

TEST REPORT	
EN IEC 60598-1:2021 LUMINAIRES --- SAFETY--- PART 1: GENERAL REQUIREMENTS AND TESTS	
EN 60598-2-2:2012 LUMINAIRES PART 2: PARTICULAR REQUIREMENTS SECTION 2: RECESSED LUMINAIRES	
Report reference No	CTR2511180936S
Compiled by (+ signature).....	John Lee
Approved by (+ signature)	Andy Zang
Date of issue	November 18, 2025
Testing laboratory	CTC Compliance Service Co., Ltd.
Address	7F, Xingzhong Building, Xingzhong Road, Shiqi District, Zhongshan, Guangdong, P.R.C. (528400)
Address	Same as above
Applicant	Artdon Lighting Limited
Address	NO.15, Zhihe 3rd street, Yumin Dongsheng Town, zhongshan, China
Manufactory	Artdon Lighting Limited
Address	NO.15, Zhihe 3rd street, Yumin Dongsheng Town, zhongshan, China
Standard.....	EN 60598-2-2:2012 used conjunction with EN IEC 60598-1:2021
Test procedure	LVD Scheme
Procedure deviation	N.A.
Non-standard test method	N.A.
This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of CTC Lab.	
Type of test object	LED Down Light
Trademark	ARTDON
Model/type reference	51.07513
Rating.....	AC220-240V, 50/60Hz, 35W



Possible test case verdicts:

- test case does not apply to the test object..... : N (not applicable)
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement..... : F (Fail)

Testing

Date of receipt of test item..... : Nov 02, 2025

Date(s) of performance of test..... : Nov 02, 2025 – Nov 18, 2025

Note: /

General remarks:

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

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

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

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

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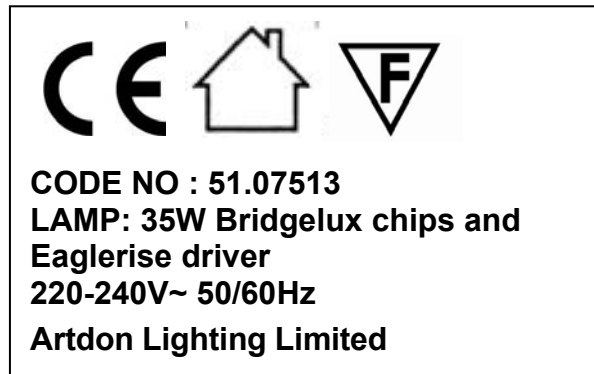
General product information:

- 1) The LED Down Light is designed for indoor use
- 2) All models have identical construction and electric principle except for product dimension and rated power.
- 3) Full tests were carried on model 51.07513.
- 4) Applicable models listed below:
57.108XX, 52.108XX, 51.135XX, 51.087XX, 56.023XX, 56.037XX, 71.059XX, 51.028XX, 52.046XX, 52.057XX, 52.098XX, 52.135XX, 52.155XX, 55.028XX, 55.026XX, 55.046XX, 55.052XX, 57.068XX, 60.083XX, 51.020XX, 51.025XX, 51.030XX, 51.035XX, 51.038XX, 51.040XX, 51.045XX, 51.048XX, 51.050XX, 51.055XX, 51.060XX, 51.065XX, 51.070XX, 51.075XX, 51.080XX, 51.085XX, 51.090XX, 51.095XX, 51.100XX, 51.105XX, 51.110XX, 51.115XX, 51.120XX, 51.125XX, 51.130XX, 51.140XX, 51.150XX, 51.160XX, 51.170XX, 51.180XX, 51.200XX, 51.210XX, 51.220XX, 51.230XX, 51.250XX, 51.280XX, 51.320XX, 52.020XX, 52.025XX, 52.030XX, 52.035XX, 52.038XX, 52.040XX, 52.045XX, 52.048XX, 52.050XX, 52.055XX, 52.060XX, 52.065XX, 52.070XX, 52.075XX, 52.080XX, 52.085XX, 52.090XX, 52.095XX, 52.100XX, 52.105XX, 52.110XX, 52.115XX, 52.120XX, 52.125XX, 52.130XX, 52.140XX, 52.150XX, 52.160XX, 52.170XX, 52.180XX, 52.200XX, 52.210XX, 52.220XX, 52.230XX, 52.250XX, 52.280XX, 52.320XX, 53.020XX, 53.025XX, 53.030XX, 53.035XX, 53.038XX, 53.040XX, 53.045XX, 53.048XX, 53.050XX, 53.055XX, 53.060XX, 53.065XX, 53.070XX, 53.075XX, 53.080XX, 53.085XX, 53.090XX, 53.095XX, 53.100XX, 53.105XX, 53.110XX, 53.115XX, 53.120XX, 53.125XX, 53.130XX, 53.140XX, 53.150XX, 53.160XX, 53.170XX, 53.180XX, 53.200XX, 53.210XX, 53.220XX, 53.230XX, 53.250XX, 53.280XX, 53.320XX, 55.020XX, 55.025XX, 55.030XX, 55.035XX, 55.038XX, 55.040XX, 55.045XX, 55.048XX, 55.050XX, 55.055XX, 55.060XX, 55.065XX, 55.070XX, 55.075XX, 55.080XX, 55.085XX, 55.090XX, 55.095XX, 55.100XX, 55.105XX, 55.110XX, 55.115XX, 55.120XX, 55.125XX, 55.130XX, 55.140XX, 55.150XX, 55.160XX, 55.170XX, 55.180XX, 55.200XX, 55.210XX, 55.220XX, 55.230XX, 55.250XX, 55.280XX, 55.320XX, 56.020XX, 56.025XX, 56.030XX, 56.035XX, 56.038XX, 56.040XX, 56.045XX, 56.048XX, 56.050XX, 56.055XX, 56.060XX, 56.065XX, 56.070XX, 56.075XX, 56.080XX, 56.085XX, 56.090XX, 56.095XX, 56.100XX, 56.105XX, 56.110XX, 56.115XX, 56.120XX, 56.125XX, 56.130XX, 56.140XX, 56.150XX, 56.160XX, 56.170XX, 56.180XX, 56.200XX, 56.210XX, 56.220XX, 56.230XX, 56.250XX, 56.280XX, 56.320XX, 57.020XX, 57.025XX, 57.030XX, 57.035XX, 57.038XX, 57.040XX, 57.045XX, 57.048XX, 57.050XX, 57.055XX, 57.060XX, 57.065XX, 57.070XX, 57.075XX, 57.080XX, 57.085XX, 57.090XX, 57.095XX, 57.100XX, 57.105XX, 57.110XX, 57.115XX, 57.120XX, 57.125XX, 57.130XX, 57.140XX, 57.150XX, 57.160XX, 57.170XX, 57.180XX, 57.200XX, 57.210XX, 57.220XX, 57.230XX, 57.250XX, 57.280XX, 57.320XX, 58.020XX, 58.025XX, 58.030XX, 58.035XX, 58.038XX, 58.040XX, 58.045XX, 58.048XX, 58.050XX, 58.055XX, 58.060XX, 58.065XX, 58.070XX, 58.075XX, 58.080XX, 58.085XX, 58.090XX, 58.095XX, 58.100XX, 58.105XX, 58.110XX, 58.115XX, 58.120XX, 58.125XX, 58.130XX, 58.140XX, 58.150XX, 58.160XX, 58.170XX, 58.180XX, 58.200XX, 58.210XX, 58.220XX, 58.230XX, 58.250XX, 58.280XX, 58.320XX, 59.020XX, 59.025XX, 59.030XX, 59.035XX, 59.038XX, 59.040XX, 59.045XX, 59.048XX, 59.050XX, 59.055XX, 59.060XX, 59.065XX,

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NOTE: The XX(01-99) of the above model number represents the serial number of our model number.

Copy of Label:



EN 60598-2-2:2012			
Clause	Requirement – Test	Result	Verdict
0	GENERAL TEST REQUIREMENTS		P
0.1	Information for luminaire design considered	Standard Yes ☒ No ☐	—
0.3	More sections applicable	Yes ☒ No ☐	—
2	CLASSIFICATION		P
2.2	Type of protection.....	Class II luminaires	—
2.3	Degree of protection.....	IP20	—
2.4	Luminaire only suitable for non-combustible surfaces	Yes ☐ No ☒	—
	Luminaire suitable for normally flammable surfaces	Yes ☒ No ☐	—
	Luminaire suitable to be covered by insulating material.....	Yes ☐ No ☒	—
2.5	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—
3	MARKING		P
3.2	Marking on luminaires		P
3.2.1	Mark of origin	ARTDON	P
3.2.2	Rated voltage(s) in volts	220-240V	P
3.2.3	The rated maximum ambient temperature t_a		N
3.2.4	Symbol for class II luminaires		P
3.2.5	Symbol for class III luminaires		N
3.2.6	IP numbers	IP20	N
3.2.7	Maker's model number or type reference	51.07513	P
3.2.8	Rated wattage	35W	P
3.2.9	The symbol for mounting on flammable surface		P
	Insulating ceiling F mark, symbol (EN 60598-2-2)		N
	A warning notice (EN 60598-2-2)		N
3.2.10	Information concerning special lamps		N
3.2.11	Similar shape to "cool beam" lamps		N
3.2.12	Terminations' mark		N
3.2.13	Minimum distance from lighted objects		N
3.2.14	For rough service luminaires		N
3.2.15	For use with bowl mirror lamps		N
3.2.16	Luminaires incorporating a glass protective shield		N
3.2.17	The maximum number of interconnecting luminaires		N
3.2.18	For luminaires with ignitors		N
3.2.19	for use with self-shielded tungsten halogen lamps only		N

