



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

LVD TEST REPORT

TEST REPORT NUMBER : CGZ3150109-00113-L-F-R1



CTS (Guangzhou) Testing Service Technology Co., Ltd.
GZ test site: A101, No.65, Zhuji Road, Tianhe District,
Guangzhou, Guangdong, China

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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has Passed all the relevant tests conforms to a specification (only telecommunication products).

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

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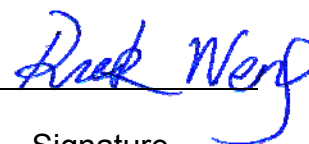
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1.2 Tester**Tested by:**02 April 2015Kate Zhang

Date

Name

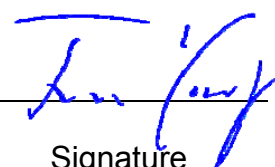
Signature

Reviewed by:02 April 2015Rock Weng

Date

Name

Signature

Approved by:02 April 2015Jun Yang

Date

Name

Signature



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1.3 Testing laboratory

1.3.1 Location

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1.3.2 Test location, where different from CTS:

Name: ./.

Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.

Teletex: ./.

1.4 Client details

1.4.1 Details of applicant

Name : Guangzhou Osen Electrical Co., Ltd.
Street : No. 1-2, Lanyue North Street, Taishi,
Town : Dongyong Town, Panyu District, Guangzhou,
Country : China
Telephone : +86-020-34920388-358
Fax : +86-020-34920387
Teletex : ./.

Contact : Mr. Peng
Telephone : +86-020-34920388-358

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1.4.2 Details of manufacturer

Name : Guangzhou Osen Electrical Co., Ltd.
Street : No. 1-2, Lanyue North Street, Taishi,
Town : Dongyong Town, Panyu District, Guangzhou,
Country : China
Telephone : +86-020-34920388-358
Fax : +86-020-34920387
Teletex : ./.

Contact : Mr. Peng
Telephone : +86-020-34920388-358

1.4.3 Details of factory

Name : Guangzhou Osen Electrical Co., Ltd.
Street : No. 1-2, Lanyue North Street, Taishi,
Town : Dongyong Town, Panyu District, Guangzhou,
Country : China

1.4.4 Dates of application

Date of receipt of application : 05 January 2015
Date of receipt of test item : 05 January 2015
Date of test : 05 January 2015 – 29 January 2015

1.5 Test item Description**1.5.1 Description of test item**

Type of product : pendent lamp
Model/Type reference(Test EUT) : P16961
Following identical model(s) : P16961C
Serial number : ---

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1.5.2 Test item particulars

Test item	pendent lamp
Trade Mark	OSEN
Protection Class	☒ Class I; ☐ Class II; ☐ Class III.
Rated Voltage(Range)	230V~
Rated Frequency	☒ 50Hz; ☐ 60Hz; ☐ 50/60Hz; ☐ DC; ☐ Other:
Rated Wattage	MAX 60W
IP Number	☒ IP20; ☐ IP24; ☐ IP65; ☐ Other:
Supply Connection	☐ Type X; ☒ Type Y; ☐ Type Z; ☐ Pins; ☐ Appliance inlet; ☒ Terminals; ☐ connecting leads (tails); ☐ Adaptors; ☐ connectors; ☐ Other:
Lamp(s) type	☒ Tungsten filament lamps; ☐ Tungsten halogen lamps; ☐ Discharge lamps; ☐ Metal halide lamps; ☐ High-pressure sodium vapour lamps; ☐ Single-capped fluorescent lamps ; ☐ Double-capped fluorescent lamps; ☐ Self-ballasted lamps; ☐ Other:
Luminaire Mobility	☒ Fixed Luminaires; ☐ Portable Luminaries; ☐ Recessed Luminaire; ☐ Track-mounted Luminaires; ☐ Semi-luminaires; ☐ Other:
Mass of Equipment	0,6 kg.
Instructions language	☒ English; ☐ French; ☐ Other:
Mounting condition	☒ Luminaires suitable for direct mounting on normally flammable surfaces;  ;  ; 
Ambient Temperature	$t_a = 25^\circ\text{C}$

(all informations was provided by the applicant or detected at the sample)

Please see also attachment

1.6 Test standards

EN 60598-1: 2008 + A11: 2009
Luminaires — Part 1: General requirements and tests
(IEC 60598-1: 2008 (Modified))

EN 60598-2-1: 1989
Luminaires-Part 2: Particular requirements-section 1:Fixed general purpose luminaries
(IEC 60598-2-1: 1979 + A1: 1987)

EN 62493: 2010
Assessment of lighting equipment related to human
exposure to electromagnetic fields

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2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.



