



Test Report

Report No.: DN20200330-ZPF-CE-S




Applicant: YUYAO PINFENG ELECTRICAL APPLIANCE
CO.,LTD

Product: Salt lamp power cord

Standard(s): EN 60598-2-4:2018 used in conjunction with
EN 60598-1:2015 + A1:2018

Ningbo Dano Youxin Testing Service Co., Ltd.

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

Report Number	DN20200330-ZPF-CE-S
Tested by (name + signature)	Peter Chen 
Approved by (name + signature)	David Zhang 
Date of issue	2020-03-30
Total number of pages	33
	
Name of Testing Laboratory preparing the Report	Ningbo Dano Youxin Testing Service Co., Ltd.
Address	4-4, NO.2 Building, Shangdong Business Center, Yinzhou District, Ningbo City, China, 315000
Applicant's name	YUYAO PINFENG ELECTRICAL APPLIANCE CO.,LTD
Address	No. 60, Area 3, Sidongzha, Linpu Village, Linshan Town, Yuyao City, Zhejiang Province
Manufacturer's name	YUYAO PINFENG ELECTRICAL APPLIANCE CO.,LTD
Address	No. 60, Area 3, Sidongzha, Linpu Village, Linshan Town, Yuyao City, Zhejiang Province
Test specification:	
Standard	EN 60598-2-4:2018 used in conjunction with EN 60598-1:2015 + A1:2018
Test procedure	CE
Non-standard test method	N/A
Test item description	Salt lamp power cord
Trade Mark	--
Model/Type reference	YCTD-01, YCTX-01, YC3D-01, YC3X-01, YC3-01, MC3D-01, MC3X-01, MCTD-01, MCTX-01, MC3-01, OC3D-01, OC3X-01, OCTD-01, OCTX-01, OC3-01
Ratings	250V~ 50-60Hz 750W; Class I
General disclaimer: 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 Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the Testing Laboratory, responsible for this Test Report.	

Summary of testing:

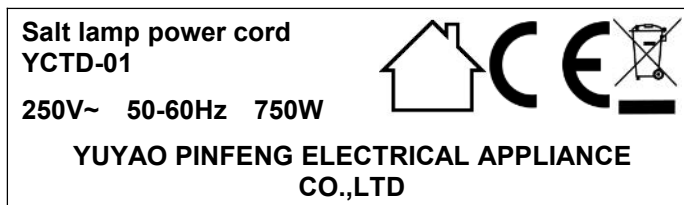
Tests performed (name of test and test clause):

Full type test according to:

- EN 60598-2-4:2018;
- EN 60598-1:2015 + A1:2018.

The submitted samples were found to comply with the requirements of above test specification.

Copy of marking plate:




<p>Test item particulars.....: Portable luminaire</p> <p>Classification of installation and use.....: Class I</p> <p>Supply Connection.....: Supply cords with plugs</p>	
<p>Possible test case verdicts:</p> <p>- test case does not apply to the test object.....: N/A</p> <p>- test object does meet the requirement.....: P (Pass)</p> <p>- test object does not meet the requirement.....: F (Fail)</p>	
<p>Testing.....:</p> <p>Date of receipt of test item.....: 2020-03-23</p> <p>Date (s) of performance of tests.....: 2020-03-23 to 2020-03-30</p>	
<p>General remarks:</p> <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.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in J60598-1(H29).</p> <p>When determining for test conclusion, measurement uncertainty of tests has been considered.</p>	
<p>General product information:</p> <ol style="list-style-type: none"> 1. The product is designed as portable luminaire, ta: 25°C, Class I, suitable for direct mounting on normally flammable surfaces. 2. All the models are identical except for the model numbers. 	

