



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

Report Reference No	9474-16-70-23-PP005
Tested by (+ signature)	Nick Yin (Project engineer) <i>Nick Yin</i>
Approved by (+ signature)	Owen Zhan (Technical Director) <i>Owen Zhan</i>
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Total number of pages	52 pages
Testing Laboratory	SLG-CPC Testlaboratory Co., Ltd.
Address	No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117
Testing location/ address	Same as above.
Applicant's name	TIELING CAIJIA GLASSWARE CO., LTD
Address	No. 1 CHENGNAN STREET, ECONOMIC DEVELOPMENT ZONE, TIELING, LIAONING, CHINA
Test specification:	
Standard	IEC 60598-2-4:2017 for use in conjunction with IEC 60598-1:2020
Test procedure.....	Safety test
Non-standard test method	N/A
Test Report Form No.	IEC60598_2_4B9 (IEC60598_2_4I)
Master TRF	Dated 2021-06-10
Test item description	GLASS LAMP
Trade Mark	N/A
Manufacturer	TIELING CAIJIA GLASSWARE CO., LTD
Address	No. 1 CHENGNAN STREET, ECONOMIC DEVELOPMENT ZONE, TIELING, LIAONING, CHINA
Model/Type reference	G16-4; G12-22; G12-23; TL11; TL12; GJ17-20; GJ19-23
Ratings	220-240 V~; 50 Hz; E14; Max. 25 W incandescent bulb or LED bulb 5 W; class II; IP20; Suitable for mounting on flammable material surfaces

**Copy of marking plate:**

According to the EU directives and UK legislation, both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU and UK market.

Rating label of the luminaire on the surface of enclosure (this marking is a sample)

GLASS LAMP

Model: G12-23

220-240 V~ 50 Hz E14 Max. 25 W incandescent lamp bulb
or 5W LED bulb



TIELING CAIJIA GLASSWARE CO., LTD

No. 1 CHENGNAN STREET, ECONOMIC DEVELOPMENT
ZONE, TIELING, LIAONING, CHINA

Label for other models are the same as above, except the model name.

Marking near E14 lampholder:

220-240 V~ 50 Hz E14 Max. 25 W incandescent lamp bulb or 5W LED bulb



Summary of testing:	
<p>Tests performed (name of test and test clause):</p> <p>The models G12-23 and GJ17-20 as representative sample has been carried out full test and found to comply with the requirements mentioned on page one.</p> <p>Other models have been carried out stability test.</p> <p>The product were fall into "Clause 4.2.2 Lighting equipment deemed to comply with the Van der Hoofden test without testing" of EN 62493:2015 (BS EN 62493:2015).</p> <p>IEC 60598-2-4:2017 used in conjunction with IEC 60598-1:2014, AMD1:2017 and the standards listed in the Summary of compliance with National Differences.</p> <p>Remark: the supply cable with fibre sleeving which are incorporated to cord switch and plug were subjected to additional pull test, torque test and flexing test (5000 cycles) with positive results.</p>	<p>Testing location:</p> <p>SLG-CPC Testlaboratory Co., Ltd. No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117</p>
<p>Summary of compliance with National Differences:</p> <p>List of countries addressed:</p> <ul style="list-style-type: none"> - CENELEC member countries - United Kingdom <p><input checked="" type="checkbox"/> The product fulfils the requirements of</p> <ul style="list-style-type: none"> - EN 60598-2-4:2018 used in conjunction with EN IEC 60598-1:2021 + A11:2022 - BS EN 60598-2-4:2018 used in conjunction with BS EN IEC 60598-1:2021 + A11:2022 	



Test item particulars:	
Classification of installation and use: Class II	
Supply Connection: Non-detachable flexible cable with plug	
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	Aug. 10, 2016; July 16, 2019; July 09, 2021; April 28, 2023
Date (s) of performance of tests	Aug. 10, 2016 – Aug. 22, 2016; Apr. 20, 2017 Apr. 20, 2017 – Jun. 13, 2017 July 16, 2019 – July 29, 2019; July 09, 2021 - July 12, 2021 April 28, 2023 – May 05, 2023
General remarks:	
<p>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 comma (point) is used as the decimal separator. Clause numbers between brackets refer to clauses in IEC 60598-1</p> <p>Unless otherwise stated the decision rule of uncertainties in the tests and measurements are evaluated in according to CPC procedure files CPC-3195 and CPC-2040. Decision rule for statement(s) of conformity is based on Procedure 1 in CPC-2040 and measurement uncertainty is not applied when providing statements of conformity in accordance with IEC Guide 115:2023, 4.3.3.</p> <p>Below annex shows where the contents of TRF have been modified by SLG-CPC: - Add ANNEX 5: National Differences for (country name) or Group Differences - Add used measuring equipment; - Add ANNEX: Photo documentation</p>	
Name and address of factory (ies)	SHENYANG CHANGHAO GLASSWARE CO., LTD FAHANIU COUNTY, XINMIN, SHENYANG, CHINA.


General product information:
GLASS LAMP

Model: G16-4; G12-22; G12-23; TL11; TL12; GJ17-20; GJ19-23

220-240 V~; 50 Hz; E14; Max. 25 W; class II; IP20; Suitable for mounting on flammable material surfaces.

All models are with same construction; except size, shape, picture on the lamp cover and model name.

Each model has multiple pictorial styles on the glass body and component colour.

Model lists:

Model name	Description	Photos		Power
G16-4	Glass lamp (D:380 mm; H:370 mm; approximately 3,5 kg)			E14 Max. 25 W
G12-22	Glass lamp (D:290 mm; H:280 mm; approximately 2,5 kg)			E14 Max. 25 W
G12-23	Glass lamp (D:240 mm; H:240 mm; approximately 2,2 kg)			E14 Max. 25 W
TL11	Glass lamp (D:400*300 mm; H:240 mm; approximately 3,4kg)			E14 Max. 25 W
TL12	Glass lamp (D:300*200 mm; H:200 mm; approximately 2,1kg)			E14 Max. 25 W
GJ17-20	Glass lamp (D:200 mm; H:180 mm; approximately 1,9 kg)			E14 Max. 25 W



Model name	Description	Photos		Power
GJ19-23	Glass lamp (D:220 mm; H:210 mm; approximately 1,8 kg)			E14 Max. 25 W



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.4 (0)	GENERAL TEST REQUIREMENTS		P
4.4 (0.3)	More sections applicable..... :	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Section/s:	—
4.4 (0.5)	Components	(see Annex 1)	—
4.4 (0.7)	Information for luminaire design in light sources standards		—
4.4 (0.7.2)	Light source safety standard		—
	Luminaire design in the light source safety standard		N/A

4.5 (2)	CLASSIFICATION OF LUMINAIRES		P
4.5 (2.2)	Type of protection	Class II	P
4.5 (2.3)	Degree of protection..... :	IP20	—
4.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.5 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.5.1 (-)	Ordinary luminaire classified "for indoor use only" ... :	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaires other than ordinary classified "for indoor use only"	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Luminaires other than ordinary classified for "outdoor use" and "for indoor use"	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.5.2 (-)	Portable luminaire for outdoor use classified IPX4 or higher		N/A
4.5.3 (-)	Luminaires designed for standing on a floor or table classified as suitable for direct mounting on normally flammable surfaces		P

