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CNAS L6964

Report No.: UNI2017112901SR-01

Test Report issued under the responsibility of:
Shenzhen United Testing Technology Co., Ltd.

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

Report Number.....: UNI2017112901SR-01
Date of issue: 2017-11-29
Total number of pages: 53 pages (including attachments)

Applicant's name: YIN FENG LIGHTING CO.,LTD
Address: Huangwan Industrial,Hetang Town, Jiangmen City ,
Guangdong Province ,China

Test specification:

Standard: AS/NZS 60598.2.1:2014 used in conjunction with
IEC 60598-1:2008
Test procedure.....: IEC Scheme
Non-standard test method.....: N/A

Test Report Form No.: IEC60598_2_1C
Test Report Form(s) Originator: Intertek Semko AB
Master TRF: 2012-11

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description:	Outdoor light
Trade Mark:	N/A
Manufacturer	YIN FENG LIGHTING CO.,LTD Huangwan Industrial,Hetang Town, Jiangmen City , Guangdong Province ,China
Model/Type reference:	YF2004X (Other models see the table MODEL LIST)
Ratings:	220-240V~, 50/60Hz, Class I, see the table MODEL LIST for other parameters

TRF No. IEC60598_2_1C

Testing procedure and testing location:

<input checked="" type="checkbox"/> Testing Laboratory:	Shenzhen United Testing Technology Co., Ltd. Testing location/ address.....: 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China Tested by (name + signature).....: Steven Approved by (+ signature): Liuze
<input type="checkbox"/> Associated CB Laboratory:	Testing location/ address.....: Tested by (name + signature).....: Approved by (+ signature):
<input type="checkbox"/> Testing procedure: TMP	Testing location/ address.....: Tested by (name + signature).....: Approved by (+ signature):
<input type="checkbox"/> Testing procedure: WMT	Testing location/ address.....: Tested by (name + signature).....: Witnessed by (+ signature): Approved by (+ signature):
<input type="checkbox"/> Testing procedure: SMT	Testing location/ address.....: Tested by (name + signature).....: Approved by (+ signature): Supervised by (+ signature).....:

Steven
Liuze



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List of Attachments (including a total number of pages in each attachment):

Attachment 1: Variations to IEC 60598-1, Ed. 7.0 (2008) for AS/NZS 60598.1:2013 (total: 7 pages)

Attachment 2: Variations to IEC 60598-2-1:1979+A1:1987 for application in Australia and New Zealand (AS/NZS 60598.2.1:2016) (total: 2 page)

Attachment 3: Photographs of test samples (total: 4 pages)

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Summary of testing:

Tests performed (name of test and test clause):

All applicable tests according to IEC 60598-2-1 were performed on models YF2004X based on the conditions which all models have similar electrical and mechanical construction, the differences used appearance, the test sections include:

- 1.5 (3) MARKING
- 1.6 (4) CONSTRUCTION
- 1.7 (11) CREEPAGE DISTANCES AND CLEARANCES
- 1.8 (7) PROVISION FOR EARTHING
- 1.10 (5) EXTERNAL AND INTERNAL WIRING
- 1.11 (8) PROTECTION AGAINST ELECTRIC SHOCK
- 1.12 (12) ENDURANCE TEST AND THERMAL TEST
- 1.13 (9) RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE
- 1.14 (10) INSULATION RESISTANCE AND ELECTRIC STRENGTH
- 1.15 (13) RESISTANCE TO HEAT, FIRE AND TRACKING

For LED modules incorporated in the luminaires, the standards IEC 62031:2008 have been evaluated. See attachment 2.

For Australia national deviations of AS/NZS 60598.2.1:2016 and AS/NZS 60598.1:2013, we have also considered in this test report. See attachment 3.

The tested samples fulfill the requirements of the standards IEC 60598-2-1:1979 + A1:1987 and AS/NZS 60598.2.1:1998.

Testing location:

Shenzhen United Testing Technology Co., Ltd.

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

Summary of compliance with National Differences:

List of countries addressed: Australia

- The product fulfils the requirements of IEC 60598-2-1:1979 + A1:1987 used in conjunction with IEC 60598-1:2008
- AS/NZS 60598.2.1: 2016 used in conjunction with AS/NZS 60598.1:2013

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Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Outdoor light

Model: YF2004X

IP44 Ta=45°C



E27 MAX.40W

Input: 220-240V~, 50/60Hz, E27 40WMAX

YIN FENG LIGHTING CO.,LTD

Made in China

Representative model: YF2004X

Location: attached on the enclosure, visible during installation

Remarks:

1. The height of WEEE symbol shall be not less than 7.0mm
2. The height of other required graphical symbols shall be not less than 5.0mm
3. The height of letters and numerals shall be not less than 2.0mm
4. The marking plates for other models are identical with the exception of model designations, , see the table MODEL LIST.