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.4 (0)	GENERAL TEST REQUIREMENTS		—
4.4 (0.1)	Information for luminaire design considered..... :	Standard Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
4.4 (0.3)	More sections applicable..... :	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.5 (2)	CLASSIFICATION		—
4.5 (2.2)	Type of protection	Class I	—
4.5 (2.3)	Degree of protection..... :	IP 20	—
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"/>	—

4.7 (3)	MARKING		—
4.6 (3.2)	Mandatory markings		P
	Position of the marking	Outside the enclosure.	P
	Format of symbols/text	JEnglish	P
4.6 (3.3)	Additional information		P
	Language of instructions	English	P
4.6 (3.3.1)	Combination luminaires	Not combination luminaires	N/A
4.6 (3.3.2)	Nominal frequency in Hz	50-60 Hz	P
4.6 (3.3.3)	Operating temperature		N/A
4.6 (3.3.4)	Not used		N/A
4.6 (3.3.5)	Wiring diagram		N/A
4.6 (3.3.6)	Special conditions		N/A
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	Stated in user manual.	P
4.6 (3.3.10)	Suitability for use indoors		N/A
4.6 (3.3.11)	Luminaires with remote control	No 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	No socket outlet	N/A
4.6 (3.3.16)	Rough service luminaire	Not rough service luminaire	N/A
4.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	type Z	P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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	Protective conductor current stated in user manual.	P
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	Non replaceable light sources.	P
	Cautionary symbol		N/A
4.6 (3.3.22)	Controllable luminaires, insulation		N/A
4.6 (3.3.23)	Luminaires delivered without controlgear shall be provided with the necessary information for the selection of the appropriate component.		N/A
4.6 (3.3.24)	Where the terminal block is not supplied with the luminaire, the packaging shall contain the following wording: "Terminal block not included. Installation must be performed by a qualified person."		N/A
4.6 (3.4)	Test with water	15s	P
	Test with hexane	15s	P
	Legible after test	After the test, the marking is still legible, marking label is easily removable and show no curling.	P
	Label attached		P
4.6.1 (-)	The provisions of 3.3.18 of IEC 60598-1 apply with the following addition.		P
4.6.2 (-)	In addition to the provisions of 3.3.15 of IEC 60598-1, for luminaires for outdoor use, the maximum power calculated from the maximum current rating of the supply cable shall be marked in close proximity to the mains socket-outlet(s) incorporated in the luminaire.		N/A