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Clause	Requirement – Test	Result	Verdict
3.3	Additional information		P
	Language of instructions	English	P
3.3.1	Combination luminaires		N
3.3.2	Nominal frequency in Hz	50/60Hz	P
3.3.3	Operating temperature		N
3.3.4	Symbol or warning notice		N
3.3.5	Wiring diagram	Provided in instruction	P
3.3.6	Special conditions		N
3.3.7	Metal halide lamp luminaire – warning		P
3.3.8	Limitation for semi-luminaires		N
3.3.9	Power factor and supply current		N
3.3.10	Suitability for use indoors		P
3.3.11	Luminaires with remote control		N
3.3.12	Clip-mounted luminaire – warning		N
3.3.13	Specifications of protective shields		N
3.3.14	Symbol for nature of supply		P
3.3.15	Rated current of socket outlet		N
3.3.16	Rough service luminaires		N
3.3.17	Mounting instruction for type Y, type Z and some type X attachments		N
3.3.18	Non-ordinary luminaires with PVC cable	Ordinary luminaire	N
3.4	Test of marking		P
	- Test with water	15s	P
	- Test with hexane	15s	P
	- Legible after test	Legible	P
	- Label attached	Not be easily removable, no curling	P
4	CONSTRUCTION		P
4.2	Components replaceable without difficulty		P
4.3	Wire ways smooth and free from sharp edges		P
4.4	Lampholders		N
4.4.1	Integral lampholder		N
4.4.2	Wiring connection		N
4.4.3	Lampholder for end-to-end mounting		N
4.4.4	Positioning		N
	- pressure test (N)		N
	- bending test (Nm).....		N
4.4.5	Peak pulse voltage		N
4.4.6	Centre contact		N
4.4.7	Parts in rough service luminaires resistance to tracking	For normal use	N

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Clause	Requirement – Test	Result	Verdict
4.4.8	Lamp connectors	Compliance checked	P
4.4.9	Caps and bases correctly used		N
4.5	Starter holders		N
	Starter holder in luminaires other than class II		N
	Starter holder class II construction		N
4.6	Terminal blocks		N
	Tails		N
	Unsecured blocks		N
4.7	Terminals and supply connections		N
4.7.1	Contact to metal parts		N
4.7.2	Test 8 mm live conductor		N
	Test 8 mm earth conductor		N
4.7.3	Terminals for supply conductors		N
4.7.3.1	Welding method and material		N
	- stranded or solid conductor		N
	- spot welding		N
	- welding between wires		N
	- mechanical test according to 15.8.2		N
	- electrical test according to 15.9		N
	- ageing test according to 15.9.2.3 and 15.9.2.4		N
4.7.4	Terminals other than supply connection		N
4.7.5	Heat-resistant wiring/sleeves		N
4.7.6	Multi-pole plug	No plug	N
	- test at 30 N		N
4.8	Switches:	No switch	N
	- adequate rating		N
	- adequate fixing		N
	- polarized supply		N
	- compliance with 61058-1 for electronic switches		N
4.9	Insulating lining and sleeves		P
4.9.1	Retainment		P
	Method of fixing.....:		P
4.9.2	Insulated linings and sleeves		P
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C)		P
4.10	Insulation of Class II luminaires		P
4.10.1	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N
	Interference suppression capacitors according to IEC 60384-14		N

EN 60598-2-2:2012			
Clause	Requirement – Test	Result	Verdict
4.10.2	Assembly gaps:		N
	- not coincidental		N
	- no straight access with test probe		N
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
4.11	Electrical connections		P
4.11.1	Contact pressure		P
4.11.2	Screws:		N
	- self-tapping screws		N
	- thread-cutting screws		N
	- at least two self-tapping screws		N
4.11.3	Screw locking:		N
	- spring washer		N
	- rivets		N
4.11.4	Material of current-carrying parts		P
4.11.5	No contact to wood		P
4.11.6	Electro-mechanical contact systems		N
4.12	Mechanical connections and glands		P
4.12.1	Screws not made of soft metal		P
	Screws of insulating material		P
	Torque test: torque (Nm); part..... :		P
4.12.2	Screws with diameter < 3 mm screwed into metal		N
4.12.4	Locked connections:		P
	- fixed arms; torque (Nm)..... :		P
	- lampholder; torque (Nm)..... :		N
	- push-button switches; torque 0,8 Nm..... :		N
4.12.5	Screwed glands; force (N)..... :		N
4.13	Mechanical strength		P
4.13.1	Impact tests:		P
	Part to be tested:		P
	- parts (other than ceramic) providing protection against electric shock (EN 60598-2-2)	Impact energy: 0,35Nm Compression: 17mm	P
	- ceramic parts and all other parts of luminaires (EN 60598-2-2)	Impact energy: 0,20Nm Compression: 13mm	P
4.13.2	Metal parts enclosing live parts shall have adequate mechanical strength.		N
4.13.3	Straight test finger		N
4.13.4	Rough service luminaires		N
	- IP54 or higher		N