4.6 (3)	MARKING		P
4.6 (3.2)	Mandatory markings	See "Copy of marking plate"	P
	Position of the marking	See "Copy of marking plate"	P
	Format of symbols/text		P
4.6 (3.3)	Additional information		P
	Language of instructions	English	P
4.6 (3.3.1)	Combination luminaires		N/A
4.6 (3.3.2)	Nominal frequency in Hz	50 Hz	P
4.6 (3.3.3)	Operating temperature		N/A
4.6 (3.3.5)	Wiring diagram		N/A
4.6 (3.3.6)	Special conditions		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
4.6 (3.3.8)	Limitation for semi-luminaires		N/A
4.6 (3.3.9)	Power factor and supply current		N/A
4.6 (3.3.10)	Suitability for use indoors		N/A
4.6 (3.3.11)	Luminaires with remote control		N/A
4.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
4.6 (3.3.13)	Specifications of protective shields		N/A
4.6 (3.3.14)	Symbol for nature of supply	~	P
4.6 (3.3.15)	Rated current of socket outlet		N/A
4.6 (3.3.16)	Rough service luminaire		N/A
4.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
4.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
4.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
4.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
4.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		N/A
4.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
4.6 (3.3.23)	Luminaires without controlgear provided with necessary information for selection of appropriate component		N/A
4.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
4.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
4.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
4.6 (3.4)	Test with water	15 s	P
	Test with hexane	15 s	P
	Legible after test		P
	Label attached		P
4.6.1 (-)	Luminaire not suitable for outdoor application		N/A
	Required symbol		N/A
	Information in the instructions		N/A
4.6.2 (-)	Outdoor use, socket outlet incorporated in the luminaire		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum power rating marked		N/A
	Position of the marking		N/A
4.7 (4)	CONSTRUCTION		P
4.7 (4.2)	Components replaceable without difficulty		P
4.7 (4.3)	Wireways smooth and free from sharp edges		P
4.7 (4.4)	Lampholders		P
4.7 (4.4.1)	Integral lampholder	Approved E14 lampholder	N/A
4.7 (4.4.2)	Wiring connection		N/A
4.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.7 (4.4.4)	Positioning		P
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)	E14; 1,2 Nm	—
	After test the lampholder has not moved from its position and show no permanent deformation		P
4.7 (4.4.5)	Peak pulse voltage		N/A
4.7 (4.4.6)	Centre contact		N/A
4.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.7 (4.4.8)	Lamp connectors		N/A
4.7 (4.4.9)	Caps and bases correctly used		N/A
4.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
4.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
4.7 (4.7)	Terminals and supply connections		P
4.7 (4.7.1)	Contact to metal parts		P
4.7 (4.7.2)	Test 8 mm live conductor		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Test 8 mm earth conductor		N/A
4.7 (4.7.3)	Terminals for supply conductors		P
4.7 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
4.7 (4.7.4)	Terminals other than supply connection		P
4.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
4.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
4.7 (4.8)	Switches		P
	- adequate rating		P
	- adequate fixing		P
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
4.7 (4.9)	Insulating lining and sleeves		P
4.7 (4.9.1)	Retainment		P
	Method of fixing :		P
4.7 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 °C to the wire temperature or		P
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) :		N/A
4.7 (4.10)	Double or reinforced insulation		P
4.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
4.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.10.3)	Retention of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		P
4.7 (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
4.7 (4.11)	Electrical connections and current-carrying parts		P
4.7 (4.11.1)	Contact pressure		P
4.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.7 (4.11.4)	Material of current-carrying parts		P
4.7 (4.14.7)	No contact to wood or mounting surface		P
4.7 (4.14.7)	Electro-mechanical contact systems		N/A
4.7 (4.12)	Screws and connections (mechanical) and glands		P
4.7 (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
4.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.7 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm)		N/A
	- lampholder; torque (Nm)	E14; 1,2 Nm	P
	- push-button switches; torque 0,8 Nm		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.12.5)	Screwed glands; force (Nm)..... :		N/A
4.7 (4.13)	Mechanical strength		P
4.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm) :		N/A
	- other parts; energy (Nm)..... :	Enclosure: 0,5 Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
4.7 (4.13.2)	Metal parts have adequate mechanical strength		N/A
4.7 (4.13.3)	Straight test finger		P
4.7 (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
4.7 (4.13.6)	Tumbling barrel		N/A
4.7 (4.14)	Suspensions, fixings and means of adjusting		N/A
4.7 (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
	Metal rod. diameter (mm) :		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) :		
	Stress in conductors (N/mm ²) :		N/A
	Mass (kg) of semi-luminaire :		N/A
	Bending moment (Nm) of semi-luminaire :		N/A
4.7 (4.14.3)	Adjusting devices:		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- flexing test; number of cycles..... :		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.7 (4.14.5)	Guide pulleys		N/A
4.7 (4.14.6)	Strain on socket-outlets		N/A
4.7 (4.15)	Flammable materials		P
	- glow-wire test 650°C	See Test Table 1.15 (13.3.2)	P
	- spacing ≥30 mm		P
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
4.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
4.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12) No lamp control gear	P
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
4.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.7 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
4.7 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.18)	Resistance to corrosion		N/A
4.7 (4.18.1)	- rust-resistance		N/A
4.7 (4.18.2)	- season cracking in copper		N/A
4.7 (4.18.3)	- corrosion of aluminium		N/A
4.7 (4.19)	Igniters compatible with ballast		N/A
4.7 (4.20)	Rough service vibration		N/A
4.7 (4.21)	Protective shield		N/A
4.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
4.7 (4.21.3)	No direct path		N/A
4.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 1.15 (13.3.2)	N/A
4.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
4.7 (4.23)	Semi-luminaires comply Class II		N/A
4.7 (4.24)	Photobiological hazards		N/A
4.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.7 (4.24.2)	Retinal blue light hazard		N/A
	Class of risk group assessed according to IEC/TR 62778		—
	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
4.7 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
4.7 (4.26)	Short-circuit protection		N/A
4.7 (4.26.1)	Adequate means of uninsulated accessible SELV or PELV parts		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (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
4.7 (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
4.7 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C) :		—
	100 cycles between t_{min} and t_{max}		N/A
	Temperature sensing control still in position		N/A
4.7 (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
4.7 (4.30)	Luminaires with non-user replaceable light source		N/A
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	At least one fixing means requiring use of tool		N/A
4.7 (4.31)	Insulation between circuits		N/A
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
	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



