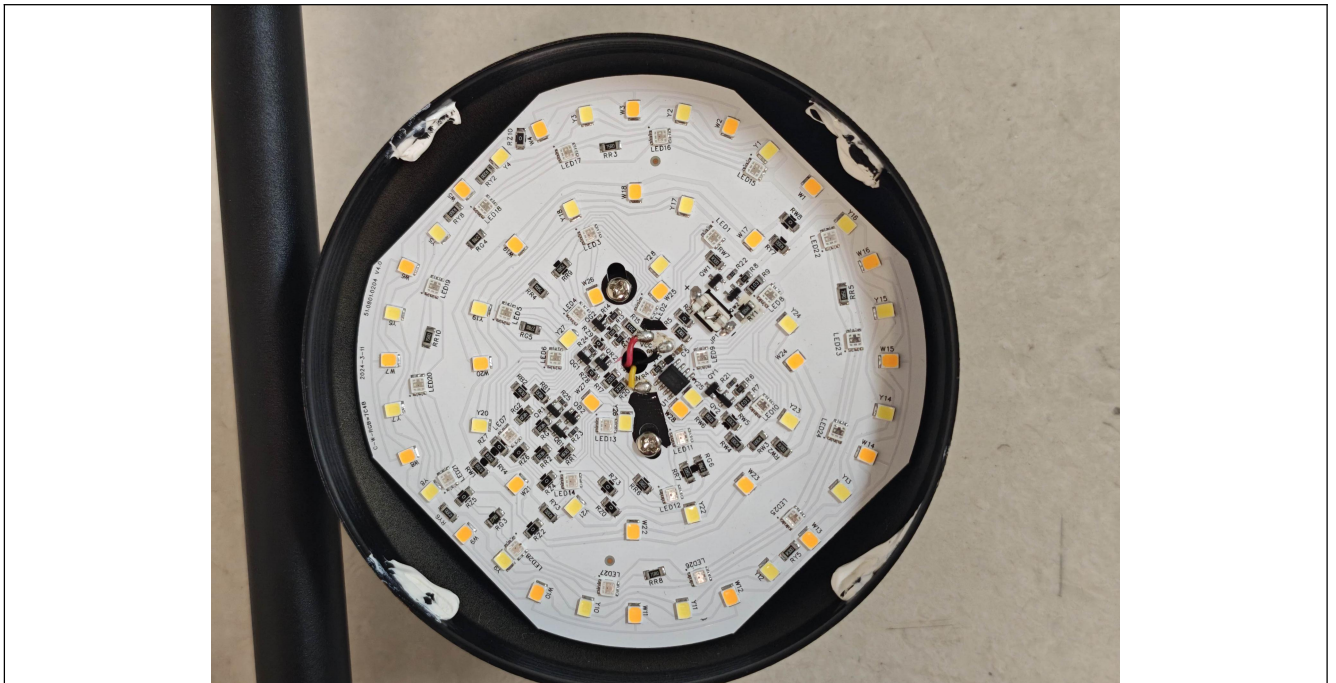


Photo 26



Attachment No.4

Photo Documentation

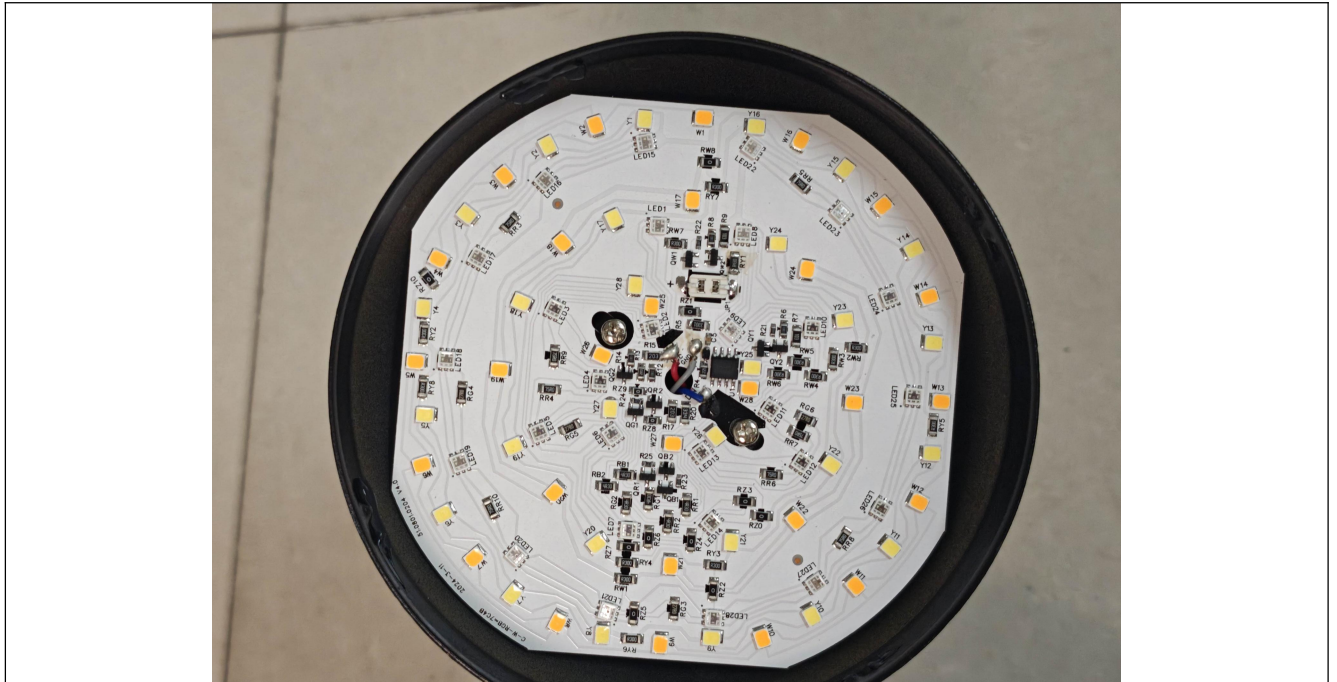


Photo 27

Model: FLD-030-O2

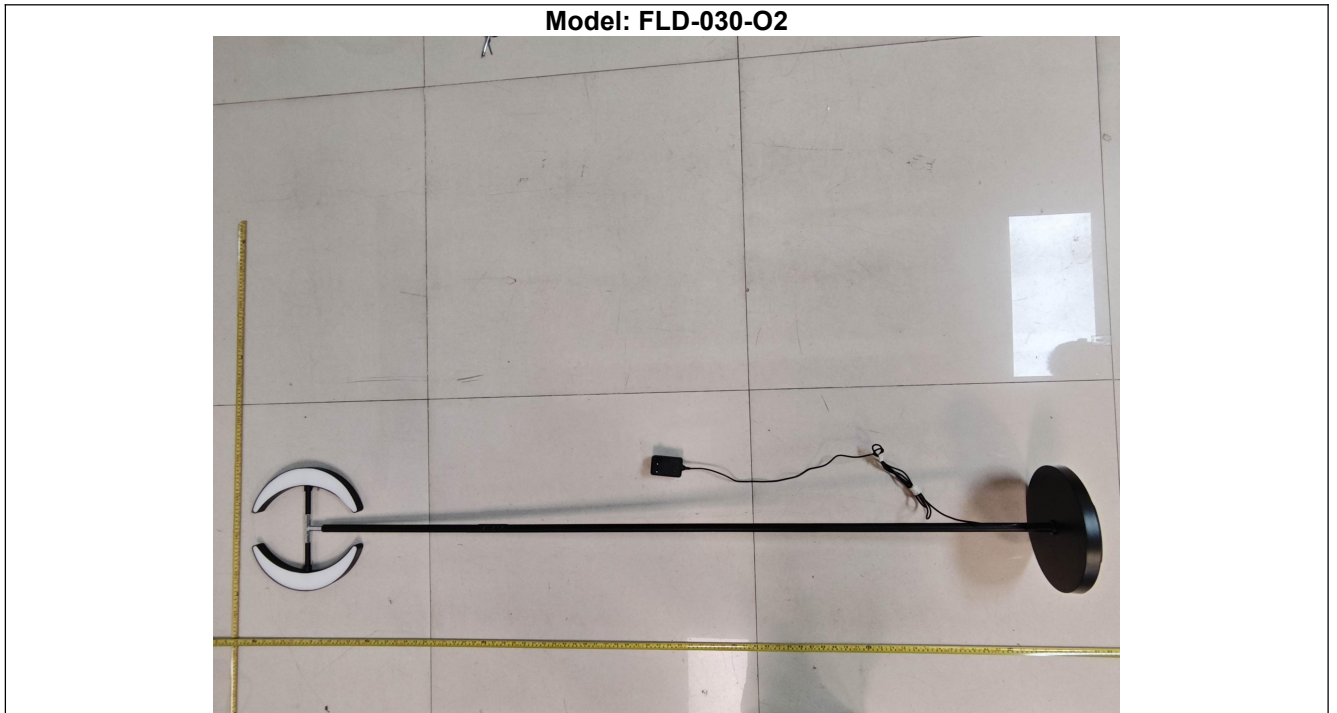


Photo 28