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Clause	Requirement – Test	Result	Verdict
	a) fixed luminaires		N
	Impact tests on three samples		N
	- test steel sphere		-
	- test height		-
	b) hand-held		N
	c) delivered with a stand		N
	- stability test		N
	- Impacts resulting from overturning		N
	- weight load force test (4 times the weight of the luminaire)		N
	d) for temporary installations and suitable for mounting on a stand		N
4.13.6	Plug-ballast/transformers and mains socket-outlet-mounted luminaires shall have adequate mechanical strength		N
4.14	Suspensions and adjusting devices		P
4.14.1	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N
	C) bracket arm; bending moment (Nm).....		P
	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
4.14.2	Load to flexible cables		N
	Mass (kg).....		N
	Stress in conductors (N/mm ²).....		N
	Semi-luminaires – mass (kg)		N
	Semi-luminaires – bending moment (Nm).....		N
4.14.3	Adjusting devices:		N
	- flexing test; number of cycles.....		N
	- strands broken		N
	- electric strength test afterwards		N
4.14.4	Telescopic tubes: cords not fixed to tube; no strain on conductors		N
4.14.5	Guide pulleys		N
4.14.6	Plug-ballast/transformers and mains socket-outlet-mounted luminaires shall not impose undue strain on socket-outlets.		N
4.15	Flammable materials:		P
	- glow- wire test 650 °C		P
	- spacing ≥ 30 mm		N

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Clause	Requirement – Test	Result	Verdict
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
4.15.2	Luminaires made of thermoplastic material with lamp control gear		N
	a) construction		N
	b) temperature sensing control		N
	c) surface temperature		N
4.16	Luminaires marked with F-symbol		P
	No lamp control gear	(Compliance with Section 12)	P
	Electronic lamp control gear		N
4.16.1	Lamp control gear spacing:		N
	- spacing 35 mm		N
	- spacing 10 mm		N
4.16.2	Thermal protection:		N
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
4.16.3	"F" curve measured		N
4.17	Drain holes		N
	Clearance at least 5 mm		N
4.18	Resistance to corrosion:		P
4.18.1	- rust-resistance		P
4.18.2	- season cracking in copper		P
4.18.3	- corrosion of aluminium		P
4.19	Ignitors compatible with ballast		N
4.20	Rough service vibration	For normal use	N
	Duration:		N
	Amplitude:		N
	Frequency range:		N
	Sweep rate:		N
4.21	Protective shield:		N
4.21.1	Shield fitted		N
4.21.2	Particles from a shattering lamp not impair safety		N
4.21.3	No direct path		N
4.21.4	Impact test on shield		N
	Glow-wire test on lamp compartment		N
4.22	Attachments to lamps		N
4.23	Semi-luminaires comply class II		N

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Clause	Requirement – Test	Result	Verdict
4.24	UV radiation, metal halide lamps		N
4.25	No sharp point or edges		P
4.26	Short-circuit protection:		N
4.26.1	Uninsulated accessible SELV parts		N
4.26.2	Short-circuit test		N
4.26.3	Test chain according to Figure 29		N
5	EXTERNAL AND INTERNAL WIRING		P
5.2	Supply connection and external wiring		P
5.2.1	Means of connection..... :		P
	Connecting leads (tails)		P
	- without a means for connection to the supply		N
	- terminal block specified		N
	- relevant information provided		N
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N
5.2.2	Type of cable (EN 60598-2-2) :		P
	Cables equal to HD21 S3 or HD22 S2 (EN)		P
	Nominal cross-sectional area (mm ²).....:		P
5.2.3	Type of attachment, X, Y or Z		N
5.2.5	Type Z not connected to screws		N
5.2.6	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
5.2.7	Cable entries through rigid material have rounded edges		P
5.2.8	Insulating bushings:		P
	- suitably fixed		N
	- material in bushings		N
	- material not likely to deteriorate		N
	- tubes or guards made of insulating material		P
5.2.9	Locking of screwed bushings		N
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
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

