APPLICATION FOR LVD TEST REPORT

On Behalf of

Prepared For : **SHENZHEN GS LIGHT LIMITED**

Buiding 8, Hua Feng Science Technology Park, Fuyong Town, Bao'an District, Shenzhen, China.

Product Name : LED BULKHEAD LIGHT

Trademark : GS LIGHT

Model : GS-K145-01, GS-K145-02, GS-K145-03, GS-K220-01, GS-K220-02, GS-K220-03, GS-K275-02, GS-K275-03, GS-K300-01, GS-K300-02, GS-K300-03, GS-K350-01, GS-K350-02, GS-K350-03, GS-WL188-01, GS-WL188-02, GS-WL188-03

Prepared By : **Shenzhen POCE Technology Co., Ltd.**

H Building, Hongfa Science and Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, China

Test Date : July 25, 2022 to August 6, 2022

Date of Report : August 6, 2022

Report No. : POCE220728129PRS

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen POCE Technology Co., Ltd.

TEST REPORT
EN 60598-2-1
Luminaires
Part 2: Particular requirements
Section 1: Fixed general purpose luminaires

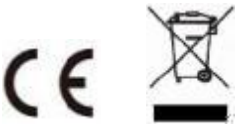
Report Number	:	POCE220728129PRS
Compiled by (name + signature)	:	Gavin
Approved by (name + signature)	:	Calvin Chen
Date of issue	:	August 6, 2022
Name of Testing Laboratory preparing the Report	:	Shenzhen POCE Technology Co., Ltd.
Applicant's name	:	SHENZHEN GS LIGHT LIMITED
Address	:	Buiding 8, Hua Feng Science Technology Park, Fuyong Town, Bao'an District, Shenzhen, China.
Test specification:		
Standard	:	EN IEC 60598 2 1:2021 EN IEC 60598-1:2021 + AMD11:2022 EN 62031:2008+A1:2013+A2:2015 EN 62493:2015
Test procedure	:	CE Scheme
Non standard test method	:	N/A
Test item description	:	LED BULKHEAD LIGHT
Trade Mark(s)	:	GS LIGHT
Manufacturer	:	SHENZHEN GS LIGHT LIMITED Buiding 8, Hua Feng Science Technology Park, Fuyong Town, Bao'an District, Shenzhen, China.
Model/Type reference	:	GS K145 01, GS K145 02, GS K145 03, GS K220 01, GS-K220-02, GS-K220-03, GS-K275-02, GS-K275-03, GS-K300-01, GS-K300-02, GS-K300-03, GS-K350-01, GS-K350-02, GS-K350-03, GS-WL188-01, GS-WL188-02, GS-WL188-03
Ratings	:	200 240V~ 50/60Hz 18W Max

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.

LED BULKHEAD LIGHT

Model: GS-K275-01
Rating: 200-240V~ 50/60Hz 18W



IP65

SHENZHEN GS LIGHT LIMITED

Made in China

Test item particulars..... :	
Classification of installation and use..... :	Class I
Supply Connection..... :	Supply cord
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 25, 2022
Date (s) of performance of tests..... :	July 25, 2022 to August 6, 2022

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☐ **Yes** ☒ **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 and other remarks:

The all models are same except their model number and power, and all tests are based on GS-K275-01.

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.4 (0)	**GENERAL TEST REQUIREMENTS**		P
1.4 (0.3)	More sections applicable..... :	Yes ☐ No ☒ Section/s:	—
1.4 (0.5)	Components	(see Annex 1)	—
1.4 (0.7)	**Information for luminaire design in light sources standards**		—
1.4 (0.7.2)	Light source safety standard ..... :		—
	Luminaire design in the light source safety standard		P
1.5 (2)	**CLASSIFICATION OF LUMINAIRES**		P
1.5 (2.2)	Type of protection ..... :	Class I	P
1.5 (2.3)	Degree of protection..... :	IP65	—
1.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces..... :	Yes ☐ No ☒	—
1.5 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—
1.6 (3)	**MARKING**		P
1.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.6 (3.3)	Additional information		P
	Language of instructions		P
1.6 (3.3.1)	Combination luminaires		N/A
1.6 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
1.6 (3.3.3)	Operating temperature		N/A
1.6 (3.3.5)	Wiring diagram		N/A
1.6 (3.3.6)	Special conditions		N/A
1.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.6 (3.3.8)	Limitation for semi-luminaires		N/A
1.6 (3.3.9)	Power factor and supply current		N/A
1.6 (3.3.10)	Suitability for use indoors		P
1.6 (3.3.11)	Luminaires with remote control		N/A
1.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
1.6 (3.3.13)	Specifications of protective shields		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (3.3.14)	Symbol for nature of supply	-	P
1.6 (3.3.15)	Rated current of socket outlet		N/A
1.6 (3.3.16)	Rough service luminaire		N/A
1.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y attachment	P
1.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		P
1.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.6 (3.3.23)	Luminaires without control gear provided with necessary information for selection of appropriate component		N/A
1.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
1.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
1.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
1.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
1.7 (4)	**CONSTRUCTION**		P
1.7 (4.2)	Components replaceable without difficulty		N/A
1.7 (4.3)	Wireways smooth and free from sharp edges		P
1.7 (4.4)	**Lamp holders**		N/A
1.7 (4.4.1)	Integral lamp holder		N/A
1.7 (4.4.2)	Wiring connection		N/A
1.7 (4.4.3)	Lamp holder for end- to- end mounting		N/A
1.7 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	After test the lamp holder comply with relevant standard sheets and show no damage		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation		N/A
	- bending test (N) ..... :		—
	After test the lamp holder has not moved from its position and show no permanent deformation		N/A
1.7 (4.4.5)	Peak pulse voltage		N/A
1.7 (4.4.6)	Centre contact		N/A
1.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.7 (4.4.8)	Lamp connectors		N/A
1.7 (4.4.9)	Caps and bases correctly used		N/A
1.7 (4.4.10)	Light source for lamp holder or connection according IEC 60061 not connected another way		N/A
1.7 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.7 (4.6)	**Terminal blocks**		**P**
	Tails		P
	Unsecured blocks		N/A
1.7 (4.7)	**Terminals and supply connections**		**P**
1.7 (4.7.1)	Contact to metal parts		P
1.7 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
1.7 (4.7.3)	Terminals for supply conductors		P
1.7 (4.7.3.1)	Welded method and material		P
	- stranded or solid conductor		P
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		P
	- electrical test according to 15.6.3		P
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		P
1.7 (4.7.4)	Terminals other than supply connection		P
1.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.8)	**Switches**		**N/A**
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058- 1 for electronic switches		N/A
1.7 (4.9)	**Insulating lining and sleeves**		N/A
1.7 (4.9.1)	Retainment		N/A
	Method of fixing..... :		N/A
1.7 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 oC to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (oC)..... :		N/A
1.7 (4.10)	**Double or reinforced insulation**		P
1.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
1.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
1.7 (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 lamp holder		N/A
1.7 (4.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384- 14		N/A
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
1.7 (4.11)	**Electrical connections and current- carrying parts**		**P**