Attachment No.4

Photo Documentation

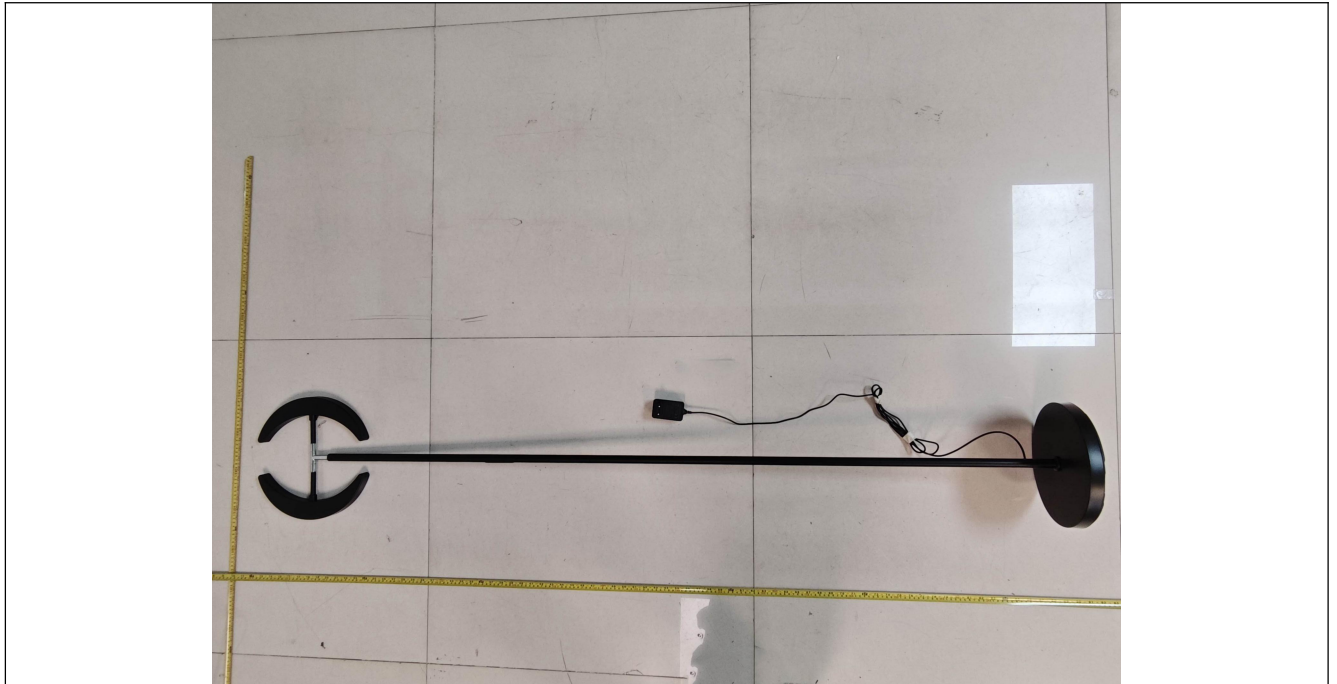


Photo 29



Photo 30



Attachment No.4

Photo Documentation



Photo 31



Photo 32



Attachment No.4

Photo Documentation

