

Test Report

Report No.: MTi19071512-2S1

Date of issue: July 27, 2019

Sample Description: 5W wireless Charging desk lamp

Model(s): P308.78

Applicant:



Address:

Date of Test: July 17, 2019 to July 27, 2019

Shenzhen Microtest Co., Ltd.
<http://www.mtitest.com>







TEST REPORT EN 60598-2-4 Luminaires - Part 2: Particular requirements – Section 4: Portable general purpose luminaires	
Report Reference No.....:	MTi19071512-2S1
Tested by (printed name + signature)	Day Duan <i>Day Duan</i>
Supervised by (printed name + signature)	Julian Ma <i>Julian Ma</i>
Approved by (printed name + signature)	Tom Xue <i>Tom Xue</i>
Date of issue.....:	July 27, 2019
Testing Laboratory Name	Shenzhen Microtest Co., Ltd.
Address	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Testing location	Same as above.
Address	Same as above.
Applicant's name	
Address	
Test specification:	
Standard	EN 60598-2-4:2018 used in conjunction with EN 60598-1:2015+AC:2017-05+A1:2018
Test procedure	Test report
Non-standard test method	N/A
Test Report Form No.....:	IEC60598_2_4C
Test Report Form(s) Originator	UL (US)
Master TRF.....:	2014-07
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Test item description	5W wireless Charging desk lamp
Trade Mark	N/A
Manufacturer.....	
Address.....	
Model/Type reference.....	P308.78
Ratings.....	Input: 5V  , 2.5A Output: 5V  , 1A

Summary of testing: The test results show that the presented product is in compliance with the specified requirement.	
Tests performed: The sample(s) tested comply with the requirements of: EN 60598-2-4:2018 used in conjunction with EN 60598-1:2015+AC:2017-05+A1:2018 EN 62031:2008+A1:2013+A2:2015 The EUTs passed the test.	Testing location: Shenzhen Microtest Co., Ltd. No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Copy of marking plate: The artwork below may be only a draft.

5W wireless Charging desk lamp
 Model: P308.78
 Input: 5V , 2.5A
 Output: 5V , 1A

Importer: xxxx
 Address: xxxx

Test item particulars.....: 5W wireless Charging desk lamp	
Classification of installation and use: Class III	
Supply Connection.....: Not directly connected to the mains:	
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 : July 17, 2019	
Date (s) of performance of tests..... : July 17, 2019 to July 27, 2019	
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:	
The application for obtaining a 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) :	China Etech Groups Ltd 16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area, Xixiang Road, Bao'an District, Shenzhen, China
General product information: 1. The product 5W wireless Charging desk lamp is Class III LED luminaire which supplied by 5VDC, for indoor use only. 2. After review, full tests were performed on P308.78, and the most unfavourable data was recorded. 3. The maximum operation temperature: 40°C.	

EN 60598-2-4			
Clause	Requirement	Remark	Result

4.2 (0)	GENERAL TEST REQUIREMENTS		P
4.2 (0.1)	Information for luminaire design considered.....:	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.2 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.4 (2)	CLASSIFICATION		P
4.4 (2.2)	Type of protection	Class III	—
4.4 (2.3)	Degree of protection		—
4.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.4 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.5 (3)	MARKING		P
4.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.5 (3.3)	Additional information		P
	Language of instructions	English	P
4.5 (3.3.1)	Combination luminaires		N/A
4.5 (3.3.2)	Nominal frequency in Hz		N/A
4.5 (3.3.3)	Operating temperature		N/A
4.5 (3.3.4)	Symbol or warning notice		N/A
4.5 (3.3.5)	Wiring diagram		N/A
4.5 (3.3.6)	Special conditions		N/A
4.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
4.5 (3.3.8)	Limitation for semi-luminaires		N/A
4.5 (3.3.9)	Power factor and supply current		N/A
4.5 (3.3.10)	Suitability for use indoors	40°C	P
4.5 (3.3.11)	Luminaires with remote control		N/A
4.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
4.5 (3.3.13)	Specifications of protective shields		N/A
4.5 (3.3.14)	Symbol for nature of supply	---	P
4.5 (3.3.15)	Rated current of socket outlet		N/A
4.5 (3.3.16)	Rough service luminaire		N/A

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Clause	Requirement	Remark	Result
4.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
4.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
4.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
4.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
4.5 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		N/A
	Cautionary symbol		N/A
4.5 (3.3.22)	Controllable luminaires, insulation		N/A
4.5 (3.4)	Test with water	The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit.	P
	Test with hexane	See above	P
	Legible after test	After this test there was no damage to the label. The marking on the label did not fade.	P
	Label attached		P

4.6 (4)	CONSTRUCTION		P
4.6 (4.2)	Components replaceable without difficulty		P
4.6 (4.3)	Wireways smooth and free from sharp edges	Wire ways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors.	P
4.6 (4.4)	Lampholders		N/A
4.6 (4.4.1)	Integral lampholder	No lampholders	N/A
4.6 (4.4.2)	Wiring connection		N/A
4.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.6 (4.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A

EN 60598-2-4			
Clause	Requirement	Remark	Result
	- bending test (N)		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
4.6 (4.4.5)	Peak pulse voltage		N/A
4.6 (4.4.6)	Centre contact		N/A
4.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.6 (4.4.8)	Lamp connectors		N/A
4.6 (4.4.9)	Caps and bases correctly used		N/A
4.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.6 (4.6)	Terminal blocks		N/A
	Tails	No terminal	N/A
	Unsecured blocks		N/A
4.6 (4.7)	Terminals and supply connections		N/A
4.6 (4.7.1)	Contact to metal parts	No directly connection to main supply	N/A
4.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.6 (4.7.3)	Terminals for supply conductors		N/A
4.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
4.6 (4.7.4)	Terminals other than supply connection		N/A
4.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
4.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
4.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A