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.11.1)	Contact pressure		P
1.7 (4.11.2)	Screws:		P
	- self-tapping screws		P
	- thread- cutting screws		N/A
1.7 (4.11.3)	Screw locking:		P
	- spring washer		P
	- rivets		N/A
1.7 (4.11.4)	Material of current-carrying parts		P
1.7 (4.11.5)	No contact to wood or mounting surface		P
1.7 (4.11.6)	Electro-mechanical contact systems		N/A
1.7 (4.12)	**Screws and connections (mechanical) and glands**		**P**
1.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	Fixed enclosure:2.0Nm	P
	Torque test: torque (Nm); part..... :	Fixed PCB: 1.2Nm	P
	Torque test: torque (Nm); part..... :	Fixed earthing terminal: 1.2Nm	P
1.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
1.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lamp holder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
1.7 (4.12.5)	Screwed glands; force (Nm)..... :		N/A
1.7 (4.13)	**Mechanical strength**		**P**
1.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm)..... :		P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
1.7 (4.13.2)	Metal parts have adequate mechanical strength		P
1.7 (4.13.3)	Straight test finger	30N	P
1.7 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
1.7 (4.13.6)	Tumbling barrel		N/A
1.7 (4.14)	**Suspensions, fixings and means of adjusting**		**P**
1.7 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		N/A
	D) load track- mounted luminaires		N/A
	E) clip- mounted luminaires, glass- shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) ..... :		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm²) ..... :		N/A
	Mass (kg) of semi-luminaire ..... :		N/A
	Bending moment (Nm) of semi-luminaire ..... :		N/A
1.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken..... :		N/A
	- electric strength test afterwards		N/A
1.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.7 (4.14.5)	Guide pulleys		N/A
1.7 (4.14.6)	Strain on socket- outlets		N/A
1.7 (4.15)	**Flammable materials**		N/A
	- glow- wire test 650oC..... :	See Test Table 1. 15 (13.3.2)	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