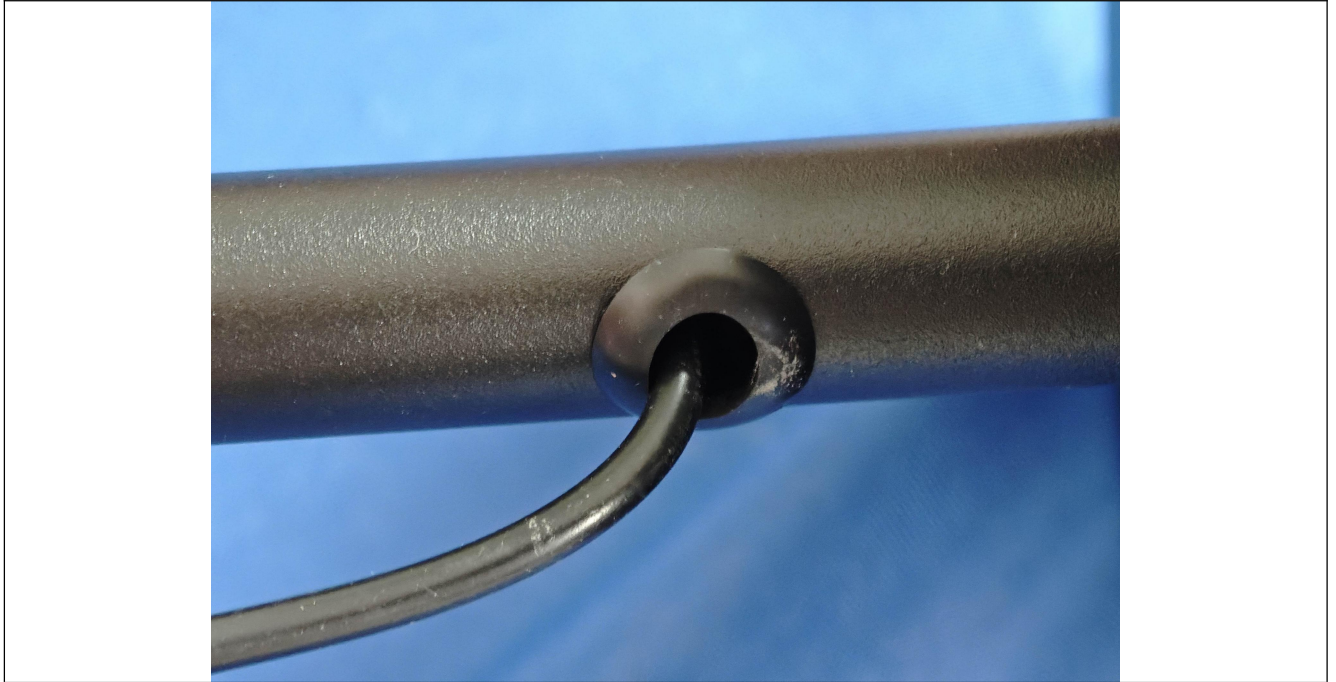


Photo 33



Photo 34



Attachment No.4

Photo Documentation

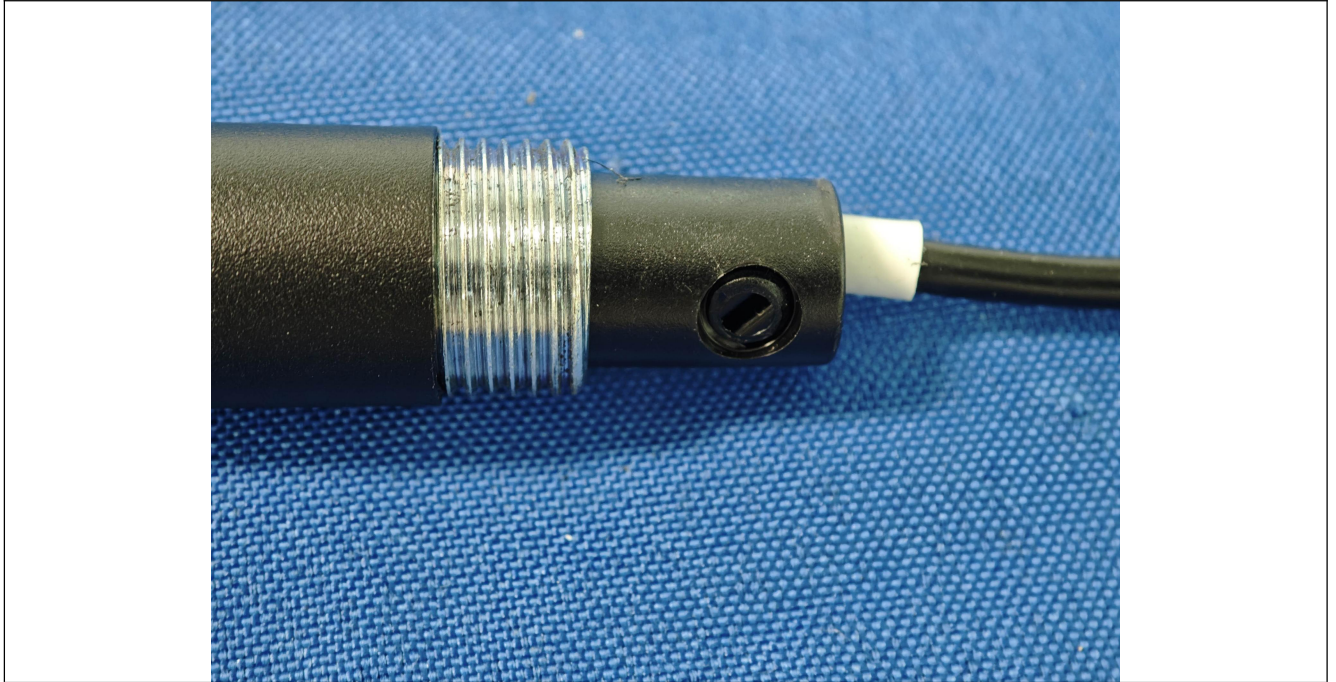


Photo 35



Photo 36



Attachment No.4

Photo Documentation