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Clause	Requirement	Remark	Result
	- compliance with IEC 61058-1 for electronic switches		N/A
4.6 (4.9)	Insulating lining and sleeves		N/A
4.6 (4.9.1)	Retainment		N/A
	Method of fixing.....:		—
4.6 (4.9.2)	Insulated linings and sleeves		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C)		N/A
4.6 (4.10)	Insulation of Class II luminaires		N/A
4.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation	Class III equipment, function insulation only	N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.6 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
4.6 (4.11)	Electrical connections		P
4.6 (4.11.1)	Contact pressure		P
4.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.6 (4.11.4)	Material of current-carrying parts		P
4.6 (4.11.5)	No contact to wood or mounting surface		P
4.6 (4.11.6)	Electro-mechanical contact systems		N/A
4.6 (4.12)	Mechanical connections and glands		N/A

EN 60598-2-4			
Clause	Requirement	Remark	Result
4.6 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A
4.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)		N/A
	- lampholder; torque (Nm)		N/A
	- push-button switches; torque 0,8 Nm		N/A
4.6 (4.12.5)	Screwed glands; force (Nm)		N/A
4.6 (4.13)	Mechanical strength		N/A
4.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm)	0.5 Nm	P
	1) live parts		P
	2) linings		P
	3) protection		N/A
	4) covers		P
4.6 (4.13.3)	Straight test finger		N/A
4.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
4.6 (4.13.6)	Tumbling barrel		N/A
4.6 (4.14)	Suspensions and adjusting devices		N/A
4.6 (4.14.1)	Mechanical load:		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

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Clause	Requirement	Remark	Result
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		—
	Bending moment (Nm) of semi-luminaire		N/A
4.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.6 (4.14.5)	Guide pulleys		N/A
4.6 (4.14.6)	Strain on socket-outlets		N/A
4.6 (4.15)	Flammable materials:		N/A
	- glow-wire test 650°C.....		N/A
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted		N/A
4.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
4.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear		P
4.6 (4.16.1)	Lamp control gear spacing:		P
	- spacing 35 mm		N/A
	- spacing 10 mm		P
4.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A

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Clause	Requirement	Remark	Result
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.6 (4.16.3)	Design to satisfy the test of 12.6		N/A
4.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
4.6 (4.18)	Resistance to corrosion:		N/A
4.6 (4.18.1)	- rust-resistance		N/A
4.6 (4.18.2)	- season cracking in copper		N/A
4.6 (4.18.3)	- corrosion of aluminium		N/A
4.6 (4.19)	Igniters compatible with ballast		N/A
4.6 (4.20)	Rough service vibration		N/A
4.6 (4.21)	Protective shield:		N/A
4.6 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
4.6 (4.21.3)	No direct path		N/A
4.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
4.6 (4.22)	Attachments to lamps		N/A
4.6 (4.23)	Semi-luminaires comply Class II		N/A
4.6 (4.24.1)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.6 (4.24.2)	Retinal blue light hazard		N/A
	Luminaires with Ethr		N/A
	a) Fixed luminaires		N/A
	Distance x m, borderline between RG1 and RG2		N/A
	Marking and instruction		N/A
	b) Portable and handheld luminaires		N/A
	RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Marking		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12		N/A
	RG at 200 mm according to IEC/62778		N/A
4.6 (4.25)	No sharp point or edges		P
4.6 (4.26)	Short-circuit protection:		N/A
4.6 (4.26.1)	Uninsulated accessible SELV parts		N/A

EN 60598-2-4			
Clause	Requirement	Remark	Result
4.6 (4.26.2)	Short-circuit test		N/A
4.6 (4.26.3)	Test chain according to Figure 29		N/A
4.6 (4.27)	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
4.6 (4.28)	Fixing of thermal sensing control		N/A
	External to lamp control gear		N/A
	Plug-in or easily replaceable type		N/A
	Adhesive fixing		N/A
	Positioning		N/A
	Temperature ($^{\circ}\text{C}$)		N/A
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
4.6 (4.29)	Luminaires with non-replaceable light source		N/A
	Replacement not possible		N/A
	Live part not accessible		N/A
	Breaking of the luminaire or its parts		N/A
	Removal of parts		N/A
	Compliance with test probe		N/A
	Access to live parts		N/A
4.6 (4.30)	Luminaires with non-user replaceable light source		N/A
	Protective cover		N/A
	Fixing means		N/A
	Cautionary symbol		N/A
4.6 (4.31)	Insulation between circuits		N/A
	Transformer or control gears		N/A
	Insulation between circuits		N/A
	Circuits insulated from LV supply		N/A
	Insulation provided		N/A
	Controllable luminaires		N/A
	Control terminals		N/A
	Insulation		N/A
	Control gear U-OUT		N/A

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Clause	Requirement	Remark	Result
4.6 (4.31.1)	SELV circuits		P
	Source		P
	Insulation between circuits	Not directly connected to the mains	N/A
	Control gear U-OUT		N/A
	Plug and socket outlet		N/A
4.6 (4.31.2)	FELV circuits		N/A
	Source		N/A
	Insulation between circuits		N/A
	Plug and socket outlet		N/A
4.6 (4.31.3)	Other circuits		N/A
	CI II		N/A
	Equipotential bonding		N/A
	All conductive part connected		N/A
	Resistance < 0,5 Ω		N/A
	Insulation fault: accessible part cause electric shock		N/A
	Master/slave applications		N/A
4.6 (4.32)	Overvoltage protective devices		N/A
	External to lamp control gear, connected to earth		N/A
	Fixed luminaires connected to a protective earth		N/A
4.6.1 (-)	Insulation not damaged when placing on support		N/A
4.6.2 (-)	Wiring fixed, to avoid rubbing		N/A
4.6.3 (-)	Stability (6°)		N/A
4.6.4 (-)	Candlestick luminaires with switch		N/A
4.6.5 (-)	E5 lampholders		N/A