4.7 (4)	CONSTRUCTION		—
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		N/A
4.7 (4.4.1)	Integral lampholder	No any lampholders used.	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		N/A
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
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 (4.5)	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
	Test 8 mm earth conductor		N/A
4.7 (4.7.3)	Terminals for supply conductors		P
4.7 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
4.7 (4.7.4)	Terminals other than supply connection		P
4.7 (4.7.5)	Heat-resistant wiring/sleeves		P
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- polarized supply		P
	- compliance with IEC 61058-1 for electronic switches	Switch approved by VDE.	P
4.7 (4.9)	Insulating lining and sleeves		P
4.7 (4.9.1)	Retainment		P
	Method of fixing.....:	Form a part of luminaire.	—
4.7 (4.9.2)	Insulated linings and sleeves		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
4.7 (4.10)	Insulation of Class II luminaires		N/A
4.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.7 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
4.7 (4.11)	Electrical connections		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 (4.11.5)	No contact to wood or mounting surface		P
4.7 (4.11.6)	Electro-mechanical contact systems	No anyelectro-mechanical contact systems.	N/A
4.7 (4.12)	Mechanical connections and glands		P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	1,20 Nm, screw for suspension wire.	P
	Torque test: torque (Nm); part..... :	1,20 Nm, screw for fix two parts.	P
	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:		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
4.7 (4.12.5)	Screwed glands; force (Nm)..... :	Moulded plastic gland; 2,5Nm	P
4.7 (4.13)	Mechanical strength		P
4.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :	0,35 Nm	P
	- other parts; energy (Nm)..... :	0,5 Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
4.7 (4.13.3)	Straight test finger	Finger is pressed against the surface with a force of 30 N.	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	Not plug-ballast/transformers or mains socket-outlet-mounted luminaires.	N/A
4.7 (4.14)	Suspensions and adjusting devices		P
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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		—
	Bending moment (Nm) of semi-luminaire		N/A
4.7 (4.14.3)	Adjusting devices:		P
	- flexing test; number of cycles.....	Number of cycles of operation: 1500.	P
	- strands broken.....	Not broken.	P
	- electric strength test afterwards		P
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:		N/A
	- glow-wire test 650°C.....	See Test Table 4.16 (13.3.2)	N/A
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- 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)	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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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
4.7 (4.18)	Resistance to corrosion:		P
4.7 (4.18.1)	- rust-resistance		P
4.7 (4.18.2)	- season cracking in copper		P
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		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 4.16 (13.3.2)	N/A
4.7 (4.22)	Attachments to lamps		N/A
4.7 (4.23)	Semi-luminaires comply Class II		N/A
4.7 (4.24.1)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.7 (4.24.2)	Retinal blue light hazard		N/A
	Luminaires with E_{thr}		N/A
	a) Fixed luminaires		N/A
	Distance x m, borderline between RG1 and RG2.....:		N/A
	Marking and instruction		N/A
	b) Portable and handheld luminaires		N/A
	RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Marking		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12		N/A
	RG at 200 mm according to IEC/62778		N/A
4.7 (4.25)	No sharp point or edges		P
4.7 (4.26)	Short-circuit protection:		N/A
4.7 (4.26.1)	Uninsulated accessible SELV parts		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.26.2)	Short-circuit test		N/A
4.7 (4.26.3)	Test chain according to Figure 29		N/A
4.7 (4.27)	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
4.7 (4.28)	Fixing of thermal sensing control		N/A
	External to lamp control gear		N/A
	Plug-in or easily replaceable type		N/A
	Adhesive fixing		N/A
	Positioning		N/A
	Temperature (°C).....:		N/A
	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		P
	Replacement not possible		P
	Live part not accessible		P
	Breaking of the luminaire or its parts		P
	Removal of parts		P
	Compliance with test probe		P
	Access to live parts		P
4.7 (4.30)	Luminaires with non-user replaceable light source	Luminaires with non-replaceable light source.	N/A
	Protective cover		N/A
	Fixing means		N/A
	Cautionary symbol		N/A
4.7 (4.31)	Insulation between circuits		N/A
	Transformer or control gears		N/A
	Insulation between circuits		N/A
	Circuits insulated from LV supply		N/A
	Insulation provided		N/A
	Controllable luminaires		N/A
	Control terminals		N/A
	Insulation		N/A
	Control gear U-OUT		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.31.1)	SELV circuits		N/A
	Source		N/A
	Insulation between circuits		N/A
	Control gear U-OUT		N/A
	Plug and socket outlet		N/A
4.7 (4.31.2)	FELV circuits		N/A
	Source		N/A
	Insulation between circuits		N/A
	Plug and socket outlet		N/A
4.7 (4.31.3)	Other circuits		N/A
	CI II		N/A
	Equipotential bonding		N/A
	All conductive part connected		N/A
	Resistance < 0,5 Ω.....:		N/A
	Insulation fault: accessible part cause electric shock		N/A
	Master/slave applications		N/A
4.7 (4.32)	Overvoltage protective devices		N/A
	External to lamp control gear, connected to earth		N/A
	Fixed luminaires connected to a protective earth		N/A
4.7.1 (-)	Insulation not damaged when placing on support		P
4.7.2 (-)	Wiring fixed, to avoid rubbing		P
4.7.3 (-)	Stability (6°)		P
4.7.4 (-)	Candlestick luminaires with switch		P
4.7.5 (-)	E5 lampholders	Not used.	N/A
4.7.6 (-)	Portable luminaires for outdoor use shall not be provided with tails.		N/A
4.7.7 (-)	Portable luminaires for outdoor use shall not have more than two cable entries.	Indoor use only.	N/A
4.7.8 (-)	In portable luminaires for outdoor use, the connection between the socket-outlet for providing power to other luminaires and the associated plug shall be in accordance with at least the same degree of protection as the luminaires but not less than IPX4.		N/A
4.7.9 (-)	In portable luminaires for outdoor use, lampholders and plugs shall be of material resistant to tracking.		N/A

4.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		—
4.8 (11.2)	Creepage distances and clearances.....:	See Table 4.7 (11.2)	P
	Working voltage (V).....:	250V	—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated pulse voltage (kV)..... :		—
	Voltage form..... :	Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	—
	PTI..... :	< 600 <input type="checkbox"/> ≥ 600 <input checked="" type="checkbox"/>	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—

4.9 (7)	PROVISION FOR EARTHING		—
4.9 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω..... :	0,21 Ω	P
	Self-tapping screws used		P
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Built-in control gear		N/A
4.9 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
4.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
4.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
4.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
4.9 (7.2.7)	Electrolytic corrosion of the earth terminal		P
4.9 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
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)	Earthing core coloured green-yellow		P
	Length of earth conductor		P

