

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

Report Number.: PRMS2504343-01SR
Date of issue: 2025-04-24
Total number of pages: **39 pages**


Name of Testing Laboratory preparing the Report: ShenZhen Promise Test Technology Co., Ltd.

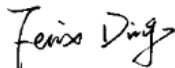

Applicant's name: Zhongshan Kerisheng supply chain Management Co.,LTD
Address: Card 04, 33rd Floor, Lihe Commercial Center, 98 Tongxing Road, Guzhen Town, Zhongshan City

Test specification:
Standard: IEC 60598-2-1:2020 used in conjunction with IEC 60598-1:2020
EN IEC 60598-2-1:2021 used in conjunction with EN IEC 60598-1:2021 + AMD11:2022
Test procedure: Test report
Non-standard test method: N/A

TRF template used: IECEE OD-2020-F1:2023, Ed.1.6
Test Report Form No.: IEC60598_2_1J
Test Report Form(s) Originator: Intertek Semko AB
Master TRF: Dated 2024-10-18

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Test item description	: LED Panel Light
Trade Mark(s)	: 
Manufacturer	: Same as applicant
Model/Type reference	: See "General product information and other remarks"
Ratings	: See "General product information and other remarks"

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	Testing Laboratory:	ShenZhen Promise Test Technology Co., Ltd.
Testing location/ address :		103, Building 1, Yibaolai Industrial City, Qiaotou Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
<input type="checkbox"/>	Associated Testing Laboratory:	
Testing location/ address :		
Tested by (name + signature) :		Felix Ding 
Approved by (name + signature) :		Kind Yang 
<hr/>		
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address :		
Tested by (name + signature) :		
Approved by (name + signature) :		
<hr/>		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address :		
Tested by (name + signature) :		
Witnessed by (name + signature) :		
Approved by (name + signature) :		
<hr/>		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address :		
Tested by (name + signature) :		
Witnessed by (name + signature) :		
Approved by (name + signature) :		
Supervised by (name + signature) :		

List of Attachments (including a total number of pages in each attachment):	
Attachment 1: Photos	
Summary of testing:	
Tests performed (name of test and test clause): IEC 60598-2-1:2020 used in conjunction with IEC 60598-1:2020 EN IEC 60598-2-1:2021 used in conjunction with EN IEC 60598-1:2021 + AMD11:2022	Testing location: ShenZhen Promise Test Technology Co., Ltd. 103, Building 1, Yibaolai Industrial City, Qiaotou Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Summary of compliance with National Differences:	
List of countries addressed	
<input checked="" type="checkbox"/> N/A	
Use of uncertainty of measurement for decisions on conformity (decision rule) :	
<input type="checkbox"/> No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").	
<input checked="" type="checkbox"/> Other: ... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)	
Information on uncertainty of measurement:	
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.	
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.	
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.	

Copy of marking plate:

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

LED Panel Light

Input: 100-277V~ 50/60Hz Max. 48W

Model: MB-16V-0048-08A

ta: 25°C



Zhongshan Kerisheng supply chain Management Co., LTD.

MADE IN CHINA

Test item particulars					
Classification of installation and use: Fixed, Class II					
Supply Connection: Supply cord					
Possible test case verdicts:					
- test case does not apply to the test object.....: N/A					
- test object does meet the requirement.....: P (Pass)					
- test object does not meet the requirement.....: F (Fail)					
Testing:					
Date of receipt of test item: 2025-04-10					
Date (s) of performance of tests: 2025-04-10 to 2025-04-24					
General remarks:					
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.					
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.					
When differences exist; they shall be identified in the General product information section.					
Name and address of factory (ies): Same as applicant					
General product information and other remarks:					
The maximum operation temperature is 25 °C.					
Product description:					
Input: 100-277V~ 50/60Hz					
No.	Model No.	Power	No.	Model No.	Power
1	MB-02U-0012-01A	12W	21	MB-19V-0012-01A	12W
2	MB-02U-0018-01A	18W	22	MB-19V-0018-01A	18W
3	MB-02U-0024-01A	24W	23	MB-19V-0024-01A	24W
4	MB-04U-0012-01A	12W	24	MB-22V-0010-01A	10W
5	MB-04U-0018-01A	18W	25	MB-22V-0020-01A	20W
6	MB-04U-0024-01A	24W	26	MB-22V-0030-01A	30W
7	MB-10V-0012-01A	12W	27	MB-22V-0040-01A	40W
8	MB-10V-0015-01A	15W	28	MB-23V-0006-01A	6W
9	MB-10V-0018-01A	18W	29	MB-23V-0012-01A	12W
10	MB-12V-0012-02A	12W	30	MB-23V-0018-01A	18W
11	MB-12V-0015-02A	15W	31	MB-23V-0024-01A	24W
12	MB-12V-0018-02A	18W	32	BD-03V-0012-01A	12W
13	MB-16V-0018-08A	18W	33	BD-03V-0012-02A	12W
14	MB-16V-0024-08A	24W	34	BD-03V-0018-01A	18W
15	MB-16V-0036-08A	36W	35	BD-03V-0018-02A	18W
16	MB-18V-0006-01A	6W	36	BD-04V-0012-01A	12W