4.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		N/A
4.7 (11.2)	Creepage distances and clearances	Class III equipment	N/A
	Working voltage (V)		—
	Rated pulse voltage (kV)		—
	Voltage form.....	Sinusoidal <input type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	—
	PTI	< 600 <input type="checkbox"/> \geq 600 <input type="checkbox"/>	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input type="checkbox"/> Category III <input type="checkbox"/>	—

EN 60598-2-4			
Clause	Requirement	Remark	Result
4.8 (7)	PROVISION FOR EARTHING		N/A
4.8 (7.2.1 + 7.2.3)	Accessible metal parts	Class III equipment	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
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Built-in control gear		N/A
4.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
4.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
4.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
4.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
4.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
4.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
4.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A

4.9 (14)	SCREW TERMINALS		N/A
	Separately approved; component list		N/A
	Part of the luminaire		N/A

4.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list		N/A
	Part of the luminaire		N/A

EN 60598-2-4			
Clause	Requirement	Remark	Result
4.10 (5)	EXTERNAL AND INTERNAL WIRING		P
4.10 (5.2)	Supply connection and external wiring		N/A
4.10 (5.2.1)	Means of connection.....:	Not directly connected to the mains	N/A
4.10 (5.2.2)	Type of cable		N/A
	Nominal cross-sectional area (mm ²).....:		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
4.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
4.10 (5.2.5)	Type Z not connected to screws		N/A
4.10 (5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
4.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
4.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
4.10 (5.2.9)	Locking of screwed bushings		N/A
4.10 (5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
4.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A

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Clause	Requirement	Remark	Result
	Labyrinth type anchorages		N/A
4.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
4.10 (5.2.10.3)	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
4.10 (5.2.11)	External wiring passing into luminaire		N/A
4.10 (5.2.12)	Looping-in terminals		N/A
4.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
4.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector		N/A
	Relevant IEC standard		N/A
4.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
4.10 (5.3)	Internal wiring		P
4.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A

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Clause	Requirement	Remark	Result
	- temperatures.....:	(see Annex 2)	P
	Green-yellow for earth only		N/A
4.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²)		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
4.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
4.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
4.10 (5.3.1.4)	Conductors without insulation		N/A
4.10 (5.3.1.5)	SELV current-carrying parts		P
4.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
4.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
4.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
4.10 (5.3.4)	Joints and junctions effectively insulated		N/A
4.10 (5.3.5)	Strain on internal wiring		N/A
4.10 (5.3.6)	Wire carriers		N/A
4.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
4.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		N/A
4.11 (8.2.1)	Live parts not accessible	Class III equipment, no hazardous	N/A

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Clause	Requirement	Remark	Result
	Basic insulated parts not used on the outer surface without appropriate protection		N/A
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		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 3.2.18 fitted to the luminaire		N/A
4.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
4.11 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
4.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
4.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
4.11 (8.2.5)	Compliance with the standard test finger or relevant probe		N/A
4.11 (8.2.6)	Covers reliably secured		N/A

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Clause	Requirement	Remark	Result
4.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A
4.11.1 (-)	Class I luminaire with bayonet lampholder:		N/A
	- cap not accessible with test finger		N/A
	- metal lampholder is earthed		N/A

4.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
4.12 (12.3)	Endurance test:		N/A
	- mounting-position		—
	- test temperature ($^{\circ}\text{C}$)		—
	- total duration (h)		—
	- supply voltage: Un factor; calculated voltage (V) ...:		—
	- lamp used		—
4.12 (12.3.2)	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
4.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
4.12 (12.5)	Thermal test (abnormal operation)		N/A
4.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
4.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature ($^{\circ}\text{C}$): at 1,1 Un		—
	- measured mounting surface temperature ($^{\circ}\text{C}$) at 1,1 Un		N/A
	- calculated mounting surface temperature ($^{\circ}\text{C}$)		N/A
	- track-mounted luminaires		N/A

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Clause	Requirement	Remark	Result
4.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
4.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
4.12 (12.7.1)	Luminaire without temperature sensing control		N/A
4.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.....		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C).....		—
	Ball-pressure test		N/A
4.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un.....		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C).....		—
	Ball-pressure test		N/A
4.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A

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Clause	Requirement	Remark	Result
	- case of abnormal conditions.....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
4.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out.....:	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out.....:	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions.....:		—
	- highest measured temperature of fixing point/ exposed part (°C):.....:		—
	Ball-pressure test:	See Table 4.15 (13.2.1)	N/A
4.12 (-)	Test overturned position (overturns < 15°)		N/A

4.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		N/A
4.13 (-)	If IP > IP 20 the order of tests as specified in clause 4.12		N/A
4.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP		—
	- mounting position during test.....:		—
	- fixing screws tightened; torque (Nm)		—
	- tests according to clauses		—
	- electric strength test afterwards		N/A
	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 SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A

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Clause	Requirement	Remark	Result
4.13 (9.3)	Humidity test 48 h		N/A

4.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
4.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)		—
	SELV		P
	- between current-carrying parts of different polarity :	100MΩ	P
	- between current-carrying parts and mounting surface	100MΩ	P
	- between current-carrying parts and metal parts of the luminaire	100MΩ	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 5		N/A
	Other than SELV		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
4.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)		N/A
	SELV		P
	- between current-carrying parts of different polarity :	500V	P
	- between current-carrying parts and mounting surface	500V	P
	- between current-carrying parts and metal parts of the luminaire	500V	P

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Clause	Requirement	Remark	Result
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
4.14 (10.3)	Touch current or protective conductor current (mA) ..		N/A

4.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
4.15 (13.2.1)	Ball-pressure test	See Test Table 4.15 (13.2.1)	P
4.15 (13.3.1)	Needle-flame test (10 s)	See Test Table 4.15 (13.3.1)	P
4.15 (13.3.2)	Glow-wire test (650°C)	See Test Table 4.15 (13.3.2)	P
4.15 (13.4.1)	Proof tracking test (IEC 60112)		N/A
	- part tested		N/A

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels are in an Accepted or Official Language of the country in question.