2.2 Test environment

Temperature:	18 ... 25 °C
Relative humidity content:	20 ... 75 %
Air pressure:	86 ... 103 kPa
Details of power supply:	220...240 V, AC
Other parameters:	---

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2.3 Conformity verification - Summary of inspection

Clause	Summary of inspection	Test result		
		N.A.	Pass	Fail
3	Marking	☐	☒	☐
4	Construction	☐	☒	☐
5	External and internal wiring	☐	☒	☐
7	Provisions for earthing	☐	☒	☐
8	Protection against electric shock	☐	☒	☐
9	Resistance to dust and moisture	☐	☒	☐
10	Insulation resistance and electric strength	☐	☒	☐
11	Creepage distances and clearances	☐	☒	☐
12	Endurance tests and thermal tests	☐	☒	☐
13	Resistance to heat, fire and tracking	☐	☒	☐
14	Terminals	☒	☐	☐
15	Screwless terminals and electrical connections	☒	☐	☐
Annexes		☐	☒	☐

Test case verdicts

N.A.: Test case does not apply to the test object

Pass: Test item does meet the requirement

Fail: Test item does not meet the requirement

3 Test results basic standard(s)

3.1 Particulars: test item vs. Test requirements

IEC 60598-2-1 and/or EN 60598-2-1 Part 2: Particular requirements Section one –Fixed general purpose luminaries EN 62493	
Assessment of lighting equipment related to human exposure to electromagnetic fields	
Possible test case verdicts: - test case does not apply to the test object: N(N/A) - test object does meet the requirement.....: P(Pass) - test object does not meet the requirement.....: F(Fail)	
Test specification: Standard.....: ☐ IEC 60598-2-1: 1979 + A1:1987 used in conjunction with IEC 60598-1: 2008 ☒ EN 60598-2-1: 1989 used in conjunction with EN 60598-1: 2008 + A11: 2009 ☒ EN 62493: 2010 Test procedure: LVD DOC approval. Non-standard test method.....: N/A	
Test Report Form No.....: IEC60598_2_1E Test Report Form(s) Originator: Centre of Testing Service Master TRF: Dated Nov 2009 Copyright blank test report: Centre of Testing Service	

General remarks:

“(see remark #)” refers to a remark appended to the report.

“(see appended table)” refers to a table appended to the report.

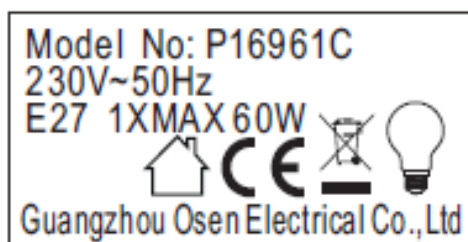
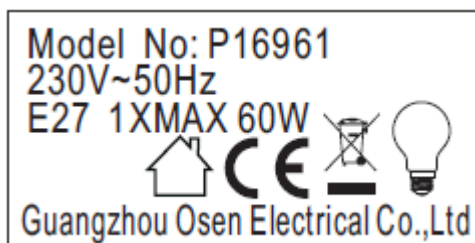
Throughout this report a comma is used as the decimal separator.

The test results presented in this report relate only to the object tested.

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The original test report CGZ3150109-00113-L-F no longer valid.

Copy of marking plate:



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3.2 General requirements and results

IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

1.2 (0)	GENERAL TEST REQUIREMENTS		P
1.2 (0.1)	Information for luminaire design considered	Standard Yes ☒ No ☐	—
1.2 (0.3)	More sections applicable	Yes ☐ No ☒	—

1.4 (2)	CLASSIFICATION		P
1.4 (2.2)	Type of protection	Class I	—
1.4 (2.3)	Degree of protection.....	IP20	—
1.4 (2.4)	Luminaires suitable for direct mounting on normally flammable surfaces	Yes ☒ No ☐	—
	Luminaires not suitable for direct mounting on normally flammable surfaces	Yes ☐ No ☒	—
1.4 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—

1.5 (3)	MARKING		P
1.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text	Text=2mm,symbol=5mm	P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N
1.5 (3.3.2)	Nominal frequency in Hz	50Hz	P
1.5 (3.3.3)	Operating temperature		N
1.5 (3.3.4)	Symbol or warning notice		N
1.5 (3.3.5)	Wiring diagram		N
1.5 (3.3.6)	Special conditions		N
1.5 (3.3.7)	Metal halide lamp luminaire – warning		N
1.5 (3.3.8)	Limitation for semi-luminaires		N
1.5 (3.3.9)	Power factor and supply current		N
1.5 (3.3.10)	Suitability for use indoors		P
1.5 (3.3.11)	Luminaires with remote control		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
1.5 (3.3.12)	Clip-mounted luminaire – warning		N
1.5 (3.3.13)	Specifications of protective shields		N
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet		N
1.5 (3.3.16)	Rough service luminaire		N
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y attachments	P
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N
1.5 (3.3.19)	For luminaires which generate a protective conductor current greater than 10 mA and intended for permanent connection		N
1.5 (3.3.20)	Wall mounted and adjustable luminaires not intended to be mounted within arms reach		N
1.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

