CE LVD
TEST REPORT

For

LED NIGHT LIGHT

Model No.: VT-82, VT-83, VT-84, VT-86

Applicant : V-TAC EXPORTS LIMITED
ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG

Manufacturer : V-TAC EXPORTS LIMITED
ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG

Issued By : Global-Standard Testing Service Co., Ltd.
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Report Number : GST.200527.M201S

Issued Date : June 05, 2020

Date of Report : June 05, 2020

Note:
1. The test data and result is based on the tested sample only.
2. Please verify information in the report on GST web: www.gstslab.com through report number.
3.

EN60598-1 **Luminaires—Part 1 :General requirements and tests** **EN60598-2-12** **Luminaires—Part 2 :Particular requirements** **Section 12: Mains socket-outlet mounted nightlights**	
Report reference No. ……..…:	GST.200527.M201S
Testing laboratory ……:	Global-Standard Testing Service Co., Ltd.
Location……..:	Room 1505, Building B, Chuangxin Plaza, Pingshan Avenue, Pingshan District, Shenzhen, China
Applicant……:	V-TAC EXPORTS LIMITED
Address:……....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Manufacturer……....:	V-TAC EXPORTS LIMITED
Address:……....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Standards……..:	EN 60598-1:2015+A1: 2018 EN 60598-2-12:2013 EN 61347-1:2015 EN 61347-2-13:2014+A1:2017 EN 62031:2008+A1:2013+A2:2015 EN 62471:2008 EN 62493:2015
Procedure deviation……:	N/A
Non-standard test method……..:	N/A
Type of test equipment ……...:	LED NIGHT LIGHT
Trade mark……:	V-TAC
Model/Type designation……..:	VT-82, VT-83, VT-84, VT-86
Rating……:	Input: AC220-240V, 50/60Hz, Max.0.002A, 0.45W
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Tested for IT power systems	N/A.
IT testing, phase-phase voltage (V)	N/A.
Class of equipment	Class II equipment
Protection against ingress of water	IP20

Possible test case verdicts :	
test case does not apply to the test object	N(/A.)
test object does meet the requirement	P(ass)
test object does not meet the requirement	F(ail)

Name and address of the testing laboratory :

Global-Standard Testing Service Co., Ltd.
Room 1505, Building B, Chuangxin Plaza, Pingshan Avenue, Pingshan District, Shenzhen, China

Tested by : John Huang — Signature — June 01, 2020 — Date

John Huang / Engineer
Name/title

Reviewed by : Gloria Wang — Signature — June 05, 2020 — Date

Gloria Wang / Supervisor
Name/title

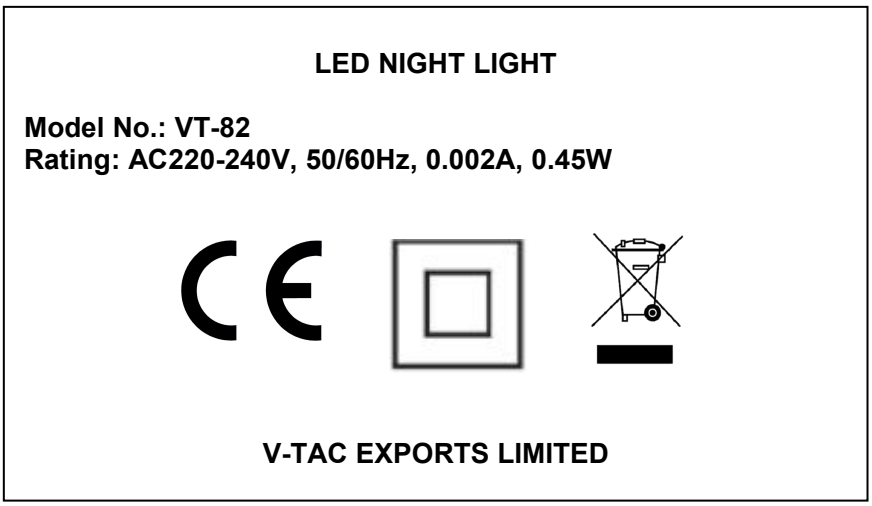
Approved by : Global-Standard Testing Service Co., Ltd. APPROVED — Signature — June 05, 2020 — Date

Nico Xie / Manager
Name/title

General remarks:	
Clause number between brackets refer to clauses in IEC 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. Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15℃ to 35℃, RH45% to 75% and an air pressure of 860mbar of 1060mbar	Attachment with: 1) Photo documentation

1. All the models are the similar construction except size, LED color , Wattage and LED numbers. The control gear matched lamp with different out voltage have different parameters of secondary componets.
2. Model VT-82 was selected as representative sample .
3. The European standard EN 62471 for LED laser product requirement has considered.
4. The Safety specifications of LED modules for general lighting was evaluated with reference to
5. EN 62031
6. The test result presented in this report relate only to the object tested. The samples tested
7. comply with the requirements of this standard.
8. The European standard EN 62493 for requirement has considered.
9. Requirement of integral LED driver were evaluated according to EN 61347-2-13:2014 used in conjunction with EN 61347-1:2015.

Label:



(Representative marking)

Note: Due to similarity of the labels, only above label was listed.