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Test item particulars:	
Classification of installation and use.....:	Class I luminaires
Supply Connection.....:	Terminals
.....:	
.....:	
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.....:	2017-11-07
Date (s) of performance of tests	2017-11-07 to 2017-11-29

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General remarks:

The test results presented in this report relate only to the object tested.
 This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

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

"(See appended table)" refers to a table appended to the report.

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

Clause numbers between brackets refer to clauses in IEC 60598-1

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

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided : Yes Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : YIN FENG LIGHTING CO.,LTD
 Huangwan Industrial,Hetang Town, Jiangmen City , Guangdong Province ,China

General product information:

The tested samples are suspension fixed luminaires incorporated E27 lamp as light source. They are classified class I according to protection against electric shock, suitable for direct mounting on normally flammable surfaces.

The tested samples are designed for outdoor use, and intended for being suspending on the wall for general lighting. Each appliance consists of metal body and E27 lampolder which are be assembled in position by the manufacturer before delivery.

The supply voltage of the tested samples is 220-240V~ 50/60Hz, rated wattages 40W, see model list for detail information.

The maximum ambient temperature ta is considered as 45°C since it is not declared in the technical documentations.

The test samples have similar mechanical and electrical constructions, only with different appearance.

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MODEL LIST

No	Model no.	Input voltage	Power	Size	Photo	weight (KG)
1	YF2010F	220-240V~,50/60Hz	E27 40WMAX	210*165*340mm		1.1kg
2	YF8024L	220-240V~,50/60Hz	E27 40WMAX	240*150*470mm		1.9kg
3	YF2004X	220-240V~,50/60Hz	E27 40WMAX	185*185*600mm		1kg
4	YF2003S1	220-240V~,50/60Hz	E27 40WMAX	15*145*405mm		0.75kg
5	YF2004P	220-240V~,50/60Hz	E27 40WMAX	H:900mm		2.5kg


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6	YF2006S1	220-240V~,50/60Hz	E27 40WMAX	H:900mm		1.2kg
7	YF2016PC	220-240V~,50/60Hz	E27 40WMAX	H:1000mm		3.5kg
8	YF2003A	220-240V~,50/60Hz	E27 40WMAX	190*145*360mm		0.75kg
9	YF807B	220-240V~,50/60Hz	E27 40WMAX	250*200*320mm		0.9kg
10	YF2005C	220-240V~,50/60Hz	E27 40WMAX	220*165*460mm		1kg
11	YF810Z	220-240V~,50/60Hz	E27 40WMAX	240*180*340mm		1.3kg
12	YF827E	220-240V~,50/60Hz	E27 40WMAX	280*255*370mm		3kg

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13	YF2001G	220-240V~,50/60Hz	E27 40WMAX	260*155*460mm		1.2kg
14	YF803V	220-240V~,50/60Hz	E27 40WMAX	280*220*500mm		1.1kg
15	YF801J	220-240V~,50/60Hz	E27 40WMAX	225*200*445mm		1.5kg
16	YF2021K	220-240V~,50/60Hz	E27 40WMAX	255*00*450mm		1.5kg
17	YF846U	220-240V~,50/60Hz	E27 40WMAX	210*185*375mm		1kg
18	YF812W	220-240V~,50/60Hz	E27 40WMAX	285*230*500mm		2.2kg
19	YF866N	220-240V~,50/60Hz	E27 40WMAX	170*170*355mm		1.38kg

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20	YF803Q	220-240V~,50/60Hz	E27 40WMAX	230*180*390mm		1.4kg
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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

1.2 (0)	GENERAL TEST REQUIREMENTS		P
1.2 (0.1)	Information for luminaire design considered	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
1.2 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

1.4 (2)	CLASSIFICATION		P
1.4 (2.2)	Type of protection	Class I	—
1.4 (2.3)	Degree of protection.....	IP 44	—
1.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
1.4 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