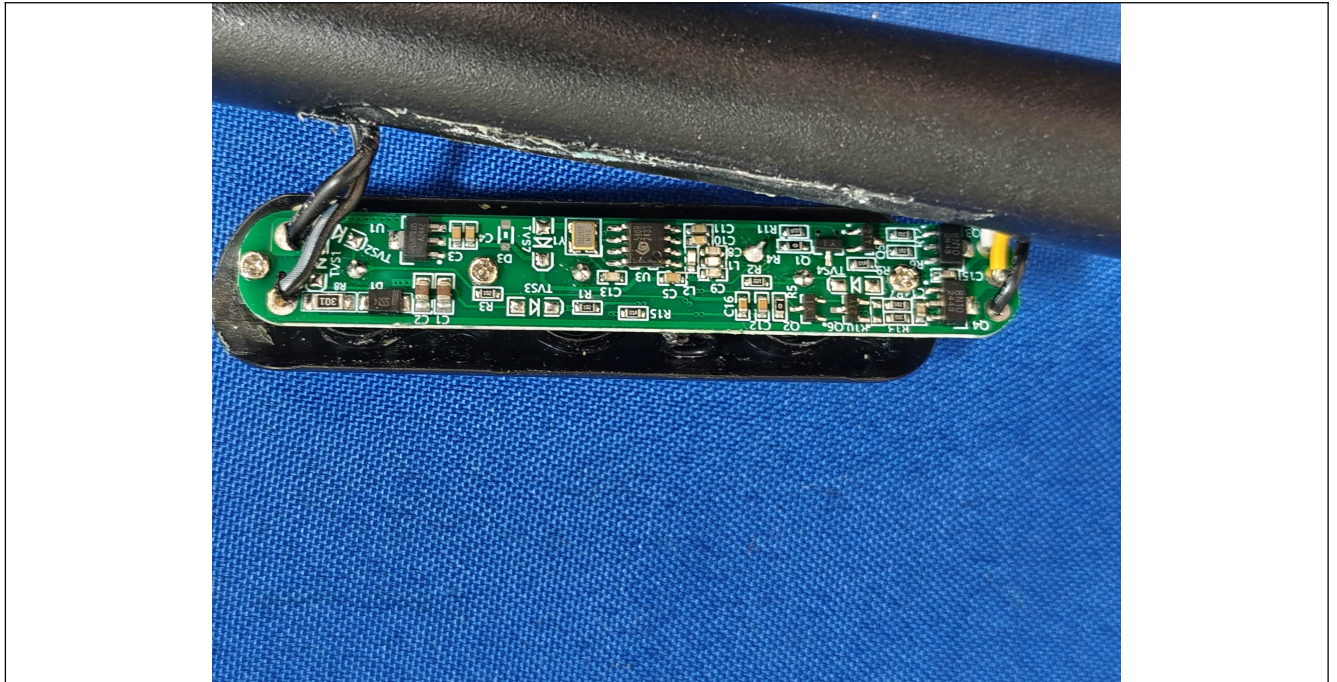


Photo 37

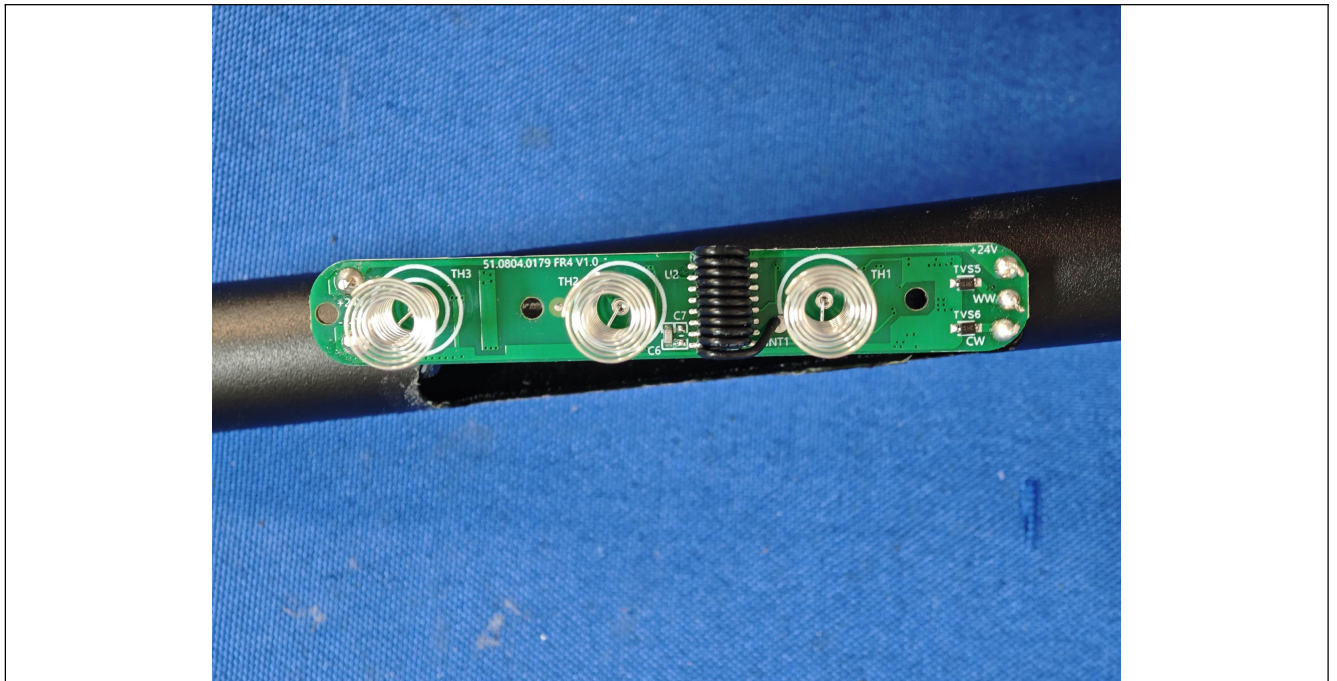


Photo 38



Attachment No.4

Photo Documentation



Photo 39

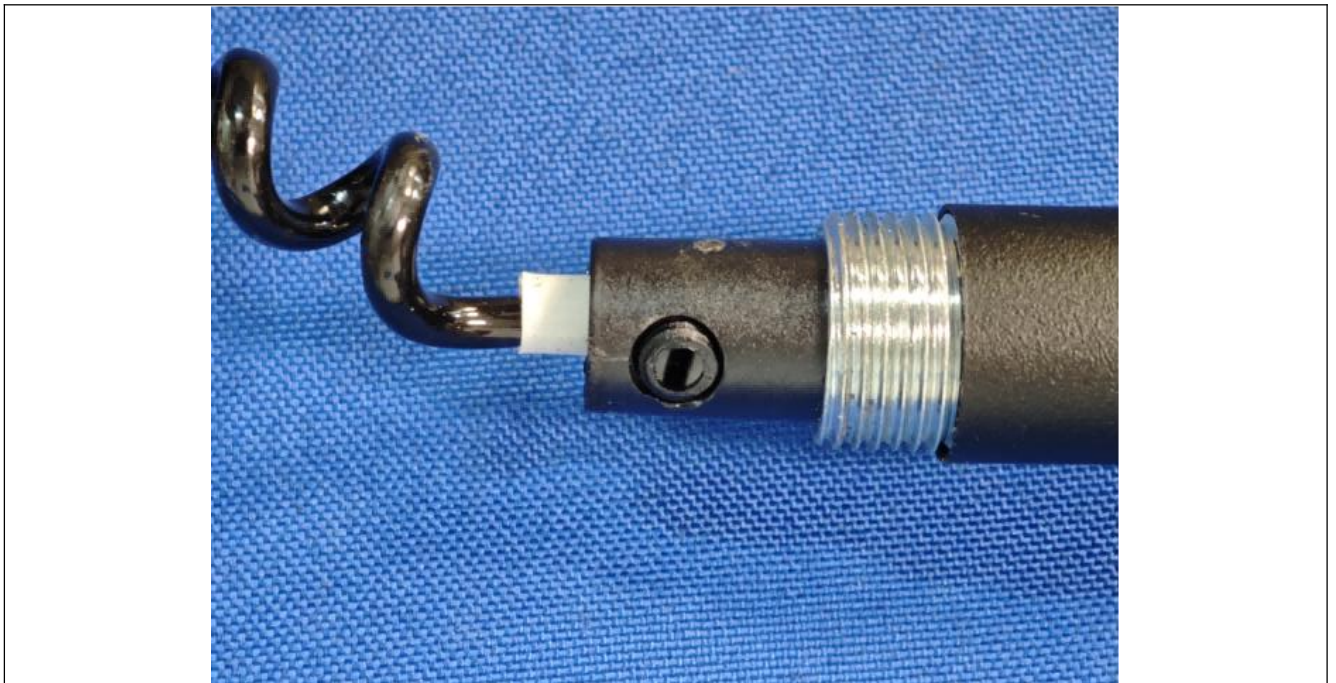


Photo 40



Attachment No.4