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.31.1)	SELV or PELV circuits		N/A
	Used SELV or PELV source		N/A
+	Voltage \leq ELV		N/A
	Insulating of SELV or PELV circuits from LV supply		N/A
	Insulating of SELV or PELV circuits from other non SELV or PELV circuits		N/A
	Insulating of SELV or PELV circuits from FELV		N/A
	Insulating of SELV or PELV circuits from other SELV or PELV circuits		N/A
	SELV or PELV circuits insulated from accessible parts according Table X.1		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
4.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage \leq ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets have protective conductor contact		N/A
4.7 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part does not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
4.7 (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
4.7 (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
4.7 (4.34)	Electromagnetic fields (EMF)		P
	No harmful electromagnetic fields		P
4.7 (4.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	- hardness less than D60 Shore		N/A
	- peripheral speed less than 15 m/s		N/A
	- input power of fan ≤ 2 W at rated voltage		N/A
4.7 (4.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A
4.7.1 (-)	Insulation not damaged when moving, adjusting or placing on support		P
4.7.2 (-)	Wiring fixed, to avoid rubbing		P
	Carrier or clips of insulation material or with insulating lining		P
4.7.3 (-)	Luminaire does not overturn:		P
	- at an angle of 6° for indoor use		P
	- at an angle 15° for outdoor use		N/A
4.7.4 (-)	Candlestick luminaires provided with switch		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Switch in candlestick luminaires with E5 or E10 lampholders switches all lamps on and off simultaneously		N/A
	Switch part of the luminaire or within 300 mm of the luminaire if with cord		N/A
4.7.5 (-)	Voltage not exceeding 25 V for E5 lampholders		N/A
	E10 lampholder voltage:		N/A
	- not exceeding 60 V for series connection		N/A
	- not exceeding 250 V for parallel connection		N/A
	Maximum rated wattage does not exceed 100 W		N/A
4.7.6 (-)	Tails not provided for luminaires for outdoor use		N/A
4.7.7 (-)	Not more than two cable entries for luminaires for outdoor use		N/A
4.7.8 (-)	Portable luminaires for outdoor use, socket-outlet degree of protection at least same as the luminaire but not less than IPX4.		N/A
	Degree of protection maintained with or without a plug inserted into the socket-outlet.		N/A
	Class II luminaires, mains socket-outlets comply with the standard and only allow connection to Class II luminaires		N/A
	Class I luminaires, mains socket-outlets comply with the standard and only allow connection to Class I or Class II luminaires		N/A
4.7.9 (-)	Lampholders and plugs resistant to tracking for luminaires for outdoor use	See Test Table 4.16 (13.4)	N/A
	Compliance to clause 13.4		N/A

4.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
4.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
4.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 4.8 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with \hat{U}_{OUT} and f_{UOUT} according IEC 61347-1, clause 7.1, item w	See Test Table 4.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (11.2) II	N/A
4.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 4.8 (11.2) I	P



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Clause	Requirement + Test	Result - Remark	Verdict
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_p	See Test Table 4.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (11.2) II	N/A

4.9 (7)	PROVISION FOR EARTHING		N/A
4.9 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω :		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
4.9 (7.2.2 + 7.2.3)	Protective earthing continuity in joints, etc.		N/A
4.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
4.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
4.9 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
4.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal		N/A
4.9 (7.2.8)	Material of protective earth terminal		N/A
	Contact surface bare metal		N/A
4.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.9 (7.2.11)	Protective earthing core coloured green-yellow		N/A
	Length of protective earthing conductor		N/A
4.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A

4.10 (14)	SCREW TERMINALS		N/A
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire :	(see Annex 3)	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		P
	Separately approved; component list..... :	(see Annex 1) Approved E14 lampholder; approved cord line switch.	P
	Part of the luminaire	(see Annex 4)	N/A
4.11 (5)	EXTERNAL AND INTERNAL WIRING		P
4.11 (5.2)	Supply connection and external wiring		P
4.11 (5.2.1)	Means of connection	Supply cord with plug	P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
4.11 (5.2.2)	Type of cable..... :		P
	Nominal cross-sectional area (mm ²)		P
	Cables equal to IEC 60227 or IEC 60245		P
4.11 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
4.11 (5.2.5)	Type Z not connected to screws		N/A
4.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
4.11 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
4.11 (5.2.9)	Locking of screwed bushings		P
4.11 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P



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Clause	Requirement + Test	Result - Remark	Verdict
	- insulating material or lining		P
4.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
4.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
4.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe	External cable	P
	- pull test: 25 times; pull (N) :	60 N	P
	- torque test: torque (Nm)..... :	0,15 Nm	P
	- displacement \leq 2 mm	Max. 1,2 mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
4.11 (5.2.10.4)	Luminaire with/designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV \leq 25V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV \leq 12V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage \leq 12V RMS/30V DC		N/A
	Pull test of 30 N		N/A
4.11 (5.2.11)	External wiring passing into luminaire		P
4.11 (5.2.12)	Looping-in terminals		N/A
4.11 (5.2.13)	Wire ends not tinned		P



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Clause	Requirement + Test	Result - Remark	Verdict
	Wire ends tinned: no cold flow		N/A
4.11 (5.2.14)	Mains plug same protection		P
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
4.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
4.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.11 (5.2.18)	Used plug in accordance with		P
	- IEC 60083	EU & UK plug	P
	- other standard		N/A
4.11 (5.3)	Internal wiring		P
4.11 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A
	- temperatures	(see Annex 2)	P
	Green-yellow for protective earth only		N/A
4.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²).....		N/A
	Insulation thickness (mm)		N/A
	Extra insulation added where necessary		N/A
4.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm ²).....		N/A
4.11 (5.3.1.3)	Double or reinforced insulation for class II		P
4.11 (5.3.1.4)	Conductors without insulation		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.11 (5.3.1.5)	SELV or PELV current-carrying parts		N/A
4.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
4.11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
4.11 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- cables with protective sheath		N/A
4.11 (5.3.4)	Joints and junctions effectively insulated		P
4.11 (5.3.5)	Strain on internal wiring		P
4.11 (5.3.6)	Wire carriers		N/A
4.11 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
4.11 (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 does not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A
4.11.1 (-)	Cord anchorage of luminaire for indoor use made of glass or ceramic not fixed or integral		N/A
4.11.2 (-)	For Class I and Class II luminaires for indoor use, if:		N/A
	- mass < 1 kg (kg)		N/A
	- rated current ≤ 2,5 A (A)		N/A
	- cable length ≤ 2 m (m)		N/A
	- the nominal cross-sectional area of copper conductor ≥ 0,5 mm ² (mm ²).....		N/A
4.11.3 (-)	Terminals, cord anchorage and inlet opening provided for luminaire for outdoor use delivered without a flexible cable or cord and a plug.		N/A
4.11.4 (-)	Non-detachable flexible cables or cords not lighter than type 245 IEC 57 for Class I and Class II luminaires for outdoor use.		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

4.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
4.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
4.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
4.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible		P
	- required insulation from live parts in compliance with Table X.1		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.12 (8.2.3.b)	Metal BC lampholder in class I luminaires connected to protective earth		N/A
4.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)		N/A
	- interrupted DC voltage (V)		N/A
	- touch current if applicable (mA)		N/A
	One conductive part insulated		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)		N/A
	- interrupted DC voltage (V)		N/A
4.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)		N/A
	Pole not connected to earth insulated		N/A
	Class III luminaire only for connection to SELV or PELV		N/A
4.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		P
4.12 (8.2.5)	Compliance with the standard test finger or relevant probe		N/A
4.12 (8.2.6)	Covers reliably secured		N/A
4.12 (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
4.12 (-)	Class I luminaire with bayonet lampholder:		N/A
	1) cap not accessible with test finger		N/A
	2) metal lampholder is earthed		N/A

4.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) but before (9.3) specified in 4.14		—
4.13 (12.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	—
4.13 (12.3)	Endurance test		P



