



Report No.: HTT202209363LR-1

APPLICATION FOR LOW VOLTAGE DIRECTIVE

On Behalf of

Portable photography Lighting Soft Boxes

PU5042

Prepared for : Shenzhen Puluz Technology Limited
808,614 Bldg,Bagua 2nd RD,Yuanling ST,Futian DIST,Shenzhen

Prepared By : Shenzhen HTT Technology Co., Ltd.
1F, B Building, Huafeng International Robotics Industrial Park,
Gushu, Xixiang Street, Bao'an District, Shenzhen

Date of Test: Sep.22,2022~Sep.28,2022

Date of Report: Sep.28,2022

Report Number: HTT202209363LR-1

**TEST REPORT****EN 60598-2-9****Part 2: Particular requirements:****Section 9 – Photo and film luminaires (non-professional)**

Report reference No HTT202209363LR-1

Tested by (+ signature)..... Darek Wang

Darek Wang

Approved by (+ signature)..... Kevin Yang

Kevin Yang

Date of issue Sep.28,2022



Testing Laboratory Name Shenzhen HTT Technology Co., Ltd.

Address 1F, B Building, Huafeng International Robotics Industrial Park,
Gushu, Xixiang Street, Bao'an District, ShenzhenTesting location CBTL ☐ CCATL ☐ SMT ☐ TMP ☐

Address Same as above.

Applicant's Name..... Shenzhen Puluz Technology Limited

Address 808,614 Bldg,Bagua 2nd RD,Yuanling ST,Futian DIST,Shenzhen

Standard..... EN 60598-2-9:1987+A1:1994, used in conjunction with
EN 60598-1:2015+A1:2018

Test procedure LVD Approval

Procedure deviation N/A.

Non-standard test method N/A.

Product Portable photography Lighting Soft Boxes

Manufacturer..... Shenzhen Puluz Technology Limited

Address 808,614 Bldg,Bagua 2nd RD,Yuanling ST,Futian DIST,Shenzhen

Trademark PULUZ

Model and/or type reference PU5042

Rating(s) Input: 100-240V~,50/60Hz,1.2A
Power: 72W



Test item particulars :	
Equipment mobility	Portable equipment
Operating condition.....	Continuous
Tested for IT power systems	N/A
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class II
Protection against ingress of water	IP20
Tests Standards: - EN 60598-1:2015+A1:2018 - EN 60598-2-9:1987+A1:1994 The submitted samples were found to comply with the requirements of above specification.	Testing location: Refer to page 1
Test case verdicts:	
Test case does not apply to the test object.....	N(/A.)
Test item does meet the requirement.....	P(ass)
Test item does not meet the requirement.....	F(ail)
Testing:	
Date of receipt of test item	Sep.22,2022
Date(s) of performance of test	Sep.22,2022~Sep.28,2022

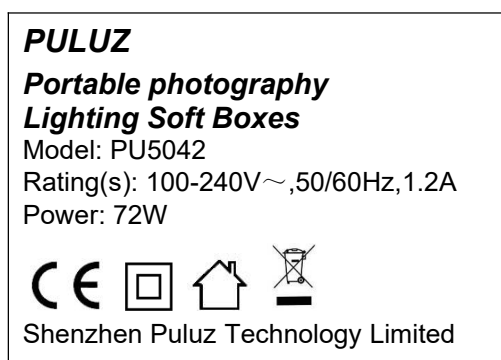


Report No.: HTT202209363LR-1

Model List

Rated	Input: 100-240V~, 50/60Hz, 1.2A Power: 72W
Model	PU5042
Difference	--

Label



Note:

1. The height of graphical symbols shall not be less than 5 mm;
2. The height of letters and numerals shall not be less than 2 mm;
3. The main rating label was attached in enclosure.