- All labels have the same format except for model name and wattage.

- the height of WEEE directive mark is at least 7mm height.

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict
12.3 (0)	**GENERAL TEST REQUIREMENTS**		—
12.3 (0.1)	Information for luminaire design considered.....:	Yes ☒ No ☐ Lamp standard: IEC/EN 62031; IEC/EN 62471; IEC TR 62778	—
12.3 (0.3)	More sections applicable.....:	Yes ☐ No ☒ Section/s:	—
12.5 (2)	**CLASSIFICATION OF LUMINAIRES**		—
12.5 (2.2)	Type of protection .....:	Class II	—
12.5 (2.3)	Degree of protection.....:	IP20	—
12.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes ☒ No ☐	—
12.5 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—
12.5 (-)	Ordinary and suitable for direct mounting on normally flammable surfaces		P
12.6 (3)	**MARKING**		P
12.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
12.6 (3.3)	Additional information		P
	Language of instructions		P
12.6 (3.3.1)	Combination luminaires		N/A
12.6 (3.3.2)	Nominal frequency in Hz		P
12.6 (3.3.3)	Operating temperature		N/A
12.6 (3.3.4)	Symbol or warning notice		N/A
12.6 (3.3.5)	Wiring diagram		N/A
12.6 (3.3.6)	Special conditions		N/A
12.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
12.6 (3.3.8)	Limitation for semi-luminaires		N/A
12.6 (3.3.9)	Power factor and supply current		N/A
12.6 (3.3.10)	Suitability for use indoors		N/A

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict
12.6 (3.3.11)	Luminaires with remote control		N/A
12.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
12.6 (3.3.13)	Specifications of protective shields		N/A
12.6 (3.3.14)	Symbol for nature of supply		N/A
12.6 (3.3.15)	Rated current of socket outlet		N/A
12.6 (3.3.16)	Rough service luminaire		N/A
12.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
12.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
12.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
12.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
12.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non replaceable	P
	Cautionary symbol		N/A
12.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
12.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
12.7 (4)	**CONSTRUCTION**		P
12.7 (4.2)	Components replaceable without difficulty		P
12.7 (4.3)	Wireways smooth and free from sharp edges		P
12.7 (4.4)	**Lampholders**		N/A
12.7 (4.4.1)	Integral lampholder		N/A
12.7 (4.4.2)	Wiring connection		N/A
12.7 (4.4.3)	Lampholder for end-to-end mounting		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
12.7 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N) .....:		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
12.7 (4.4.5)	Peak pulse voltage		N/A
12.7 (4.4.6)	Centre contact		N/A
12.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
12.7 (4.4.8)	Lamp connectors		N/A
12.7 (4.4.9)	Caps and bases correctly used		N/A
12.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
12.7 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
12.7 (4.6)	**Terminal blocks**		N/A
	Tails		N/A
	Unsecured blocks		N/A
12.7 (4.7)	**Terminals and supply connections**		**P**
12.7 (4.7.1)	Contact to metal parts		P
12.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
12.7 (4.7.3)	Terminals for supply conductors		P
12.7 (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

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Clause	Requirement - Test	Result – Remark	Verdict
	- 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
12.7 (4.7.4)	Terminals other than supply connection		P
12.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
12.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
12.7 (4.8)	**Switches**		**P**
	- adequate rating		P
	- adequate fixing		P
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches	SELV	N/A
12.7 (4.9)	**Insulating lining and sleeves**		N/A
12.7 (4.9.1)	Retainment		N/A
	Method of fixing.....:		N/A
12.7 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
12.7 (4.10)	**Double or reinforced insulation**		P
12.7 (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
	Interference suppression capacitors according to IEC 60384-14		N/A
12.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
12.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P

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Clause	Requirement - Test	Result – Remark	Verdict
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
12.7 (4.10.4)	Protective impedance device		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
12.7 (4.11)	**Electrical connections and current-carrying parts**		**P**
12.7 (4.11.1)	Contact pressure		P
12.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread- cutting screws		N/A
12.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
12.7 (4.11.4)	Material of current-carrying parts		P
12.7 (4.11.5)	No contact to wood or mounting surface		P
12.7 (4.11.6)	Electro-mechanical contact systems		P
12.7 (4.12)	**Screws and connections (mechanical) and glands**		**P**
12.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	0,4 Nm; enclosure fixing screw	P
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
12.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
12.7 (4.12.4)	Locked connections:		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
12.7 (4.12.5)	Screwed glands; force (Nm)..... :		N/A
12.7 (4.13)	**Mechanical strength**		**P**
12.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm)..... :	Enclosure; 0,7 Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
12.7 (4.13.3)	Straight test finger		P
12.7 (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
12.7 (4.13.6)	Tumbling barrel		P
12.7 (4.14)	**Suspensions, fixings and means of adjusting**		**P**
12.7 (4.14.1)	Mechanical load:		N/A
	A) four times the weight		N/A
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		N/A
	D) load track- mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) .....:		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	Fixed luminaire or independent control gear without fixing devices		N/A
12.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm²) .....:		N/A
	Mass (kg) of semi-luminaire .....:		N/A
	Bending moment (Nm) of semi-luminaire .....:		N/A
12.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken..... :		N/A
	- electric strength test afterwards		N/A
12.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
12.7 (4.14.5)	Guide pulleys		N/A
12.7 (4.14.6)	Strain on socket-outlets		P
12.7 (4.15)	**Flammable materials**		**P**
	- glow- wire test 650°C..... :	See Test Table 12.15 (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
12.7 (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
12.7 (4.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
	No lamp control gear.....:	(compliance with Section 12)	P
12.7 (4.16.1)	Lamp control gear spacing:		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
12.7 (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
12.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
12.7 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
12.7 (4.18)	**Resistance to corrosion**		P
12.7 (4.18.1)	- rust- resistance		N/A
12.7 (4.18.2)	- season cracking in copper		P
12.7 (4.18.3)	- corrosion of aluminium		N/A
12.7 (4.19)	Ignitors compatible with ballast		N/A
12.7 (4.20)	Rough service vibration		N/A
12.7 (4.21)	**Protective shield**		N/A
12.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
12.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
12.7 (4.21.3)	No direct path		N/A
12.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 12.15 (13.3.2)	N/A
12.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
12.7 (4.23)	Semi-luminaires comply Class II		N/A
12.7 (4.24)	**Photobiological hazards**		N/A