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Clause	Requirement + Test	Result - Remark	Verdict
	a) mounting-position	On the black board	—
	b) test temperature (°C)	35 °C	—
	c) total duration (h)	240 h	—
	d) supply voltage (V)	Model G12-23: 25W → U=228,3 V → I=0,11 A → PF=1 → 1,05U=239,71 V → I=0,112 A → P=26,93 W → PF=1,0 Model GJ17-20: 25W → U=227,1 V → I=0,11 A → PF=1 → 1,05U=238,4 V → I=0,113 A → P=26,95 W → PF=1,0	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A)	-----	—
1.13 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		—
	- voltage under normal operation (V)		—
	- voltage under abnormal operation (V)		
	e) luminaire ceases to operate		—
	f) luminaire with a constant light output function		N/A
4.13 (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
4.13 (12.4)	Thermal test (normal operation)	(Annex 2)	P
4.13 (12.5)	Thermal test (abnormal operation)	(Annex 2)	P
4.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
4.13 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—



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Clause	Requirement + Test	Result - Remark	Verdict
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
4.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
4.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
4.13 (12.7.1)	Luminaire without temperature sensing control		N/A
4.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test	See Test Table 1.15 (13.2.1)	N/A
4.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—



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Clause	Requirement + Test	Result - Remark	Verdict
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test	See Test Table 1.15 (13.2.1)	N/A
4.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
4.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/ exposed part (°C):		—
	Ball-pressure test:	See Test Table 4.15 (13.2.1)	N/A
4.13 (-)	Luminaire for indoor use tested in overturned position (overturns < 15°)	No overturn	N/A

4.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
4.14 (-)	If IP > IP 20 the order of tests as specified in clause 4.13		N/A
4.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....	IP20	—
	- mounting position during test	On a test board	—
	- fixing screws tightened; torque (Nm)	----	—
	- tests according to clauses.....	9.2.0	—
	- 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 on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	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)	IP20	P
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
4.14 (9.3)	Humidity test 48 h	R.H: 93%; 25 °C	P

4.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
4.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø :		N/A
	Insulation resistance (MΩ):		P
	SELV or PELV:		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV or PELV:		P
	- between live parts of different polarity	$R_{insulation} > 10 \text{ M}\Omega$	P
	- between live parts and mounting surface	$R_{insulation} > 10 \text{ M}\Omega$	P
	- between live parts and metal parts	$R_{insulation} > 10 \text{ M}\Omega$ (between live parts and lampholder surfaces with metal foil)	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..... :	$R_{insulation} > 10 \text{ M}\Omega$	P
	- Insulation bushings as described in Section 5		N/A



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Luminaires with ignitors provided with ballasts conforming to IEC 61347-2-9		N/A
	SELV or PELV:		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 :		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity :	$U_{\text{test}} = 1480 \text{ V}$	P
	- between live parts and mounting surface :	$U_{\text{test}} = 2960 \text{ V}$	P
	- between live parts and metal parts :	$U_{\text{test}} = 2960 \text{ V}$ between live parts and lampholder surfaces with metal foil)	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..... :	$U_{\text{test}} = 1480 \text{ V}$	P
	- Insulation bushings as described in Section 5 :		N/A
4.15 (10.3)	Touch current (mA) :	0,02 mA	P
	Protective conductor current (mA) :		N/A

4.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
4.16 (13.2.1)	Ball-pressure test :	See Test Table 4.16 (13.2.1)	P
4.16 (13.3.1)	Needle-flame test (10 s)..... :	See Test Table 4.16 (13.3.1)	N/A
4.16 (13.3.2)	Glow-wire test (650°C) :	See Test Table 4.16 (13.3.2)	P
4.16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 4.16 (13.4)	N/A



IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
4.8 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2* and Table U.1*						
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	> 2,0 Approved lampholder; switch and plug	1.5	11.1	> 3,0 Approved lampholder; switch and plug	2.5	11.1
Working voltage (V)					220-240		—
PTI					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_p if applicable (kV)					2,5		—
Supplementary information: Live parts of different polarity							
Distance 2:	R	> 4,5	3.0	11.1	> 6,5	5.0	11.1
Working voltage (V)					220-240		—
PTI					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_p if applicable (kV)					2,5		—
Supplementary information: Live parts and the outer accessible surface.							



IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
4.8 (11.2)	TABLE II: Creepage distances and clearances						N/A
	Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages						
	Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2						
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	----	----	----	----	----	----	----
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)							—
Supplementary information:							
Distance 2:	----	----	----	----	----	----	----
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)							—
Supplementary information:							
Distance 3:	----	----	----	----	----	----	----
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)							—
Supplementary information:							
** Insulation type: B – Basic; S – Supplementary; R – Reinforced.							

4.16 (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)	
Dome material of lampholder	See annex 1	75	1,2	
----	---	----	----	
----	---	----	----	
Supplementary information:				



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

4.16 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				N/A
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
----	----	----	----	----	----
----	----	----	----	----	----
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Supplementary information:

4.16 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)				P
Glow wire temperature		650°C		—	
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	
Dome material of lampholder	See annex 1	No	0	P	
Heat-shrinkable tube	See annex 1	No	0	P	
----	----	----	----	----	

Supplementary information:

4.16 (13.4)	TABLE: Proof tracking test (IEC 60112)				N/A
Test voltage PTI		175 V		—	
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens		Verdict	
----	----	----	----	----	
----	----	----	----	----	
----	----	----	----	----	

Supplementary information:



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

ANNEX 1 TABLE: Critical components information						P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Switch	B	OPENWISE INDUSTRIAL LIMITED	304 (Any colour)	AC 250 V, 2[2] A; T55	EN 61058-1; EN 61058-2-1	ENEC 14 Intertek Semko certificate No. SE-ENEC-2100867
Alternative	D	Guangdong Ojun Technology Co., Ltd.	8s.304 (Any colour)	AC 250 V, 2[2] A; T55	EN IEC 61058-1; EN 61058-2-1	DEKRA ENEC KEMA-KEUR 35-112857 REV.3
Alternative	D	Dongguan Xianghui Elec. Engineering Material Co., Ltd.	XH-303; XH-304 (Any colour)	AC 250 V, 2[2] A; T55	EN 61058-1; EN 61058-2-1	DEKRA ENEC 35-105722
Flexible cord	B	Toong Yean Plastic Ind. Co., Ltd.	H03VVH2-F (Any colour)	2 x 0,75 mm ²	EN 50525-2-11	VDE 40024356
Alternative	D	Jhi Wei Electric Wire & Cable Co. Ltd.	H03VVH2-F (Any colour)	2 x 0,75 mm ²	EN 50525-2-11	VDE 40004775
Plug	B	Toong Yean Plastic Ind. Co., Ltd.	TY-011 (Any colour)	AC 250 V; 2,5 A	DIN VDE 0620 Teil 101; EN 50075	VDE 40002154
Alternative	D	Jhi Wei Electric Wire & Cable Co. Ltd.	JW-05 (Any colour)	AC 250 V; 2,5 A	DIN VDE 0620 Teil 101; EN 50075	VDE 40005490
UK Plug	B	Luen Tai Ip's Electrical (Shenzhen) Co., Ltd.	9518 (Any colour)	250 V; 13 A	BS 1363-1	BSI KM 40790
Fuse within UK Plug	B	DEL international Industrial (U.K.) Limited	JADE	250 V; 3 A	BS 1362	Intertek ASTA Licence No: 997
E14 lampholder	B	Xiaolan Town BaiLe Electrical Appliance Factory	E14-A/1 (LCP, black or beige)	250 V; 2 A; T210	EN 60238	VDE 40032350
Heated shrinkable tube	B	Shen Zhen Wore heat-shrinkable material Co.,Ltd.	RSFR-H	AC 600 V; 125 °C; VW-1	---	UL E203950
Alt.	D	DONG GUAN SALIPT CO LTD	SALIPT S-901-600	AC 600 V; 125 °C; VW-1	---	UL E209436