The equipment complies with the National Standards and/or Electrical Codes of the country, province or city in question.

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Clause	Requirement	Remark	Result

4.7 (11.2)	TABLE: Clearance and creepage distance measurements						N/A
Class of luminaire.....:	Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/>						—
Impulse withstand category	Category II <input type="checkbox"/> Category III <input type="checkbox"/>						—
Clearance (cl) and creepage distance (cr) at/of/between:	Insulation type	U peak (V)	U r.m.s. (V)	Required cl (mm)	Measured cl (mm)	Required cr (mm)	Measured cr (mm)
Current-carrying parts of different polarity	--	--	--	--	--	--	--
Current-carrying parts and accessible parts	--	--	--	--	--	--	--
Current-carrying parts and outer accessible surface of insulating parts	--	--	--	--	--	--	--
Parts becoming live due to breakdown of basic insulation and metal parts	--	--	--	--	--	--	--
Outer surface of cable where it is clamped and metal parts	--	--	--	--	--	--	--
Current-carrying parts and supporting surface	--	--	--	--	--	--	--
Supplementary information: B – Basic; S – Supplementary; R – Reinforced							

4.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm):		2 mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
PCB	See the table ANNEX 1	125	0.9	
Supplementary information:--				

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Clause	Requirement			Remark	Result
4.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
PCB	See the table ANNEX 1	10	No	0	Pass
Supplementary information:--					

4.15 (13.3.2)	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
Plastic enclosure	See the table ANNEX 1	30	No	0	Pass
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).....:					No
Supplementary information:--					

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Clause	Requirement			Remark	Result
ANNEX 1					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
PCB	SHENZHEN QILI ELECTRON CO LTD	QL-M	V-0, 130°C	IEC 60695	UL E328832
Plastic Enclosure	SABIC JAPAN L L C	945 (GG)	V-0, 130°C	UL 796	UL E207780
Supplementary information:					

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Clause	Requirement				Remark		Result
ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
	Type reference				P308.78		—
	Lamp used				LED modules		—
	Lamp control gear used				N/A		—
	Mounting position of luminaire				Normal use		—
	Supply wattage (W).....				11.73W		—
	Supply current (A)				2.347A		—
	Calculated power factor				N/A		—
	Table: measured temperatures corrected for $t_a = 40\text{ }^{\circ}\text{C}$:						
	- abnormal operating mode.....						—
	- test 1: rated voltage				5V ===		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....						—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage						—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....						—
	Through wiring or looping-in wiring <i>loaded by a current of A during the test</i>						—
	Temperature measurements, ($^{\circ}\text{C}$)						
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Internal wire	40	48.6	--	--	80	--	--
PCB near U1	40	69.3	--	--	130	--	--
Plastic enclosure	40	47.9	--	--	75	--	--
LED cover	40	47.2	--	--	60	--	--
Light object (10cm)	40	44.5	--	--	90	--	--
Mounting surface	40	43.2	--	--	90	--	--
Supplementary information:--							

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Clause	Requirement	Remark	Result
ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal :	No such parts	—
	Rated current (A) :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²) :		—
(14.3.3)	Conductor space (mm) :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :		N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) :		N/A
	Torque (Nm)..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N) :		N/A
(14.4.8)	Without undue damage		N/A

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal :	No such parts	—
	Rated current (A) :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A

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Clause	Requirement	Remark	Result
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples) :		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples) :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples)..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples) :		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples) :		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) :		N/A
(15.6)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) :		N/A
	Pull test pin or tab terminals (4 samples); pull (N) :		N/A

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Clause	Requirement					Remark				Result
(15.6.3.1)	TABLE: Contact resistance test									N/A
	Voltage drop (mV) after 1 h									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	--	--	--	--	--	--	--	--	--	--
	Voltage drop of two inseparable joints									--
	Voltage drop after 10th alt. 25th cycle									--
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										

EN60598_2_4C - ATTACHMENT			
Clause	Requirement	Remark	Result

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 60598-2-4:1997 used in conjunction with EN 60598-1:2014
Annex Form No.	EU_GD_IEC60598_2_4C
Annex Form Originator	OVE
Master Annex Form	2014-04
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	CENELEC COMMON MODIFICATIONS (EN)	P
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4.5 (3)	MARKING	P
4.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package	P

4.6 (4)	CONSTRUCTION	N/A
4.6 (4.11.6)	Electro-mechanical contact systems	N/A

4.10 (5)	EXTERNAL AND INTERNAL WIRING	P
4.10 (5.2.1)	Connecting leads	P
	- without a means for connection to the supply	N/A
	- terminal block specified	N/A
	- relevant information provided	N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	P
4.10 (5.2.2)	Cables equal to EN 50525	P
	Replace table 5.1 – Supply cord	P

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

EN60598_2_4C - ATTACHMENT			
Clause	Requirement	Remark	Result

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket-outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		N/A

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

EN 62031			
Clause	Requirement	Remark	Result

4	GENERAL REQUIREMENTS		—
4.4	Integral modules treated as part of luminaires defined in clause 0.5 of IEC 60598-1		—
4.5	Independent modules complies with requirements in IEC 60598-1		—