17	MB-18V-0012-01A	12W	37	BD-04V-0012-02A	12W
18	MB-18V-0018-01A	18W	38	BD-04V-0018-01A	18W
19	MB-18V-0024-01A	24W	39	BD-04V-0018-02A	18W
20	MB-19V-0006-01A	6W	40	MB-16V-0048-08A	48W

Full tests are performed on the following models: MB-16V-0048-08A



IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.4 (0)	GENERAL TEST REQUIREMENTS		P
1.4 (0.3)	More sections applicable..... :	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Section/s:	—
1.4 (0.5)	Components	(see Annex 1)	—
1.4 (0.7)	Information for luminaire design in light sources standards		—
1.4 (0.7.2)	Light source safety standard		—
	Luminaire design in the light source safety standard		P

1.5 (2)	CLASSIFICATION OF LUMINAIRES		P
1.5 (2.2)	Type of protection	Class II	P
1.5 (2.3)	Degree of protection..... :	IP20	—
1.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
1.5 (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"/>	—

1.6 (3)	MARKING		P
1.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.6 (3.3)	Additional information		P
	Language of instructions	English	P
1.6 (3.3.1)	Combination luminaires		N/A
1.6 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
1.6 (3.3.3)	Operating temperature		N/A
1.6 (3.3.5)	Wiring diagram		N/A
1.6 (3.3.6)	Special conditions		N/A
1.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.6 (3.3.8)	Limitation for semi-luminaires		N/A
1.6 (3.3.9)	Power factor and supply current		N/A
1.6 (3.3.10)	Suitability for use indoors		P
1.6 (3.3.11)	Luminaires with remote control		N/A
1.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
1.6 (3.3.13)	Specifications of protective shields		N/A
1.6 (3.3.14)	Symbol for nature of supply	~	P
1.6 (3.3.15)	Rated current of socket outlet		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6 (3.3.16)	Rough service luminaire		N/A
1.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
1.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		N/A
1.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.6 (3.3.23)	Luminaires without control gear provided with necessary information for selection of appropriate component		N/A
1.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
1.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
1.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
1.6 (3.4)	Test with water	15s	P
	Test with hexane	15s	P
	Legible after test	Clearly visible	P
	Label attached	No be easily removable, No curling	P