Photo Documentation

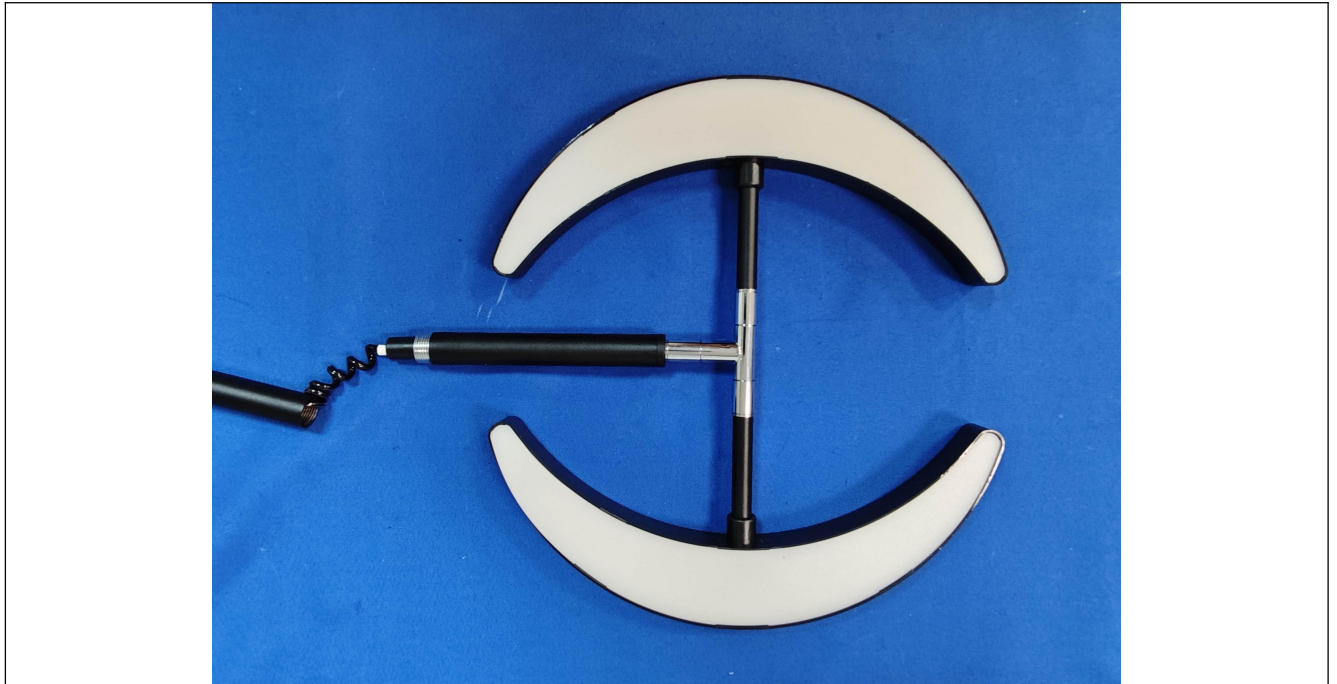


Photo 41



Photo 42



Attachment No.4

Photo Documentation

Model: FLL-018-F5

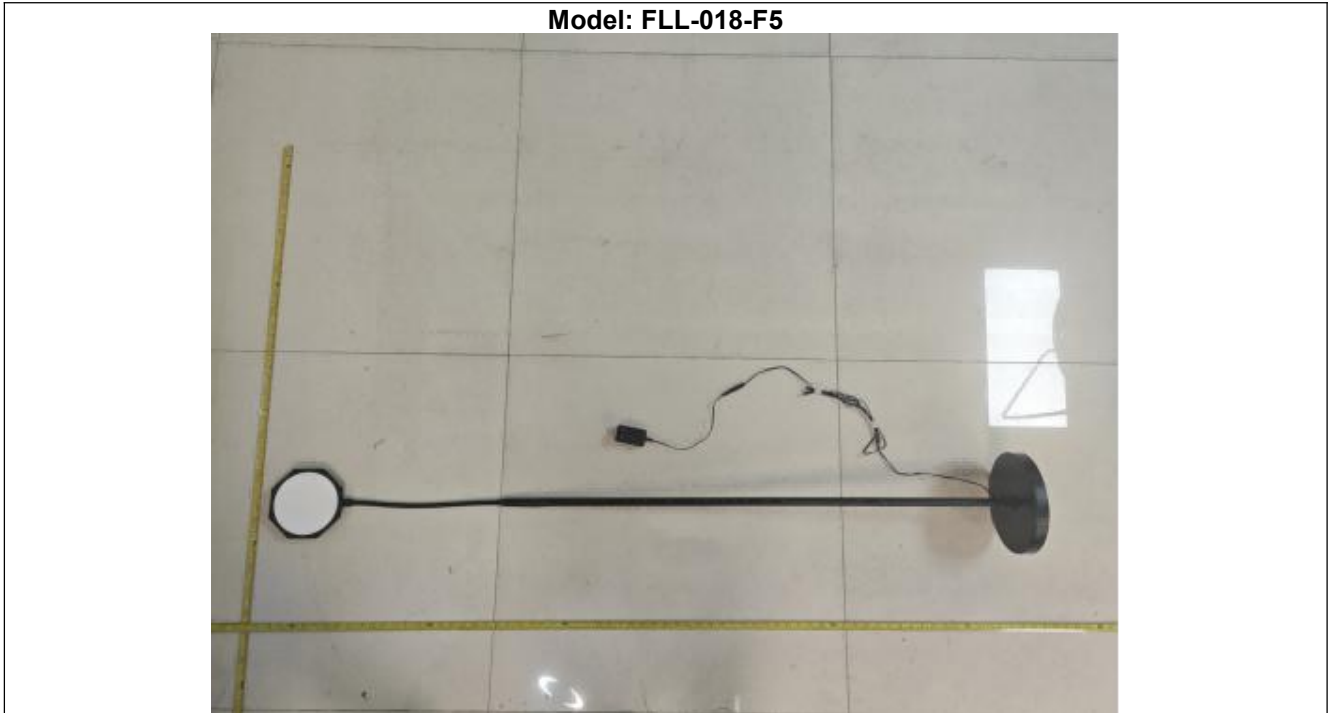


Photo 45



Photo 46