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Clause	Requirement – Test	Result	Verdict
	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
5.2.10.2	Adequate cord anchorage for type Y and type Z attachment		N
5.2.10.3	Tests:		N
	- impossible to push cable; unsafe		N
	- pull test: 25 times; pull (N).....:		N
	- torque test: torque (Nm)..... :		N
	- displacement ≤ 2 mm		N
	- no movement of conductors		P
	- no damage of cable or cord		P
5.2.11	External wiring passing into luminaire		P
5.2.12	Looping-in terminals		N
5.2.13	Wire ends not tinned		P
	Wire ends tinned: no cold flow		P
5.2.14	Mains plug same protection		N
	Class III luminaire plug		N
5.2.15	Colour code low voltage (EN)		N
5.2.16	Appliance inlets (IEC 60320)		N
	Appliance couplers of class II type		N
5.2.17	No standardized interconnecting cables properly assembled		N
5.2.18	Used plug in accordance with		N
	- IEC 60083		N
	- other standard		N
5.3	Internal wiring		P
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)		N
	Green-yellow for earth only		N
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		P
5.3.1.2	Internal wiring connected to fixed wiring via internal current-limiting device		N

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Clause	Requirement – Test	Result	Verdict
	Adequate cross-sectional area and insulation thickness		N
5.3.1.3	Double or reinforced insulation for class II		N
5.3.1.4	Conductors without insulation		N
5.3.1.5	SELV current-carrying parts		P
5.3.1.6	Insulation thickness other than PVC or rubber		P
5.3.2	Sharp edges etc.		P
	No moving parts of switches etc.		N
	Joints, raising/lowering devices		N
	Telescopic tubes etc.		N
	No twisting over 360°		P
5.3.3	Insulating bushings:		N
	- suitable fixed		N
	- material in bushings		N
	- material not likely to deteriorate		N
	- cables with protective sheath		N
5.3.4	Joints and junctions effectively insulated		P
5.3.5	Strain on internal wiring		N
5.3.6	Wire carriers		N
5.3.7	Wire ends not tinned		P
	Wire ends tinned: no cold flow		P
7	PROVISION FOR EARTHING		N
7.2.1 + 7.2.3	Accessible metal parts		N
	Metal parts in contact with supporting surface		N
	Resistance < 0.5 Ω		N
	Two self-tapping screws used		N
	Thread-forming screws		N
	Thread-forming screw used in a groove		N
	Earth makes contact first		N
7.2.2 + 7.2.3	Earth continuity in joints etc.		N
7.2.4	Locking of clamping means		N
	Compliance with 4.7.3		N
7.2.5	Earth terminal integral part of connector socket		N
7.2.6	Earth terminal adjacent to mains terminals		N
7.2.7	Electrolytic corrosion of the earth terminal		N
7.2.8	Material of earth terminal	Non-rusting metal	N
	Contact surface bare metal		N
7.2.10	Class II luminaire for looping-in		N
	Double or reinforced insulation to functional earth		N

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Clause	Requirement – Test	Result	Verdict
7.2.11	Earthing core coloured green-yellow		N
	Length of earth conductor		N
8	PROTECTION AGAINST ELECTRIC SHOCK		P
8.2.1	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable		N
	Double-ended high pressure discharge lamp		N
	Relevant warning according to 3.2.18 fitted to the luminaire		N
	The parts within and below ceiling space or cavity have same protection (EN 60598-2-2)		P
8.2.2	Portable luminaire adjusted in most unfavourable position	Recessed luminaire	N
8.2.3	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N
	- basic insulation not accessible other than during starter or lamp replacement		N
	- glass protective shields not used as supplementary insulation		N
	Class I luminaire with BC lampholder		N
8.2.4	Portable luminaire:		N
	- protection independent of supporting surface		N
	- terminal block completely covered		N
8.2.5	Compliance with the standard test finger or relevant probe		P
8.2.6	Covers reliably secured		P
8.2.7	Discharging of capacitors $\geq 0.5 \mu\text{F}$		P
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		P
	Discharge device mounted separately		N
9	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
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

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Clause	Requirement – Test	Result	Verdict
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or where it could become a hazard		N
	d) i) For luminaires without drain holes – no water entry		N
	d) ii) For luminaires with drain holes – no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)	IP20	P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP3X and IP4X)		N
	Test order (EN 60598-2-2)		N
9.3	Humidity test 48 h	95%, 48h, 25°C	P

10	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
10.2.1	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of Ø (mm)		—
	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
	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
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

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Clause	Requirement – Test	Result	Verdict
	- between current-carrying parts and metal parts of the luminaire..... :		N
	Other than SELV:		P
	- between live parts of different polarity..... :	1500V	P
	- between live parts and mounting surface..... :	3750V	P
	- between live parts and metal parts..... :	3750V	P
	- between live parts of different polarity through action of a switch..... :		N
10.3	Leakage current (mA)..... :	<0,005mA	P