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

EN 60598-2-4

Clause	Requirement + Test	Result - Remark	Verdict
4.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		—
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire..... :	(see Annex 4)	N/A

4.11 (5)	EXTERNAL AND INTERNAL WIRING		—
4.11 (5.2)	Supply connection and external wiring		P
4.11 (5.2.1)	Means of connection..... :	Supply cords with plugs	P
4.11 (5.2.2)	Type of cable..... :		P
	Nominal cross-sectional area (mm ²)..... :	3×1,5 mm ²	P
	Cables equal to IEC 60227 or IEC 60245		—
4.11 (5.2.3)	Type of attachment, X, Y or Z	Type Z	P
4.11 (5.2.5)	Type Z not connected to screws		P
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		N/A
4.11 (5.2.9)	Locking of screwed bushings		N/A
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
	- 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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 Z	P
4.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... : 60 N		P
	- torque test: torque (Nm)..... : 0,25 Nm		P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
4.11 (5.2.11)	External wiring passing into luminaire		N/A
4.11 (5.2.12)	Looping-in terminals		N/A
4.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
4.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector		N/A
	Relevant IEC standard		N/A
4.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.11 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard	Plug is approved by VDE.	P
4.11 (5.3)	Internal wiring		P
4.11 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		P
	- factory assembled		P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- socket outlet loaded (A)..... :		N/A
	- temperatures..... :	(see Annex 2)	P
	Green- yellow for 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		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		P
	Adequate cross-sectional area and insulation thickness		P
4.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
4.11 (5.3.1.4)	Conductors without insulation		N/A
4.11 (5.3.1.5)	SELV current-carrying parts		P
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.		P
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		P
	No twisting over 360°		P
4.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
4.11 (5.3.4)	Joints and junctions effectively insulated		N/A
4.11 (5.3.5)	Strain on internal wiring		N/A
4.11 (5.3.6)	Wire carriers		N/A
4.11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
4.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		—
4.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	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:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.12 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
4.12 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage.....		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
4.12 (8.2.4)	Portable luminaire have protection independent of supporting surface		P
4.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
4.12 (8.2.6)	Covers reliably secured		P
4.12 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		P
	Portable plug connected luminaire with capacitor		P
	Other plug connected luminaire with capacitor		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A
4.11.1 (-)	Class I luminaire with bayonet lampholder:		N/A
	- cap not accessible with test finger		N/A
	- metal lampholder is earthed		N/A

4.13 (12)	ENDURANCE TEST AND THERMAL TEST		—
4.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
4.13 (12.3)	Endurance test:		P
	- mounting- position..... :	On the black testing board.	—
	- test temperature (°C)..... :	35 °C	—
	- total duration (h)..... :	240 h	—
	- supply voltage: Un factor; calculated voltage (V)... :	275 V	—
	- lamp used..... :		—
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)	(see Annex 2)	P
4.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
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		—
	- 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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 Table 4.16 (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.....:		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test.....:	See Table 4.16 (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"/>	—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- manual reset cut-out..... :	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out..... :	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions..... :		—
	- highest measured temperature of fixing point/ exposed part (°C):..... :		—
	Ball-pressure test:..... :	See Table 4.16 (13.2.1)	N/A
4.13 (-)	Test overturned position (overturns < 15°)		N/A

4.14 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		—
4.14 (-)	If IP > IP 20 the order of tests as specified in clause 4.12		—
4.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP..... :	IP20	—
	- mounting position during test..... :	Normal use.	—
	- fixing screws tightened; torque (Nm)..... :		—
	- tests according to clauses..... :	Clauses 9.2.1 and 9.2.5	—
	- electric strength test afterwards		N/A
	a) no deposit in dust-proof luminaire	No deposit	N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		P
	h) no damage of protective shield or glass envelope		N/A
4.14 (9.3)	Humidity test 48 h	25°C, 93%R.H. for 48 h	P