General remarks: Clause number between brackets refer to clauses in EN 60598-1. "(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. When determining the test conclusion, the Measurement Uncertainty of test has been considered. Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15°C to 35°C, RH45% to 75% and an air pressure of 860mbar of 1060mbar.	Attachment with: 1) Equipment list 2) Photo documentation
--	--



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

9.2 (0)	GENERAL TEST REQUIREMENTS		P
9.2 (0.1)	Information for luminaire design considered	Standard Yes ☒ No ☐	—
9.2 (0.3)	More sections applicable.....	Yes ☐ No ☒	—

9.4 (2)	CLASSIFICATION		P
9.4 (2.2)	Type of protection (Class 0 excluded)	Class II	—
9.4 (2.3)	Degree of protection.....	IPX0	—
9.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....	Yes ☒ No ☐	—
9.4 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—

9.5 (3)	MARKING		P
9.5 (3.2)	Mandatory markings		P
	Position of the marking	On the enclosure	P
	Format of symbols/text	Symbols>5mm Text>2mm	P
9.5 (3.3)	Additional information	User manual provided	P
	Language of instructions	English	P
9.5 (3.3.1)	Combination luminaires	Not combination luminaire	P
9.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
9.5 (3.3.3)	Operating temperature		N
9.5 (3.3.4)	Symbol or warning notice		N
9.5 (3.3.5)	Wiring diagram		N
9.5 (3.3.6)	Special conditions		N
9.5 (3.3.7)	Metal halide lamp luminaire – warning		N
9.5 (3.3.8)	Limitation for semi-luminaires		N
9.5 (3.3.9)	Power factor and supply current	1.2A	P
9.5 (3.3.10)	Suitability for use indoors	Used indoors	P
9.5 (3.3.11)	Luminaires with remote control	No remote control	N
9.5 (3.3.12)	Clip-mounted luminaire – warning		N
9.5 (3.3.13)	Specifications of protective shields		N
9.5 (3.3.14)	Symbol for nature of supply	~	P
9.5 (3.3.15)	Rated current of socket outlet	Not provided socket outlet	N
9.5 (3.3.16)	Rough service luminaire		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
9.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N
9.5 (3.3.19)	Protective conductor current in instruction if applicable		N
9.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N
9.5 (3.4)	Test with water	15s with water	P
	Test with hexane	15s with hexane	P
	Legible after test	The marking is legible	P
	Label attached	The marking not be easily removable and shows no cuving	P
9.5.1 (-)	If not for continuous operation marked with maximum operation time and minimum resting time		N
9.5.2 (-)	Type and current of each fuse		N
	Instruction leaflet with full description of the fuses and lamps		N
9.5.3 (-)	Marked or label with a warning about disconnect before lamp changing or service		P
9.5.4 (-)	Requirements language 9.5.1 – 9.5.3		N
	Lamp or fuse replacement only possible after luminaire disconnected or marking according 9.5.3		N
9.5.5 (-)	Two warnings if for low-pressure tungsten halogen lamp		N