5	GENERAL TEST REQUIREMENTS		—
5.5	SELV-operated LED modules comply with Annex I of IEC 61347-2-13	(see Annex B)	—

6	CLASSIFICATION		—
	Built-in module	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Independent module.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Integral module	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		—

7	MARKING		P
7.1	Mandatory markings:		N/A
	- mark of origin		N/A
	- model number, type reference		N/A
	- rated supply voltage (V)		N/A
	- rated supply current (A)		N/A
	- rated input power (V)		N/A
	- nominal power		N/A
	- indication of connections, wiring diagram		N/A
	- value of tc		N/A
	- eye protection		N/A
	- marking of built-in modules only		N/A
7.2	- location of marking		N/A
7.3	Marking durable and legible		P
	Rubbing 15 s water, marking legible		P

8	SCREW TERMINALS		—
	Compliance with section 14 of IEC 60598-1		N/A
	SCREWLESS TERMINALS		N/A

EN 62031			
Clause	Requirement	Remark	Result
	Compliance with section 15 of IEC 60598-1		N/A
	CONNECTORS		N/A
	Compliance with IEC 60838-2-2		N/A

9	PROVISION FOR PROTECTIVE EARTHING		—
	External metal parts connected to the earth terminal:		N/A
	- compliance with 7.2.1 in IEC 60598-1		N/A
	Test with a current of 10 A between earthing terminal and each of the accessible metal parts; measured resistance (Ω): $< 0,5 \Omega$		N/A
	Protective earth, symbol		N/A
	Terminal complying with clause 8 in Part 1		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	Earthing via means of fixing		N/A
	Earthing terminal only used for the earthing of the control gear		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
	Conductors by tracks on printed circuit boards:		N/A
	- a.c. current of 25 A for 1 min between earthing terminal and accessible metal parts		N/A
	- compliance with clause 7.2.1 in IEC 60598-1		N/A

8 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS		—
	Protection against accidental contact with live parts in compliance with IEC 61347-1 (clause numbers between parentheses refer to IEC 61347-1)		N/A
- (10.1)	Control gear protected against accidental contact with live parts		N/A
- (A1)	Current measured according to IEC 60990, figure 4 and clause 7.1: max. 0,7 mA (peak) or 2,0 mA d.c., for $f \geq 1000$ Hz max. 70 mA		N/A
- (A2)	Voltage at 50 k Ω (V): max. 34 V (peak)		N/A
	Lacquer or enamel not used for protection or insulation		N/A

EN 62031			
Clause	Requirement	Remark	Result
	Adequate mechanical strength on parts providing protection		N/A
- (10.2)	Capacitors > 0,5 μ F: voltage after 1 min (V): < 50 V		N/A
8.1 (-)	SELV-equivalent controlgear accessible parts are insulated from live parts by double or reinforced insulation according 8.6 and 13.1 in IEC 60065		N/A
8.2 (-)	Exposed terminals of SELV or SELV-equivalent controlgear are allowed if: - the rated or maximum output voltage does not exceeding 25 V r.m.s. - the no-load output voltage does not exceed 30 V r.m.s. or $33\sqrt{2}$ V peak		N/A
	Insulated terminals if rated output voltage >25 V		N/A
	One capacitor Y1 or two capacitors Y2 of the same values used in series between SELV or SELV-equivalent output and primary circuits - Capacitor complying with IEC 60384-14 - Other components bridging the separating transformer complying with EN 60065, clause 14		N/A

11	MOISTURE RESISTANCE AND INSULATION		—
	Protection against moisture and insulation in compliance with Clause 11, IEC 61347-1		N/A
	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (M Ω): ≥ 2 M Ω		N/A
	Adequate insulation between input and output terminals not bounded together in SELV-equivalent controlgear		N/A
	For double or reinforced insulation the resistance exceeds 4 M Ω		N/A

12	ELECTRIC STRENGTH		—
	Electric strength in compliance with Clause 12 of IEC 61347-1		N/A
	Immediately after clause 11 electric strength test for 1 min		N/A
	Working voltage ≤ 42 V, test voltage 500 V		N/A
	Working voltage > 42 V, test voltage (V): $2U + 1000$ V		N/A
	Reinforced insulation, test voltage (V):		N/A
	No flashover or breakdown		N/A

EN 62031			
Clause	Requirement	Remark	Result
	Windings in separating transformers in SELV-equivalent control gear according to 14.3.2 of EN 60065		N/A
13	FAULT CONDITIONS		P
13.1	In compliance with IEC 61347-1 (clause numbers between parentheses refer to IEC 61347-1)		P
	When operated under fault conditions the LED-module:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected		P
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)		N/A
	Distances on printed boards provided with coating according to IEC 60664-3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices		P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile		P
- (14.4)	Short-circuit across electrolytic capacitors		P
- (14.5)	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
	After the tests the insulation resistance with d.c. 500 V (MΩ) are $\geq 1 \text{ M}\Omega$		P
	Temperature declared thermally protected LED-modules fulfil the requirements in Annex C of IEC 61437-1		N/A
- (14.6)	Relevant fault condition tests with high-power supply		N/A
13.2	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	During the tests, tissue paper, spread below module, does not ignite		P

EN 62031			
Clause	Requirement	Remark	Result

15	CONSTRUCTION		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P

16	CREEPAGE DISTANCES AND CLEARANCES		—
	Creepage and distances and clearances in compliance with IEC 60598-1		N/A
	Class of protection		—
	Working voltage (V)		—
	Voltage form		—
	PTI		—
	Rated pulse voltage (kV)	--	—

	(1) Live parts of different polarity: cr (mm); cl (mm)		N/A
	(2) Live parts and accessible parts: cr (mm); cl (mm)		N/A
	(3) Parts becoming live: cr (mm); cl (mm)		N/A
	(4) Outer surface of cable: cr (mm); cl (mm)		N/A
	(5) Live parts of switches: cr (mm); cl (mm)		N/A
	(6) Live parts and supporting surface: cr (mm); cl (mm)		N/A