11	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V)..... :	230V	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☒ ≥ 600 ☐	—
	Rated pulse voltage (kV)		—
	1) Current-carrying parts of different polarity: Cr (mm); Cl (mm)..... :	Cr>3,5mm, Cl>2,5mm	P
	2) Current-carrying parts and accessible parts: Cr (mm); Cl (mm)..... :	Cr>6mm, Cl>4mm	P
	3) Parts becoming live due to breakdown of basic insulation and metal parts: Cr (mm); Cl (mm)..... :		N
	4) Outer surface of cable where it is clamped and metal parts: Cr (mm); Cl (mm)..... :		N
	5) Not used		—
	6) Current-carrying parts and supporting surface: Cr (mm); Cl (mm)..... :	Cr>6mm, Cl>4mm	P

12	ENDURANCE TEST AND THERMAL TEST		P
12.3	Endurance test:		P
	- mounting- position..... :	Normal mounting	—
	- test temperature (°C)..... :	35°C±2°C	—
	- total duration (h)..... :	240h	—
	- supply voltage: Un factor; calculated voltage (V)..:	1,05 times the voltage which the lamp at rated wattage	—
	- lamp used..... :	LED lamps	—
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		P
	- no cracks, deformation etc.		P

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Clause	Requirement – Test	Result	Verdict
12.4	Thermal test (normal operation)	(see Annex 2)	P
12.5	Thermal test (abnormal operation)	(see Annex 2)	N
12.6	Thermal test (failed lamp control gear condition):		N
12.6.1	Test for luminaires without thermal cut-outs..... :		—
	- 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
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
12.7	Thermal test (failed lamp control gear in plastic luminaires):		N
12.7.1	Through wiring or lopping-in wiring loaded by a current of (A).....:		—
	- case of abnormal conditions.....:		—
	- measured winding temperature (°C) at 1,1 Un.....:		—
	- measured temperature of fixing point/ exposed part (°C) at 1,1 Un.....:		N
	- calculated temperature of fixing point/ exposed part (°C).....:		N
12.7.2	Temperature sensing control		N
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured temperature of fixing point/ exposed part (°C)		N
13	RESISTANCE TO HEAT, FIRE AND TRACKING		P
13.2.1	Ball-pressure test:		P
	- part tested; temperature (°C).....:	Plastic enclosure, 80°C	P
	- part tested; temperature (°C).....:	Bobbin of transformer, 125°C	P
	- part tested; temperature (°C).....:	PCB, 125°C	P
13.3.1	Needle flame test (10 s):		P
	- part tested.....:	Bobbin of transformer	P
	- part tested.....:	PCB	P

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Clause	Requirement – Test	Result	Verdict
13.3.2	Glow wire test (650 °C):		P
	- part tested.....: Plastic enclosure		P
	- part tested.....:		N
13.4	Tracking test: part tested.....:		N
14	SCREW TERMINALS		N
	Separately approved; component list		N
	Part of the luminaire		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		—
	Cross-sectional area (mm²).....:		—
14.3.3	Conductor space (mm)..... :		N
14.4	Mechanical tests		N
14.4.1	Minimum distance		N
14.4.2	Cannot slip out		N
14.4.3	Special preparation		N
14.4.4	Nominal diameter of thread (metric ISO thread)....:		N
	External wiring		N
	No soft metal		N
14.4.5	Corrosion		N
14.4.6	Nominal diameter of thread (mm)..... :		N
	Torque (Nm)..... :		N
14.4.7	Between metal surfaces		N
	Lug terminal		N
	Mantle terminal		N
	Pull test; pull (N).....:		N
14.4.8	Without undue damage		N
15	SCREWLESS TERMINALS		N
	Separately approved; component list		N
	Part of the luminaire		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

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Clause	Requirement – Test	Result	Verdict
(15.3.6)	Clear connection method		N
(15.3.7)	Clamping independently		N
(15.3.8)	Fixed in position		N
(15.3.10)	Conductor size		N
	Type of conductor		N
(15.5.1)	Terminals internal wiring		N
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)		N
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N
	Insertion force not exceeding 50 N		N
(15.5.2)	Permanent connections: pull-off test (20 N)		N
(15.6)	Electrical tests		N
	Voltage drop (mV) after 1 h (4 samples).....:		N
	Voltage drop of two inseparable joints		N
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
(15.7)	Terminals external wiring		N
	Terminal size and rating		N
(15.8.1)	Pull test spring-type terminals or wedged connections (4 samples); pull (N)		N
	Pull test pin or tab terminals (4 samples); pull (N)		N

(15.9)	Contact resistance test (For welded connection of lampholder to wires)										N
	Voltage drop (mV) after 1 h										N
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Voltage drop of two inseparable joints										N
	Voltage drop after 10th alt. 25th cycle										N
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Voltage drop after 50th alt. 100th cycle										N
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	---	---	---	---	---	---	---	---	---	---	
	Continued ageing: voltage drop after 10th alt. 25th cycle										N

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

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

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

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Clause	Requirement – Test			Result		Verdict