1.7 (4)	CONSTRUCTION		P
1.7 (4.2)	Components replaceable without difficulty		N/A
1.7 (4.3)	Wireways smooth and free from sharp edges		P
1.7 (4.4)	Lamp holders		N/A
1.7 (4.4.1)	Integral lamp holder		N/A
1.7 (4.4.2)	Wiring connection		N/A
1.7 (4.4.3)	Lamp holder for end-to-end mounting		N/A
1.7 (4.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lamp holder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- bending test (N)		—
	After test the lamp holder has not moved from its position and show no permanent deformation		N/A
1.7 (4.4.5)	Peak pulse voltage		N/A
1.7 (4.4.6)	Centre contact		N/A
1.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.7 (4.4.8)	Lamp connectors		N/A
1.7 (4.4.9)	Caps and bases correctly used		N/A
1.7 (4.4.10)	Light source for lamp holder or connection according IEC 60061 not connected another way		N/A
1.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
1.7 (4.7)	Terminals and supply connections		P
1.7 (4.7.1)	Contact to metal parts		N/A
1.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
1.7 (4.7.3)	Terminals for supply conductors		P
1.7 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
1.7 (4.7.4)	Terminals other than supply connection		P
1.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
1.7 (4.8)	Switches		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- compliance with IEC 61058-1 for electronic switches		N/A
1.7 (4.9)	Insulating lining and sleeves		P
1.7 (4.9.1)	Retainment		P
	Method of fixing		P
1.7 (4.9.2)	Insulated linings and sleeves:		P
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C)		N/A
1.7 (4.10)	Double or reinforced insulation		P
1.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
1.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
1.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lamp holder		N/A
1.7 (4.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
1.7 (4.11)	Electrical connections and current-carrying parts		P
1.7 (4.11.1)	Contact pressure		P
1.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
1.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- rivets		N/A
1.7 (4.11.4)	Material of current-carrying parts		P
1.7 (4.11.5)	No contact to wood or mounting surface		P
1.7 (4.11.6)	Electro-mechanical contact systems		N/A
1.7 (4.12)	Screws and connections (mechanical) and glands		P
1.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... : 0.5Nm		P
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
1.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
1.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)		N/A
	- lamp holder; torque (Nm)		N/A
	- push-button switches; torque 0,8 Nm		N/A
1.7 (4.12.5)	Screwed glands; force (Nm).....		N/A
1.7 (4.13)	Mechanical strength		P
1.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)	0.20 Nm; plastic enclosure	P
	- other parts; energy (Nm)	0.35 Nm; metal enclosure	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
1.7 (4.13.2)	Metal parts have adequate mechanical strength		P
1.7 (4.13.3)	Straight test finger		P
1.7 (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
1.7 (4.13.6)	Tumbling barrel		N/A
1.7 (4.14)	Suspensions, fixings and means of adjusting		P
1.7 (4.14.1)	Mechanical load:		P
	A) four times the weight		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
1.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
1.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
1.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.7 (4.14.5)	Guide pulleys		N/A
1.7 (4.14.6)	Strain on socket-outlets		N/A
1.7 (4.15)	Flammable materials		P
	- glow-wire test 650°C	See Test Table 1.15 (13.3.2)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
1.7 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.7 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.7 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
1.7 (4.18)	Resistance to corrosion		N/A
1.7 (4.18.1)	- rust-resistance		N/A
1.7 (4.18.2)	- season cracking in copper		N/A
1.7 (4.18.3)	- corrosion of aluminium		N/A
1.7 (4.19)	Igniters compatible with ballast		N/A
1.7 (4.20)	Rough service vibration		N/A
1.7 (4.21)	Protective shield		N/A
1.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
1.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.7 (4.21.3)	No direct path		N/A
1.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment	See Test Table 1.15 (13.3.2)	N/A
1.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
1.7 (4.23)	Semi-luminaires comply Class II		N/A
1.7 (4.24)	Photobiological hazards		P
1.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.7 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778	RG0	—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 .. :		N/A
	- marking and instruction according 3.2.23		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
1.7 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
1.7 (4.26)	Short-circuit protection		N/A
1.7 (4.26.1)	Adequate means of uninsulated accessible SELV / PELV parts		N/A
1.7 (4.26.2)	Short-circuit test with test chain according 4.26.3:		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
1.7 (4.27)	Terminal blocks with integrated screwless protective earthing contacts		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
1.7 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C) :		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
1.7 (4.29)	Luminaires with non-replaceable light source		P
	Not possible to replace light source		P
	Live part not accessible after parts have been opened by hand or tools		N/A
1.7 (4.30)	Luminaires with non-user replaceable light source		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	At least one fixing means requiring use of tool		N/A
1.7 (4.31)	Insulation between circuits		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
1.7 (4.31.1)	SELV or PELV circuits		P
	Used SELV/PELV source		P
	Voltage \leq ELV		N/A
	Insulating of SELV/PELV circuits from LV supply		N/A
	Insulating of SELV/PELV circuits from other non SELV/PELV circuits		N/A
	Insulating of SELV/PELV circuits from FELV		N/A
	Insulating of SELV/PELV circuits from other SELV/PELV circuits		N/A
	SELV/PELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
1.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage \leq ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets have protective conductor contact		N/A
1.7 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
1.7 (4.32)	Overvoltage protective devices		N/A
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
1.7 (4.33)	Luminaire powered via information technology communication cabling		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
1.7 (4.34)	Electromagnetic fields (EMF)		P
	No harmful electromagnetic fields		P
1.7 (4.35)	Protection against moving fan blades		N/A
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	-hardness less than D60 Shore		N/A
	-peripheral speed less than 15 m/s		N/A
	-input power of fan ≤ 2 W at rated voltage		N/A
1.7 (4.36)	Track-mounted luminaires		N/A
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A
1.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
1.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	Category III according Annex U		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
1.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.8 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with \hat{U}_{OUT} and $f_{U_{OUT}}$ according IEC 61347-1, clause 7.1, item w	See Test Table 1.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.8 (11.2) II	N/A
1.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.8 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.8 (11.2) II	N/A