1.6 (4)	CONSTRUCTION		P
1.6 (4.2)	Components replaceable without difficulty		P
1.6 (4.3)	Wireways smooth and free from sharp edges		P
1.6 (4.4)	Lampholders		P
1.6 (4.4.1)	Integral lampholder		N
1.6 (4.4.2)	Wiring connection		N
1.6 (4.4.3)	Lampholder for end-to-end mounting		N
1.6 (4.4.4)	Positioning		P
	- pressure test (N)		N
	- bending test (Nm)	E27; 2,0Nm	P
1.6 (4.4.5)	Peak pulse voltage		N
1.6 (4.4.6)	Centre contact		N
1.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N
1.6 (4.4.8)	Lamp connectors		N
1.6 (4.4.9)	Caps and bases correctly used		N
1.6 (4.5)	Starter holders		N
	Starter holder in luminaires other than class II	No such parts	N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
	Starter holder class II construction		N
1.6 (4.6)	Terminal blocks		N
	Tails		N
	Unsecured blocks		N
1.6 (4.7)	Terminals and supply connections		P
1.6 (4.7.1)	Contact to metal parts		P
1.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
1.6 (4.7.3)	Terminals for supply conductors		P
1.6 (4.7.3.1)	Welded connections:		N
	- stranded or solid conductor		N
	- spot welding		N
	- welding between wires		N
	- Type Z attachment		N
	- mechanical test according to 15.8.2		N
	- electrical test according to 15.9		N
	- heat test according to 15.9.2.3 and 15.9.2.4		N
1.6 (4.7.4)	Terminals other than supply connection		P
1.6 (4.7.5)	Heat-resistant wiring/sleeves		N
1.6 (4.7.6)	Multi-pole plug		N
	- test at 30 N		N
1.6 (4.8)	Switches:		N
	- adequate rating		N
	- adequate fixing		N
	- polarized supply		N
1.6 (4.9)	Insulating lining and sleeves		P
1.6 (4.9.1)	Retainment		P
	Method of fixing: Reliably retained in position		P
1.6 (4.9.2)	Insulated linings and sleeves		N
	a) & c) Insulation resistance and electric strength		N
	b) Ageing test. Temperature (°C).....:		N
1.6 (4.10)	Insulation of Class II luminaires		N
1.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N
	Safe installation fixed luminaires	Class II construction	P

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test		Verdict
	Capacitors and switches		N
	Interference suppression capacitors according to IEC 60384-14		N
1.6 (4.10.2)	Assembly gaps:		P
	- not coincidental	Class II construction	P
	- no straight access with test probe		P
1.6 (4.10.3)	Retainment of insulation:		P
	- fixed	Class II construction	P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		P
1.6 (4.11)	Electrical connections		P
1.6 (4.11.1)	Contact pressure		P
1.6 (4.11.2)	Screws:		N
	- self-tapping screws		N
	- thread-cutting screws		N
	- at least two self-tapping screws		N
1.6 (4.11.3)	Screw locking:		N
	- spring washer		N
	- rivets		N
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood		P
1.6 (4.11.6)	Electro-mechanical contact systems		N
1.6 (4.12)	Mechanical connections and glands		P
1.6 (4.12.1)	Screws not made of soft metal		N
	Screws of insulating material		P
	Torque test: torque (Nm); part	Screws fixed the cord anchorage; 0,5Nm	P
	Torque test: torque (Nm); part		N
	Torque test: torque (Nm); part		N
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N
1.6 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm)	M10; 2,5Nm	P
	- lampholder; torque (Nm)	E27; 2,0Nm	P
	- push-button switches; torque 0,8 Nm		N