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Clause	Requirement + Test	Result - Remark	Verdict
	- electronic circuits exempted		N/A
1.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.7 (4.16)	**Luminaires for mounting on normally flammable surfaces**		N/A
	No lamp control gear..... :	(compliance with Section 12)	N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
1.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.7 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.7 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
1.7 (4.18)	**Resistance to corrosion**		N/A
1.7 (4.18.1)	- rust- resistance		N/A
1.7 (4.18.2)	- season cracking in copper		N/A
1.7 (4.18.3)	- corrosion of aluminium		N/A
1.7 (4.19)	Ignitors compatible with ballast		N/A
1.7 (4.20)	Rough service vibration		N/A
1.7 (4.21)	**Protective shield**		N/A
1.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
1.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.7 (4.21.3)	No direct path		N/A
1.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 1. 15 (13.3.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
1.7 (4.23)	Semi- luminaires comply Class II		N/A
1.7 (4.24)	**Photobiological hazards**		N/A
1.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.7 (4.24.2)	Retinal blue light hazard		N/A
	Class of risk group assessed according to IEC/ TR 62778 ..... :	RG0	—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2... :		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2- 10 and Mains socket outlet nightlights IEC 60598-2- 12 not exceed RG1 at 200 mm according to IEC/62778		N/A
1.7 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
1.7 (4.26)	**Short- circuit protection**		N/A
1.7 (4.26.1)	Adequate means of uninsulated accessible SELV / PELV parts		N/A
1.7 (4.26.2)	Short-circuit test with test chain according 4.26.3:		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12. 1 and 12.2		N/A
1.7 (4.27)	**Terminal blocks with integrated screwless protective earthing contacts**		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
1.7 (4.28)	**Fixing of thermal sensing control**		N/A
	Not plug-in or easily replaceable type		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (oC) ..... :		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
1.7 (4.29)	**Luminaires with non-replaceable light source**		N/A
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
1.7 (4.30)	**Luminaires with non-user replaceable light source**		**P**
	If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol:		P
	At least one fixing means requiring use of tool		P
1.7 (4.31)	**Insulation between circuits**		**P**
	Circuits insulated from LV supply fulfil requirements according 4.31. 1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31. 1 – 4.31.3		N/A
1.7 (4.31.1)	SELV or PELV circuits		P
	Used SELV/PELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV/PELV circuits from LV supply		N/A
	Insulating of SELV/PELV circuits from other non SELV/PELV circuits		N/A
	Insulating of SELV/PELV circuits from FELV		N/A
	Insulating of SELV/PELV circuits from other SELV/PELV circuits		N/A
	SELV/PELV circuits insulated from accessible parts according Table X. 1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X. 1		N/A
	Plugs not able to make any electrical contact with socket- outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket- outlets have protective conductor contact		N/A
1.7 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X. 1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/ slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
1.7 (4.32)	**Overvoltage protective devices**		N/A
	Comply with IEC 61643- 11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
1.6 (4.33)	**Luminaire powered via information technology communication cabling**		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
1.6 (4.34)	**Electromagnetic fields (EMF)**		P
	No harmful electromagnetic fields		P
1.6 (4.35)	**Protection against moving fan blades**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
1.6 (4.36)	**Track- mounted luminaires**		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A
1.8 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
1.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347- 1		N/A
1.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347- 1, clause 7.1, item w	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.9 (7)	**PROVISION FOR EARTHING**		P
1.9 (7.2. 1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω ..... :	0.02Ω	P
	Self- tapping screws used		P
	Thread- forming screws		N/A
	Thread- forming screw used in a grove		N/A
	Protective earth makes contact first		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		P
1.9 (7.2.2 + 7.2.3)	Protective earth continuity in joints, etc.		P
1.9 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
1.9 (7.2.5)	Protective earth terminal integral part of connector socket		N/A
1.9 (7.2.6)	Protective earth terminal adjacent to mains terminals		P
1.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal		P
1.9 (7.2.8)	Material of protective earth terminal		P
	Contact surface bare metal		P
1.9 (7.2. 10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
1.9 (7.2. 11)	Protective earthing core coloured green-yellow		P
	Length of protective earthing conductor		P
1.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A
1.10 (14)	**SCREW TERMINALS**		N/A
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 3)	N/A
1.10 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		N/A
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire..... :	(see Annex 4)	N/A
1.11 (5)	**EXTERNAL AND INTERNAL WIRING**		P
1.11 (5.2)	**Supply connection and external wiring**		**P**
1. 11 (5.2. 1)	Means of connection..... :	Supply cord	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
1. 11 (5.2.2)	Type of cable..... :		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Nominal cross-sectional area (mm²)..... :		P
	Cables equal to IEC 60227 or IEC 60245		P
1. 11 (5.2.3)	Type of attachment, X, Y or Z	Type Y attachment	P
1. 11 (5.2.5)	Type Z not connected to screws		N/A
1. 11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1. 11 (5.2.7)	Cable entries through rigid material have rounded edges		P
1. 11 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
1. 11 (5.2.9)	Locking of screwed bushings		N/A
1.11 (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
1.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
1.11 (5.2.10.3)	Tests:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... :	60	P
	- torque test: torque (Nm)..... :	0.25	P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
1.11 (5.2.10.4)	Luminaire with/designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV ≤ 25V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12V RMS/30V DC		N/A
	Pull test of 30N		N/A
1.11 (5.2. 11)	External wiring passing into luminaire		P
1.11 (5.2. 12)	Looping- in terminals		N/A
1.11 (5.2. 13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
1.11 (5.2. 14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
1.11 (5.2. 15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
1.11 (5.2. 16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
1.11 (5.2. 17)	No standardized interconnecting cables properly assembled		P
1.11 (5.2. 18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.11 (5.3)	**Internal wiring**		**P**
1. 11 (5.3. 1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		P
	- factory assembled		N/A
	- socket outlet loaded (A)..... :		N/A
	- temperatures..... :	(see Annex 2)	P
	Green- yellow for protective earth only		P
1.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm²)..... :		P
	Insulation thickness (mm) ..... :		P
	Extra insulation added where necessary		P
1.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm²)..... :		N/A
1.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
1.11 (5.3.1.4)	Conductors without insulation		N/A
1.11 (5.3.1.5)	SELV/ PELV current-carrying parts		P
1.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		P
1. 11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/ lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360o		P
1. 11 (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
1. 11 (5.3.4)	Joints and junctions effectively insulated		N/A
1. 11 (5.3.5)	Strain on internal wiring		N/A
1. 11 (5.3.6)	Wire carriers		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1. 11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
1.11 (5.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A
1.12 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
1. 12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	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
1. 12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.12 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible		N/A
	- required insulation from live parts in compliance with Table X. 1		N/A
	- glass protective shields not used as supplementary insulation		N/A
1.12 (8.2.3.b)	BC lamp holder of metal in class I luminaires shall be connected to protective earth		N/A
1.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 if required		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
	Class III luminaire only for connection to SELV/PELV		N/A
1.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... ...:		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... ...:		N/A
	One pole insulated if required		N/A
1. 12 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
1. 12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1. 12 (8.2.6)	Covers reliably secured		P
1. 12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μF not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 μF (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μF (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A