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict
12.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
12.7 (4.24.2)	Retinal blue light hazard		N/A
	Class of risk group assessed according to IEC/TR 62778 .....:		—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2... :	RG1	N/A
	- marking and instruction according 3.2.23		N/A
	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
12.7 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
12.7 (4.26)	**Short-circuit protection**		**P**
12.7 (4.26.1)	Adequate means of uninsulated accessible SELV parts		P
12.7 (4.26.2)	Short-circuit test with test chain according 4.26.3		P
	Test chain not melt through		P
	Test sample not exceed values of Table 12.1 and 12.2		P
12.7 (4.27)	**Terminal blocks with integrated screwless 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
12.7 (4.28)	**Fixing of thermal sensing control**		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	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
12.7 (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		P
12.7 (4.30)	**Luminaires with non-user replaceable light source**		N/A
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	Minimum two fixing means		N/A
12.7 (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
12.7 (4.31.1)	SELV circuits		P
	Used SELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to enter socket-outlets of other voltage systems		P
	Socket outlets does not admit plugs of other voltage systems		P

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict
	Plugs and socket-outlets does not have protective conductor contact		P
12.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ 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 enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
12.7 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	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
12.7 (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
12.7.1 (-)	The plug comply with appropriate national standard sheets of IEC/TR 60083		P

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict
12.7.2 (-)	The plug comply in all other respects with appropriate constructional requirements of IEC 60884-1 or applicable national standard		N/A
12.7.3 (-)	Mechanical strength test of 4.13.1 of IEC 60598-1 with forces in table 4.3 of IEC 60598-1 for portable luminaires for children		P
12.7.4 (-)	Covers resist penetration		P
	Temperatures of the places where the possibility of failure exist (°C)..... :	31 °C	P
	Test with test probe 19 of IEC 61032 with 30 N at these temperatures		P
12.7.5 (-)	Not possible to change lamp whilst connected to the supply		P
12.7.6 (-)	Base and cover firmly secured to each other		P
	Pull force with 90 N on cover fixing screw		P
	Pull force with 90 N on means other than screws		P
	Internal live parts not touchable with test probe 19 of IEC 61032 with 5 N at the end of test		P
12.7.7 (-)	The torque on an appropriate socket-outlet not greater than 0,25 Nm		P
12.7.8 (-)	Not likely to be treated as a toy by children		P
12.7.9 (-)	Incorporate a suitable fuse if the plug is of the type incorporate with fuse		P
12.7.10 (-)	Series resistors for neon lamps not of “composition” or “carbon film” type		N/A
12.7.11 (-)	Electroluminescent panel withstand voltage surge impulse test		N/A
12.7.12 (-)	Strain on socket-outlets according (4.14.6) if the nightlights incorporate a socket outlet		N/A
12.8 (-)	**EXTERNAL AND INTERNAL WIRING**		P
12.8 (-)	Provided with integral plug-pins		P
	Socket outlet comply with IEC 60884-1		N/A
	Compliance with the requirements of 12.7.1 and 12.7.2		P
	Not incorporate means for connection of external wiring		P
12.9 (7)	**PROVISION FOR EARTHING**		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
12.9 (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 grove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
12.9 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
12.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
12.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
12.9 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
12.9 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
12.9 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
12.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
12.9 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
12.10 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
12.10 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P

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Clause	Requirement - Test	Result – Remark	Verdict
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
12.10 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
12.10 (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		N/A
	- glass protective shields not used as supplementary insulation		N/A
12.10 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
12.10 (8.2.3.c)	SELV circuits with exposed current carrying parts:		P
	Ordinary luminaire:		N/A
	- voltage under load (V).....:		N/A
	- no-load voltage (V).....:		N/A
	- touch current if applicable (mA) .....:		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage (V) .....:		N/A
	Class III luminaire only for connection to SELV		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	Class III luminaire not provided with means for protective earthing		N/A
12.10 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
12.10 (8.2.5)	Compliance with the standard test finger or relevant probe		P
12.10 (8.2.6)	Covers reliably secured		P
12.10 (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	< 0,1 μF	N/A
12.10 (-)	Not possible to gain access to the lampholder or other internal live parts when inserted in socket-outlet		P
12.11 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
12.11 (9.3)	Humidity test 48 h	25 °C; 93% Rh	P
12.12 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
12.12 (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		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	>100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....:	>100 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
	Other than SELV		P
	- between live parts of different polarity..... :	>100 MΩ	P