17 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		—
	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		N/A
(4.11)	Electrical connections:		N/A
(4.11.1)	Contact pressure		N/A
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
	- at least two self-tapping screws		N/A
(4.11.3)	Screw locking:		N/A
(4.11.4)	Material of current-carrying parts		N/A
(4.11.5)	No contact to wood		N/A
(4.12)	Mechanical connections and glands:		N/A
(4.12.1)	Mechanical stress		N/A
	Screws not made of soft metal		N/A

EN 62031			
Clause	Requirement	Remark	Result
	Screws of insulating material		N/A
	Torque test: part; torque (Nm) :		N/A
	Torque test: part; torque (Nm) :		N/A
	Torque test: part; torque (Nm) :		N/A
(4.12.2)	Screw diameter < 3 mm screwed into metal		N/A
(4.12.3)	Void		—
(4.12.4)	Locked connections		N/A
(4.12.5)	Screwed glands: force (N) :		N/A

18 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING		—
	Resistance to Heat, Fire and Tracking in compliance with IEC 61347-1 (clause numbers between parentheses refer to IEC 61347-1)		P
(18.1)	Parts of insulating material retaining live parts in position, ball-pressure test:		P
	- part; test temperature (°C) :	PCB: 125°C, 0.9mm	P
	- part; test temperature (°C) :		N/A
	- part; test temperature (°C) :		N/A
(18.2)	Printed boards in accordance with IEC 60249-1, 4.3		N/A
(18.3)	External parts of insulating material preventing electric shock glow-wire test 650 °C		N/A
(18.4)	Parts of insulating material retaining live parts in position, needle-flame test 10 s:		P
	- flame extinguished within 30 s		P
	- no flaming drops igniting tissue paper		P
(18.5)	Tracking test		N/A

19	RESISTANCE TO CORROSION		—
	Resistance to corrosion in compliance with IEC 61347-1		N/A
	Rust protection:		N/A
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

A	ANNEX A - TESTS		--
	All tests performed in accordance with the advise given in Annex H of IEC 61347-1, if applicable		N/A
B	ANNEX B - SELV-operated LED modules		N/A
	Requirements not applicable to the evaluated products.		N/A