1.13 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
1.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) as specified in 1. 14		—
1.13 (12.2)	**Selection of lamps and ballasts**		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Control gear if separate and not supplied	(Control gear used see Annex 2)	—
1.13 (12.3)	**Endurance test**		**P**
	a) mounting- position ..... :	Normal mounting	—
	b) test temperature (。C)..... :	35	—
	c) total duration (h) ..... :	240	—
	d) supply voltage (V)..... :	264V	—
	d) if not equipped with control gear, constant voltage/current (V) or (A) ..... :		—
1.13 (12.3. 1d)	d) Class III luminaires powered via information technology communication cable:		N/A
	- voltage under normal operation (V)…… ...:		—
	- voltage under abnormal operation (V)…… ..:		—
	e) luminaire ceases to operate		—
	f) luminaire with constant light output function		N/A
1.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.13 (12.4)	**Thermal test (normal operation)**	(see Annex 2)	P
1.13 (12.5)	**Thermal test (abnormal operation)**	(see Annex 2)	N/A
1.13 (12.6)	**Thermal test (failed lamp control gear condition):**		N/A
1.13 (12.6. 1)	Through wiring or looping- in wiring loaded by a current of (A) ..... :		—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N/A
	- measured winding temperature (。C): at 1,1 Un ..... :		—
	- measured mounting surface temperature (。C) at 1,1 Un ..... :		N/A
	- calculated mounting surface temperature (。C) ..... :		N/A
	- track- mounted luminaires		N/A
1.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- thermal link		N/A
	- manual reset cut- out		N/A
	- auto reset cut- out		N/A
	- measured mounting surface temperature (oC) ..... :		N/A
	- track- mounted luminaires		N/A
1.13 (12.7)	**Thermal test (failed lamp control gear in plastic luminaires):**		N/A
1.13 (12.7. 1)	Luminaire without temperature sensing control		N/A
1.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....:		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions..... :		—
	- Ballast failure at supply voltage (V) ..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions..... :		—
	- measured winding temperature (oC): at 1,1 Un..... :		—
	- measured temperature of fixing point/ exposed part (oC): at 1,1 Un..... :		—
	- calculated temperature of fixing point/ exposed part (oC)..... :		—
	Ball-pressure test..... :	See Test Table 1.15 (13.2. 1)	N/A
1.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions..... :		—
	- measured winding temperature (oC): at 1,1 Un..... :		—
	- measured temperature of fixing point/ exposed part (oC): at 1,1 Un..... :		—
	- calculated temperature of fixing point/ exposed part (oC)..... :		—
	Ball-pressure test..... :	See Test Table 1.15 (13.2. 1)	N/A
1.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions..... :		—
	- Components retained in place after the test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Test with standard test finger after the test		N/A
1.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link..... :	Yes ☐ No ☐	—
	- manual reset cut-out..... :	Yes ☐ No ☐	—
	- auto reset cut-out..... :	Yes ☐ No ☐	—
	- case of abnormal conditions..... :		—
	- highest measured temperature of fixing point/ exposed part (。C):..... :		—
	Ball-pressure test:..... :	See Test Table 1.15 (13.2. 1)	N/A

1.14 (9)	**RESISTANCE TO DUST AND MOISTURE**		P
1. 14 (-)	If IP > IP 20 the order of tests as specified in clause 1. 12		N/A
1. 14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP65	—
	- mounting position during test..... :		—
	- fixing screws tightened; torque (Nm)..... :		—
	- tests according to clauses..... :	Clause 9.2.2 and Clause 9.2.6	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		P
	b) no talcum in dust- tight luminaire		P
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		P
	c.1) For luminaires without drain holes – no water entry		P
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		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
1. 14 (9.3)	Humidity test 48 h	25℃, 92%RH, 48h	P

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Clause	Requirement + Test	Result - Remark	Verdict

1.15 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
1.15 (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):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :	>100MΩ	P
	- between current-carrying parts and metal parts of the luminaire..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity..... :	>100MΩ	P
	- between live parts and mounting surface..... :	>100MΩ	P
	- between live parts and metal parts..... :	>100MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
1.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :	500V	P
	- between current-carrying parts and metal parts of the luminaire..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity..... :	1480V	P
	- between live parts and mounting surface..... :	1480V	P
	- between live parts and metal parts..... :	1480V	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
1.15 (10.3)	Touch current (mA). .....:		P
	Protective conductor current (mA)... .....:	0.09mA	P

1.16 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
1.16 (13.2. 1)	Ball-pressure test..... :	See Test Table 1.16 (13.2. 1)	P
1.16 (13.3. 1)	Needle-flame test (10 s)..... :	See Test Table 1.16 (13.3. 1)	P
1.16 (13.3.2)	Glow- wire test (650oC)..... :	See Test Table 1.16 (13.3.2)	P
1. 16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 1.16 (13.4)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.8 (11.2)	**TABLE I: Creepage distances and clearances**							**P**
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages							
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*							
	Insulation type **	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	Basic	3.67	1.5	**11.1.B***	>5.0	2.5	**Table 11.1.A***	
Working voltage (V)..... :					100-240V~			—
PTI..... :					< 600 ☒	≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV) ..... :								—
Supplementary information: Live part to metal enclosure								
Distance 2:								
Working voltage (V)..... :								—
PTI..... :					< 600 ☐	≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV) ..... :								—
Supplementary information:								
Distance 3:								
Working voltage (V)..... :								—
PTI..... :					< 600 ☐	≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV) ..... :								—
Supplementary information:								

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

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Clause	Requirement + Test	Result - Remark	Verdict

1.8 (11.2)	TABLE II: Creepage distances and clearances							N/A
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages								
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2								
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:								
Working voltage (V)..... :								—
Frequency if applicable (kHz)..... :								—
PTI..... :					< 600 ☐	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :								—
Supplementary information:								
Distance 2:								
Working voltage (V)..... :								—
Frequency if applicable (kHz)..... :								—
PTI..... :					< 600 ☐	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :								—
Supplementary information:								
Distance 3:								
Working voltage (V)..... :								—
Frequency if applicable (kHz)..... :								—
PTI..... :					< 600 ☐	≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :								—
Supplementary information:								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced.

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Clause	Requirement + Test	Result - Remark	Verdict

1.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm) ..... :		2	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (。C)	Impression diameter (mm)
Input terminal	See table ANNEX 1	125	0.7
Lamp cover	See table ANNEX 1	75	0.9
Supplementary information:			

1.16 (13.3.1)	TABLE: Needle-flame test				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
Input terminal	See table ANNEX 1	10	No	0	P
Supplementary information:					

1.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests				P
Object/ Part No./ Material	**Manufacturer/ trademark**	**GWT (°C) : 650**			**Verdict**
		t_E (s)	**t_i (s)**	**t_R (s)**	
Lamp cover	See table ANNEX 1	2	6	4	P
Ignition of the specified layer placed underneath the test specimen (Yes/No)..... :					No
Supplementary information:					

1.16 (13.4)	TABLE: Proof tracking test		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

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:					