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

ANNEX 1 TABLE: Critical components information						P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Fibre sleeving	B	Xiamen Xianglu Chemical Fiber Co., Ltd.	/	Polyester (Any colour)	/	Tested with appliance
Supplementary information:						
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. The codes above have the following meaning: A - The component is replaceable with another one, also certified, with equivalent characteristics B - The component is replaceable if authorised by the test house C - Integrated component tested together with the appliance D - Alternative component						



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

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference	G12-23; GJ17-20	—
	Lamp used.....	25W E14 incandescent lamp bulb	—
	Lamp control gear used.....	-----	—
	Mounting position of luminaire	Acc. to use manual	—
	Supply wattage (W)	See below following	—
	Supply current (A)	See below following	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C	—
	- abnormal operating mode	-----	—
4.12 (12.4)	- test 1: rated voltage.....	-----	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage	Model G12-23 1,05P=26,25W → U=236,6V → I=0,111A → PF=1,0 Model GJ17-20 1,05P=26,25W → U=234,2V → I=0,112A → PF=1,0	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	-----	—
	Through wiring or looping-in wiring loaded by a current of A during the test		—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	-----	—

Temperature measurements, (°C)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Model G12-23							
E14 Lampholder contact	25	---	44	---	210	---	---
E14 Lampholder rim	25	---	57	---	210	---	---
Internal wire near lampholder	25	---	37	---	90	---	---
Switch body	25	---	26	---	55	---	---
Glass body	25	---	46	---	Ref.	---	---
Mounting surface	25	---	38	---	90	---	---
Model G12-23 (black colour for component)							



IEC 60598-2-4							
Clause	Requirement + Test				Result - Remark		Verdict
E14 Lampholder contact	25	---	51	---	210	---	---
E14 Lampholder rim	25	---	69	---	210	---	---
Internal wire near lampholder	25	---	40	---	90	---	---
Switch body	25	---	26	---	55	---	---
Glass body	25	---	34	---	Ref.	---	---
Mounting surface	25	---	44	---	90	---	---
Model GJ17-20							
E14 Lampholder contact	25	---	60	---	210	---	---
E14 Lampholder rim	25	---	80	---	210	---	---
Internal wire near lampholder	25	---	42	---	90	---	---
Switch body	25	---	26	---	55	---	---
Glass body	25	---	37	---	Ref.	---	---
Mounting surface	25	---	52	---	90	---	---
Model GJ17-20 (black colour for component)							
E14 Lampholder contact	25	---	72	---	210	---	---
E14 Lampholder rim	25	---	120	---	210	---	---
Internal wire near lampholder	25	---	54	---	90	---	---
Switch body	25	---	26	---	55	---	---
Glass body	25	---	39	---	Ref.	---	---
Mounting surface	25	---	45	---	90	---	---
Supplementary information:							



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) :		N/A
	Torque (Nm) :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N) :		N/A
(14.4.8)	Without undue damage		N/A



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

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



IEC 60598-2-4											
Clause	Requirement + Test									Result - Remark	Verdict
15.6.2	Mechanical tests										N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)										N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)										N/A
(15.6.3)	Electrical tests										N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1										N/A
(15.6.3.1) (15.6.3.2)	TABLE: Contact resistance test / Heating tests										N/A
	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Voltage drop of two inseparable joints										N/A
	Voltage drop after 10th alt. 25th cycle										N/A
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Voltage drop after 50th alt. 100th cycle										N/A
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Continued ageing: voltage drop after 10th alt. 25th cycle										N/A
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Continued ageing: voltage drop after 50th alt. 100th cycle										N/A
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	---	---	---	---	---	---	---	---	---	---	
Supplementary information:											



	National Differences for (country name) or Group Differences	P
4.6 (3)	MARKING	N/A
(3.2.12)	Delete the note 4	N/A
4.7 (4)	CONSTRUCTION	N/A
4.7 (4.11.6)	Electro-mechanical contact systems	N/A
4.11 (5)	EXTERNAL AND INTERNAL WIRING	P
4.11 (5.2.2)	Cables equal to EN 50525	P
4.11 (5.2.2)	Delete paragraph 2	P
	Replace table 5.1 – Supply cord	P
4.13 (12)	ENDURANCE TESTS AND THERMAL TESTS	P
4.13 (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)	N/A
(3.3)	DK: power supply cords of class I luminaires with label	N/A
(5.2.18)	DK: socket-outlets	N/A
(5.2.1)	CY, DK, FI, GB: type of plug	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 (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)	N/A
	Glow-wire test for outer parts of luminaires:	
	- 850°C for luminaires in stairways and horizontal travel paths	N/A
	- 650°C for indoor luminaires	N/A
	GB: Requirements according to United Kingdom Building Regulation	N/A

**Used measuring equipment:**

Inventory no.	Details	Type name	Manufacturer
L-A-010	CS2672C dielectric tester	N/A	Changzhou Shi Yangzi Electronic Corp
L-B-017	Cord Anchorage pull testing Device	N/A	Guangzhou ZhiLiTong Co., LTD
L-C-040-1	MX-100 / Multiple-channel Temperature Tester	---	JAPAN YOKOGAWA
L-C-077	Temperature / Humidity Tester	1805082	Dongguan Hanyang Electronic Company
L-C-013	8770/Digital-type Power Tester	870104083	Qingdao QingZhi Meters Company
L-C-025	Simpson 228 Leakage current tester	---	Simpson Electric Company
L-C-080	60KVA Power supply cabinet	---	Dongguan Hanyang electronic Instrument co.,ltd
L-T-006	FGN-20/Pull/Push Tester	D9201044	Japan SHIMPO
L-T-014-1	CD-6"CS/Digital-type Caliper	514144	Japan Mitutoyo
L-T-025	Test Finger & Test Pin	N/A	U.S.A Educated Design & Development
L-B-035	FZ-5101P / Glow Wire Tester	N/A	Dongguan Hanyang Electronic Company
L-C-039	Luminaire endurance test room	---	---
L-T-005	FTD2000CN2-S Torque screwdriver	430768P	Japan TOHNICHI
L-C-002	Insulation resistance tester	---	HIOKI
L-T-002	F22.50 / Spring Hammer	5011141	German PTL Dr. Grabenhorst GmbH
L-T-140	Digital Thermometer (2 channel)	---	Center Technology Corp
L-C-021-1	Stability Testing Device	---	Guangzhou Electrical Appliance Science Institute
L-C-021-4	Angle Measuring Equipment	---	Guilin Tianmu Measurement And Control Technology Co., Ltd.
L-A-015	Draught Proof Enclosure	---	Dongguan Safety Inspection Technology Co. Ltd.