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Clause	Requirement - Test		Verdict
1.6 (4.12.5)	Screwed glands; torque (Nm)		N
1.6 (4.13)	Mechanical strength		P
1.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N
	- other parts; energy (Nm)	Body; 0,35Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
1.6 (4.13.3)	Straight test finger		P
1.6 (4.13.4)	Rough service luminaires		N
	- IP54 or higher		N
	a) fixed		N
	b) hand-held		N
	c) delivered with a stand		N
	d) for temporary installations and suitable for mounting on a stand		N
1.6 (4.13.6)	Tumbling barrel		N
1.6 (4.14)	Suspensions and adjusting devices		P
1.6 (4.14.1)	Mechanical load:		P
(-)	A) Four times the weight	4X0,6 Kg =2,4 Kg	P
	B) torque 2,5 Nm		P
	C) bracket arm; bending moment (Nm)		N
	D) load track-mounted luminaires		N
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N
	metal rod. diameter (mm)		N
1.6 (4.14.2)	Load to flexible cable		P
	Mass (kg)	0,9 kg	P
	Stress in conductors (N/mm ²)	6 N/mm ²	P
	Mass (kg) of semi-luminaire		N
	Bending moment (Nm) of semi-luminaire		N
1.6 (4.14.3 a)	Adjusting devices:		N
	- flexing test; number of cycles		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
	- strands broken		N
	- electric strength test afterwards		N
1.6 (4.14.3 b)	Luminaires with a means of adjustment intended to be installed within arms reach, shall allow the operation of its intended function without impairing the stability of the luminaire or causing deformation of any part of the construction, nor cause injury due to temperatures above those specified in Table 12.1.		N
1.6 (4.14.3 c)	For luminaires intended to be mounted within arms reach, the space surrounding any means of adjustment, except the light beam aperture, up to 5 cm away from the means of adjustment in any direction, shall comply with the temperature limits for the means of adjustment, as specified in Table 12.1.		N
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N
1.6 (4.14.5)	Guide pulleys		N
1.6 (4.14.6)	Strain on socket-outlets		N
1.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C		N
	- spacing ≥ 30 mm		N
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N
	a) construction		N
	b) temperature sensing control		N
	c) surface temperature		N
1.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
1.6 (4.16.1)	Lamp control gear spacing:		N
	- spacing 35 mm		N
	- spacing 10 mm		N
1.6 (4.16.2)	Thermal protection:		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
1.6 (4.16.3)	be so designed that it satisfies the test of 12.6	(see 12.6)	N
1.6 (4.17)	Drain holes		N
	Clearance at least 5 mm		N
1.6 (4.18)	Resistance to corrosion:		N
1.6 (4.18.1)	- rust-resistance	IP20	N
1.6 (4.18.2)	- season cracking in copper		N
1.6 (4.18.3)	- corrosion of aluminium		N
1.6 (4.19)	Igniters compatible with ballast		N
1.6 (4.20)	Rough service vibration		N
1.6 (4.21)	Protective shield:		N
1.6 (4.21.1)	Shield fitted		N
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
1.6 (4.21.3)	No direct path		N
1.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
1.6 (4.22)	Attachments to lamps		N
1.6 (4.23)	Semi-luminaires comply Class II		N
1.6 (4.24)	UV radiation, metal halide lamps		N
1.6 (4.25)	No sharp point or edges		P
1.6 (4.26)	Short-circuit protection:		N
1.6 (4.26.1)	Uninsulated accessible SELV parts		N
1.6 (4.26.2)	Short-circuit test		N
1.6 (4.26.3)	Test chain according to Figure 29		N
1.6 (4.27)	Terminal blocks with integrated screwless earthing contacts		N

1.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V).....:	230V~	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☒ ≥ 600 ☐	—

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	Rated pulse voltage (kV).....:	---	---
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....:	Cr>2,5mm,Cl>1,5mm (limit:Cr:2,5,Cl:1,5mm)	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....:	Cr>2,5mm,Cl>1,5mm (limit:Cr:2,5,Cl:1,5mm)	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....:		N
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....:		N
	(5) Not used		---
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:	Cr>2,5mm,Cl>1,5mm (limit:Cr:2,5,Cl:1,5mm)	P

1.8 (7)	PROVISION FOR EARTHING		P
1.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω	0,037Ω	P
	Two self-tapping screws used		N
	Thread-forming screws		N
	Thread-forming screw used in a groove		N
	Earth makes contact first		P
	For terminal blocks with integrated screwless earthing contacts, the additional tests of Annex V are to be applied		N
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N
1.8 (7.2.4)	Locking of clamping means		N
	Compliance with 4.7.3		N
	For terminal blocks with integrated screwless earthing contacts, the additional tests of Annex V apply		N
1.8 (7.2.5)	Earth terminal integral part of connector socket		N
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
1.8 (7.2.8)	Material of earth terminal		P

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	Contact surface bare metal		P
1.8 (7.2.10)	Class II luminaire for looping-in		N
	Double or reinforced insulation to functional earth		N
1.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P

1.9 (14)	SCREW TERMINALS		N
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 3)	N

1.9 (15)	SCREWLESS TERMINALS		N
	Separately approved; component list	(see Annex 1)	N
	Part of the luminaire	(see Annex 4)	N
(-)	Springtype screwless terminals of the Type b shall not be used		N

1.10 (5)	EXTERNAL AND INTERNAL WIRING		P
1.10 (5.2)	Supply connection and external wiring		P
1.10 (5.2.1)	Means of connection	Terminal	P
	- devices for the connection of luminaires		N
	- plugs for engagement with socket-outlets		N
	- terminal block specified		P
	- connecting leads and relevant information provided (EN)		N
	- supply cords		N
	- adapters		N
	- appliance inlets		N
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N
1.10 (5.2.2)	Type of cable.....	H03VV-F	P
	Cables equal to HD 21 S2 or HD22 S2 (EN)		P
	Nominal cross-sectional area (mm ²)	2 × 0,75 mm ²	P
1.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y attachment	P
1.10 (5.2.5)	Type Z not connected to screws		N
1.10 (5.2.6)	Cable entries:		P