Annex Photos of Product

Photo 1

- ☒ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



Photo 2

- ☐ General
- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



Photo 3

- ☐ General
- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal

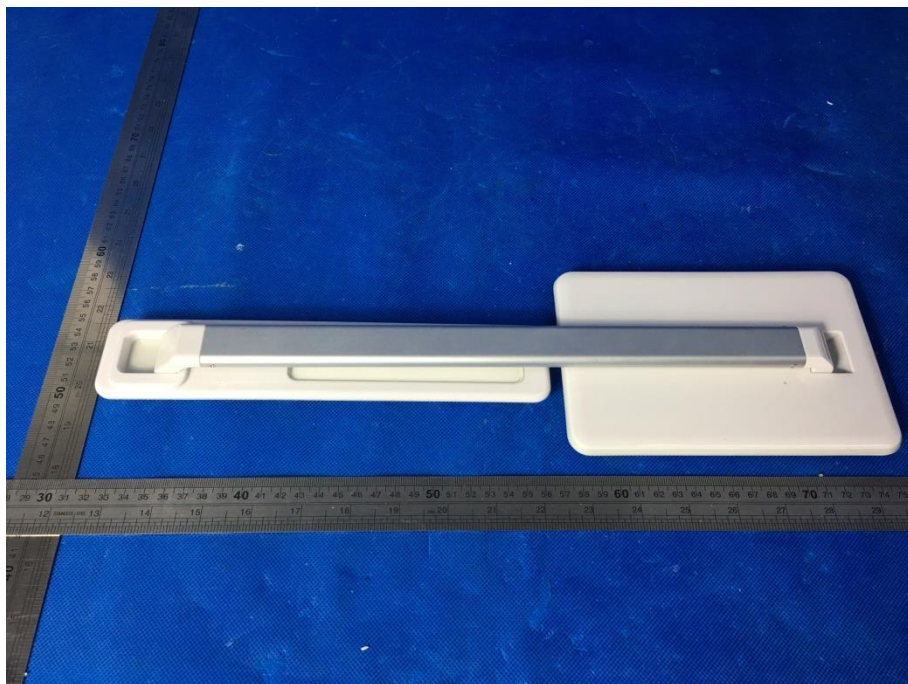


Photo 4

- ☐ General
- ☐ front
- ☒ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal

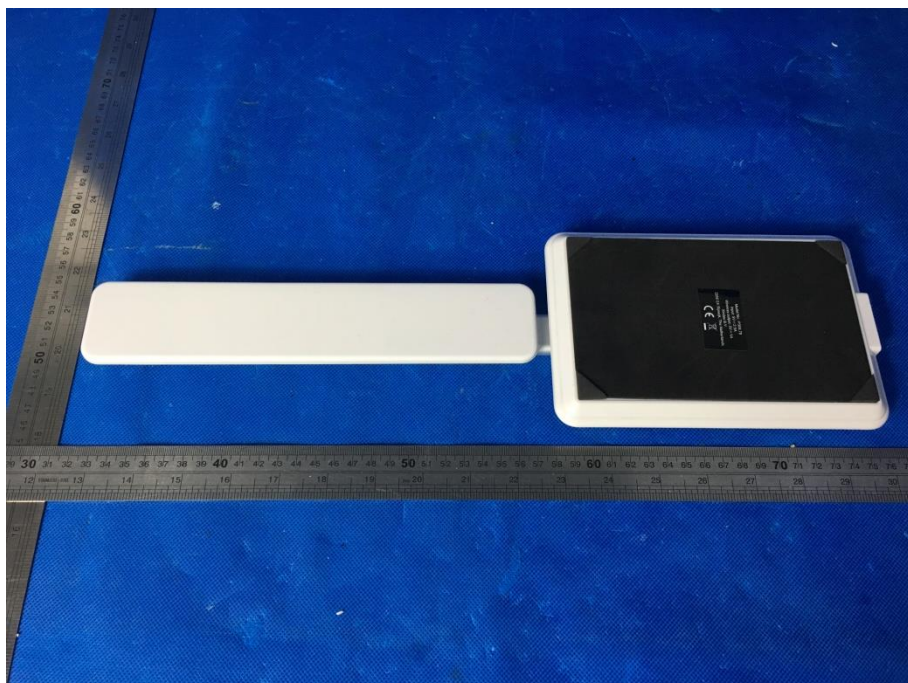


Photo 5

- ☐ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

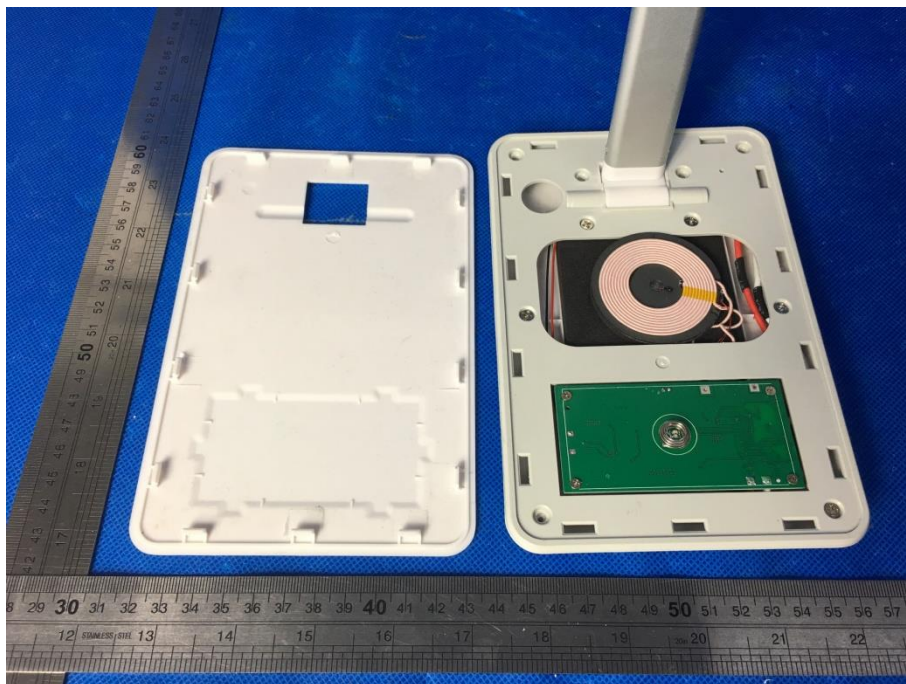


Photo 6