9.6 (4)	CONSTRUCTION		P
9.6 (4.2)	Components replaceable without difficulty		P
9.6 (4.3)	Wireways smooth and free from sharp edges		P
9.6 (4.4)	Lampholders		N
9.6 (4.4.1)	Integral lampholder		N
9.6 (4.4.2)	Wiring connection		N
9.6 (4.4.3)	Lampholder for end-to-end mounting		N
9.6 (4.4.4)	Positioning		N
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- bending test (N)		—
	After test the lampholder have not moved from its position and show no permanent deformation		P
9.6 (4.4.5)	Peak pulse voltage		N
9.6 (4.4.6)	Centre contact		N
9.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N
9.6 (4.4.8)	Lamp connectors		N
9.6 (4.4.9)	Caps and bases correctly used		N
9.6 (4.5)	Starter holders		N
	Starter holder in luminaires other than class II		N
	Starter holder class II construction		N
9.6 (4.6)	Terminal blocks		N
	Tails		N
	Unsecured blocks		N
9.6 (4.7)	Terminals and supply connections		N
9.6 (4.7.1)	Contact to metal parts		N
9.6 (4.7.2)	Test 8 mm live conductor		N
	Test 8 mm earth conductor		N
9.6 (4.7.3)	Terminals for supply conductors		N
9.6 (4.7.3.1)	Welded connections:		N
	- stranded or solid conductor		N
	- spot welding		N
	- welding between wires		N
	- Type Z attachment		N
	- mechanical test according to 15.8.2		N
	- electrical test according to 15.9		N
	- heat test according to 15.9.2.3 and 15.9.2.4		N
9.6 (4.7.4)	Terminals other than supply connection		N
9.6 (4.7.5)	Heat-resistant wiring/sleeves		N
9.6 (4.7.6)	Multi-pole plug		N
	- test at 30 N		N
9.6 (4.8)	Switches:		N
	- adequate rating		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- adequate fixing		N
	- polarized supply		N
	- compliance with 61058-1 for electronic switches		N
9.6 (4.9)	Insulating lining and sleeves		N
9.6 (4.9.1)	Retainment		N
	Method of fixing.....:		N
9.6 (4.9.2)	Insulated linings and sleeves		N
	Resistant to a temperature > 20 °C to the wire temperature or		N
	a) & c) Insulation resistance and electric strength		N
	b) Ageing test. Temperature (°C).....:		N
9.6 (4.10)	Insulation of Class II luminaires		P
9.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		N
	Capacitors and switches		N
	Interference suppression capacitors according to IEC 60384-14		N
9.6 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
9.6 (4.10.3)	Retainment of insulation:		N
	- fixed		N
	- unable to be replaced; luminaire inoperative		N
	- sleeves retained in position		N
	- lining in lampholder		N
9.6 (4.11)	Electrical connections		P
9.6 (4.11.1)	Contact pressure		P
9.6 (4.11.2)	Screws:		N
	- self-tapping screws		N
	- thread-cutting screws		N
9.6 (4.11.3)	Screw locking:		N
	- spring washer		N
	- rivets		N
9.6 (4.11.4)	Material of current-carrying parts		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.6 (4.11.5)	No contact to wood or mounting surface		P
9.6 (4.11.6)	Electro-mechanical contact systems		N
9.6 (4.12)	Mechanical connections and glands		N
9.6 (4.12.1)	Screws not made of soft metal		N
	Screws of insulating material		N
	Torque test: torque (Nm); part.....:		N
	Torque test: torque (Nm); part.....:		N
	Torque test: torque (Nm); part.....:		N
9.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N
9.6 (4.12.4)	Locked connections:		N
	- fixed arms; torque (Nm).....:		N
	- lampholder; torque (Nm).....:		N
	- push-button switches; torque 0,8 Nm.....:		N
9.6 (4.12.5)	Screwed glands; force (Nm).....:		N
9.6 (4.13)	Mechanical strength		P
9.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:	0.35Nm	P
	- other parts; energy (Nm).....:	0.50Nm	P
	1) live parts		P
	2) linings	Continue to afford the degree of protection against ingress of dust, solid objects and moisture	N
	3) protection	No break	P
	4) covers		P
9.6 (4.13.3)	Straight test finger		P
9.6 (4.13.4)	Rough service luminaires		N
	- IP54 or higher		N
	a) fixed		N
	b) hand-held		N
	c) delivered with a stand		N
	d) for temporary installations and suitable for mounting on a stand		N
9.6 (4.13.6)	Tumbling barrel		N
9.6 (4.14)	Suspensions and adjusting devices		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.6 (4.14.1)	Mechanical load:		N
	A) four times the weight		N
	B) torque 2,5 Nm		N
	C) bracket arm; bending moment (Nm)..... :		N
	D) load track-mounted luminaires		N
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) :		N
	Metal rod. diameter (mm) :		N
	Fixed luminaire or independent control gear without fixing devices		N
9.6 (4.14.2)	Load to flexible cables		N
	Mass (kg) :		N
	Stress in conductors (N/mm ²) :		N
	Mass (kg) of semi-luminaire :		N
	Bending moment (Nm) of semi-luminaire :		N
9.6 (4.14.3)	Adjusting devices:		N
	- flexing test; number of cycles..... :		N
	- strands broken		N
	- electric strength test afterwards		N
9.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N
9.6 (4.14.5)	Guide pulleys		N
9.6 (4.14.6)	Strain on socket-outlets		N
9.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C		P
	- spacing ≥ 30 mm		N
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
9.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		P
	a) construction		P
	b) temperature sensing control		N
	c) surface temperature		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	N
9.6 (4.16.1)	Lamp control gear spacing:		P
	- spacing 35 mm		P
	- spacing 10 mm		N
9.6 (4.16.2)	Thermal protection:		N
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
9.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N
9.6 (4.17)	Drain holes		N
	Clearance at least 5 mm	Not protection against water	N
9.6 (4.18)	Resistance to corrosion:		P
9.6 (4.18.1)	- rust-resistance	Not protection against water	P
9.6 (4.18.2)	- season cracking in copper		N
9.6 (4.18.3)	- corrosion of aluminium		P
9.6 (4.19)	Ignitors compatible with ballast		N
9.6 (4.20)	Rough service vibration	Ordinary service luminaire	N
9.6 (4.21)	Protective shield:		N
9.6 (4.21.1)	Shield fitted		N
	Shield of glass if tungsten halogen lamps		N
9.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
9.6 (4.21.3)	No direct path		N
9.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