ANNEX 1	TABLE: Critical components information				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1])**
Supply cord	Zhongshan Guzhen Hongli Cable & Appliance Factory	H05RR-F	3X0.75mm²	EN 50525-2-11:2011	VDE 40015521
Input terminal	补充信息	补充信息	补充信息	补充信息	补充信息
PCB for LED	SHENZHEN KAZ CIRCUIT CO LTD	KZ-AL1	Metal, V-0; 130℃	UL 796	UL E337072
LED	补充信息	SMD2835	补充信息	补充信息	补充信息
Lamp cover	CIXI FALAIXIN PLASTIC FACTORY	6170	PC, 80℃; V-0	UL 94	UL E303538
LED driver	Jiangsu Kegu Power Electronics Co., Ltd.	KEDH020S0450NC17A9	PRI: 220-240VAC, 50/60Hz 0.12A PF:≧0.92 SEC: Constant Current: 450mA 27-42VDC No load: 55VDC Max. 18.9W Ta:60℃, tc:90℃, SELV	EN 61347-1：2015 EN 61347-2-13-2014 / A1 : 2017	TUV Z10014980031 Rev.00
Input wire of driver	GUANGDONG YONGROI CABLE TECHNOLOGY CO LTD	1015	22AWG, 105℃, 600V	UL 758	UL E204893
Output wire of driver	GUANGDONG YONGROI CABLE TECHNOLOGY CO LTD	1015	20AWG, 105℃, 600V	UL 758	UL E204893
Heat shrinkable sleeve	GUANGZHOU KAIHENG NEW MATERIAL CO LTD	K-102	600V, 125℃	--	UL E321827

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

ANNEX 2	TABLE: Thermal tests of Section 12		P
	Type reference..... :	GS-K275-01	—
	Lamp used..... :	LED	—
	Lamp control gear used..... :	--	—
	Mounting position of luminaire..... :	Normal mounting	—
	Supply wattage (W) ..... :	18. 16W	—
	Supply current (A) ..... :	0.078A	—
	Temperatures in test 1 - 4 below are corrected for ta (。C) ..... :	25	—
	- abnormal operating mode..... :	--	—
1. 13 (12.4)	- test 1: rated voltage ..... :	--	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current ..... :	254.4VAC	—
	- 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 ..... :	--	—
1. 13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1 , 1 times constant voltage/ current or 130/150% of rated input voltage..... :	--	—

Temperature measurements (。C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	25	--	36.7	--	90	--	--
Input termianl	25	--	38.0	--	110	--	--
Input wire of driver	25	--	35.9	--	105	--	--
Output wire of driver	25	--	35.7	--	105	--	--
Driver enclosure	25	--	54.2	--	90	--	--
Lamp cover	25	--	44.9	--	80	--	--
LED PCB	25	--	47.0	--	130	--	--
Metal enclosure	25	--	30.9	--	Ref.	--	--
Mounting surface	25	--	30.2	--	90	--	--

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

ANNEX 3	**Screw terminals (part of the luminaire)**		N/A
(14)	**SCREW TERMINALS**		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		
(14.4. 1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm)..... :		N/A
	Torque (Nm)..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

ANNEX 4	**Screwless terminals (part of the luminaire)**		N/A
(15)	**SCREWLESS TERMINALS**		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3. 1)	Material		N/A
(15.3.2)	Clamping		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3. 10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5. 1)	Mechanical tests		N/A
(15.5. 1. 1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(15.5. 1. 1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples)..... :		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)..... :		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples)..... :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6. 1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring- type terminals or welded connections (4 samples); pull (N) ..... :		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N) ..... :		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

(15.6.3.1) **(15.6.3.2)**	**TABLE: Contact resistance test / Heating tests**										N/A
	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Voltage drop of two inseparable joints										
	Voltage drop after 10th alt. 25th cycle									N/A	
	Max. allowed voltage drop (mV)..... :									—	
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Voltage drop after 50th alt. 100th cycle									N/A	
	Max. allowed voltage drop (mV)..... :									—	
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Continued ageing: voltage drop after 10th alt. 25th cycle									N/A	
	Max. allowed voltage drop (mV)..... :									—	
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A	
	Max. allowed voltage drop (mV)..... :									—	
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
										N/A	
Supplementary information:											

Attachment I: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC60598-2- 1I ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60598-2-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires			
Differences according to:	EN IEC 60598-2- 1:2021 used in conjunction with EN IEC 60598- 1:2021 + AMD11:2022		
TRF template used:	IECEE OD-2020-F2:2020, Ed. 1. 1		
Attachment Form No. : Attachment Originator : Master Attachment :	EU_GD_IEC60598_2_1I UL(Demko) 2022-05- 13		
Copyright © 2022 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	CENELEC COMMON MODIFICATIONS (EN)		P
1.6 (3)	MARKING		P
1.6 (3.2.12)	Note 4 deleted		P
1.7 (4)	CONSTRUCTION		N/A
1.7 (4. 11.6)	Electro- mechanical contact systems: electric strength test at 1 500 V		N/A
1.11 (5)	EXTERNAL AND INTERNAL WIRING"		P
1.11 (5.2.2)	Cables equal to EN 50525 (all parts)		P
	Paragraph 2 deleted		P
	Replace table 5. 1 – Supply cord		P
1.13 (12)	ENDURANCE TESTS AND THERMAL TESTS		P
1. 13 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
(3.3)	DK: power supply cords of class I luminaires with label		P
(5.2.1)	CY, DK, FI, UK: type of plug		N/A
(5.2.18)	DK: socket- outlets		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings (Decree of 30 December 2011 on safety regulations for the construction of high-rise buildings and their protection against fire and panic risks; Section VIII; Article GH 48, Lighting) Glow- wire test for outer parts of luminaires:		N/A
	- 850oC for luminaires in stairways and horizontal travel paths		N/A
	- 650oC for indoor luminaires		N/A
	UK: Requirements according to United Kingdom Building Regulation		N/A

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment II: EN 62031:2008+A1:2013+A2:2015

4	**GENERAL REQUIREMENTS**		**P**
4.4	Integral modules treated as part of luminaires defined in clause 0.5 of EN 60598- 1		N/A
4.5	Independent modules complies with requirements in EN 60598- 1		P