1.5 (3)	MARKING		P
1.5 (3.2)	Mandatory markings		P
	Position of the marking	On the enclosure	P
	Format of symbols/text	WEEE symbol: 7.0mm(MIN) Letters/numerals: 2.0mm(MIN)	P
1.5 (3.3)	Additional information	In the instruction leaflet	P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N/A
1.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
1.5 (3.3.3)	Operating temperature		N/A
1.5 (3.3.4)	Symbol or warning notice		N/A
1.5 (3.3.5)	Wiring diagram		N/A
1.5 (3.3.6)	Special conditions		N/A
1.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.5 (3.3.8)	Limitation for semi-luminaires		N/A
1.5 (3.3.9)	Power factor and supply current		N/A
1.5 (3.3.10)	Suitability for use indoors		N/A
1.5 (3.3.11)	Luminaires with remote control		N/A
1.5 (3.3.12)	Clip-mounted luminaire – warning	Fixed luminaires	N/A
1.5 (3.3.13)	Specifications of protective shields		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet		N/A
1.5 (3.3.16)	Rough service luminaire	Normal use luminaires	N/A
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Terminal block	N/A
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.5 (3.4)	Test with water	15 s	P
	Test with hexane	15 s	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/A
1.6 (4.4.2)	Wiring connection		N/A
1.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
1.6 (4.4.4)	Positioning		P
	- pressure test (N)		N/A
	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)	E27 2.0Nm	P
	After test the lampholder have not moved from its position and show no permanent deformation		P
1.6 (4.4.5)	Peak pulse voltage		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.4.6)	Centre contact		N/A
1.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.6 (4.4.8)	Lamp connectors		N/A
1.6 (4.4.9)	Caps and bases correctly used		N/A
1.6 (4.5)	Starter holders	<i>No starter holder used</i>	N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.6 (4.6)	Terminal blocks		P
	Tails		N/A
	Unsecured blocks		N/A
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/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
1.6 (4.7.4)	Terminals other than supply connection		P
1.6 (4.7.5)	Heat-resistant wiring/sleeves		P
1.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
1.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- compliance with 61058-1 for electronic switches		N/A
1.6 (4.9)	Insulating lining and sleeves		P
1.6 (4.9.1)	Retention		P
	Method of fixing: Heat-shrinkable tubing		P
1.6 (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
1.6 (4.10)	Insulation of Class II luminaires		N/A
1.6 (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
1.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
1.6 (4.10.3)	Retention 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
1.6 (4.11)	Electrical connections		P
1.6 (4.11.1)	Contact pressure		P
1.6 (4.11.2)	Screws:		P
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
1.6 (4.11.3)	Screw locking:		P
	- spring washer		N/A
	- rivets		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (4.11.4)	Material of current-carrying parts	Copper or copper alloy used	P
1.6 (4.11.5)	No contact to wood or mounting surface		P
1.6 (4.11.6)	Electro-mechanical contact systems		N/A
1.6 (4.12)	Mechanical connections and glands		P
1.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part	0.60 Nm for fixing earth terminal	P
	Torque test: torque (Nm); part	0.50 Nm for fixing terminal block	P
	Torque test: torque (Nm); part		N/A
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
1.6 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm).....	No fixed arms used	N/A
	- lampholder; torque (Nm)	E27 2.0Nm	P
	- push-button switches; torque 0,8 Nm		N/A
1.6 (4.12.5)	Screwed glands; force (Nm)		N/A
1.6 (4.13)	Mechanical strength		P
1.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....	0.20 Nm	P
	- other parts; energy (Nm)	0.35 Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
1.6 (4.13.3)	Straight test finger	30 N	P
1.6 (4.13.4)	Rough service luminaires <i>luminaires</i>	<i>Normal use</i>	N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	d) for temporary installations and suitable for mounting on a stand		N/A
1.6 (4.13.6)	Tumbling barrel		P
1.6 (4.14)	Suspensions and adjusting devices		P
1.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	Model YF827E with biggest mass was tested:4x3kg=12kg	P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)	Not clip-mounted luminaires	N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		N/A
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
1.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors	No cable with such construction used	N/A
1.6 (4.14.5)	Guide pulleys	No guide pulley used	N/A
1.6 (4.14.6)	Strain on socket-outlets		N/A
1.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C		P
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- thermal protection		N/A
	- electronic circuits exempted		N/A
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	N/A
1.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N/A
1.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
1.6 (4.18)	Resistance to corrosion:		N/A
1.6 (4.18.1)	- rust-resistance		N/A
1.6 (4.18.2)	- season cracking in copper		N/A
1.6 (4.18.3)	- corrosion of aluminium		N/A
1.6 (4.19)	Igniters compatible with ballast		N/A
1.6 (4.20)	Rough service vibration	Normal use luminaires	N/A
1.6 (4.21)	Protective shield:		N/A
1.6 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.6 (4.21.3)	No direct path		N/A
1.6 (4.21.4)	Impact test on shield		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Glow-wire test on lamp compartment		N/A
1.6 (4.22)	Attachments to lamps		N/A
1.6 (4.23)	Semi-luminaires comply Class II		N/A
1.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.6 (4.25)	No sharp point or edges		P
1.6 (4.26)	Short-circuit protection:		N/A
1.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
1.6 (4.26.2)	Short-circuit test		N/A
1.6 (4.26.3)	Test chain according to Figure 29		N/A
1.6 (4.27)	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A