Attachment No.4

Photo Documentation



Photo 47



Photo 48



Attachment No.4

Photo Documentation

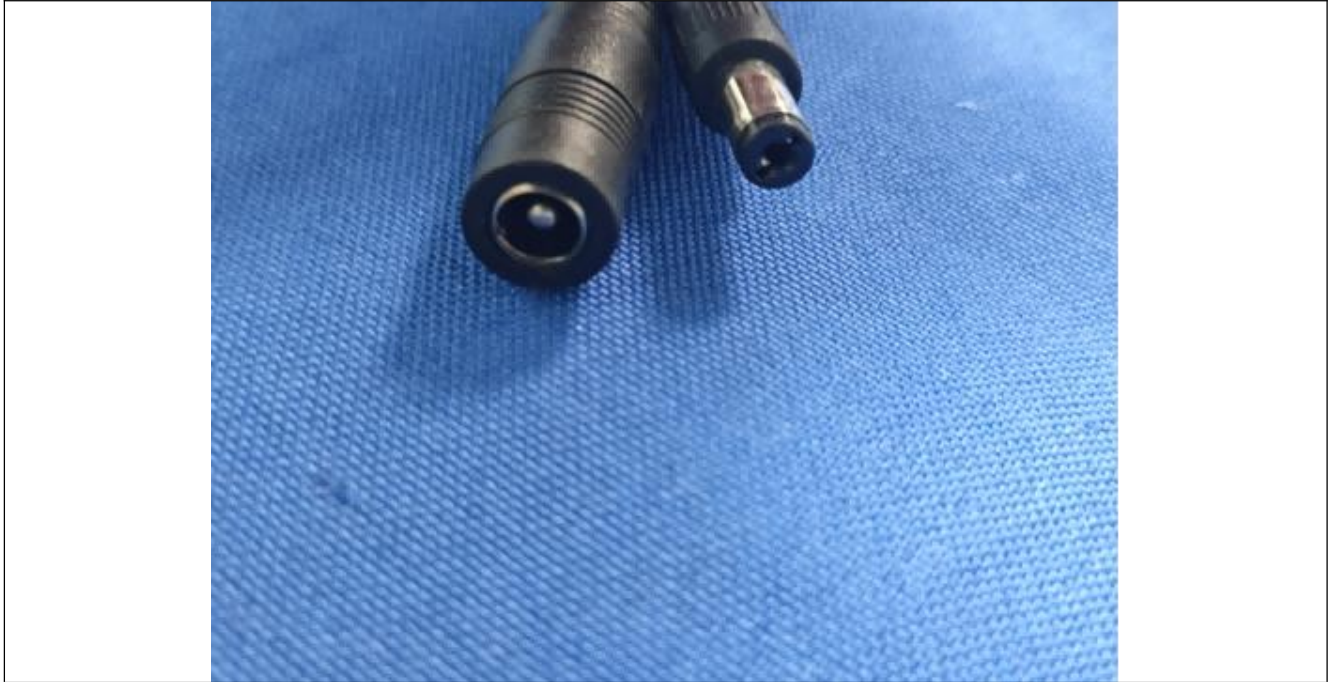


Photo 49

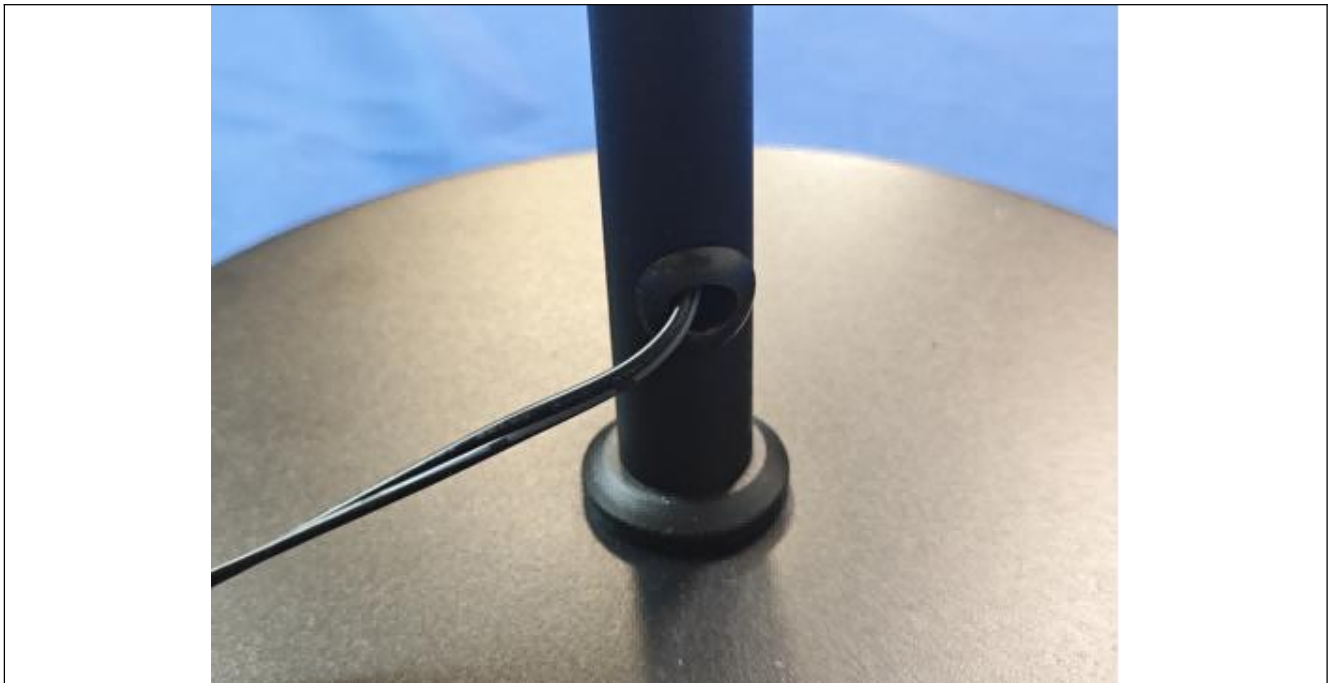


Photo 50



Attachment No.4