5	**GENERAL TEST REQUIREMENTS**		**P**
5.5	SELV- operated LED modules comply with Annex I of EN 61347-2- 13	See Annex B	P

6	**CLASSIFICATION**		**P**
	Built- in module	Yes ☐ No ☒	--
	Independent module	Yes ☒ No ☐	--
	Integral module	Yes ☐ No ☒	--
	For Integral module; Note to 1.2. 1 in EN 60598- 1 applies;		N/A

7	**MARKING**		N/A
7.1	Mandatory markings:	Integrated LED module	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(W)		N/A
	- incication 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

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Marking durable and legible		N/A
	Rubbing 15 S water, marking legible		N/A
8	**SCREW TERMINALS**		**N/A**
	Compliance with section 14 of EN 60598- 1		N/A
	SCREWLESS TERMINALS		N/A
	Compliance with section 15 of EN 60598- 1		N/A
	CONNECTORS		N/A
	Compliance with IEC 60838-2-2		N/A
9	**PROVISION FOR EARTHING**		**P**
	Provision fo protective earthing in compliance with clause 9 of EN 61347- 1		P
10(10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		**P**
	Protection against accidental contact with live parts in compliance with EN 61347- 1		P
11 (11)	**MOISTURE RESISTANCE AND INSULATION**		**P**
	Protection against moisture and insulation in compliance with Clause 11, EN 61347- 1		**P**
12 (12)	**ELECTRIC STRENGTH**		**P**
	Electric strength in compliance with Clause 12 of EN 61347- 1		**P**
13	**FAULT CONDITIONS**		**P**
13.1	**In compliance with IEC 61347-1 (clause numbers between parentheses refer to EN 61347-1)**		P
	In compliance with clause 14 of EN 61347- 1		P
13.2	Module withstands over power condition ＞15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min, at limit.		N/A

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	During the tests, tissue paper, spread below module, does not ignite		P
15	**CONSTRUCTION**		**P**
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
16	**CREEPAGE DISTANCES AND CLEARANCES**		P
	Creepage and distances and clearances in compliance with EN 60598- 1		P
17(17)	**SCREWS, CURRENT- CARRYIN PARTS AND CONNECTIONS**		P
	Screws, current- carrying parts and connections in compliance with EN 60598- 1 (clause numbers between parentheses refer to EN 60598- 1)		P
18 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
	Resistance to Heat, Fire and Tracking in compliance with clause 18 of EN 61347- 1		P
19	**RESISTANCE TO CORROSION**		**N/A**
	Resistance to corrosion in compliance with EN 61347-1		N/A
	Rust protection:		N/A
	- test according 4. 18. 1 of EN 60598- 1		N/A
	- adequate varnish on the outer surface		N/A
A	**ANNEX A – TESTS**		**P**
	All tests performed in accordance with the advise given in Annex H of EN 61347- 1, if applicable		P
B	**ANNEX B – SELV- operated LED modules**		P
	Requirements not applicable to the evaluated products.		N/A

EN 62471			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment III: EN 62493:2015

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 ☐ No ☒	—
	2) incandescent-lamp technology	Yes ☐ No ☒	—
	3) LED-light-source technology	Yes ☒ No ☐	—
	4) OLED-light-source technology	Yes ☐ No ☒	—
	5) high-pressure discharge lamp LED-light-source technologies	Yes ☐ No ☒	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes ☐ No ☒	—
	7) independent auxiliary	Yes ☐ No ☒	—
	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

5	**GENERAL**		N/A
5.1	**Measurand**		N/A
	Test head, measuring instrumentation and measuring conditions according Clause 5.1 – 5.8		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

EN 62471			
Clause	Requirement + Test	Result - Remark	Verdict

7	**ASSESSMENT PROCEDURE INTENTIONAL RADIATORS**		N/A
7.2	**Low-power exclusion method**		N/A
7.2.1	Input $P_{int,rad}$.....		—
	Exclusion level P_{max}.....	20mW	—
	Input power $P_{int,rad}$ < exclusion level P_{max}		N/A
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		Measuring distance	Result (*F*)	Limit (*F*)	Verdict

6	**TABLE: Equipment used during test with Van der Hoofden test head**		
Equipment	Manufacturer	Type	Id. No.