1.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V)	240 V r.m.s (Input)	—
	Voltage form	Sinusoidal <input checked="" type="checkbox"/> For LED driver input Non-sinusoidal <input type="checkbox"/>	—
	PTI	< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	Rated pulse voltage (kV)	No pulse voltage generated	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm)	Cr=cl>5 mm (Limit: cl=2.5mm, cr=1.5mm)	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm)	cr=cl>5 mm(Limit: cl=2.5mm, cr=1.5mm)	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm) ...:		N/A
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm)	cr>2.5mm, cl>1.5mm(Limit: cl=2.5mm, cr=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.....:	0.056Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		P
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		P
1.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
1.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
1.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
1.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
1.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

1.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A

1.10 (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 block	P
1.10 (5.2.2)	Type of cable		N/A
	Nominal cross-sectional area (mm ²).....		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
1.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
1.10 (5.2.5)	Type Z not connected to screws		N/A
1.10 (5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
1.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
1.10 (5.2.9)	Locking of screwed bushings		N/A
1.10 (5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- insulating material or lining		N/A
1.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
1.10 (5.2.10.3)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N).....:		N/A
	- torque test: torque (Nm)		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
1.10 (5.2.11)	External wiring passing into luminaire		N/A
1.10 (5.2.12)	Looping-in terminals	Not loop-in luminaire	N/A
1.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
1.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
1.10 (5.2.16)	Appliance inlets (IEC 60320)	No appliance inlet used	N/A
	Appliance couplers of class II type		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
1.10 (5.3)	Internal wiring		P
1.10 (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)		N/A
	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).....:		P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
1.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
1.10 (5.3.1.4)	Conductors without insulation	No conductors without insulation used	N/A
1.10 (5.3.1.5)	SELV current-carrying parts		N/A
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	No twisting over 360°	Not withstand rotation along cable longitudinal axis	P
1.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
1.10 (5.3.4)	Joints and junctions effectively insulated		N/A
1.10 (5.3.5)	Strain on internal wiring		N/A
1.10 (5.3.6)	Wire carriers	Not make cable damaged during adjusting luminaire height	N/A
1.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A

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
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arm's reach, on wall-mounted luminaires		P
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp	LED module used as light source	N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A

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

1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.11 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
1.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
1.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage.....		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
1.11 (8.2.4)	Portable luminaire have protection independent of supporting surface	Fixed luminaires	N/A
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		N/A
1.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

1.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13	IP44	—
1.12 (12.3)	Endurance test:		P

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- mounting-position.....:	Normal use	—
	- test temperature (°C).....:	55 °C	—
	- total duration (h).....:	240 h	—
	- supply voltage: Un factor; calculated voltage (V).....:	1.1 X 40W	—
	- lamp used.....:	E27 Incandescent lamp	—
1.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)		N/A
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
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/A
	- measured winding temperature (°C): at 1,1 Un.....:		—
	- measured mounting surface temperature (°C) at 1,1 Un.....:		N/A
	- calculated mounting surface temperature (°C).....:		N/A
	- track-mounted luminaires		N/A
1.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions.....:		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C).....:		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- track-mounted luminaires		N/A
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.12 (12.7.1)	Luminaire without temperature sensing control		N/A
1.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex V:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C).....		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A
1.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C).....		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A

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

1.12 (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
1.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C):.....:		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C).....:		N/A
	- part tested; temperature (°C).....:		N/A

1.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
1.13 (-)	If IP > IP 20 the order of the test specified in clause 1.12		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP44	—
	- mounting position during test		—
	- fixing screws tightened; torque (Nm).....:		—
	- tests according to clauses		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		P
	f) no contact with live parts (IP3X and IP4X)		P
	g) no trace of water on part of lamp requiring protection from splashing water		P
	h) no damage of protective shield or glass envelope		P
1.13 (9.3)	Humidity test 48 h	93% 25°C	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	Covered by metal foil	—
	Insulation resistance (MΩ)		—
	SELV:		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	Not used	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		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