9.6 (4.22)	Attachments to lamps	No attachments	N
9.6 (4.23)	Semi-luminaires comply Class II		N
9.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N
9.6 (4.25)	No sharp point or edges		P
9.6 (4.26)	Short-circuit protection:		N
9.6 (4.26.1)	Uninsulated accessible SELV parts		N
9.6 (4.26.2)	Short-circuit test		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.6 (4.26.3)	Test chain according to Figure 29		N
9.6 (4.27)	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N
	Pull test of terminal fixing (20 N)		N
	After test, resistance < 0,05 Ω		N
	Pull test of mechanical connection (50 N)		N
	After test, resistance < 0,05 Ω		N
	Voltage drop test, resistance < 0,05 Ω		N
9.6.1 (-)	Individually fused lamp circuits		N
9.6.2 (-)	Safety screens		N
9.6.2.1 (-)	Safety screen if other than low-pressure tungsten lamps (Appendix A)		N
9.6.2.2 (-)	Tests if low-pressure tungsten lamps		N
9.6.3 (-)	Requirement a –c if handles or grips		N
9.6.4 (-)	Distance between R7s holders comply with Standard Sheet of IEC 61-2		N
9.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V).....:	100-240Vac	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☒ ≥ 600 ☐	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☒ Category III ☐	—
	Rated pulse voltage (kV).....:	2.5kV	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....:	Cr:>2.5mm, Cl:>1.5mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....:	Cr:>5.0mm, Cl:>3.0mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....:		N
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....:		N
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:		N
9.8 (7)	PROVISION FOR EARTHING		N
9.8 (7.2.1 + 7.2.3)	Accessible metal parts		N
	Metal parts in contact with supporting surface		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Resistance < 0,5 Ω:		N
	Self-tapping screws used		N
	Thread-forming screws		N
	Thread-forming screw used in a groove		N
	Earth makes contact first		N
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N
9.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N
9.8 (7.2.4)	Locking of clamping means		N
	Compliance with 4.7.3		N
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N
9.8 (7.2.5)	Earth terminal integral part of connector socket		N
9.8 (7.2.6)	Earth terminal adjacent to mains terminals		N
9.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N
9.8 (7.2.8)	Material of earth terminal		N
	Contact surface bare metal		N
9.8 (7.2.10)	Class II luminaire for looping-in		N
	Double or reinforced insulation to functional earth		N
9.8 (7.2.11)	Earthing core coloured green-yellow		N
	Length of earth conductor		N
9.9 (14)	SCREW TERMINALS		N
	Separately approved; component list	(see Annex 1)	N
	Part of the luminaire	(see Annex 3)	N
9.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N
	Separately approved; component list	(see Annex 1)	N
	Part of the luminaire	(see Annex 4)	N
9.10 (5)	EXTERNAL AND INTERNAL WIRING		P
9.10 (5.2)	Supply connection and external wiring		P
9.10 (5.2.1)	Means of connection.....:	Power wire	P
9.10 (5.2.2)	Type of cable.....:		P
	Nominal cross-sectional area (mm ²).....:	2*0.75mm ²	P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Cables equal to IEC 60227 or IEC 60245	IEC 60227	P
9.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
9.10 (5.2.5)	Type Z not connected to screws		N
9.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
9.10 (5.2.7)	Cable entries through rigid material have rounded edges		N
9.10 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
9.10 (5.2.9)	Locking of screwed bushings		N
9.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
9.10 (5.2.10.1)	Cord anchorage for type X attachment:		N
	a) at least one part fixed		N
	b) types of cable		N
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N
	Glands not used as anchorage		N
	Labyrinth type anchorages		N
9.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
9.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- pull test: 25 times; pull (N)..... :	30 N	P
	- torque test: torque (Nm)..... :	0.08 Nm	P
	- displacement $\leq$ 2 mm	0.55 mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
9.10 (5.2.11)	External wiring passing into luminaire		P
9.10 (5.2.12)	Looping-in terminals		N
9.10 (5.2.13)	Wire ends not tinned		N
	Wire ends tinned: no cold flow		P
9.10 (5.2.14)	Mains plug same protection		P
	Class III luminaire plug		N
9.10 (5.2.16)	Appliance inlets (IEC 60320)		P
	Appliance couplers of class II type		P
9.10 (5.2.17)	No standardized interconnecting cables properly assembled		N
9.10 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		N
	- other standard	EN 50075	P
9.10 (5.3)	Internal wiring		P
9.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A)..... :		N
	- temperatures..... :	(see Annex 2)	N
	Green- yellow for earth only		N
9.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N
	Cross-sectional area (mm ²)..... :		N
	Insulation thickness		N
	Extra insulation added where necessary		N
9.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N
	Adequate cross-sectional area and insulation thickness		N
9.10 (5.3.1.3)	Double or reinforced insulation for class II		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.10 (5.3.1.4)	Conductors without insulation		P
9.10 (5.3.1.5)	SELV current-carrying parts		P
9.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N
9.10 (5.3.2)	Sharp edges etc.	Inner wire can't touch the sharp edges , rivets and similar components	P
	No moving parts of switches etc.		N
	Joints, raising/lowering devices		P
	Telescopic tubes etc.	No telescopic tubes etc.	N
	No twisting over 360°		N
9.10 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- cables with protective sheath		P
9.10 (5.3.4)	Joints and junctions effectively insulated		P
9.10 (5.3.5)	Strain on internal wiring		P
9.10 (5.3.6)	Wire carriers		N
9.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N
9.10.1 (-)	Cord guard and flexing test if handles or grips		N
9.10.2 (-)	Temperature of wiring insulation in contact with hottest point		N