Photo Documentation



Photo 51



Photo 52



Attachment No.4

Photo Documentation



Photo 53

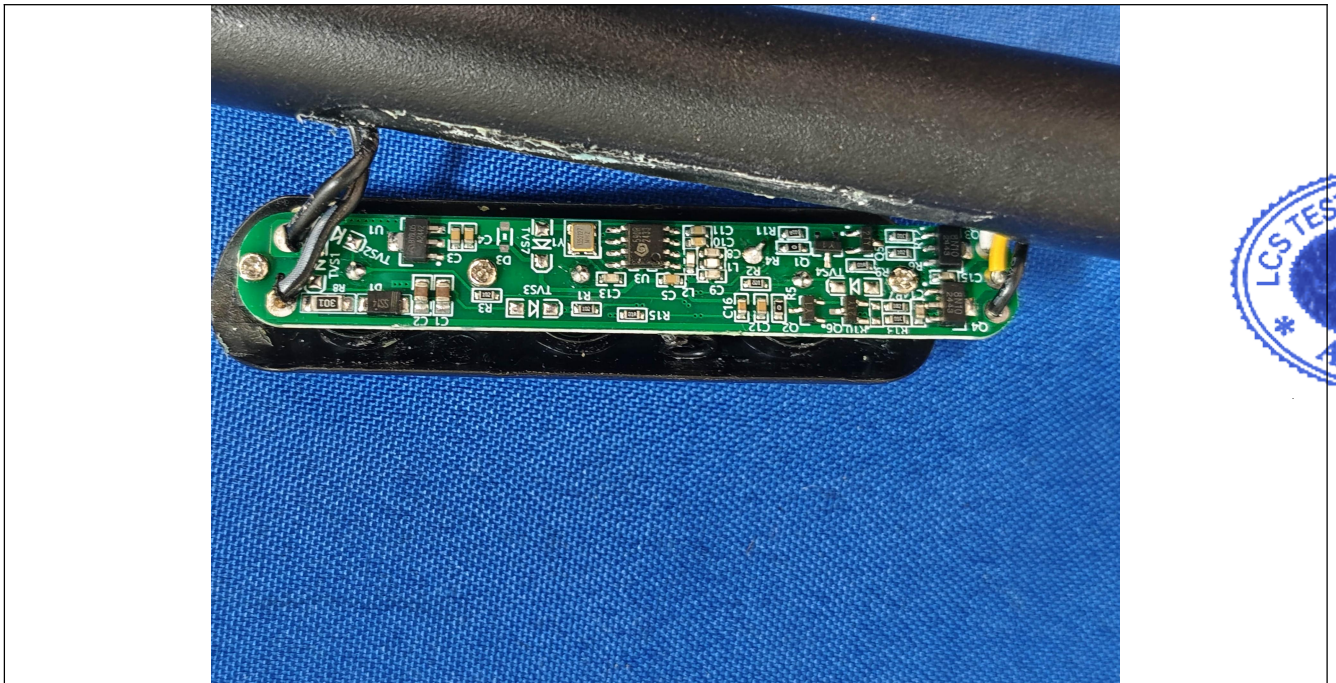


Photo 54



Attachment No.4

Photo Documentation

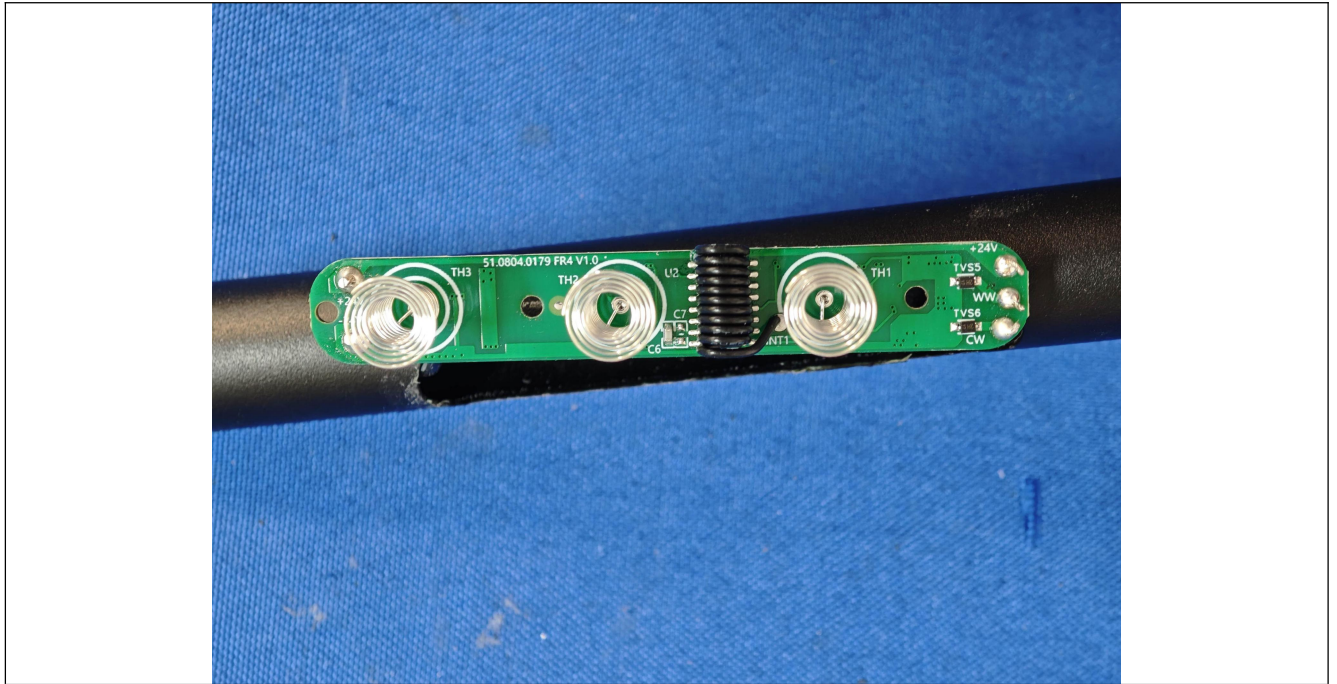