ANNEX Photo documentation



Photo 1: whole view for model G12-23

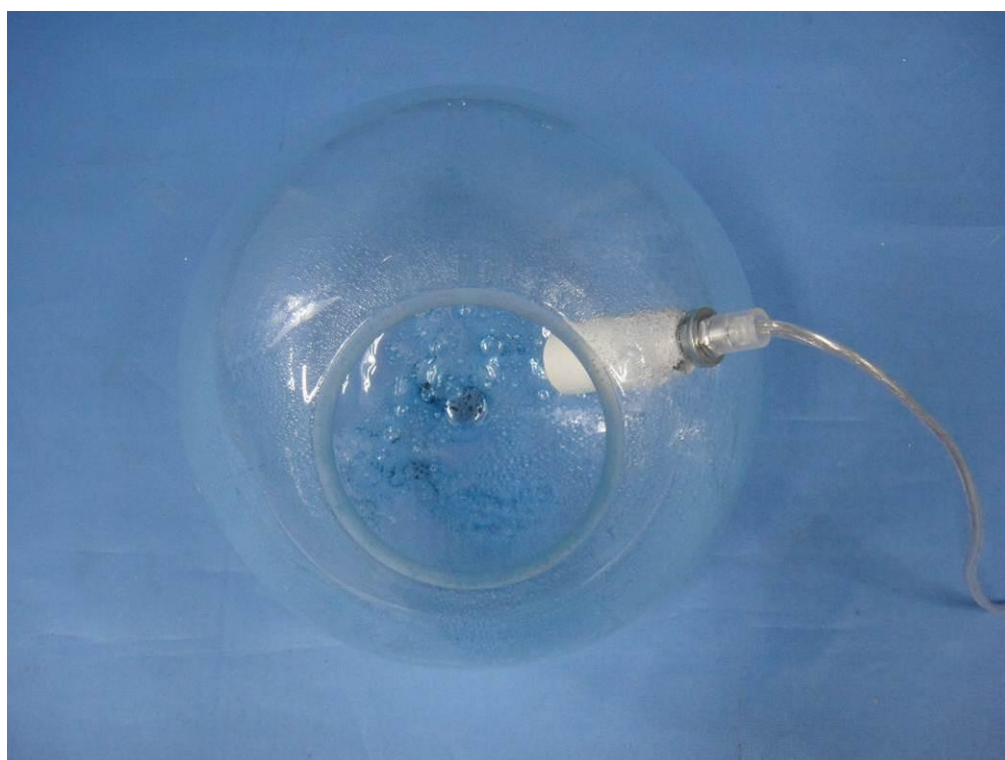


Photo 2: bottom view for model G12-23



ANNEX Photo documentation



Photo 3: lampholder part view for model G12-23



Photo 4: assembly part view for model G12-23



ANNEX Photo documentation

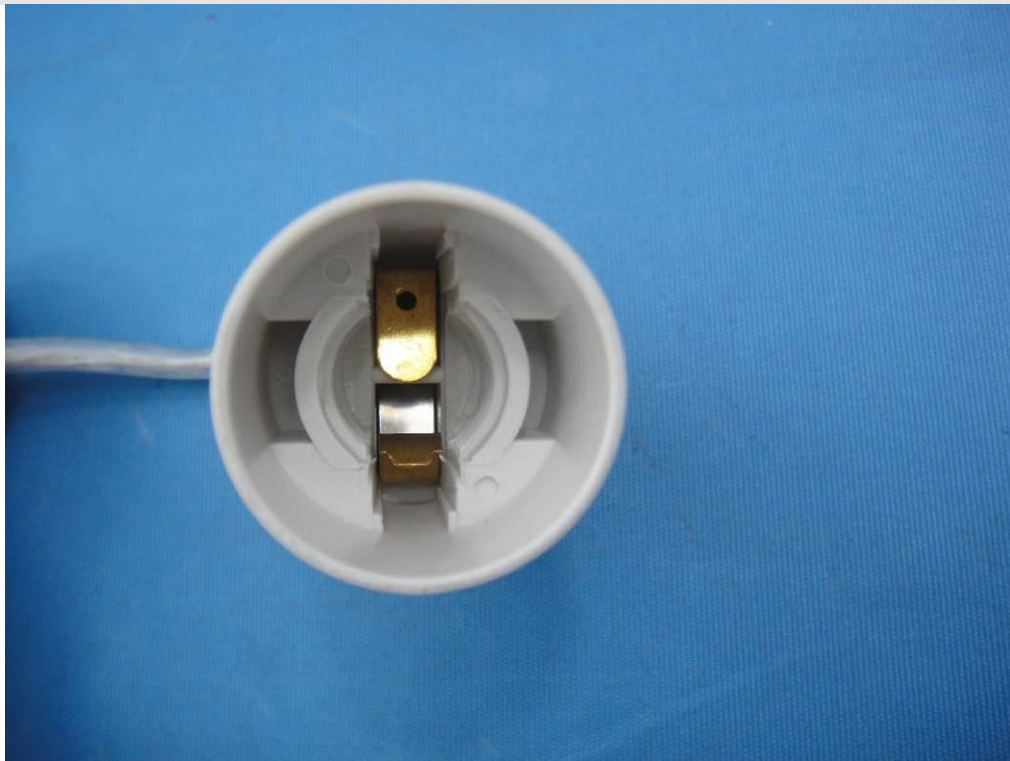


Photo 5: E14 Lampholder view for all models



Photo 6: internal view of E14 lampholder for all models



ANNEX Photo documentation



Photo 7: plug view for all models

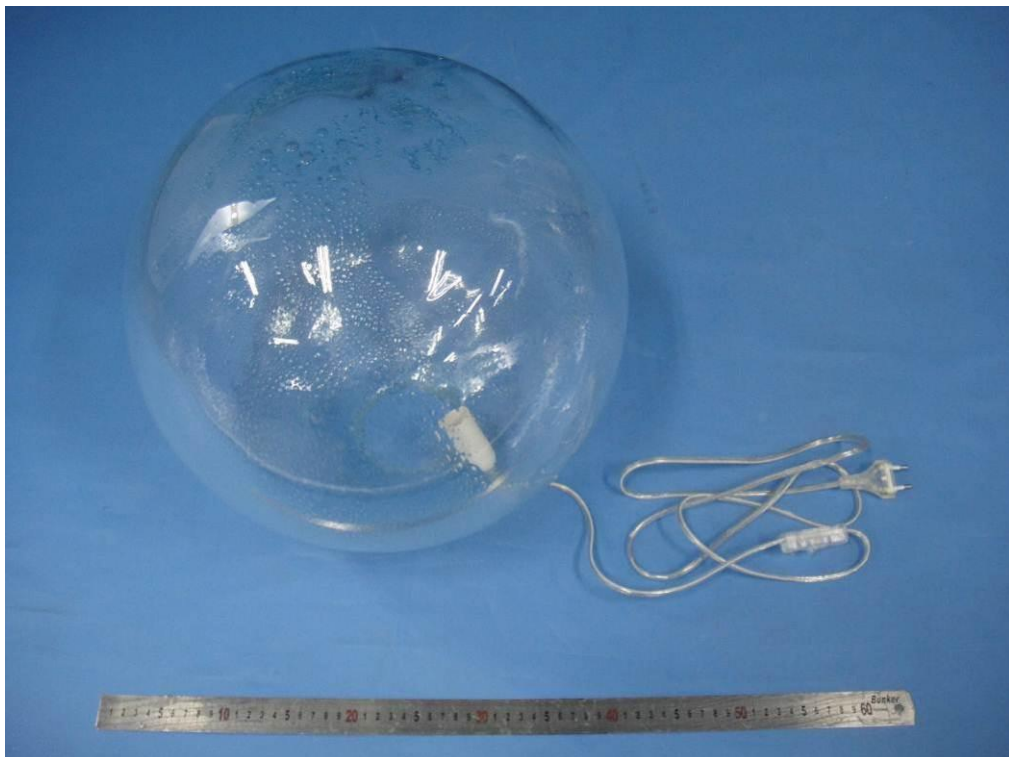