1.9 (7)	PROVISION FOR EARTHING		N/A
1.9 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω :		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
1.9 (7.2.2 + 7.2.3)	Protective earth continuity in joints, etc.		N/A
1.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
1.9 (7.2.5)	Protective earth terminal integral part of connector socket		N/A
1.9 (7.2.6)	Protective earth terminal adjacent to mains terminals		N/A
1.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal		N/A
1.9 (7.2.8)	Material of protective earth terminal		N/A
	Contact surface bare metal		N/A
1.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.9 (7.2.11)	Protective earthing core coloured green-yellow		N/A
	Length of protective earthing conductor		N/A
1.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A

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

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

1.11 (5)	EXTERNAL AND INTERNAL WIRING		P
1.11 (5.2)	Supply connection and external wiring		P
1.11 (5.2.1)	Means of connection	Supply cord	P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
1.11 (5.2.2)	Type of cable	See Annex 1	P
	Nominal cross-sectional area (mm ²)	See Annex 1	P
	Cables equal to IEC 60227 or IEC 60245		P
1.11 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
1.11 (5.2.5)	Type Z not connected to screws		N/A
1.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.11 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
1.11 (5.2.9)	Locking of screwed bushings		N/A
1.11 (5.2.10)	Cord anchorage:		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
1.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
1.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) : 60		P
	- torque test: torque (Nm) : 0.15		P
	- displacement ≤ 2 mm	0.1mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
1.11 (5.2.10.4)	Luminaire with/ designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV ≤ 25V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12V RMS/30V DC		N/A
	Pull test of 30N		N/A
1.11 (5.2.11)	External wiring passing into luminaire		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.11 (5.2.12)	Looping-in terminals		N/A
1.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
1.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
1.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
1.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
1.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.11 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
1.11 (5.3)	Internal wiring		P
1.11 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A
	- temperatures	(see Annex 2)	N/A
	Green-yellow for protective earth only		N/A
1.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)..... :		P
	Insulation thickness (mm)		P
	Extra insulation added where necessary		P
1.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm ²)..... :		N/A
1.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.11 (5.3.1.4)	Conductors without insulation		N/A
1.11 (5.3.1.5)	SELV/PELV current-carrying parts		N/A
1.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
1.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
1.11 (5.3.4)	Joints and junctions effectively insulated		P
1.11 (5.3.5)	Strain on internal wiring		P
1.11 (5.3.6)	Wire carriers		N/A
1.11 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
1.11 (5.4)	Test to determine suitability of conductors having a reduced cross-sectional area		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A

1.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
1.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible		P
	- required insulation from live parts in compliance with Table X.1		P
	- glass protective shields not used as supplementary insulation		P
1.12 (8.2.3.b)	BC lamp holder of metal in class I luminaires shall be connected to protective earth		N/A
1.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		P
	Ordinary luminaire:		P
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... :		N/A
	- interrupted DC voltage (V) :		N/A
	- touch current if applicable (mA) :		N/A
	One conductive part insulated if required		P
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... :		N/A
	- interrupted DC voltage (V) :		N/A
	Class III luminaire only for connection to SELV/PELV		N/A
1.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... :		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V)..... :		N/A
	One pole insulated if required		N/A

IEC 60598-2-1

Clause	Requirement + Test	Result - Remark	Verdict
1.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
1.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.12 (8.2.6)	Covers reliably secured		P
1.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μF not exceed 50 V 1 min after disconnection		N/A
	Portable luminaire with capacitor > 0,1 μF (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μF (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A