9.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
9.11 (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
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arm's reach, on wall-mounted luminaires		N
	Lamp and starter holders in portable and adjustable luminaires comply with double or reinforced insulation requirements		P
	Basic insulation only accessible under lamp or starter replacement		N
	Protection in any position		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Double-ended tungsten filament lamp		P
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N
	Relevant warning according to 3.2.18 fitted to the luminaire		N
9.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N
9.11 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N
9.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N
9.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N
	Ordinary luminaire:		N
	- touch current		N
	- no-load voltage.....		N
	Other than ordinary luminaire:		N
	- nominal voltage		N
9.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N
9.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
9.11 (8.2.6)	Covers reliably secured		P
9.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N
9.11.1 (-)	Protection against accidental contact for lampholders other than ES or BC types		N
9.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
9.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 9.13		—
9.12 (12.3)	Endurance test:		P
	- mounting- position.....	As in normal use	—



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- test temperature (°C)..... :	35°C	—
	- total duration (h)..... :	--	—
	- supply voltage: Un factor; calculated voltage (V)..... :	1.1×240V=264V	—
	- lamp used..... :		—
9.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system	No track system	N
	- marking legible	Marking still legible and shows no curing	P
	- no cracks, deformation etc.		P
9.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
9.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N
9.12 (12.6)	Thermal test (failed lamp control gear condition):		N
9.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N
	- measured winding temperature (°C): at 1,1 Un .. :		—
	- measured mounting surface temperature (°C) at 1,1 Un..... :		N
	- calculated mounting surface temperature (°C) .. :		N
	- track-mounted luminaires		N
9.12 (12.6.2)	Temperature sensing control		N
	- case of abnormal conditions..... :		—
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured mounting surface temperature (°C).... :		N
	- track-mounted luminaires		N
9.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N
9.12 (12.7.1)	Luminaire without temperature sensing control		N
9.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N
	Test method 12.7.1.1 or Annex W		—