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Clause	Requirement - Test	Result	Verdict
	- suitable for introduction		P
	- adequate degree of protection		P
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.10 (5.2.8)	Insulating bushings:		N
	- suitably fixed		N
	- material in bushings		N
	- material not likely to deteriorate		N
	- tubes or guards made of insulating material		N
1.10 (5.2.9)	Locking of screwed bushings		N
1.10 (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
	- insulating material or lining		P
1.10 (5.2.10.1)	Cord anchorage for type X attachment:		N
	a) at least one part fixed		N
	b) types of cable		N
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N
	Glands not used as anchorage		N
	Labyrinth type anchorages		N
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y attachment	P
1.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)	60N	P
	- torque test: torque (Nm).....	0,15	P
	- displacement $\leq$ 2 mm	0,7mm	P
	- no movement of conductors		P

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
	- no damage of cable or cord		P
1.10 (5.2.11)	External wiring passing into luminaire		P
1.10 (5.2.12)	Looping-in terminals		N
1.10 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N
1.10 (5.2.14)	Mains plug same protection		N
	Class III luminaire plug		N
1.10 (5.2.16)	Appliance inlets (IEC 60320)		N
	Appliance couplers of class II type		N
1.10 (5.2.17)	Non standardized interconnecting cables properly assembled		N
1.10 (5.2.18)	Used plug in accordance with:		N
	- IEC 60083		N
	- other standard		N
1.10 (5.3)	Internal wiring		P
1.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A)		N
	- temperatures (see Annex 2)		N
	Green-yellow for earth only		P
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²): 0,75 mm ²		P
	Insulation thickness		P
	Extra insulation added where necessary		N
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N
	Adequate cross-sectional area and insulation thickness		N
1.10 (5.3.1.3)	Double or reinforced insulation for class II		N
1.10 (5.3.1.4)	Conductors without insulation		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

1.10 (5.3.1.5)	SELV current-carrying parts		N
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N
	Joints, raising/lowering devices		N
	Telescopic tubes etc.		N
	No twisting over 360°		P
1.10 (5.3.3)	Insulating bushings:		N
	- suitable fixed		N
	- material in bushings		N
	- material not likely to deteriorate		N
	- cables with protective sheath		N
1.10 (5.3.4)	Joints and junctions effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		N
1.10 (5.3.6)	Wire carriers		N
1.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N

1.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	No access to live parts with the standard test finger is permitted		P
	Lampholders and starterholders shall comply to the electrical strength test and creepage distance and clearance requirements for double or reinforced insulation		P
	Basic insulation may be accessible when the luminaire is opened for lamp or starter replacement		P
	Component comply with the relevant requirements applied to an independent component		P
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable		N
	Double-ended high pressure discharge lamp		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	Relevant warning according to 3.2.18 fitted to the luminaire		N
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N
1.11 (8.2.3 a)	For protection against electric shock:		N
	- basic insulated metal parts not accessible during starter or lamp replacement		N
	- basic insulation not accessible other than during starter or lamp replacement		N
	- glass protective shields not used as supplementary insulation		N
1.11 (8.2.3 b)	Class I luminaire with BC lampholder		N
1.11 (8.2.3 c)	Class III luminaires may have exposed current carrying parts in the SELV circuit under the following conditions		N
	Class III luminaires are accepted only for connection to a SELV source		N
1.11 (8.2.4)	Portable luminaire:		N
	- protection independent of supporting surface		N
	- terminal block completely covered		N
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		P
1.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N

1.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.12.1 (-)	The housing temperatures shall not exceed		P
1.12 (12.3)	Endurance test:		P
	- mounting-position.....:	As in normal used	—
	- test temperature (°C)	35°C	—
	- total duration (h)	240h	—
	- supply voltage: Un factor; calculated voltage (V)	234,2V	—

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
	- lamp used.....:	See data sheet	—
1.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N
	- marking legible		P
	- no cracks, deformation etc.		P
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N
1.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un.....:		N
	- calculated mounting surface temperature (°C)		N
	- track-mounted luminaires		N
1.12 (12.6.2)	Temperature sensing control		N
	- case of abnormal conditions		—
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured mounting surface temperature (°C)		N
	- track-mounted luminaires		N
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N
1.12 (12.7.1.1)	Test for luminaires incorporating fluorescent lamps ≤ 70 W		N
1.12 (12.7.1.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....:		—
	- test for 4h at 1.1 Un		N
	If more than one ballast is used inside the luminaire		N