Attachment IV: Product of photos

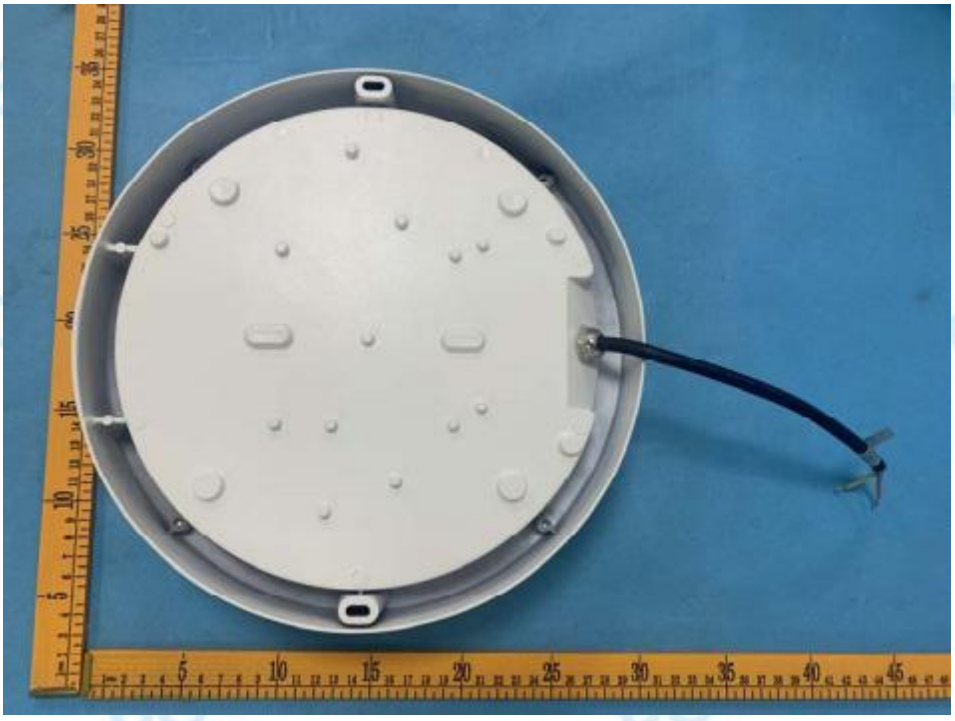
Photo 1	
Photo 2	

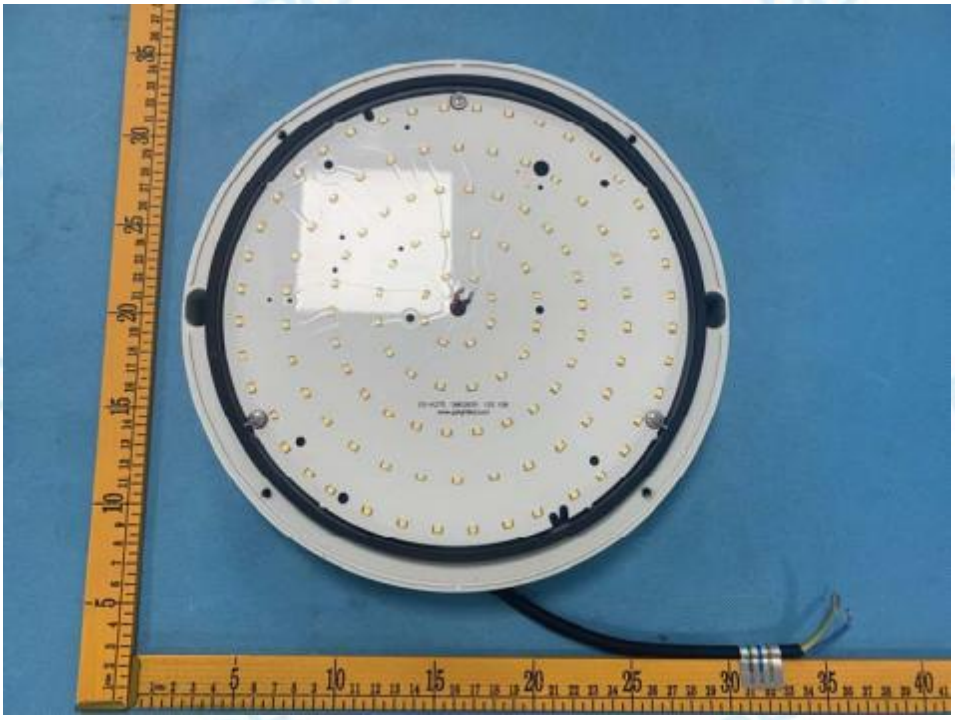
Photo 3	
Photo 4	

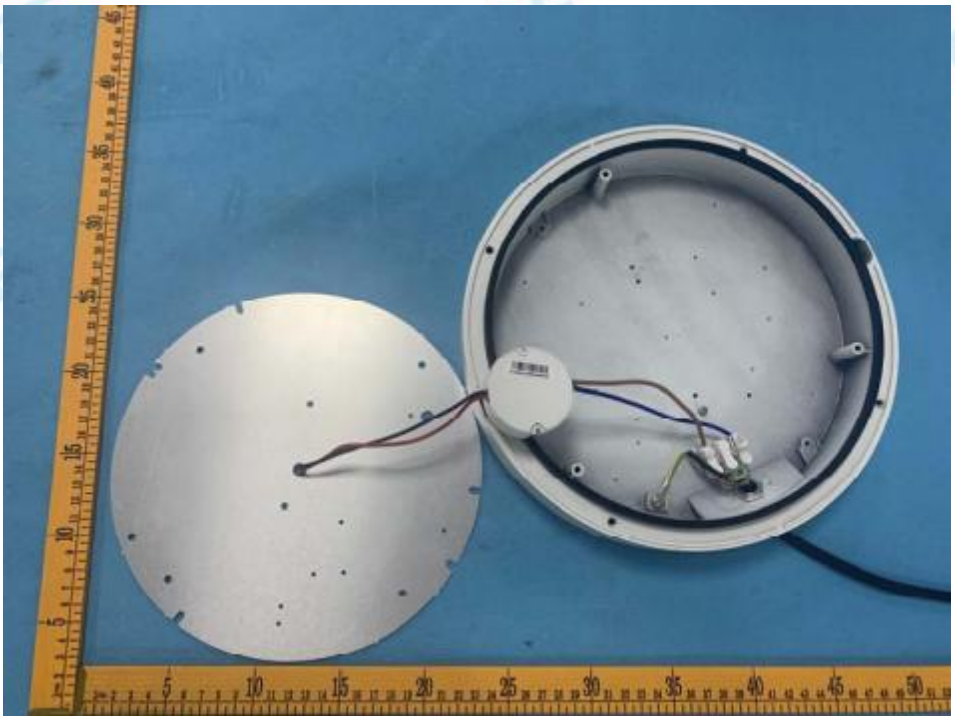