1.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) as specified in 1.14		—
1.13 (12.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Control gear if separate and not supplied	(Control gear used see Annex 2)	—
1.13 (12.3)	Endurance test		P
	a) mounting-position	As normal used	—
	b) test temperature (°C)	35	—
	c) total duration (h)	240	—
	d) supply voltage (V)	277*1.1	—
	d) if not equipped with control gear, constant voltage/current (V) or (A)	Integrated LED module	—
1.13 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		N/A
	- voltage under normal operation (V).....		—
	- voltage under abnormal operation (V).....		—
	e) luminaire ceases to operate		—
	f) luminaire with constant light output function		N/A
1.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
1.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
1.13 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
1.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.13 (12.7.1)	Luminaire without temperature sensing control		N/A
1.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°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)		—

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Ball-pressure test	See Test Table 1.15 (13.2.1)	N/A
1.13 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test	See Test Table 1.15 (13.2.1)	N/A
1.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C):		—
	Ball-pressure test:	See Test Table 1.15 (13.2.1)	N/A

1.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
1.14 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
1.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP20	—
	- mounting position during test		—
	- fixing screws tightened; torque (Nm)		—
	- tests according to clauses		—
	- electric strength test afterwards		N/A
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		P
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A
	g) no damage of protective shield or glass envelope		N/A
1.14 (9.3)	Humidity test 48 h	25°C, 93%R.H.	P

1.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :	>100MΩ	P
	- between current-carrying parts and mounting surface	>100MΩ	P
	- between current-carrying parts and metal parts of the luminaire	>100MΩ	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/PELV:		P
	- between live parts of different polarity	>100MΩ	P
	- between live parts and mounting surface	>100MΩ	P
	- between live parts and metal parts	>100MΩ	P
	- between live parts of different polarity through action of a switch		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
1.15 (10.2.2)	Electric strength test		P

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :	500V	P
	- between current-carrying parts and metal parts of the luminaire..... :	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/PELV:		P
	- between live parts of different polarity :	1554V	P
	- between live parts and mounting surface :	3108V	P
	- between live parts and metal parts :	3108V	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 :		N/A
1.15 (10.3)	Touch current (mA)..... :		P
	Protective conductor current (mA)..... :	Touch current: Max. 0.040mA	P

1.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
1.16 (13.2.1)	Ball-pressure test..... :	See Test Table 1.16 (13.2.1)	P
1.16 (13.3.1)	Needle-flame test (10 s)..... :	See Test Table 1.16 (13.3.1)	N/A
1.16 (13.3.2)	Glow-wire test (650°C)..... :	See Test Table 1.16 (13.3.2)	P
1.16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 1.16 (13.4)	N/A

IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
1.8 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	>6.0	3.0	11.1	>6.0	5.0	11.1
Working voltage (V)					277		—
PTI					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_p if applicable (kV)					--		—
Supplementary information: Between L and N							
Distance 2:	B	>6.0	3.0	11.1	>6.0	5.0	11.1
Working voltage (V)					277		—
PTI					< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_p if applicable (kV)					--		—
Supplementary information: Between pins of fuse							
Distance 3:	R	>6.0	6.0	11.1	>6.0	6.0	11.1
Working voltage (V)					277		—
PTI					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Pulse voltage or U_p if applicable (kV)					--		—
Supplementary information: Between live parts and outer surface							

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

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

IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
PTI		< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)			—
Supplementary information:			
Distance 3:			
Working voltage (V)			—
Frequency if applicable (kHz)			—
PTI		< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)			—
Supplementary information:			

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



IEC 60598-2-1			
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Clause	Requirement + Test	Result - Remark	Verdict
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1.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)		2		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Plastic enclosure	See ANNEX 1	125	1.0	
Plastic lens	See ANNEX 1	125	1.0	
Supplementary information:				

1.16 (13.3.1)	TABLE: Needle-flame test				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Supplementary information:					

1.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests				P
Object/ Part No./ Material	Manufacturer/ trademark	GWT (°C) : 650			Verdict
		t_E (s)	t_I (s)	t_R (s)	
Plastic enclosure	See ANNEX 1	0	0	0	P
Plastic lens	See ANNEX 1	0	0	0	P
Ignition of the specified layer placed underneath the test specimen (Yes/No)..... :					No
Supplementary information:					