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict
	- only one in fault condition, until ballast failure occurs, test voltage.....:		N
	Following the test		—
	- the components have been retained in place		N
	- Parts of the luminaire enclosure continue to protect live parts against access with the standard test finger		N
1.12 (12.7.1.2)	Test for luminaires with discharge lamps, fluorescent lamps >70 W, transformers >10 VA		—
1.12 (12.7.1.2)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....:		—
1.12 (12.7.1.2)	- measured winding temperature (°C): at 1,1 Un ...:		—
	- measured temperature of fixing point/ exposed part (°C): at 1,1 Un		N
	- calculated temperature of fixing point/ exposed part (°C).....:		N
	The thermoplastic material is then subjected to the ball pressure test as described in 13.2.1 at the estimated temperature determined by linear regression, but not less than 75 °C.		—
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
1.12 (12.7.1.3)	Test for luminaires with short circuit proof transformers ≤ 10 VA		N
1.12 (12.7.1.3)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....:		—
	Following the test		—
	- Parts of the luminaire enclosure continue to protect live parts against access with the standard test finger		N
1.12 (12.7.2)	Temperature sensing control		N
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured temperature of fixing point/ exposed part (°C):		N

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Clause	Requirement - Test	Result	Verdict

1.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP 20	—
	- mounting position during test.....	As in normal used	—
	- fixing screws tightened; torque (Nm)	---	—
	- tests according to clauses	Cl. 9.2.0 of EN60598-1	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or where it could become a hazard		N
	d) i) For luminaires without drain holes – no water entry		N
	d) ii) For luminaires with drain holes – no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP 3X and IP 4X)		N
	g) no trace of water on any part of a lamp		N
	h) no damage		N
1.13 (9.3)	Humidity test 48 h	30°C, 95% Humidity	P

1.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)		—
	SELV:		N
	- between current-carrying parts of different polarity		N
	- between current-carrying parts and mounting surface.....		N
	- between current-carrying parts and metal parts of the luminaire.....		N

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Clause	Requirement - Test	Result	Verdict
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N
	- insulating bushings as described in Section 5.....:		N
	Other than SELV:		P
	- between live parts of different polarity	>50 MΩ	P
	- between live parts and mounting surface	>50 MΩ	P
	- between live parts and metal parts	>50 MΩ	P
	- between live parts of different polarity through action of a switch.....:		N
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:	>50 MΩ	P
	- insulating bushings as described in Section 5.....:		N
1.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N
	Test voltage (V):		P
	SELV:		N
	- between current-carrying parts of different polarity		N
	- between current-carrying parts and mounting surface.....:		N
	- between current-carrying parts and metal parts of the luminaire.....:		N
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N
	- insulating bushings as described in Section 5.....:		N
	Other than SELV:		P
	- between live parts of different polarity	1460V/MIN	P
	- between live parts and mounting surface	1460V/MIN	P
	- between live parts and metal parts	1460V/MIN	P
	- between live parts of different polarity through action of a switch.....:		N

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Clause	Requirement - Test	Result	Verdict

	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:	1460V/MIN	P
	- insulating bushings as described in Section 5.....:		N
1.14 (10.3.1)	Touch current or protective conductor current and electric burn (mA).....:	Touch current: 0,027mA	P

1.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
1.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C).....:	Terminal; 125°C; 0,9mm	P
	- part tested; temperature (°C).....:		N
1.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested.....:	Terminal	P
	- part tested.....:		N
1.15 (13.3.2)	Glow-wire test (650°C):		P
	- part tested.....:	Insulation lining	P
	- part tested.....:		N
1.15 (13.4.1)	Tracking test: part tested.....:		N

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3.3 Annex as stated in the standards

IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

W	ANNEX W, Alternative thermal test for thermoplastic luminaires		N
W.1	Thermal test in regard to fault conditions in lamp controlgear or electronic devices without temperature sensing controls in thermoplastic luminaires for fluorescent lamps $\leq 70W$		—
	Thermal test (failed lamp control gear in plastic luminaires):		N
	Through wiring or looping-in wiring loaded by a current of (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.....:		N
	- calculated temperature of fixing point/ exposed part (°C)		N

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
(2.2)	Class 0 not accepted		P
(3.3)	DK: power supply cord with label		N
	IT: warning label on Class 0 luminaire		N
(4.5.1)	DK: socket-outlets		N
(5.2.1)	CY, DK, FI, SE, GB: type of plug		N

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N
(13.3)	DK: Needle flame test during 30 s		N
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N
(13.3.2)	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		N

ANNEX EMF	Requirements standard EN 62493:2010		P
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3.4 Tables

IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	ANNEX 1: components	P
--	----------------------------	----------