Photo 5	
Photo 6	

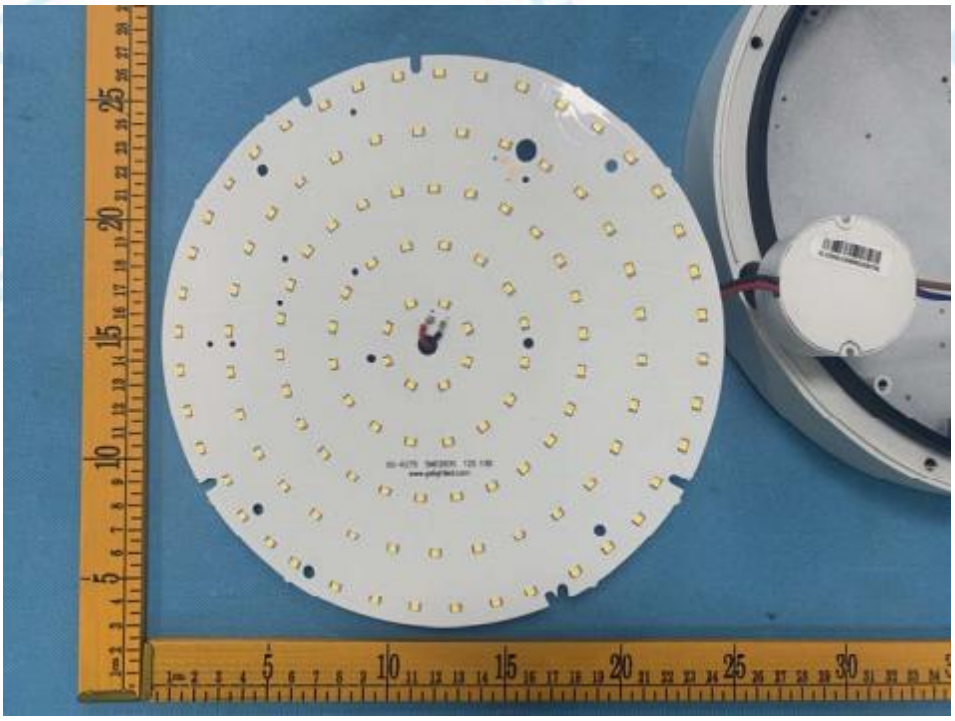
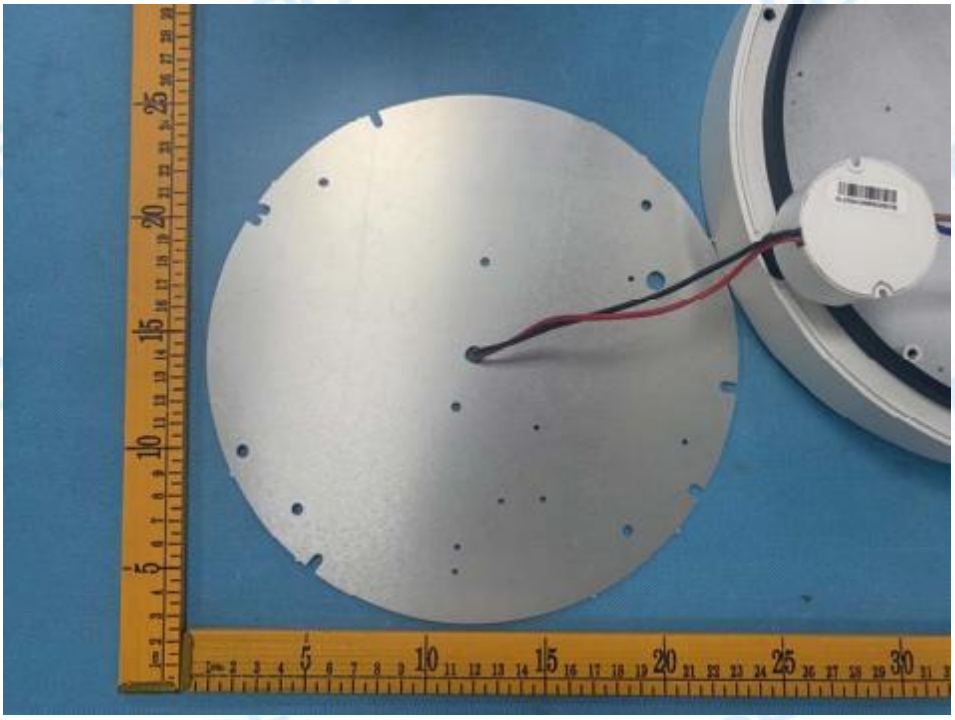
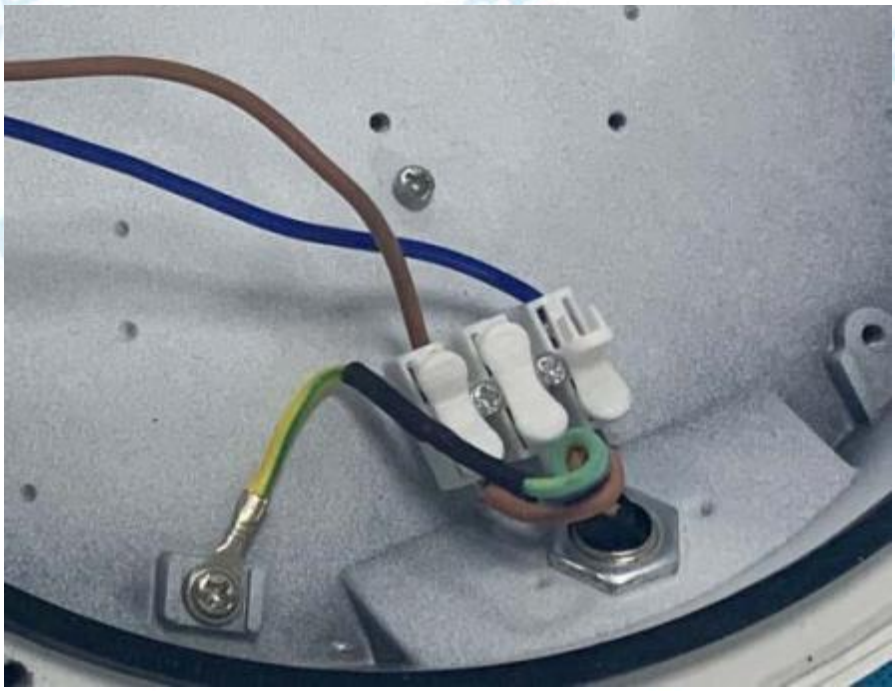
Photo 7	
Photo 8	

Photo 9	

THE END