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Clause	Requirement - Test	Result – Remark	Verdict
	- between live parts and mounting surface.....:	>100 MΩ	P
	- between live parts and metal parts.....:	>100 MΩ	P
	- between live parts of different polarity through action of a switch.....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
12.12 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V).....:		N/A
	SELV		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....:	500 V	P
	- between current-carrying parts and metal parts of the luminaire.....:	500 V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
	Other than SELV		P
	- between live parts of different polarity.....:	1480 V	P
	- between live parts and mounting surface.....:	2960 V	P
	- between live parts and metal parts.....:	2960 V	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
12.12 (10.3)	Touch current or protective conductor current (mA).:	0,1 mA peak(limit: 0,7 mA peak)	P

12.13 (11)	**CREEPAGE DISTANCES AND CLEARANCES**	P

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Clause	Requirement - Test	Result – Remark	Verdict
12.13 (11.2)	Creepage distances and clearances.....:	See Table 12.13 (11.2)	P
	Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)	Category II ☒ Category III ☐	—
12.13 (-)	Metal part exposed on the engagement face in contact with live parts is recessed at least 3 mm below the engagement surface		N/A
12.14 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
12.14 (12.3)	Endurance test:		P
	- mounting- position..... :	As normal use	—
	- test temperature (°C)..... :	35 °C	—
	- total duration (h).....:	240 h	—
	- supply voltage: Un factor; calculated voltage (V)...:	1,1 Un; 264 V	—
	- lamp used..... :	Non-replaceable LEDs	—
12.14 (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
12.14 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
12.14 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
12.14 (12.6)	Thermal test (failed lamp control gear condition):		N/A
12.14 (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

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Clause	Requirement - Test	Result – Remark	Verdict
12.14 (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
12.14 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
12.14 (12.7.1)	Luminaire without temperature sensing control		N/A
12.14 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....:		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions.....:		—
	- Ballast failure at supply voltage (V) .....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions.....:		—
	- measured winding temperature (°C): at 1,1 Un.....:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test.....:	See Table 12.15 (13.2.1)	N/A
12.14 (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).....:		—

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Clause	Requirement - Test	Result – Remark	Verdict
	Ball-pressure test.....:	See Table 12.15 (13.2.1)	N/A
12.14 (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
12.14 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....:	Yes ☐ No ☐	—
	- manual reset cut-out.....:	Yes ☐ No ☐	—
	- auto reset cut-out.....:	Yes ☐ No ☐	—
	- case of abnormal conditions.....:		—
	- highest measured temperature of fixing point/ exposed part (°C):.....:		—
	Ball-pressure test:.....:	See Table 12.15 (13.2.1)	N/A
12.14.1 (-)	Maximum temperature of plug-pins according to IEC/TR 60083		P
	Temperature of socket-outlet engagement face not exceed 65 °C		P
12.14.2 (-)	a) Temperature of accessible metal parts not exceed 55 °C		N/A
	b) Temperature of accessible parts other than of metal not exceed 65 °C		P
12.14.3 (-)	Abnormal thermal test for 7 h or until failure occurs Covered with one layer of cotton and one of blanket together		P
	After test the nightlight comply with (12.5)		P
	After test no deformation and no scorching or ignition of the cotton		P

12.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
12.15 (13.2.1)	Ball-pressure test.....:	See Test Table 12.15 (13.2.1)	P
12.15 (13.3.1)	Needle-flame test (10 s).....:	See Test Table 12.15 (13.3.1)	P
12.15 (13.3.2)	Glow- wire test (650°C).....:	See Test Table 12.15 (13.3.2)	P

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Clause	Requirement - Test	Result – Remark	Verdict
12.15 (13.4)	Proof tracking test (IEC 60112).....:	See Test Table 12.15 (13.4)	N/A
12.16 (14)	**SCREW TERMINALS**		N/A
	Separately approved; component list.....:	(see Annex 1)	N/A
	Part of the luminaire.....:	(see Annex 3)	N/A
12.16 (-)	No screw terminals in sealed nightlights		N/A
12.17 (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

12.13 (11.2)	**TABLE: Creepage distances and clearances**							**P**
	Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages							**P**
	Applicable part of IEC 60598-1 Table 11.1* and 11.2*							**P**
	Insulation type **	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	B	2,75	1,5	11.1	2,75	2,5	11.1	
Working voltage (V)..... :					220-240 V			—
PTI..... :					< 600 ☒ ☐	≥ 600		—
Pulse voltage if applicable (kV) .....:					—			—
Supplementary information: Between L and N on PCB								
Distance 2:	R	6,5	3,0	11.1	6,5	5,0	11.1	
Working voltage (V)..... :					220-240 V			—
PTI..... :					< 600 ☒ ☐	≥ 600		—
Pulse voltage if applicable (kV) .....:					—			—
Supplementary information: Between input and output of LED driver								
Distance 3:	R	7,0	3,0	11.1	7,0	5,0	11.1	
Working voltage (V)..... :								—
PTI..... :					< 600 ☐ ☐	≥ 600		—
Pulse voltage if applicable (kV) .....:								—
Supplementary information: between live part and enclosure								