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Clause	Requirement + Test	Result - Remark	Verdict
	- Insulation bushings as described in Section 5		N/A
1.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		N/A
	SELV:		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:		P
	- between live parts of different polarity	1480 V/1 min	P
	- between live parts and mounting surface	1480 V/1 min	P
	- between live parts and metal parts	1480 V/1 min	P
	- between live parts of different polarity through action of a switch	No switch used	N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		P
	- Insulation bushings as described in Section 5		N/A
1.14 (10.3)	Touch current or protective conductor current (mA)	0.01 mA	P
1.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING (<i>Approved driver</i>)		P
1.15 (13.2.1)	Ball-pressure test:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- part tested; temperature (°C).....	Enclosure, 125°C,1.1mm	P
	- part tested; temperature (°C).....	Terminal, 125°C,0.9mm	P
	- part tested; temperature (°C).....	Lampholder, 125°C, 0.9mm	P
1.15 (13.3.1)	Needle flame test (10 s):		P
	-part tested	Terminal	P
	-part tested		N/A
1.15 (13.3.2)	Glow-wire test (650°C):		N/A
	- part tested	Lampholder no flame no burning	P
	-part tested	Enclosure box no flame no burning	P
1.15 (13.4.1)	Tracking test:		N/A

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

ANNEX 1: components			P
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object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
E27 lampholder	A	VLM Asia Limited	78N	250V	AS/NZS 60238.2.004	ESV130456/ 00
-Alt.	A	-	SZ-2701	250V 4A T210	AS/NZS 60238	SAA13116 1EA
Internal wire	A	Zhongshan Henglan Boyi Electrical Appliacne Factory	H03VVH2-F	2X0.50mm ²	AS/NZS 60227	SAA13052 7EA
Terminal block	A	Foshan Shunde Jinjin Electrical CO.,LTD	KZ8-PA10	450V 35A	EN 60998-1 EN 60998-2-1	VDE 40018824

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 authorized by the test house
- C - Integrated component tested together with the appliance
- D - Alternative component

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

	ANNEX 2': temperature measurements, thermal tests of Section 12		P
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Type reference.....	YF2004X	—
Lamp used	E27 Incandescent lamp	—
Lamp control gear used		—
Mounting position of luminaire	See user manual	—
Supply wattage (W).....	-	—
Supply current (A)	-	—
Calculated power factor	-	—
Table: measured temperatures corrected for $t_a = 45\text{ }^\circ\text{C}$:		P
- abnormal operating mode.....		—
- test 1: rated voltage	N/A	—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1.05 X 40W	—
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A	—
- test 4: 1,1 times rated voltage or 1,05 times rated wattage	N/A	—
Through wiring or looping-in wiring loaded by a current of A during the test	N/A	—

temperature ($^\circ\text{C}$) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Terminal block	-	48.6		80	-	-
Internal wire		51.3		90	-	-
Lampholder Rim		95.8		210	-	-
Lampholder Contact		82.3		210		
Lampholder wire		79.7		90		
Mounting surface	-	45.6	-	90	--	--

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

	ANNEX 2'': temperature measurements, thermal tests of Section 12		P
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Type reference.....	YF2004P	—
Lamp used	E27 Incandescent lamp	—
Lamp control gear used		—
Mounting position of luminaire	See user manual	—
Supply wattage (W).....	-	—
Supply current (A)	-	—
Calculated power factor	-	—
Table: measured temperatures corrected for ta = 45 °C:		P
- abnormal operating mode.....		—
- test 1: rated voltage	N/A	—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1.05 X 40W	—
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A	—
- test 4: 1,1 times rated voltage or 1,05 times rated wattage	N/A	—
Through wiring or looping-in wiring loaded by a current of A during the test	N/A	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Terminal block	-	46.5		80	-	-
Internal wire		50.7		90	-	-
Lampholder Rim		89.6		210	-	-
Lampholder Contact		75.4		210		
Lampholder wire		66.9		90		
Mounting surface	-	45.6	-	90	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

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Clause	Requirement + Test					Result - Remark					Verdict
(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
	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										-
	Voltage drop after 10th alt. 25th cycle										-
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	-	-	-	-	-	-	-	-	-	-	
	Voltage drop after 50th alt. 100th cycle										-
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	-	-	-	-	-	-	-	-	-	-	
	Continued ageing: voltage drop after 10th alt. 25th cycle										-
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	-	-	-	-	-	-	-	-	-	-	
	Continued ageing: voltage drop after 50th alt. 100th cycle										-
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	-	-	-	-	-	-	-	-	-	-	