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Test according to 12.7.1.1:		N
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
	Test according to Annex W:		N
	- 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
	- part tested; temperature (°C).....:		N
	- part tested; temperature (°C).....:		N
9.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N
	- 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
	- part tested; temperature (°C).....:		N
	- part tested; temperature (°C).....:		N
9.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N
	- case of abnormal conditions		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
9.12 (12.7.2)	Luminaire with temperature sensing control		N
	- thermal link	Yes ☐ No ☐	—
	- manual reset cut-out	Yes ☐ No ☐	—
	- auto reset cut-out	Yes ☐ No ☐	—
	- case of abnormal conditions		—



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- highest measured temperature of fixing point/exposed part (°C):.....:		—
	Ball-pressure test:		N
	- part tested; temperature (°C):.....:		N
	- part tested; temperature (°C):.....:		N
9.12.1 (-)	Mounting- position (modified)		N
9.12.2 (-)	Total duration (h) (modified)		N
9.12.3 (-)	Temperature on mounting surface ≤ 175 °C.....:		N
9.12.4 (-)	Thermal test (modified) (Appendix B), temperature on bulb ≤ 950 °C.....:		N
9.12.5 (-)	Requirements after thermal test (modified)		N
9.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
9.13 (-)	If IP > IP 20 the order of the test specified in clause 9.12		—
9.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....:	IP20	—
	- mounting position during test.....:	Normal mounting	—
	- fixing screws tightened; torque (Nm).....:		—
	- tests according to clauses.....:		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N
	d) i) For luminaires without drain holes – no water entry		N
	d) ii) For luminaires with drain holes – no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP3X and IP4X)		N
	g) no trace of water on part of lamp requiring protection from splashing water		N
	h) no damage of protective shield or glass envelope		P
9.13 (9.3)	Humidity test 48 h		P



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
9.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
9.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)		—
	SELV:		N
	- between current-carrying parts of different polarity.....		N
	- between current-carrying parts and mounting surface.....		N
	- between current-carrying parts and metal parts of the luminaire.....		N
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....		N
	- Insulation bushings as described in Section 5 ...		N
	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
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....	>100 MΩ	P
	- Insulation bushings as described in Section 5 ...		N
9.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N
	Test voltage (V):		P
	SELV:		N
	- between current-carrying parts of different polarity.....		N
	- between current-carrying parts and mounting surface.....		N
	- between current-carrying parts and metal parts of the luminaire.....		N
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	- Insulation bushings as described in Section 5 ... :		N
	Other than SELV:		P
	- between live parts of different polarity..... :	1480V, no broken	P
	- between live parts and mounting surface..... :	2960V, no broken	P
	- between live parts and metal parts..... :	2960V, no broken	P
	- between live parts of different polarity through action of a switch..... :		N
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :	1480V, no broken	P
	- Insulation bushings as described in Section 5 ... :		N
9.14 (10.3)	Touch current or protective conductor current (mA)..... :	0.01/0.02mA	P
9.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
9.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C)..... :	PCB boards: 125°C,0.40mm	P
	- part tested; temperature (°C)..... :	Connector housing: 125°C,1.05mm	P
9.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested..... :	PCB boards	P
	- part tested..... :	Connector housing	P
9.15 (13.3.2)	Glow- wire test (650°C):		P
	- part tested..... :	Other plastic	P
	- part tested..... :		N
9.15 (13.4.1)	Tracking test:		N
	- part tested..... :		N
	- part tested..... :		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1		TABLE: Critical components information					P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Connection wire	--	--	--	VW-1,80°C, 22-24AWG,300V	UL 758	UL	
Other plastic	--	--	ABS+PC	94V-1,90°C	UL746/UL94	UL	
Power wire	--	--	--	2*0.75mm ² , 300/300V;	IEC 60227-5	VDE	
AC plug	--	--	--	2.5A,250Vac	EN 50075	CE	
LED power supply	--	--	PU5042	Input:AC100-240V, 50/60Hz,1.2A; Output:18V $\overline{\overline{=}}$ 4A; Power: 72W	EN 61347-1/ EN 61347-2- 13	CE	

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See PU5042.