1.16 (13.4)	TABLE: Proof tracking test			N/A
Test voltage PTI		175 V		—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens		Verdict
Supplementary information:				

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

ANNEX 1 TABLE: Critical components information						
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Supply cord	B	Zhongshan Guangli Electrical Appliance Co., Ltd.	H03VV-F	2*0.75mm ²	IEC/EN 50525-2-11	VDE 40048913
Internal wire	B	Dongguan Hongfuwei Cable Technology Co Ltd	1061	300V, Min. 24AWG, 80°C	UL 758	UL E316005
		Interchangeable	Interchangeable	300V, Min. 24AWG, 80°C	UL 758	UL
Fuse resistor	B	Shenzhen Great Electronics Co.,Ltd.	RXF	10ohm	--	VDE 40026608
Transformer	C	--	--	Class B	--	Tested with appliance
-Bobbin	B	CHANG CHUN PLASTICS CO LTD	T375HF	Phenolic, V-0, 130°C	--	UL E59481
-Magnet wire	B	HUIZHOU CITY DENGGAODA ELECTROTECH CO LTD	X UEWF	155°C	--	UL E253843
-Insulation tape	B	XINYU SHENGDAFENG ELECTRIC MATERIAL CO LTD	SDF-312	130°C	--	UL E317896
-Triple insulated wire	B	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B for VDE; TIW-B* for UL	130°C	--	VDE 40038861 UL E357240
-Varnish	B	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD	E962	130°C	--	UL E335405
Plastic lens	C	--	--	--	--	Tested with appliance
Plastic enclosure	C	--	--	--	--	Tested with appliance
LED	C	--	--	--	--	Tested with appliance

IEC 60598-2-1						
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Clause	Requirement + Test	Result - Remark	Verdict
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PCB	B	SHANDONG JIN BAO ELECTRONI CS CO LTD	ZD-95(G)F1, ZD-90F, ZD-90FS	V-0, 130°C	UL 94, UL 796	UL E141940
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Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

The codes above have the following meaning:

- A - The component is replaceable with another one, also certified, with equivalent characteristics
- B - The component is replaceable if authorised by the test house
- C - Integrated component tested together with the appliance
- D - Alternative component



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

ANNEX 2	TABLE: Thermal tests of Section 12		P
	Type reference	MB-16V-0048-08A	—
	Lamp used.....	Integrated LED module	—
	Lamp control gear used	--	—
	Mounting position of luminaire	As in normal use	—
	Supply wattage (W)	--	—
	Supply current (A)	--	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25	—
	- abnormal operating mode	--	—
1.13 (12.4)	- test 1: rated voltage	--	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	277*1.1V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	--	—
	Through wiring or looping-in wiring loaded by a current of A during the test	--	—
1.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage	--	—

Temperature measurements (°C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Input wire	25	-	40.1	-	90	-	-
Mounting surface	25	-	51.2	-	90	-	-
Objects lighted (0,1m)	25	-	50.0	-	90	-	-
Transformer winding	25	-	72.0	-	110	-	-
Transformer core	25	-	70.0	-	110	-	-
PCB near LED	25	-	63.0	-	130	-	-

Supplementary information:

IEC 60598-2-1

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

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

IEC 60598-2-1											
Clause	Requirement + Test									Result - Remark	Verdict
(15.3.8)	Fixed in position										N/A
(15.3.10)	Conductor size										N/A
	Type of conductor										N/A
(15.5)	Terminals and connections for internal wiring										N/A
(15.5.1)	Mechanical tests										N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples)										N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples)										N/A
	Insertion force not exceeding 50 N										N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)										N/A
(15.5.2)	Electrical tests										N/A
	Voltage drop (mV) after 1 h (4 samples)										N/A
	Voltage drop of two inseparable joints										N/A
	Number of cycles:										—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)										N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)										N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples)										N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)										N/A
(15.6)	Terminals and connections for external wiring										N/A
(15.6.1)	Conductors										N/A
	Terminal size and rating										N/A
15.6.2	Mechanical tests										N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)										N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)										
(15.6.3)	Electrical tests										N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1										N/A

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

IEC 60598-2-1											
Clause	Requirement + Test									Result - Remark	Verdict
	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)											
	Supplementary information:										