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

	Attachment 1: Variations to IEC 60598-1, Ed. 7.0 (2008) for AS/NZS 60598.1:2013		P
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ZZ1	SCOPE		P
ZZ2	VARIATIONS		P
1.1 (0)	SCOPE		P
0.1	LED light sources are subject to the same test parameters as "other discharge lamps		N/A
0.2	normative references		P
0.4.2	In Australia, for equipment, other than class III equipment, that is intended for connection to the supply mains and not marked with:		P
	-a rated voltage of at least 240 V for single-phase equipment or a rated voltage of at least 415 V for three-phase equipment; or		N/A
	-a rated voltage range that includes 240 V for single-phase equipment and 415 V for three-phase equipment,	220-240V ~	P
	the rated voltage is equal to 240 V for single-phase equipment and 415 V for three-phase equipment, and the upper limit of the voltage range is equal to 240 V for single-phase equipment and 415 V for three-phase equipment.		N/A
0..5	Throughout this document, where there is a relevant Australian/New Zealand Standard, it replaces the IEC Standard unless otherwise specified.		N/A
0.5.2A	Capacitors shall comply with Clause 4.2A.		N/A
1.2(1.2.87)	installation coupler		N/A
1.2(1.2.88)	installation male connector		N/A
1.2(1.2.89)	installation female connector		N/A
1.2(1.2.90)	installation coupler system		N/A
2.2	Class 0 luminaires are not allowed in Australia or New Zealand.	Class I	N/A
3.1	Move Item 3.2.21 from the center column to the right hand column.		P

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.12	In Australia, luminaires for household use and similar with supply cords which are not fitted with a plug shall be marked with a cord tag with the symbol for "must be installed by a licensed electrician".		N/A
3.3	In Australia and New Zealand, instructions and other texts required by this Standard shall be written in English.		P
3.3.7	Luminaires for use with metal halide lamps shall be provided with instructions that state the substance of the following:		N/A
	-complete with its protective shield; or		N/A
	-with a double jacketed lamp.		N/A
3.3.21	The instructions shall contain details related to components in the luminaire that require replacement as part of a maintenance program.		N/A
4.8	Switches that indicate an off position shall have contacts with an air break and comply with AS/NZS 3133 or AS/NZS 61058.1.		N/A
4.2A	CapacitorsType		N/A
5.2.1	Luminaires shall be provided with only one of the following means of connection and isolation to the supply.		P
(1)	Fixed luminaires:		P
	— device for the connection of luminaires;		N/A
	— terminals; plug for engagement with socket-outlets;		P
	— connecting lead (tails);		N/A
	— adapter for engagement with supply tracks;		N/A
	— appliance inlet;		N/A
	— installation coupler;		N/A
	— luminaire coupler; Portable luminaires:		N/A
	— supply cord with plug;		N/A
	— appliance inlet.		N/A
	Track-mounted luminaires:		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	— adaptor;		N/A
	— connector.		N/A
(3)	In Australia, non-portable luminaires with a supply cord shall be fitted with a plug complying with AS/NZS 3112 or a coupler complying with its standard, except where the luminaire has markings and instructions that comply with Clause 3.2.12, in which case, a plug or coupler is not required. However, for other than portable luminaires a plug is not required if the luminaire has markings and instructions in accordance with Clause 3.2.12.		N/A
	The plug portion of a luminaire with integral pins shall comply with the relevant requirements of AS/NZS 3112.		N/A
5.2.2	1-Supply cords used as a means of connection to the supply, when supplied by the luminaire manufacturer, shall be at least equal in their mechanical and electrical properties to those specified in IEC 60227 and IEC 60245, as indicated in Table 5.1, or AS/NZS 3191, and shall be capable of withstanding, without deterioration, the highest temperature to which they may be exposed under normal conditions of use.		N/A
	3-To provide adequate mechanical strength, the nominal cross-sectional area of the conductors shall be not less than:— 0,75 mm ² ;— 1,0 mm ² for portable rough service luminaires.		N/A
5.2.16	Class II luminaires for fixed wiring incorporating an appliance coupler shall not have means to allow further luminaires to be connected, including looping in by cascading.		N/A
	Luminaire couplers incorporated with the luminaire shall comply with IEC 61995-1.		N/A
5.2.18	All portable luminaires with a flexible supply cord shall be fitted with a plug complying with AS/NZS 3112. Other luminaires with flexible cords shall be fitted with a plug complying with AS/NZS 3112, unless they have the warning allowed by Clause 3.2.12.		N/A
5.2.19	Installation couplers incorporated within luminaires shall comply with the requirements of AS/NZS 61535.		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Luminaires incorporating installation couplers may have means to allow further luminaires to be connected by cascading provided the through wiring is rated for the current rating of the installation coupler.		N/A
5.3.1	1-Internal wires coloured green, yellow or green/yellow combination shall be used for making protective earth connections only. Functional earth connections shall not be made by wires coloured green, yellow or green/yellow combination.		P
	2-NOTE 3 Internal wires of other colours are not precluded from making protective earthing connections.		N/A
7.2.11	All conductors, whether internal or external, coloured green, yellow or green/yellow combination, shall only be connected to an earthing terminal.		P
8.2.1	Luminaires shall be so constructed that their live parts and basic insulation are not accessible when the luminaire has been installed and wired as in normal use. Live parts shall not be accessible when the luminaire is opened as necessary for replacing lamps, replaceable light sources or (replaceable) starters, even if the operation cannot be achieved by hand.		P
	NOTE Examples of parts with basic insulation are cables intended for internal wiring, controlgear for building-in etc.		P
	This does not apply to the non-current -carrying parts of caps which comply with the relevant IEC safety standard.		N/A
	Where a protective cover is used over a non-user-replaceable light source to provide protection against electric shock, and the cover is marked with the "caution, electric shock risk" symbol in accordance with IEC 60417-6042, the cover shall be left in place during the tests and inspections detailed by Section 8 of this Standard. The cover shall be held securely in position by fixings requiring the use of a tool for their removal, and at least two independent fixings shall be used.	Non-user-replaceable	P