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Clause	Requirement - Test	Result – Remark	Verdict

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

12.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm) .....:		Max 2,0 mm	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Enclosure	-	125	0,8
Supplementary information: N/A			

12.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Enclosure	-	10	No	0	P
Supplementary information: N/A					

12.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)			P
Glow wire temperature .....:		650°C		—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Enclosure	-	No	0	P
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....:				Yes
Supplementary information: N/A				

12.15 (13.4)	TABLE: Proof tracking test (IEC 60112)		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

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Clause	Requirement - Test	Result – Remark	Verdict

—					
Supplementary information: N/A					

TABLE	**List of critical components and materials**			
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
Plastic shell	Various	Various	V-0, Min105℃, 2.0mm	UL Test with appliance
LED	Various	Various	30-36V, 750mA CCT: 4000-4500K	Test with appliance
LED PCB	Various	Various	.V-0, 130℃,	UL Test with appliance
PCB	Various	Various	Min.V-0, 90℃	UL Test with appliance
Internal wire	Various	1005	VW-1, 80℃, 24AWG	UL Test with appliance

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Clause	Requirement - Test	Result – Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference.....:	VT-82	—
	Lamp used.....:	Non-replaceable LEDs	—
	Lamp control gear used.....:	Integral LED driver	—
	Mounting position of luminaire.....:	As normal use	—
	Supply wattage (W).....:	0.5 W	—
	Supply current (A)..... :	0,01 A	—
	Calculated power factor.....:	0,477	—
	Table: measured temperatures corrected for ta = 25 °C:		P
	- abnormal operating mode.....:	Short circuit output of LED driver	—
	- test 1: rated voltage..... :	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,06 times rated voltage	—
	- 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.....:	1,1 times rated voltage	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—

Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Plug inter-surface	—	29.6	—	—	75	—	—
Input wire	—	48.1	—	—	80	—	—
Enclosure	—	42.0	—	—	75	—	—
C1	—	54.5	—	—	70	—	—
PCB	—	55.4	—	—	130	—	—
Ambient	—	25.0	—	—	75	—	—

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict

ANNEX 3	**Screw terminals (part of the luminaire)**	N/A
(14)	**SCREW TERMINALS**	N/A

ANNEX 4	**Screwless terminals (part of the luminaire)**	N/A
(15)	**SCREWLESS TERMINALS**	N/A

Appendix:
CENELEC COMMON MODIFICATIONS of IEC 60598-1 (ed.8.0): 2014

	CENELEC COMMON MODIFICATIONS (EN)		P
(3)	**MARKING**		N/A
(3.3.101)	Adequate warning on the package		N/A
(4)	**Construction**		P
(4.11.6)	The test voltage however being reduced to 1500 V		P
(5)	**EXTERNAL AND INTERNAL WIRING**		N/A
(5.2.1)	Connecting leads		N/A
	- without a means for connection to the supply		N/A
	- terminal block specified		N/A
	- relevant information provided		N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N/A
(5.2.2)	Cables equal to EN 50525.		N/A
	Replace table 5.1 – Supply cord		N/A
(12)	**ENDURANCE TESTS AND THERMAL TESTS**		N/A
(12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		N/A

ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		**P**
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket- outlets		N/A
(5.2.1)	CY, DK, FI, SE, GB: type of plug		P

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	FR: Safety requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		N/A
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A
ANNEX: Summary of requirements and test clauses of: **IEC 62031, Ed. 1.1, 2008-01+A1: 2012+A2: 2014:** **LED modules for general lighting – Safety specifications** **EN 62031: 2008+A1: 2013+A2: 2015: LED modules for general lighting – Safety specifications**			
6	Classification		P
	Built-in; Independent; Integral	Integral	P
7	Marking		N/A
7.1	Mandatory markings for built-in or independent modules		N/A
7.2	Location of marking		N/A
7.3	Durability and legibility of marking		N/A
8	Terminals		N/A
9	Provisions for protective earthing		N/A
10	Protection against accidental contact with live parts		N/A
11	Moisture resistance and insulation	Evaluated with final product	P
12	Electric strength	Evaluated with final product	P
13	Fault conditions		P
13.1	Fault conditions according to IEC 61347-1, cl.14		N/A
13.2	Overpower conditions		P
14	Conformity testing during manufacture		N/A
15	Construction		P
	No wood, cotton, silk, paper and similar fibrous material used as insulation		P
16	Creepage distances and clearances		N/A
17	Screw, current-carrying parts and connections		N/A
18	Resistance to heat, fire and tracking		N/A
19	Resistance to corrosion		N/A
20	Information for luminaire design		N/A
21	Heat management		N/A
22	Photobiological safety	Evaluated with final product	P