Attachment 1: Photos

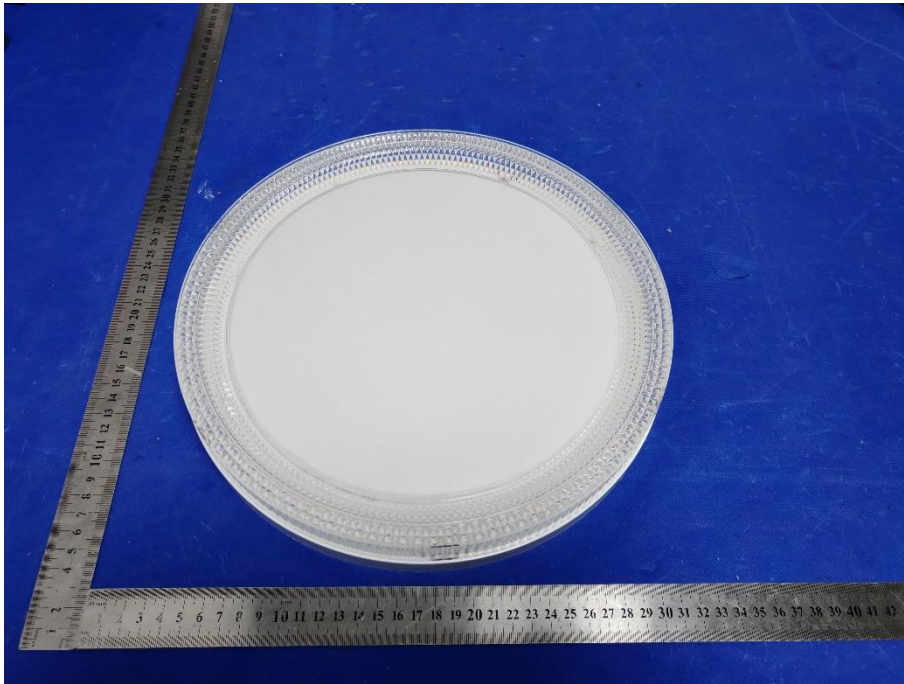


Figure 1 External view



Figure 2 External view

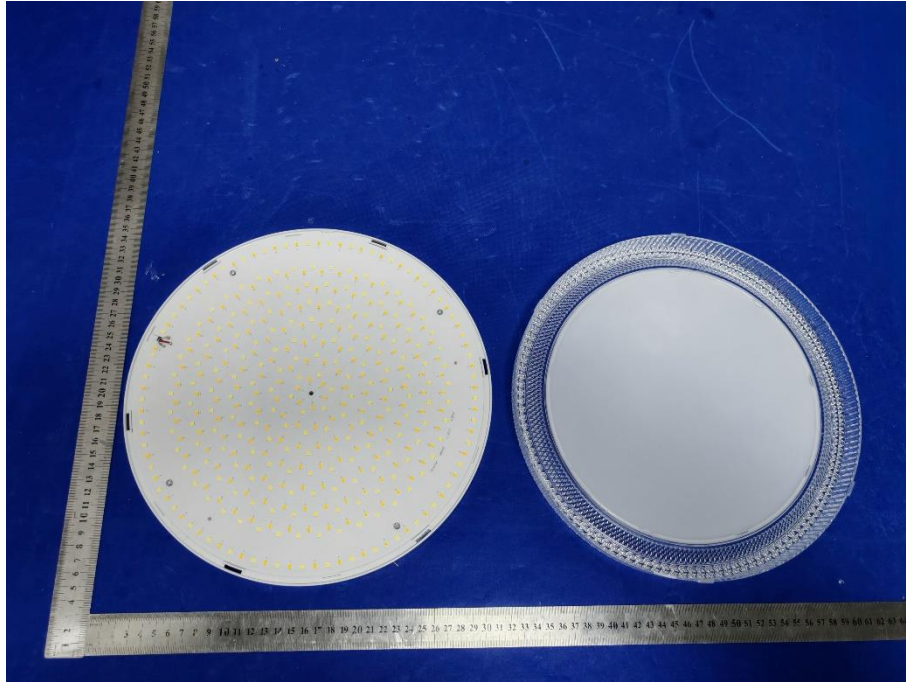