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



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2:	Temperature measurements, thermal tests of Section 12		P				
	Type reference.....:	PU5042	—				
	Lamp used.....:	LED module	—				
	Lamp control gear used.....:	PU5042	—				
	Mounting position of luminaire.....:	As in normal use	—				
	Supply wattage (W).....:	72W	—				
	Supply current (A)..... :	1.2A	—				
	Table: measured temperatures corrected for ta = 25 °C:		—				
	- abnormal operating mode.....:	—	—				
	- test 1: rated voltage	100-240V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1,06*240V=254.4V	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—	—				
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:						
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—				
Temperature measurements (°C)							
Temperature (°C) of part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Power wire	--	31.1	--	--	50	--	--
LED power supply	--	37.8	--	--	80	--	--
Internal wire	--	36.4	--	--	80	--	--
LED module	--	40.2	--	--	Ref.	--	--
Lamp shell	--	28.8	--	--	90	--	--
Ambient	--	25.0	--	--	--	--	--
Supplementary information:							



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 3	Screw terminals (part of the luminaire)		N
(14)	SCREW TERMINALS		N
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N
(14.3.2.2)	Special preparation		N
(14.3.2.3)	Terminal size		N
	Cross-sectional area (mm ²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N
(14.4)	Mechanical tests		N
(14.4.1)	Minimum distance		N
(14.4.2)	Cannot slip out		N
(14.4.3)	Special preparation		N
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :	M	N
	External wiring		N
	No soft metal		N
(14.4.5)	Corrosion		N
(14.4.6)	Nominal diameter of thread (mm)..... :		N
	Torque (Nm)..... :		N
(14.4.7)	Between metal surfaces		N
	Lug terminal		N
	Mantle terminal		N
	Pull test; pull (N)..... :		N
(14.4.8)	Without undue damage		N



EN 60598-1 & EN 60598-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX 4	Screwless terminals (part of the luminaire)		N
(15)	SCREWLESS TERMINALS		N
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N
(15.3.2)	Clamping		N
(15.3.3)	Stop		N
(15.3.4)	Unprepared conductors		N
(15.3.5)	Pressure on insulating material		N
(15.3.6)	Clear connection method		N
(15.3.7)	Clamping independently		N
(15.3.8)	Fixed in position		N
(15.3.10)	Conductor size		N
	Type of conductor		N
(15.5)	Terminals and connections for internal wiring		N
(15.5.1)	Mechanical tests		N
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples).....:		N
	Insertion force not exceeding 50 N		N
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N
(15.6)	Electrical tests		N
	Voltage drop (mV) after 1 h (4 samples).....:		N
	Voltage drop of two inseparable joints		N
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
(15.7)	Terminals external wiring		N
	Terminal size and rating		



EN 60598-1 & EN 60598-2-9										
Clause	Requirement + Test								Result - Remark	Verdict
(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)									N
	Pull test pin or tab terminals (4 samples); pull (N)									N
(15.9)	Contact resistance test									N
	Voltage drop (mV) after 1 h									N
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop of two inseparable joints									
	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)										
Supplementary information:										