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Clause	Requirement - Test	Result – Remark	Verdict
22.1	UV radiation	Evaluated with final product	P
22.2	Blue light hazard	Evaluated with final product	P
22.3	Infrared radiation		N/A

ANNEX	**Summary of requirements and test clauses of:** **IEC 61347-2-13:2014 used in conjunction with IEC 61347-1: 2015 and EN 61347-2-13:2014 used in conjunction with IEC 61347-1:2015** **d.c. or a.c. supplied electronic controlgear for LED modules**	P

4 (4)	**GENERAL REQUIREMENTS**		P
- (4)	Insulation materials according requirements in Annex N of IEC 61347-1	(see Annex N)	P
- (4)	Compliance of independent controlgear enclosure with IEC 60 598- 1		N/A
- (4)	Built-in magnetic ballast with double or reinforced insulation comply with Annex I of IEC 61347-1		N/A
- (4)	Built-in electronic controlgear with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
4 (4)	SELV controlgear comply with Annex I of this part 2 and Annex L of IEC 61347-1	(see Annex L)	P
4 (-)	Transformer comply with IEC 61558		P
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage ≤ 300 V		P

6 (6)	**CLASSIFICATION**		P
	Built-in controlgear ..... :	Yes ☐ No ☒	—
	Independent controlgear..... :	Yes ☐ No ☒	—
	Integral controlgear ..... :	Yes ☒ No ☐	—
6 (-)	Auto-wound controlgear .....:	Yes ☐ No ☒	—
	Separating controlgear .....:	Yes ☐ No ☒	—
	Isolating controlgear ..... :	Yes ☐ No ☒	—
	SELV controlgear .....:	Yes ☒ No ☐	—

7 (7)	**MARKING**	**Integral LED driver**	N/A

8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		P
- (10.1)	Controlgear protected against accidental contact with live parts	Evaluated with final product	P
- (A2)	Voltage measured with 50 kΩ	(see Annex A)	P
- (A3)	Voltage > 35 V peak or > 60 V d.c. or protective impendance device	(see Annex A)	N/A

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Clause	Requirement - Test	Result – Remark	Verdict
- (10.1)	Lacquer or enamel not used for protection or insulation		P
	Adequate mechanical strength on parts providing protection		P
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V ..... :	Evaluated with final product	P
- (10.3)	**Controlgear providing SELV**		P
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		P
	No connection between output circuit and the body or protective earthing circuit		P
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		P
	SELV outputs separated by at least basic insulation		P
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1		P
- (10.4)	**Accessible conductive parts in SELV circuits**		P
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.		P
	If output voltage > 25 V r.m.s. or > 60 V d.c.; No load output ≤ 35 V peak or ≤ 60 V d.c and touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ..... :		N/A
	One conductive part is insulated if output voltage or current exceeding the values above and withstand test voltage 500 V		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor	Y1	P
	Y1 or Y2 capacitors comply with IEC 60384-14		P
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A

9 (8)	**TERMINALS**		N/A
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the controlgear	(see Annex 2)	N/A
	Screwless terminals according section 15 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the controlgear	(see Annex 3)	N/A

10 (9)	**PROVISION FOR PROTECTIVE EARTHING**	N/A

11 (11)	**MOISTURE RESISTANCE AND INSULATION**	P
	After storage 48 h at 91- 95% relative humidity and 20- 30 °C measuring of insulation resistance with d.c. 500 V (MΩ):	P

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Clause	Requirement - Test	Result – Remark	Verdict
	For basic insulation ≥ 2 MΩ ..... :	> 100 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ ..... :	> 100 MΩ	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		P
11 (-)	Adequate insulation between input and output terminals not bounded together in SELV-equivalent controlgear		N/A

12 (12)	ELECTRIC STRENGTH		P
	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		P
	Working voltage ≤ 50 V, test voltage 500 V		P
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V	1480 V	P
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		P

14 (14)	FAULT CONDITIONS		P
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	P
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664-3		P
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	P
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	P
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ ..... :	> 100 MΩ	P
	No flammable gases		P

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Clause	Requirement - Test	Result – Remark	Verdict
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A
15 (-)	**TRANSFORMER HEATING**		**P**
15.1	**General**		**P**
	Transformer comply with clause L.6 and L.7 of IEC 61347-1		P
	Output voltage of SELV controlgear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2		P
15.2 (-)	**Normal operation**		**P**
	Comply with clause L.6 of IEC 61347-1		P
15.3 (-)	**Abnormal operation**		**P**
	Comply with clause L.7 of IEC 61347-1		P
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type		N/A
	Double LED modules or equivalent load connected in parallel to the output terminals of constant current type		P
15 (-)	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		P
16 (15)	**CONSTRUCTION**		P
- (15.1)	**Wood, cotton, silk, paper and similar fibrous material**		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	**Printed circuits**		P
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	**Plugs and socket-outlets used in SELV or ELV circuits**		**P**
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		P
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		P
	- socket-outlets not admit plugs of other standardised system		P
	- socket-outlets without protective earth		P

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Clause	Requirement - Test	Result – Remark	Verdict