Photo 55



Photo 56



Attachment No.4

Photo Documentation

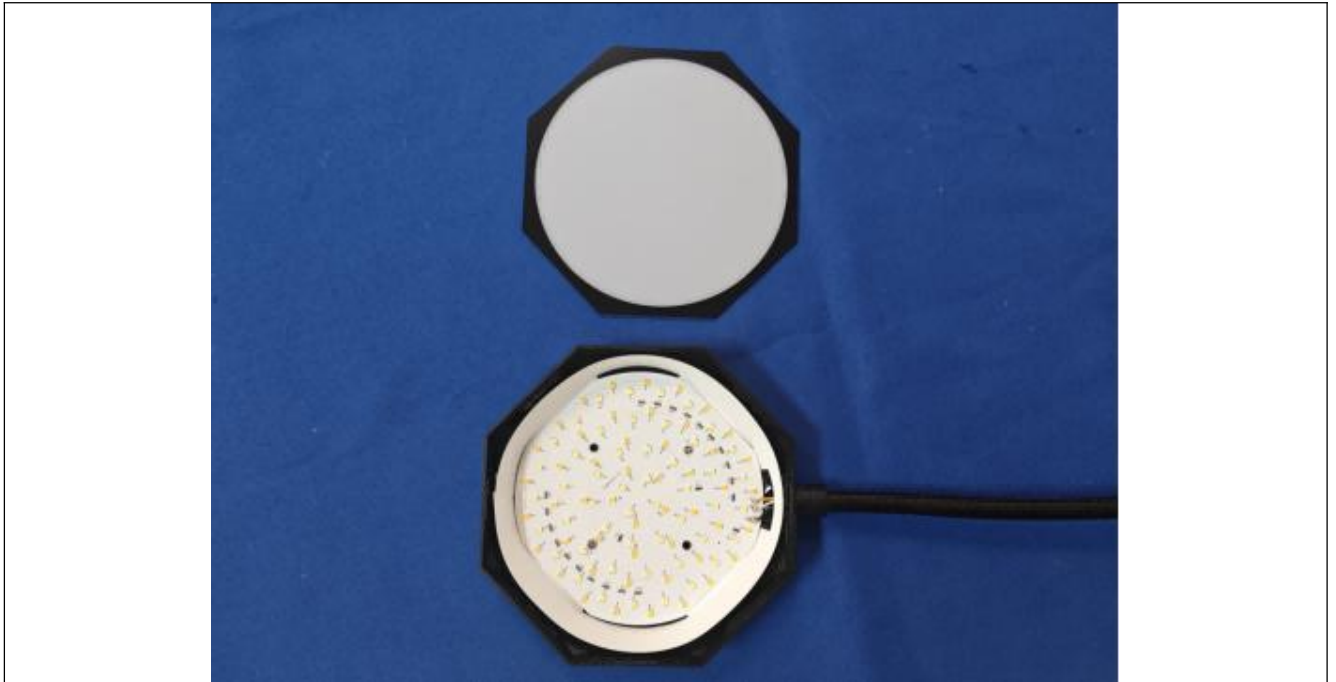


Photo 57

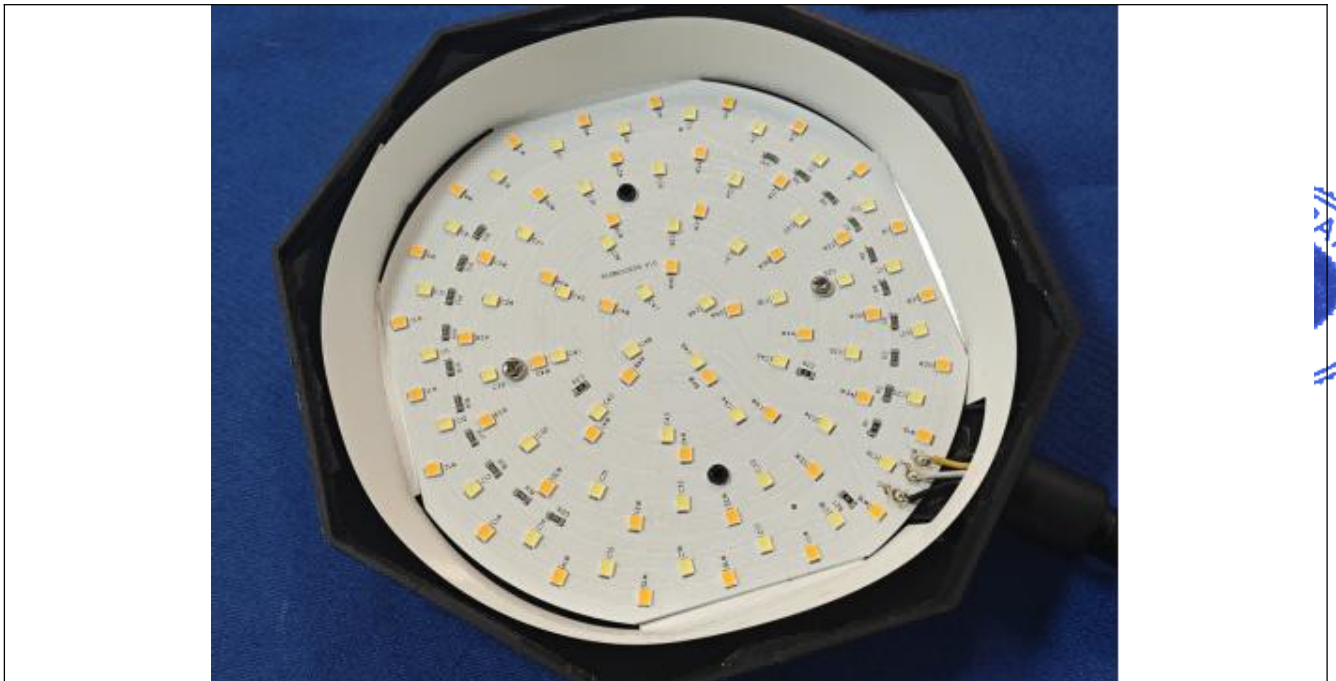


Photo 58

-----End of Test Report-----