Appendix 1 Equipments List

Code	Name	Model/Type	S/N	Calibrated date	Next Calibration Date	Manufacture
HTT-001	Digital Multimeter	34401A	MY47043456	2022.02.20	2023.02.19	agilent
HTT-004	Push/pull gauge	NK-500	2Q10060932	2022.02.20	2023.02.19	--
HTT-005	Electronic weight	DSI-861	198692	2022.02.20	2023.02.19	shangdeli
HTT-006	Insulation resistance tester	CS2676CX	1107032-009	2022.02.20	2023.02.19	changshen
HTT-007	Earthing resistance tester	YD2668-4B	4B-2307	2022.02.20	2023.02.19	Yangzi
HTT-008	HI-pot/Insulation tester	CS2672C	1108006-002	2022.02.20	2023.02.19	changshen
HTT-010	AC Voltage Regulator	TDGC2J	--	2022.02.20	2023.02.19	SAKO
HTT-013	AC power source	HPA-3110	3513	2022.02.20	2023.02.19	Henqiang
HTT-014	Temperature/Humidity chamber	SDJ-80L	SDJ-80J	2022.02.20	2023.02.19	Shenzhen hongjian
HTT-015	Electric oven	HK45AS	F11011008	2022.02.20	2023.02.19	Guangzhou KENTON
HTT-017	AC digital power meter	PF9901	YG100731N1 1070075	2022.02.20	2023.02.19	Yuanfang
HTT-022	Leakage current tester	228	10-866030	2022.02.20	2023.02.19	simpson
HTT-023	Oscilloscope	TDS1012C-SC	C013300	2022.02.20	2023.02.19	tektronix
HTT-024	Tape measure	DK-2041	--	2022.02.20	2023.02.19	Proskit
HTT-025	Stop watch	TA-228	--	2022.02.20	2023.02.19	KTJ
HTT-026	Data acquisition/switch unit	34970A	MY44057668	2022.02.20	2023.02.19	Agilent
HTT-027	Temperature/humidity meter	VC230	--	2022.02.20	2023.02.19	ViCTOR
HTT-028	Torque drive	3RTD	435850B	2022.02.20	2023.02.19	TOHNICHI
HTT-033	Test finger	ZLT-I02	I021203	2022.02.20	2023.02.19	Guangzhou zhilitong
HTT-034	Test pin	ZLT-I09	I091201	2022.02.20	2023.02.19	Guangzhou zhilitong
HTT-038	Test apparatus of the mains plug	ZLT-LJ2	LJ011202	2022.02.20	2023.02.19	Guangzhou zhilitong
HTT-039	Ball pressure apparatus	ZLT-QY1	Q011202	2022.02.20	2023.02.19	Guangzhou zhilitong
HTT-040	Impact hammer	ZLT-CJ1	LJ011206	2022.02.20	2023.02.19	Guangzhou zhilitong
HTT-041	Impact hammer	ZLT-CJ1	LJ011205	2022.02.20	2023.02.19	Guangzhou zhilitong



Report No.: HTT202209363LR-1

HTT-042	Caliper rule	CD-6 " CSX	500-196-20	2022.02.20	2023.02.19	MITUTOYO
HTT-044	Glow wire tester	ZRS-2	12121304	2022.02.20	2023.02.19	Guangzhou Xinna
HTT-045	Needle flame tester	ZY-2	12121311	2022.02.20	2023.02.19	Guangzhou Xinna
HTT-107	"Van der Hoofden" test head	EMF827	R21SW	2022.02.20	2023.02.19	Shenzhen HLKS
HTT-107-a	Measurement receiver	EMF827-a	R21SW	2022.02.20	2023.02.19	Shenzhen HLKS



Appendix 2:Photo documentation

EUT Photo 1

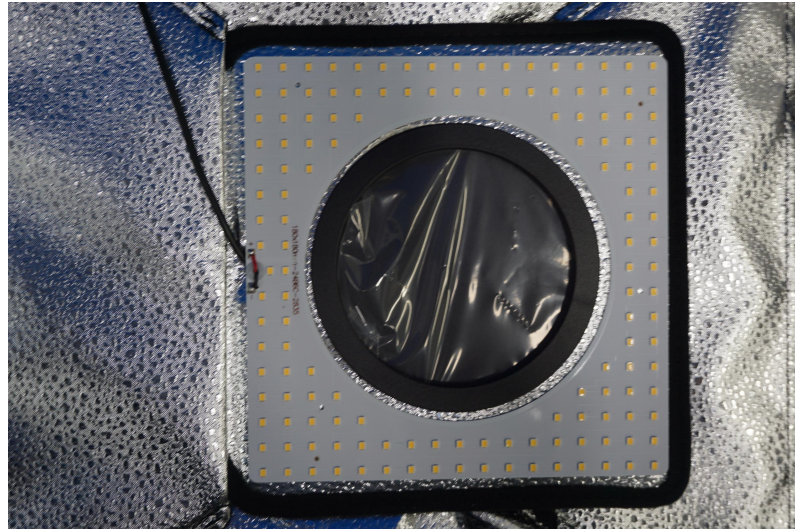


EUT Photo 1





EUT Photo 3



EUT Photo 4





EUT Photo 5



EUT Photo 6



===== End of report =====