object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Terminal	B	Zhongshan Hongyue Lighting Electrical Appliance Factory	PA8	450 V; T110; 24 A; 0,5-2,5 mm ²	---	VDE 40022438
Alt.	D	Shenzhen Green Way Electronic Co., Ltd	PA8	450 V; 0,5-4,0mm ² ; 110°C	--	ENEC 05 DEKRA 2154506.01
External wire	B	Arditi CN Electric (Huizhou) Co., Ltd.	03VV-F	2 x 0,75 mm ² ; 300/300V	---	VDE 40031644
Alt.	D	Shanghai Sumin Electrical Wire Co., Ltd.	03VV-F	2 x 0,75 mm ² ; 300/300V	---	VDE 40032197
Lampholder	B	ARDITI SPA	80S	E27 250 V; 4 A; 210°C	---	IMQ ENEC03 EN 732
Alt.	D	VLM(Asia)Limited	78N	E27 250 V; 4 A; 210°C	---	SEMKO ENEC14 SE/10147-4
Alt.	D	Yarncin LightingTechnology Co.Ltd	YX78	E27 250 V; 4 A; T210°C	---	VDE 40013631
Heat shrinkable tube	C	Changyuan Electronics (Shenzhen) Co., Ltd.	CB-HFT	Black; 600 V; 125°C; VW-1	---	UL E180908
Alt.	D	Dongguan Salipt Co., Ltd.	SALIPT S - 901- 600	Black; 600 V; 125°C; VW-1	---	UL E209436
Alt.	D	Shenzhen Woer Heat-shrinkable Material Co., Ltd.	RSFR-H	Black; 600 V; 125°C; VW-1	---	UL E203950

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

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	ANNEX 2: temperature measurements, thermal tests of Section 12	P
--	---	----------

	Type reference.....	P16961	—
	Lamp used	E27 60W	—
	Lamp control gear used	---	—
	Mounting position of luminaire	As in normal used	—
	Supply wattage (W)	63W	—
	Supply current (A).....	0,272A	—
	Calculated power factor	1,0	—
	Table: measured temperatures corrected for $t_a = 25\text{ }^{\circ}\text{C}$:		P
	- abnormal operating mode	---	—
	- test 1: rated voltage	---	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage	230,8V(1,05 times rated wattage)	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....	---	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage	---	—
	Through wiring or looping-in wiring loaded by a current of A during the test	---	—

temperature ($^{\circ}\text{C}$) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
External wiring	---	34,3	---	90	---	---
Internal wire	---	81,7	---	90	---	---
Lampholder	---	182,4	---	210	---	---
Terminal	---	28,7	---	For Cl.13	---	---
Mounting surface	---	26,5	---	90	---	---

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	ANNEX 3: screw terminals (part of the luminaire)		N
--	---	--	----------

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

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

	ANNEX 4: screwless terminals (part of the luminaire)		N
--	---	--	----------

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

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IEC 60598-2-1 and/or EN 60598-2-1			
Clause	Requirement - Test	Result	Verdict

(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N
	Pull test pin or tab terminals (4 samples); pull (N)		N
(15.9)	Contact resistance test		N
	Voltage drop (mV) after 1 h		N

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---
	Voltage drop of two inseparable joints									N
	Voltage drop after 10th alt. 25th cycle									---
	Max. allowed voltage drop (mV).....									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---
	Voltage drop after 50th alt. 100th cycle									N
	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
	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
	Max. allowed voltage drop (mV).....									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---

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Attachments

- ☒ Photo document
- ☐ BOM
- ☐ CDF (critical data form)
- ☐ Copies of certificates of certified components
- ☐ Instruction manual
- ☐ Circuit diagram
- ☐ Explosion block
- ☐ Other if necessary

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Type Designation:
Report Number:

pendent lamp, P16961, P16961C
CGZ3150109-00113-L-F-R1

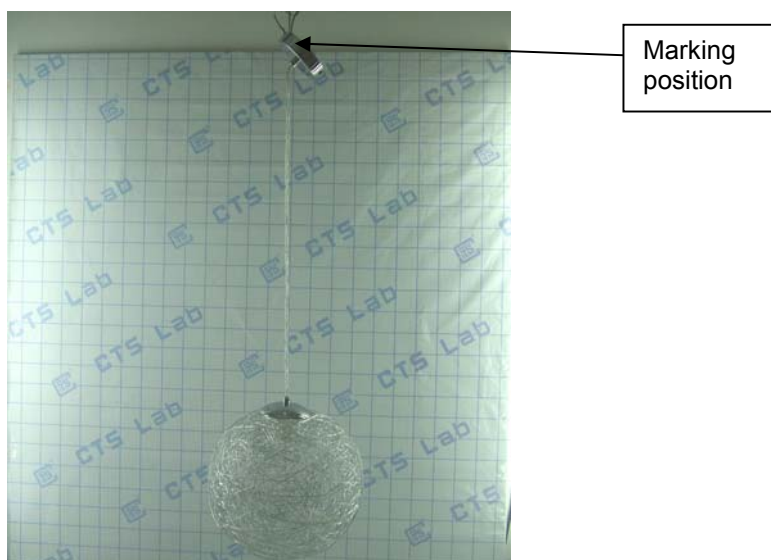


Figure 1 (P16961, External view - top)