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
TABLE 12.1	NOTE Luminaire manufacturers should consider the maximum ambient air temperature in the vicinity of components such as starting devices and electronic ballasts or converters. Component performance specifications advise manufacturers to mark or supply life data as maximum ambient air temperature based on 50,000 hrs. This t-life is often marked as t_a and is the temperature of the air in the vicinity of the component and is not related to the luminaire t_a . As such, luminaire manufacturers should measure air temperature in the vicinity of such components, within the luminaire, as even those complying with their t_c point measurements can still fail prematurely if t-life is exceeded		N/A
CLAUSE 13.3	Resistance to flame and ignition: Parts of non-metallic material shall be resistant to flame and ignition.		P
	For materials other than ceramic, compliance is checked by the tests of 13.3.1 and 13.3.2, 13.3.3 and 13.3.4, as appropriate.		P
	This requirement does not apply to decorative trims, knobs, wiring insulation and other parts not likely to be ignited or to propagate flames from inside the luminaire.		P
	This Clause applies to all parts, including components, even if they have been tested to their own standard.		P
13.3.1	Parts of non-metallic material supporting connections shall withstand the following test: Parts are subject to a test using a nickel-chromium glow-wire.	Lampholder, enclosure	P
	The test apparatus and test procedure shall be those described in AS/NZS 60695.2.10.		P
	The glow wire is heated to 750 °C and applied to the test sample for 30 s.		P
	For all tests, any flame or glowing of the sample shall extinguish within 30 s of withdrawing the glow-wire, and any burning or molten drop shall not ignite a single layer of tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.		P

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
13.3.2	All other parts of non-metallic material shall withstand the following test		P
	Parts are subject to a test using a nickel-chromium glow-wire.		P
	The test apparatus and test procedure shall be those described in AS/NZS 60695.2.10.		P
	The glow wire is heated to 650 °C and applied to the test sample for 30 s.		P
	For all tests, any flame or glowing of the sample shall extinguish within 30 s of withdrawing the glow-wire, and any burning or molten drop shall not ignite a single layer of tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.		P
13.3.3	During the application of the 750 °C glow wire test of Clause 13.3.1, if a flame is produced that persists for longer than 2 s, the luminaire is further tested as follows:		N/A
	The needle-flame test of AS/NZS 60695.11.5 is applied to non-metallic parts that encroach within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm above the point of application of the glow wire. The needle flame is applied to the test sample for 30 s.		N/A
	Parts shielded by a barrier that meets the needle-flame test of AS/NZS 60695.11.5 are not tested.		N/A
	The duration of burning shall not exceed 30 s after removal of the test flame and any burning drop shall not ignite the underlying parts or tissue paper specified in 4.187 of ISO 4046-4:2002, spread out horizontally 200 mm ± 5 mm below the sample.		N/A
	The needle-flame test is not carried out on parts that are made of material classified as V-0 or V-1 according to AS/NZS 60695.11.10. The sample of material classified in accordance with AS/NZS 60695.11.10 shall be no thicker than the relevant part.		N/A
13.3.4	PCBs in luminaires shall be subject to the needle-flame test of AS/NZS 60695.11.5. The needle flame shall be applied for 30 seconds to an edge of the PCB at least 10 mm from a corner.		N/A