Photo 8: whole view for model G16-4



ANNEX Photo documentation



Photo 9: whole view for model TL11



Photo 10: UK plug view



ANNEX Photo documentation

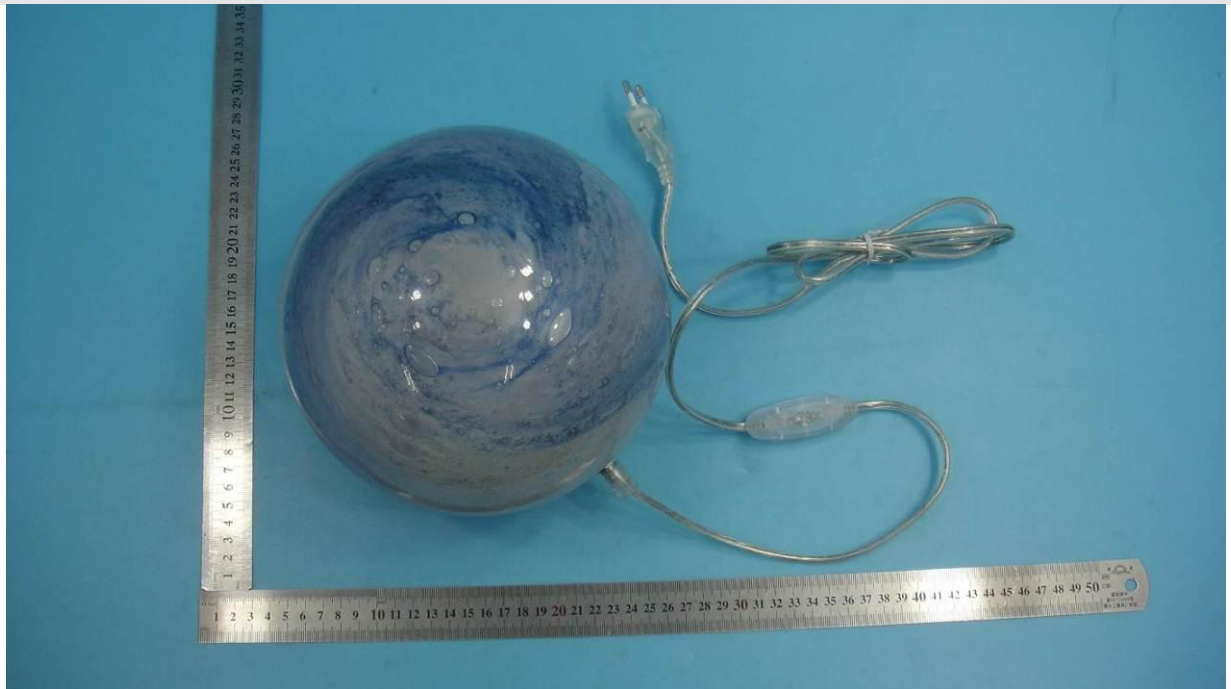


Photo 11: whole view for model GJ17-20



Photo 12: bottom view for model GJ17-20



ANNEX Photo documentation



Photo 13: switch top view for all models



Photo 14: switch bottom view for all models



ANNEX Photo documentation

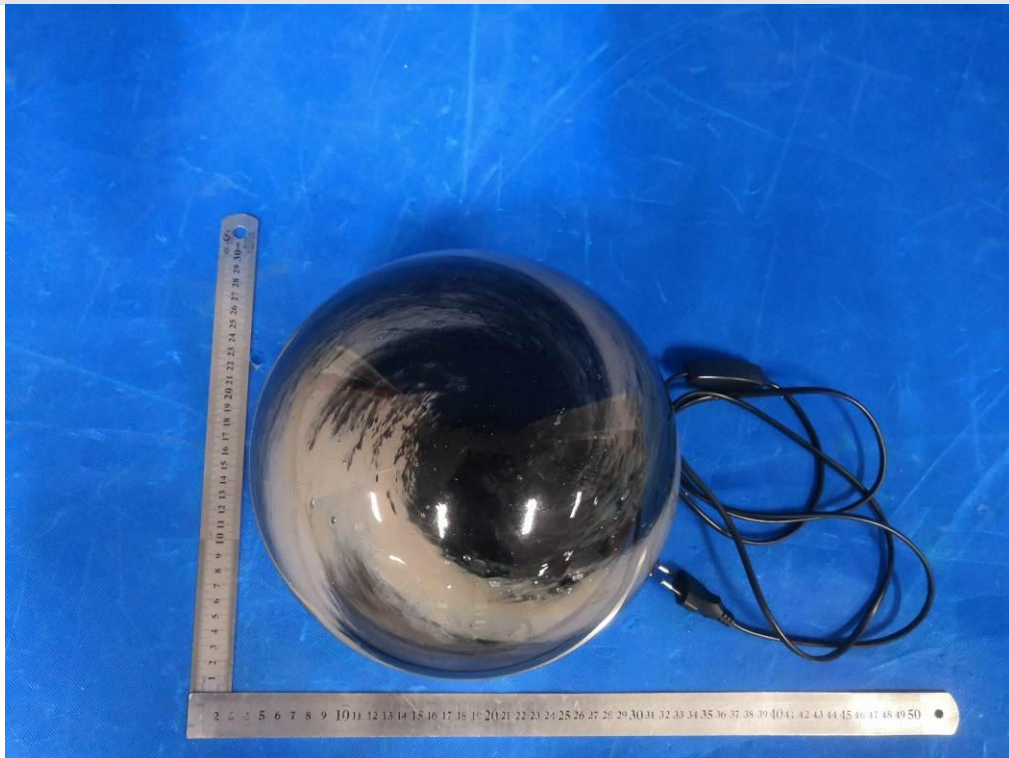


Photo 15: whole view for model G12-23 (black colour for component)