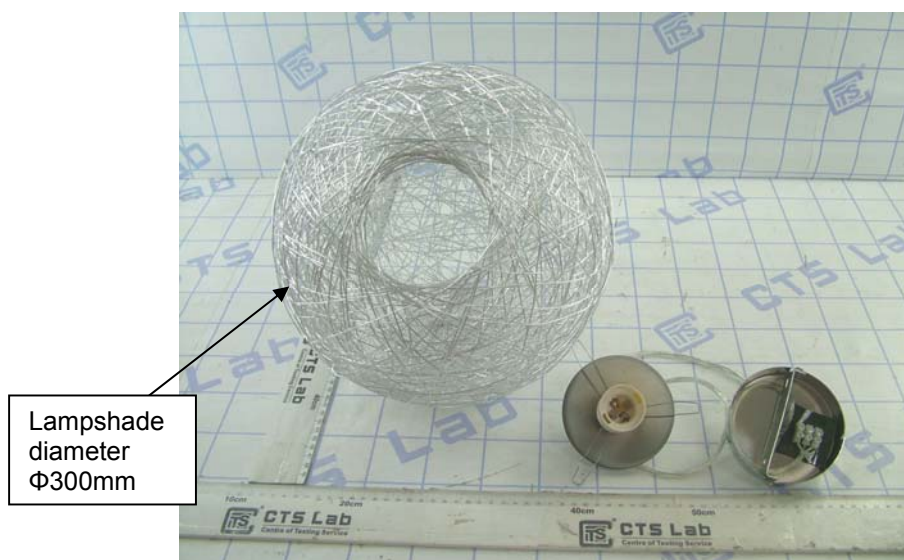


Figure 2 (Internal construction 1)

Attachment

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Type Designation: pendent lamp, P16961, P16961C
Report Number: CGZ3150109-00113-L-F-R1



Figure 3 (Internal construction 2)



Figure 4 (Internal construction 3)

Attachment

Page 3 of 4

Type Designation: pendent lamp, P16961, P16961C
Report Number: CGZ3150109-00113-L-F-R1

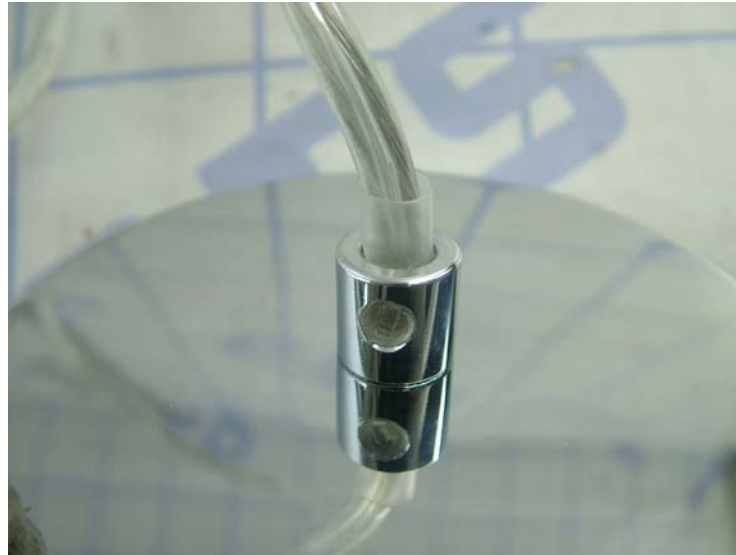


Figure 5 (Cord anchorage)



Figure 6 (Terminal)

Attachment

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Type Designation:
Report Number:

pendent lamp, P16961, P16961C
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Figure 7 (P16961C, External view - top)

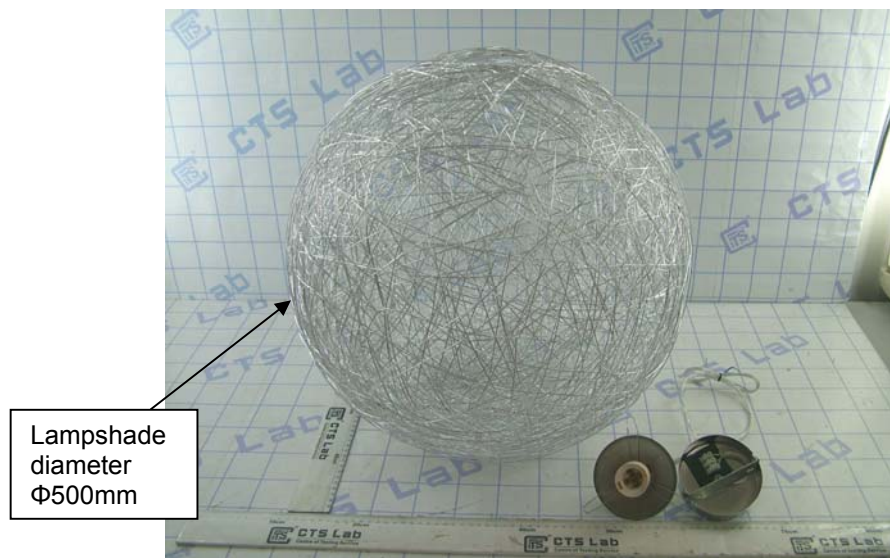


Figure 8 (Internal construction)