17 (16)	CREEPAGE DISTANCES AND CLEARANCES		P
- (16)	Creepage distances and clearances according to Table 3 and 4, as appropriate	(see appended table)	P
	Controlgears providing SELV comply with L.1 in Annex L		P
	Insulating lining of metallic enclosures		N/A
	Basic insulation on printed boards tested according to clause 14		P
	Distances subjected to both sinusoidal voltage as non-sinusoidal pulses not less than value in either Table 3 or 4		N/A
	Creepage distances not less than minimum clearance		P

18 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		P
(4.11)	**Electrical connections**		P
(4.11.1)	Contact pressure		P
(4.11.2)	**Screws:**		N/A
	- self-tapping screws		N/A
	- thread- cutting screws		N/A
(4.11.3)	**Screw locking:**		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		P
(4.12)	**Mechanical connections and glands**		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(4.12.4)	**Locked connections:**		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm..... :		N/A
(4.12.5)	Screwed glands; force (Nm)..... :		N/A

19 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
- (18.1)	Ball-pressure test:		P
	- part tested; temperature (°C)..... :	Evaluated with final product	P
	- part tested; temperature (°C)..... :		N/A
- (18.2)	Test of printed boards:		N/A
	- part tested..... :		N/A
	- part tested..... :		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
- (18.3)	Glow- wire test (650°C):		P
	- part tested..... :	Evaluated with final product	P
	- part tested..... :		N/A
- (18.4)	Needle flame test (10 s):		P
	- part tested..... :	Evaluated with final product	P
	- part tested..... :		N/A
- (18.5)	Tracking test:		N/A
	- part tested..... :		N/A
	- part tested..... :		N/A

20 (19)	**RESISTANCE TO CORROSION**		N/A
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

14	**TABLE: tests of fault conditions**	P
Part	Simulated fault	Hazard
C1	Short circuit, fuse opened	NO
C9	Short circuit, the product could not work	NO
D1	Short circuit, fuse opened	NO
D2	Short circuit, the product could not work	NO
C4	Short circuit, the product could not work	NO
D3	Short circuit, the product could not work	NO

17 (16)	**TABLES: Creepage distances and clearances**						P
Table 3	**Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages**						P
RMS working voltage (V) not exceeding		50	150	250	500	750	1000
Creepage distances							

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Clause	Requirement - Test	Result – Remark	Verdict

Required basic insulation, PTI ≥ 600	0,6	0,8	1,5	3	4	5,5
Measured	-	-	-	-	-	-
Required basic insulation, PTI < 600	1,2	1,6	2,5	5	8	10
Measured	-	-	-	Between L and N of fuse: 2,75	-	-
Required supplementary insulation PTI ≥ 600	-	0,8	1,5	3	4	5,5
Measured	-	-	-	-	-	-
Required supplementary insulation PTI < 600	-	1,6	2,5	5	8	10
Measured	-	-	-	-	-	-
Required reinforced insulation	-	3,2	5	6	8	11
Measured	-	-	-	Between input and output: 6,5; Between live part and enclosure 7,0	-	-
Clearances						
Required basic insulation	0,2	0,8	1,5	3	4	5,5
Measured	-	-	-	2,75	-	-
Required supplementary insulation	-	0,8	1,5	3	4	5,5
Measured	-	-	-	-	-	-
Required reinforced insulation	-	1,6	3	6	8	11
Measured	-	-	-	6,5/7,0	-	-

Table 4	**Minimum distances (mm) for non-sinusoidal pulse voltages**	N/A

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Clause	Requirement - Test	Result – Remark	Verdict

Rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances	1,0	1,5	2	3	4	5,5	8
Measured	-	-	-	-	-	-	-
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60
Measured	-	-	-	-	-	-	-
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured	-	-	-	-	-	-	-

A (A)	**ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK**		P
(A.1)	Comply with A.2 or A.3		P
(A.2)	Voltage ≤ 35 V peak or ≤ 60 V d.c .....:	5 V	P
(A.3)	If voltage > 35 V peak or > 60 V d.c. or protective impendance device; touch current does not exceed 0,7 mA (peak) or 2 mA d.c. .....:		N/A
	Comply with Annex G of IEC 60598-1		N/A

C (C)	**ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING**		N/A

D (D)	**ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR**		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A

E (E)	**ANNEX E – USE OF CONSTANT S OTHER THAN 4500 IN t_w TESTS**		N/A
	Comply with tests according Annex E		N/A

F	**ANNEX F - DRAUGHT-PROOF ENCLOSURE**		P
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A

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Clause	Requirement - Test	Result – Remark	Verdict

H (H)	**ANNEX H - TESTS**		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P