4.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		—
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		—
	Insulation resistance (MΩ)..... :		—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	SELV		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	> 100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....:	> 100 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	> 100 MΩ	P
	- between live parts and mounting surface.....:	> 100 MΩ	P
	- between live parts and metal parts.....:	> 100 MΩ	P
	- between live parts of different polarity through action of a switch.....:	> 100 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:	> 100 MΩ	P
	- Insulation bushings as described in Section 5	> 100 MΩ	P
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
	Test voltage (V).....:		N/A
	SELV		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	500V	P
	- between current-carrying parts and metal parts of the luminaire.....:	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	1500 V	P
	- between live parts and mounting surface.....:	3000 V	P
	- between live parts and metal parts.....:		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- between live parts of different polarity through action of a switch..... :	1500 V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :	3000 V	P
	- Insulation bushings as described in Section 5 :	1500 V	P
4.15 (10.3)	Touch current or protective conductor current (mA) :	0,279 mA	P

4.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		—
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)	P
4.16 (13.3.2)	Glow-wire test (650°C)..... :	See Test Table 4.16 (13.3.2)	P
4.16 (13.4.1)	Proof tracking test (IEC 60112)..... :		P
	- part tested..... :	PCB	P

EN 60598-2-4								
Clause	Requirement + Test					Result - Remark		Verdict
4.7 (11.2)	TABLE: Clearance and creepage distance measurements						P	
Class of luminaire.....:		Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/>						—
Impulse withstand category.....:		Category II <input checked="" type="checkbox"/> Category II <input type="checkbox"/>						—
Clearance (cl) and creepage distance (cr) at/of/between:	Insulation type	U peak (V)	U r.m.s. (V)	Required cl (mm)	Measured cl (mm)	Required cr (mm)	Measured cr (mm)	
Current-carrying parts of different polarity	B	353,5	250	1,5	3,3	2,5	3,3	
Current-carrying parts and accessible parts	R	353,5	250	3,0	5,9	5,0	5,9	
Current-carrying parts and outer accessible surface of insulating parts	R	353,5	250	3,0	5,9	5,0	5,9	
Parts becoming live due to breakdown of basic insulation and metal parts	--	--	--	--	--	--	--	
Outer surface of cable where it is clamped and metal parts	B	353,5	250	1,5	3,5	2,5	3,5	
Current-carrying parts and supporting surface	R	353,5	250	3,0	5,9	5,0	5,9	
Supplementary information: B – Basic; S – Supplementary; R – Reinforced								

4.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P		
Allowed impression diameter (mm)				< 2 mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)		Impression diameter (mm)		
Connector	--	125		0,69		
Switch	--	125		1,03		
Supplementary information: --						

4.16 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P	
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	
Connector	--	10	No	0	Pass	
Supplementary information:						

EN 60598-2-4					
Clause	Requirement + Test			Result - Remark	Verdict
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	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Connector	--	30	No	0	Pass
Sleeving	--	30	No	0	Pass
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....:					Yes
Supplementary information: --					

EN 60598-2-4

Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 2: temperature measurements, thermal tests of Section 12			P

Type reference.....	AP050729	—
Lamp used.....	As declared by manufacture	—
Lamp control gear used.....	--	—
Mounting position of luminaire.....	On the black testing board	—
Supply wattage (W).....	750 W	—
Supply current (A).....	--	—
Calculated power factor.....	--	—
Table: measured temperatures corrected for ta = 25 °C:		P
- abnormal operating mode.....	--	—
- test 1: rated voltage.....	--	—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	U=1,06 × 250=265V	—
- 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 (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Power cord	--	30,5	--	90	--	--
Internal wiring	--	45,2	--	105	--	--
Lamp holder	--	121,3	--	165	--	--
Switch	--	30,5	--	Ref.	--	--
Mounting surface	--	28,9	--	90	--	--

EN 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)..... :		N/A
(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

EN 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
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.2)	Permanent connections: pull-off test (20 N)		N/A
(15.6)	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
(15.7)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.9)	Contact resistance test		N/A

EN 60598-2-4											
Clause	Requirement + Test									Result - Remark	Verdict
	Voltage drop (mV) after 1 h									N/A	
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)	--	--	--	--	--	--	--	--	--	--	

Photo document



Figure 1 Overview



Figure 2 Overview

Photo document



Figure 3 Overview



Figure 4 Plug

Photo document



Figure 5 Overview



Figure 6 Overview

Photo document



Figure 7 Overview



Figure 8 Overview

Photo document



Figure 9 Overview



Figure 10 Overview

Ningbo Dano Youxin Testing Service Co., Ltd.

Add: 4-4, NO.2 Building, Shangdong Business Center, Yinzhou District, Ningbo City, China, 315000

DANO