ANNEX 1: List of critical components and materials						P
object/part No.	Code	Manufacturers	Type / Model	Value / Rating	Test Standards	Approval / Reference
Power cord	B	various	various	2x0,75mm ²	DIN VDE 0281-5	VDE
LED driver	B	various	various	Input:AC220-240V 50/60Hz Output:DC30-42V 800mA	EN 61347-2-13	CE
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						

EN60598-2-1						
Clause		Requirement – Test		Result		Verdict
		ANNEX 2: temperature measurements, thermal tests of Section 12				P
		Type reference.....	:	51.07513		—
		Lamp used.....	:	LED lamp		—
		Lamp control gear used.....	:			—
		Mounting position of luminaire.....	:	Normal mounting		—
		Supply wattage (W).....	:			—
		Supply current (A).....	:			—
		Table: measured temperatures corrected for 25°C:				P
		- abnormal operating mode.....	:	N.A.		—
		- test 1: rated voltage.....	:	---		—
		- test 2: 1.06 times the rated voltage or 1,05 times Rated wattage.....	:	1,05 times rated wattage		—
		- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....	:	---		—
		- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	:	1,05 times rated wattage		—
		Through wiring or looping-in wiring loaded by a current of A during the test	:	---		—
Temperature (°C) of part		Clause 12.4 – normal operation		Clause 12.5 – abnormal operation		
		measured	limits	measured	limit	
1	LED driver	57.6°C	75°C	49.5°C	85°C	
2	Surface of inside wire	27.4°C	90°C	---	---	
3	Protecting tubing surface	54.2°C	90°C	---	---	
4	Mounting surface	34.2°C	90°C	33.4°C	130°C	
5	Metal panel	32.6°C	60°C	---	---	
6	Ambient	25.6°C	---	---	---	

ATTACHMENT I - EUT PHOTOGRAPHS

Model No.:
51.07513

Photo 1

View:

- ☒ General
☐ Front
☐ Rear
☐ Side
☐ Top
☐ Bottom
☐ Internal
☐ Detail

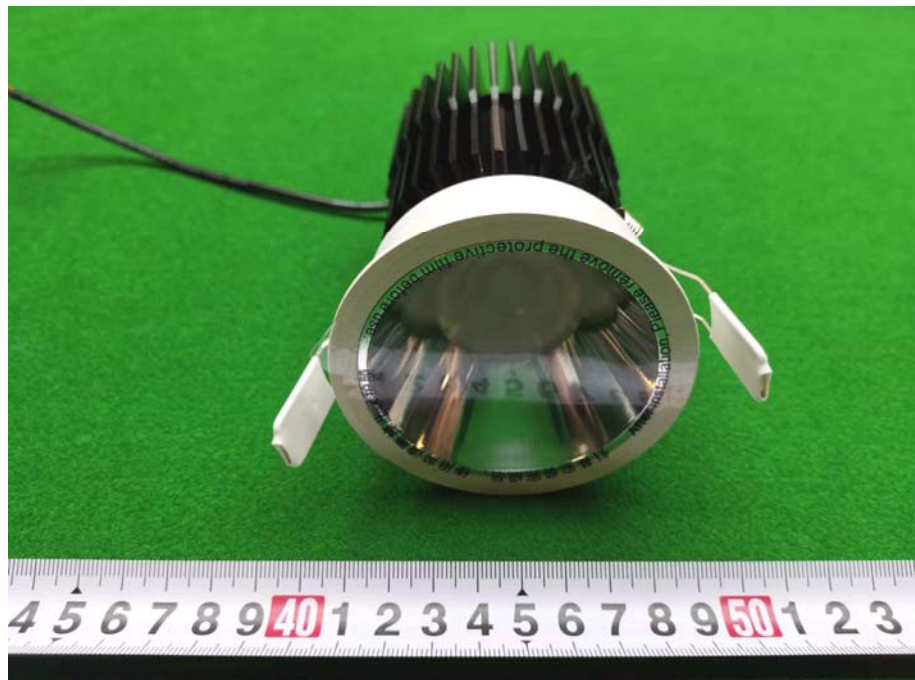


Model No.:
51.07513

Photo 2

View:

- ☐ General
☒ Front
☐ Rear
☐ Side
☐ Top
☐ Bottom
☐ Internal
☐ Detail



ATTACHMENT I - EUT PHOTOGRAPHS

Model No.:
51.07513

Photo 3

View:

- ☐ General
- ☐ Front
- ☒ Rear
- ☐ Side
- ☐ Top
- ☐ Bottom
- ☐ Internal
- ☐ Detail



Model No.:
51.07513

Photo 4

View:

- ☐ General
- ☐ Front
- ☐ Rear
- ☐ Side
- ☐ Top
- ☐ Bottom
- ☒ Internal
- ☐ Detail



ATTACHMENT I - EUT PHOTOGRAPHS

Model No.:
51.07513

Photo 5

View:

- ☐ General
- ☐ Front
- ☐ Rear
- ☐ Side
- ☐ Top
- ☐ Bottom
- ☐ Internal
- ☒ Detail

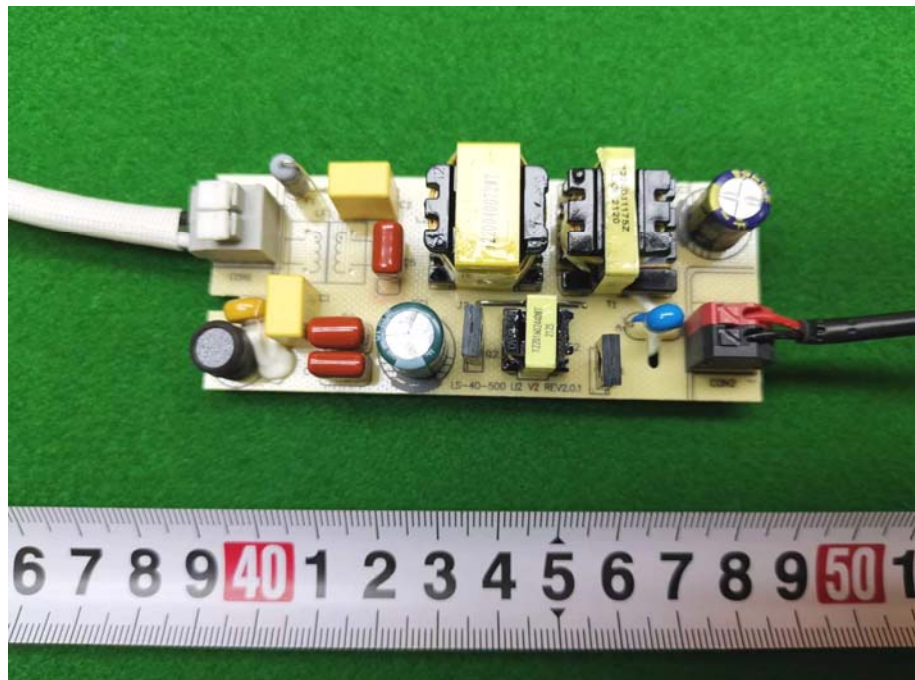


Model No.:
51.07513

Photo 6

View:

- ☐ General
- ☐ Front
- ☐ Rear
- ☐ Side
- ☐ Top
- ☐ Bottom
- ☐ Internal
- ☒ Detail



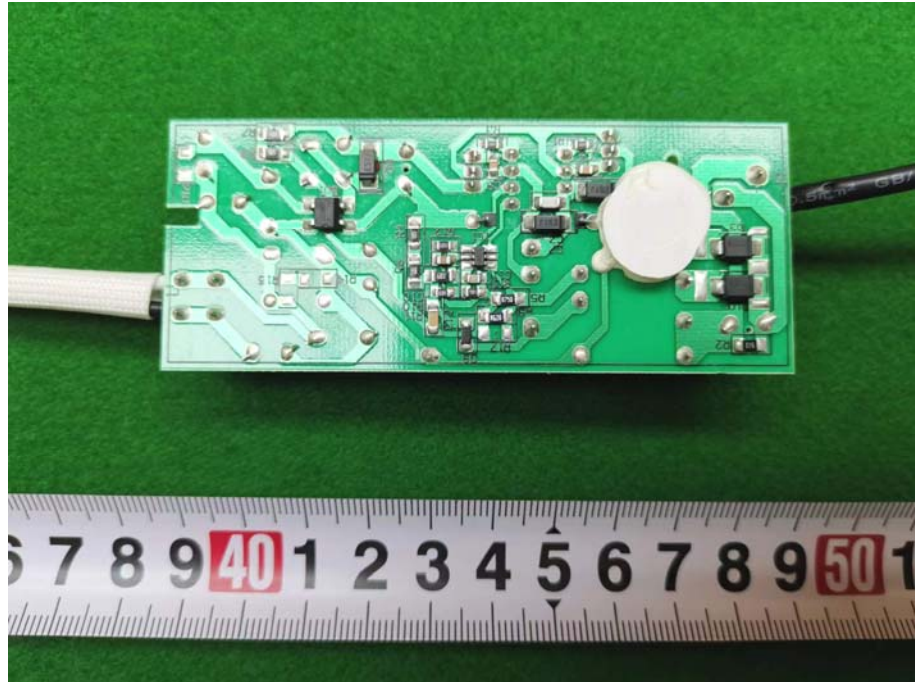
ATTACHMENT I - EUT PHOTOGRAPHS

Model No.:
51.07513

Photo 7

View:

- ☐ General
- ☐ Front
- ☐ Rear
- ☐ Side
- ☐ Top
- ☐ Bottom
- ☐ Internal
- ☒ Detail



~~ END OF THE REPORT ~~