- ☐ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

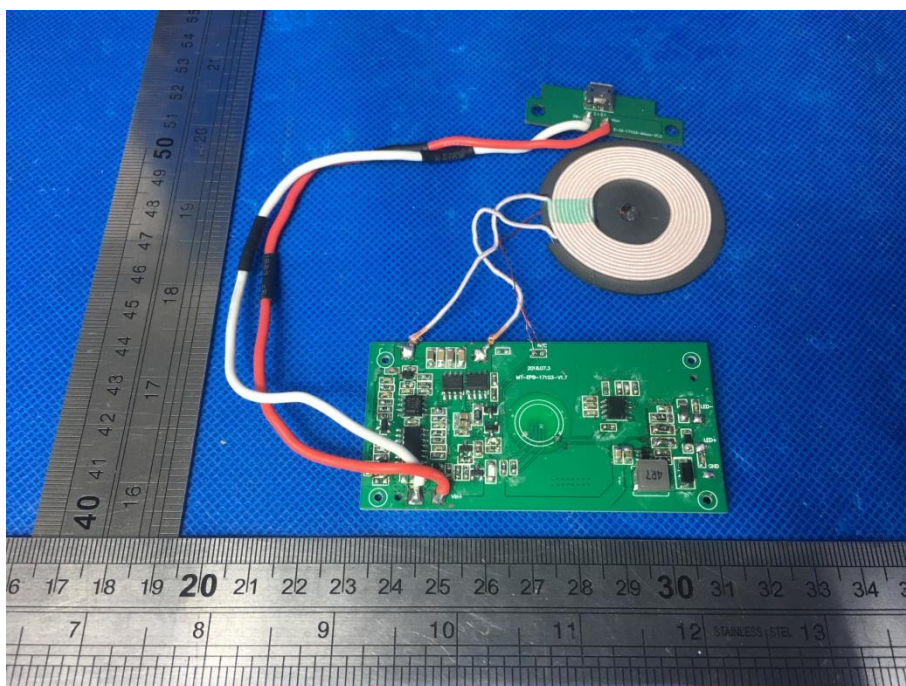


Photo 7

- ☐ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

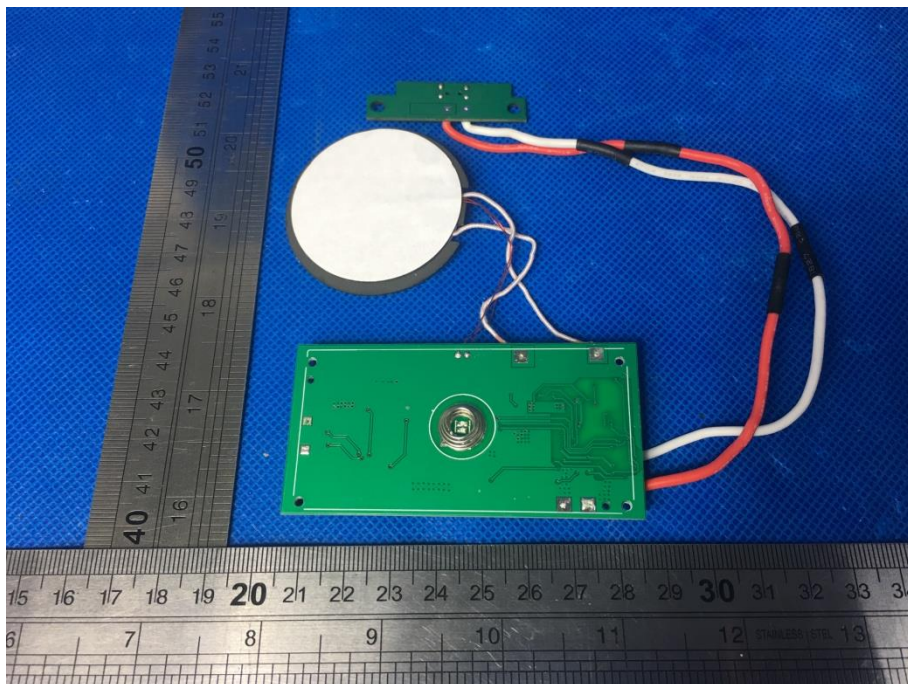


Photo 8

- ☐ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

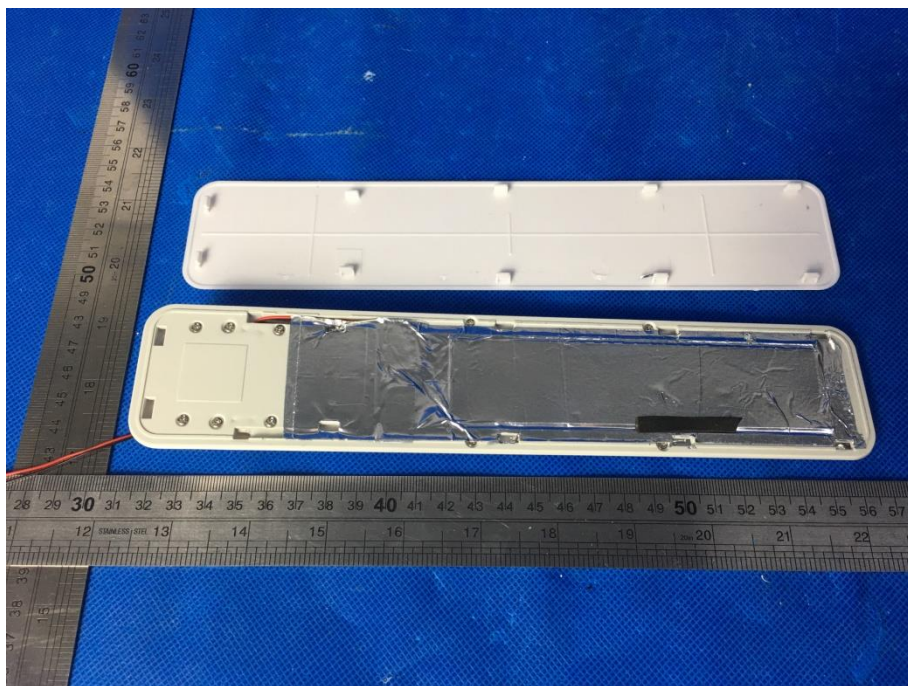


Photo 9

- ☐ General
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

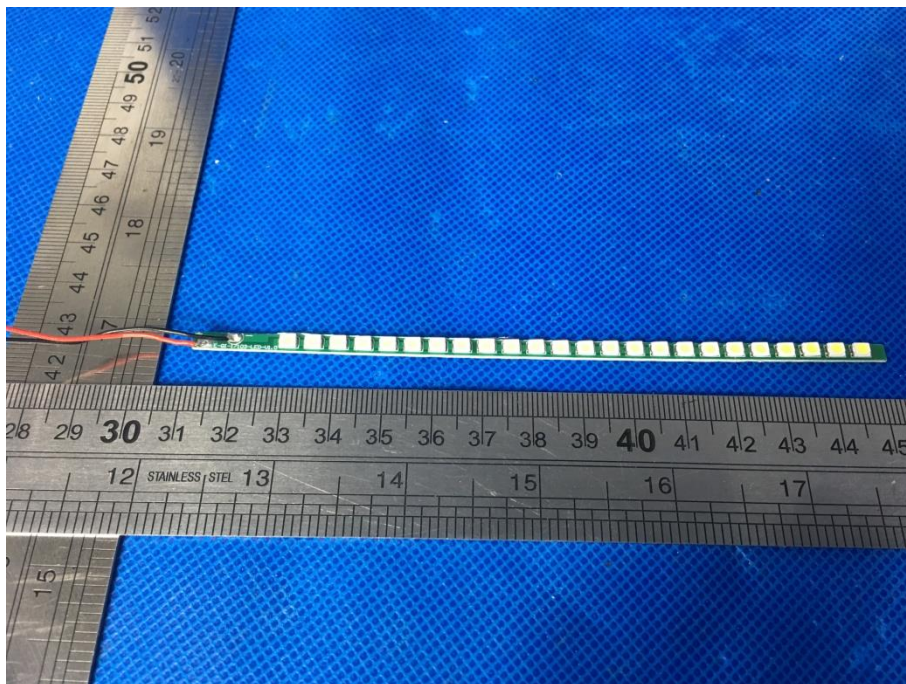


Photo 10

- ☐ General
- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



----- End Of Report -----