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IEC 60598-2-1_ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The duration of burning shall not exceed 15 s after removal of the needle flame and any burning droplets shall not ignite the tissue paper placed underneath the PCB.		N/A
	The needle-flame test is not carried out on PCBs made of material that is V-0 rated according to AS/NZS 60695.11.10.		N/A

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

Attachment 2: Variations to IEC 60598-2-1:1979+A1:1987 for application in Australia and New Zealand (AS/NZS 60598.2.1:2016)			P
1	SCOPE		P
5	CLASSIFICATION OF LUMINAIRES		P
6	MARKING		P
	LED luminaires with G5 or G13 lampholders shall be marked with the following warning: WARNING: NOT FOT USE WITH ANY FLUORESCENT LAMP-FOR USE ONLY WITH TYPE X LED LAMPS		N/A
7	CONSTRUCTION		N/A
	LED luminaires with G5 and G13 lampholders shall include a fuse to protect a fluorecent lamp that is inadvertently installed:		N/A
	Be of the 250V HRC type		N/A
	Have a 0.5 A max. quick-acting type rating		N/A
	Be used to protect a maximum of two lamps		N/A
8	CREEPAGE DISTANCES AND CLEARANCE		P
9	PROVISION FOR EARTHING		P
10	TERMINALS		P
11	EXTERNAL AND INTERNAL WIRING		P
12	PROTCETION AGAINST ELECTRONIC SHOCK		P
13	ENDURANCE TESTS AND THERMAL TESTS		P
14	RESISTANCE TO DUST AND MOISTURE		P
15	INSULATION RESISTANCE AND ELECTRONIC STRENGTH		P
16	RESISTANCE TO HEAT, FIRE AND TRACKING		N/A

	APPENDIX A		N/A
	SAFETY REQUIREMENTS FOR DOUBLE-CAPPED LED LAMPS		N/A

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

	APPENDIX B		N/A
	SAFETY REQUIREMENTS FOR T8 TO T5 LAMP CONVERTERS		N/A

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Attachment 3: Photographs of test samples	-
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Figure 3 lampholder



Figure 4 internal

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Figure 5 the earth terminal



Figure 6 terminal markings of the the EUT

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Figure 7 overall of the additional molde YF2004P



Figure 8 overall of the additional molde YF2004P

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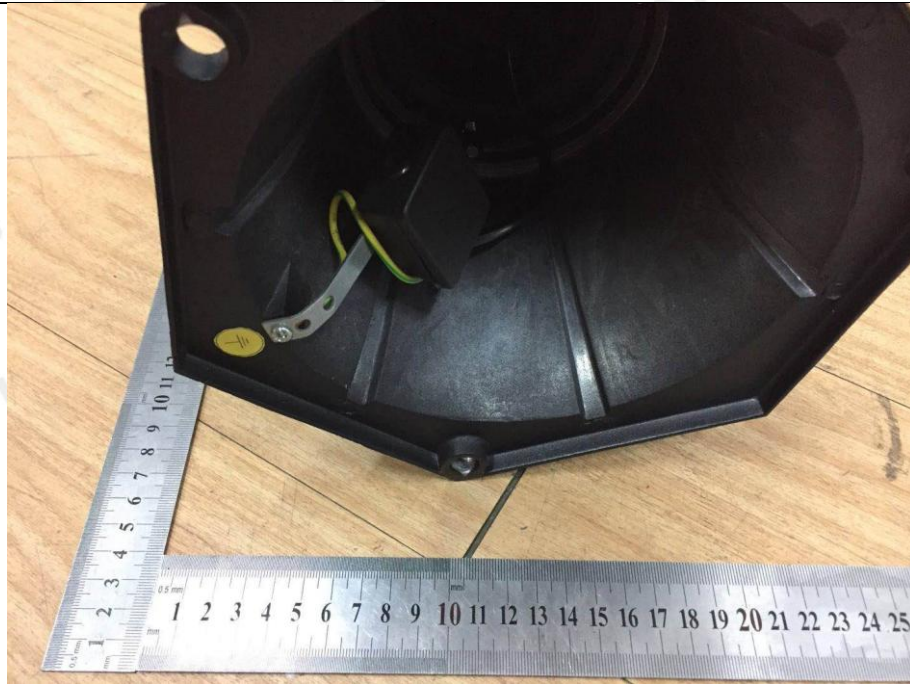


Figure 9 internal of the additional molde YF2004P



Figure 10 internal of the additional molde YF2004P

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Figure 11 internal of the additional molde YF2004P

-- End of this test report ---

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