Figure 3 Internal view

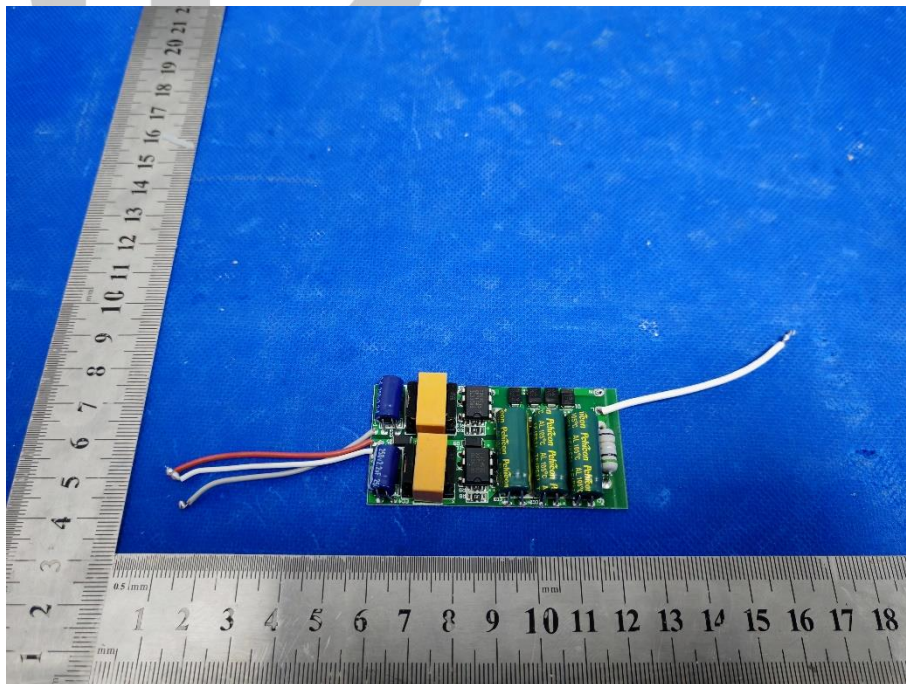


Figure 4 Internal view

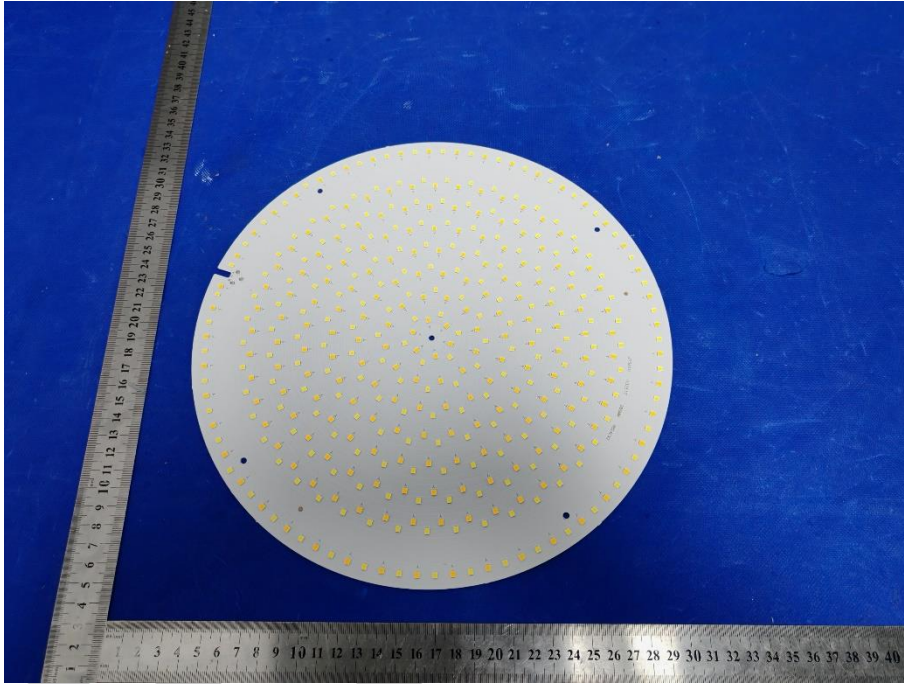


Figure 5 Internal view

END THE REPORT