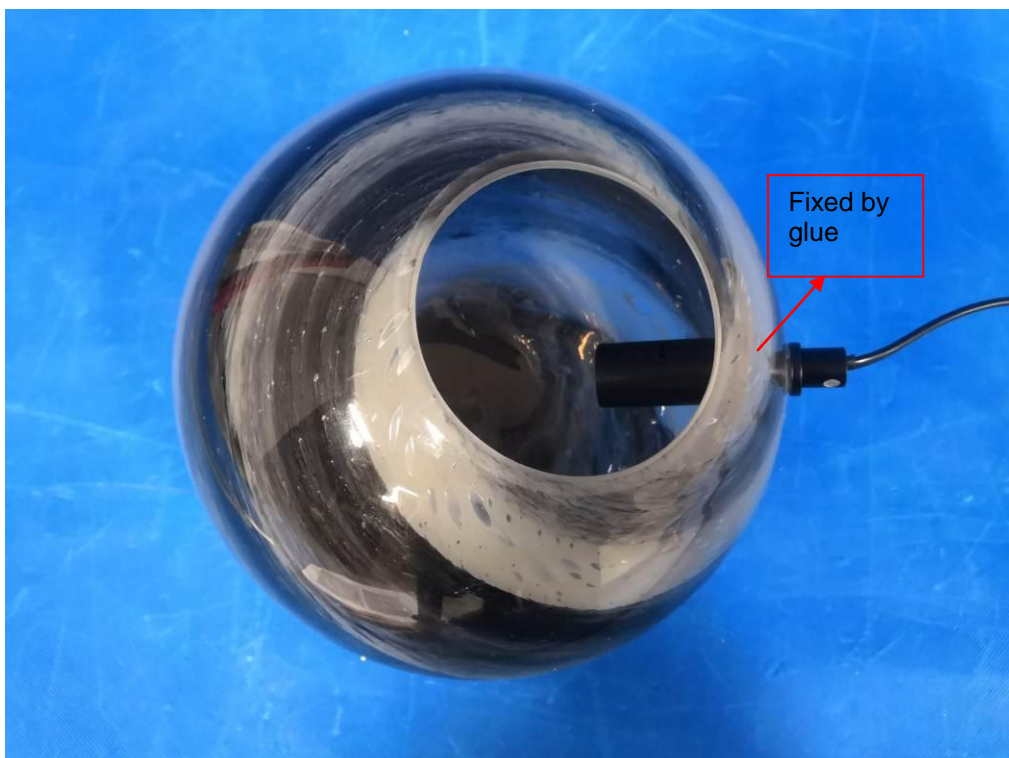


Photo 16: bottom view for model G12-23 (black colour for component)



ANNEX Photo documentation

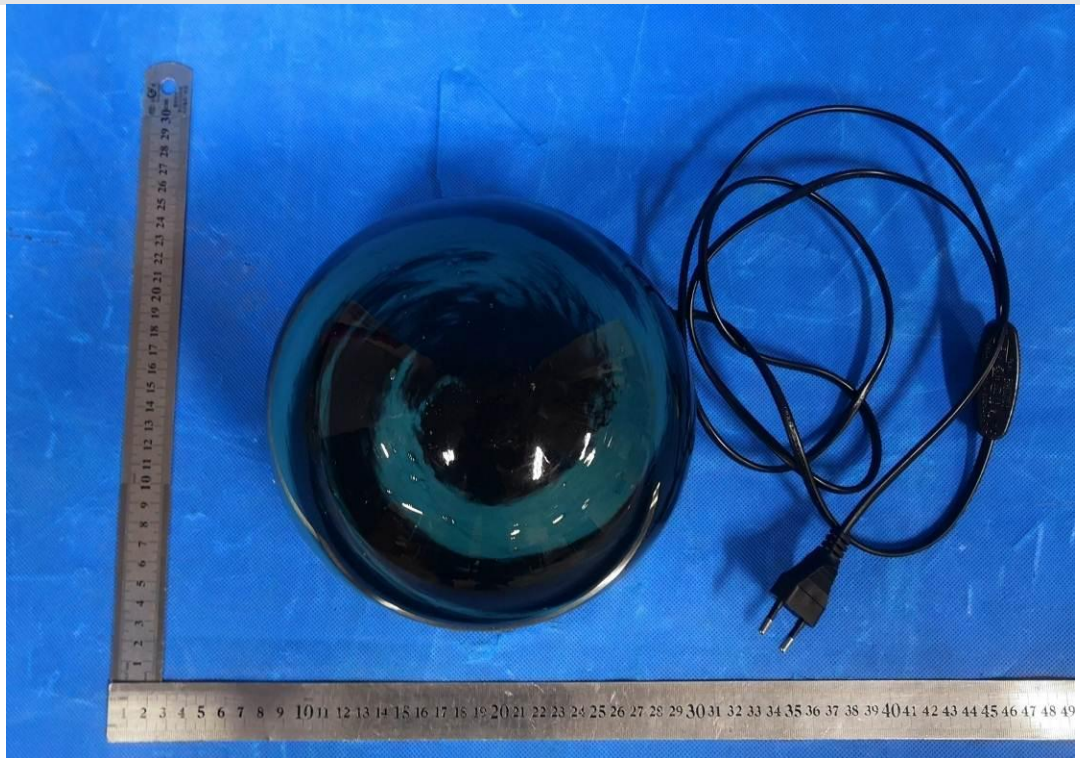


Photo 17: whole view for model GJ17-20 (black colour for component)

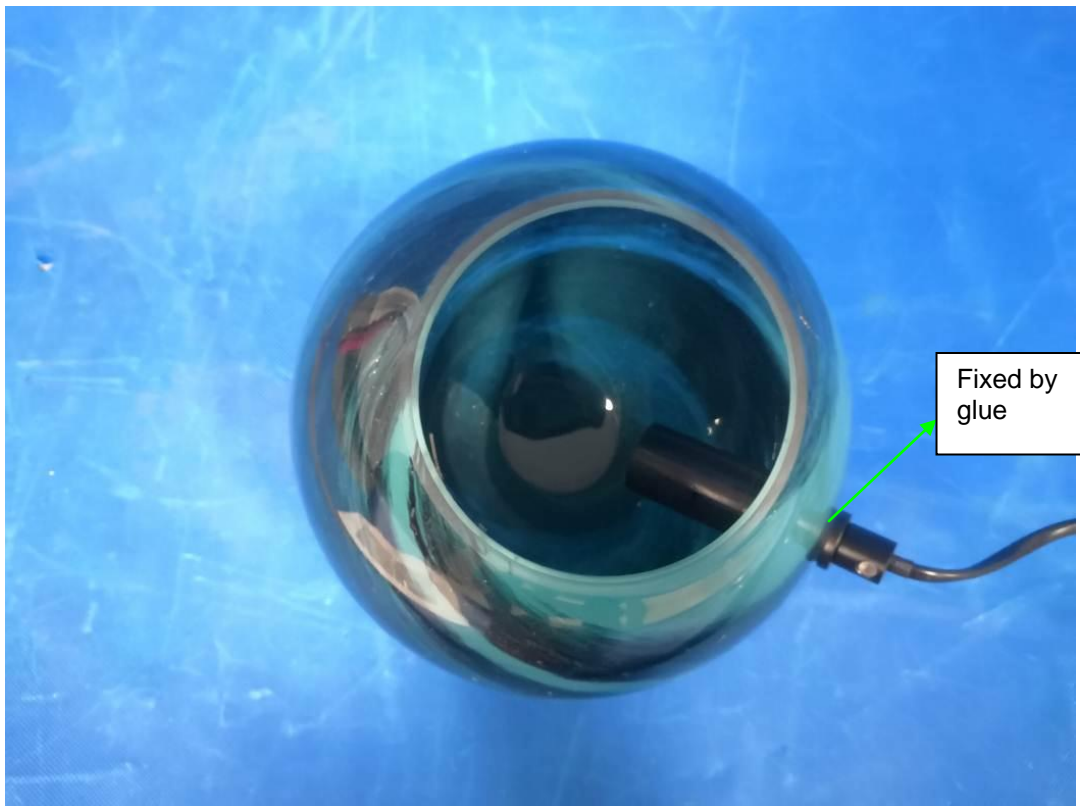


Photo 18: whole view for model GJ17-20 (black colour for component)



ANNEX Photo documentation



Photo 19: whole view for model GJ17-20



Photo 20: fibre sleeving view

End of the test report