I (L)	**ANNEX I: PARTICULAR ADDITIONAL REQUIREMENTS FOR SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR LED MODULES**		P
(L.3)	**Classification**		P
	Class I	Yes ☐ No ☒	—
	Class II	Yes ☐ No ☒	—
	Class III	Yes ☐ No ☒	—
	non-inherently short circuit proof controlgear	Yes ☐ No ☒	—
	inherently short circuit proof controlgear	Yes ☒ No ☐	—
	fail safe controlgear	Yes ☐ No ☒	—
	non-short-circuit proof controlgear	Yes ☐ No ☒	—
(L.4)	**Marking**		N/A
	Adequate symbols are used	Integral LED driver	N/A
(L.5)	**Protection against electric shock**		N/A
	Comply with 9.2 of IEC 61558-1	Integral LED driver	N/A
(L.6)	**Heating**		P
	No excessive temperatures in normal use		P
	Value if capacitor t_c marked ..... :		—
	Winding insulation classified as Class ..... :	Pri-winding of transformer: Class 155; Sec-winding of transformer: Class 130	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		P
(L.7)	**Short-circuit and overload protection**		P
	Comply with tests of clause 15 of IEC 61558-1 with adjustments		P
(L.8)	**Insulation resistance and electric strength**		P
(L.8.1)	Conditioned 48 h between 91 % and 95 %		P
(L.8.2)	Insulation resistance		P
	Between input- and output circuits not less than 5 MΩ ..... :	>100 MΩ	P
	Between metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MΩ ..... :		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ .....:		N/A
(L.8.3)	Electric strength		P
	1) Between live parts of input circuits and live parts of output circuits .....:	3750 V	P
	2) Over basic or supplementary insulation between:		P
	a) live parts having different polarity ..... :	1875 V	P
	b) live parts and body if intended to be connected to protective earth .....:		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord .....:		N/A
	d) live parts and an intermediate metal part .....:		N/A
	e) intermediate metal parts and the body .....:		N/A
	f) each input circuit and all other input circuits .....:		N/A
	3) Over reinforced insulation between the body and live parts .....:		N/A
(L.9)	**Construction**		P
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		P
	HF transformer comply with 19 of IEC 61558-2-16		P
(L.10)	**Components**		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
(L.11)	**Creepage distances and clearances**		P
	1. Insulation between input and output circuits, basic insulation:		N/A
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A
	2. Insulation between input and output circuits, double or reinforced insulation:		P
	a) measured values ≥ specified values (mm) .....:	cr = 6,5 > 5,0; cl = 6,5 > 4,7	P
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:	0,18 > 0,09	P
	3. Insulation between adjacent input circuits		N/A
	- measured values ≥ specified values (mm) .....:		N/A
	3. Insulation between adjacent output circuits		N/A
	- measured values ≥ specified values (mm) .....:		N/A
	4. Insulation between terminals for external connection:		N/A
	- measured values ≥ specified values (mm) .....:		N/A

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Clause	Requirement - Test	Result – Remark	Verdict
	5. Basic or supplementary insulation:		P
	a) measured values ≥ specified values (mm) .....:	Cr = 2,75 > 2,6; cl = 2,75 > 2,5	P
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A
	d) measured values ≥ specified values (mm) .....:		N/A
	e) measured values ≥ specified values (mm) .....:		N/A
	6. Reinforced insulation or insulation:		P
	Between body and output circuit: measured values ≥ specified values (mm) .....:	Cr = 7,0 > 5,0; cl = 7,0 > 4,7	P
	Between body and output circuit if provision against transient voltages: measured values ≥ specified values (mm) .....:		N/A
	7. Distance through insulation:		P
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:	0,12 > 0,05	P
	c) measured values ≥ specified values (mm) .....:	1,2 > 0,9	P

(N)	**ANNEX N: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION**		P
(N.4)	**General requirements**		P
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		P
(N.4.2)	**Solid insulation**		**P**
	Electric strength test at least 5 kV or 1,35 x test voltage in Table N.1		N/A
	If not classified according IEC 60085 and IEC 60216 series: Electric strength test increased 10 % of 5,5 kV or 1,5 x test voltage in Table N.1	6050 V	P
(N.4.3)	**Thin sheet insulation**		**P**
(N.4.3.1)	Thickness and composition of thin sheet insulation		P
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		N/A
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N		P
	- Separated layers: Min. 2 layers and each layer fulfil mandrel test of 50N		N/A
	- Separated layers (alternative): Min. 3 layers and 2/3 of the layers fulfil mandrel test of 100N		N/A
(N.4.3.2)	Mandrel test (electric strength test during mechanical stress)		P
	Electric strength test after mandrel test:		P

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Clause	Requirement - Test	Result – Remark	Verdict
	- Non-separated layers: min. 5 kV or 1,35 x test voltage in Table N.1	5063 V	P
	- 2/3 of min. 3 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		N/A
	- one of 2 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		N/A
	No flashover or breakdown occurred		P

(O)	**ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION**	N/A

J	**ANNEX J: PARTICULAR ADDITIONAL SAFETY REQUIREMENTS FOR A.C., A.C./D.C. OR D.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR EMERGENCY LIGHTING**	N/A

Annex: additional requirements of IEC 62471: 2006 and EN 62471: 2008

IEC 62471: 2006 (LED for flash light)										
Table 6.1	Emission limits for risk groups of continuous wave lamps									P
Risk	Action spectrum	Symbol	Units	Emission Measurement						
				Exempt		Low risk		Mod risk		
				Limit	Result	Limit	Result	Limit	Result	
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	3,5e-05	0,003	-	0,03	-	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	1,2e-03	33	-	100	-	
Blue light	B(λ)	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	-	10000	2,7e+03	4000000	-	
Blue light, small source	B(λ)	E_B	$W \cdot m^{-2}$	1,0*	-	1,0	-	400	-	
Retinal thermal	R(λ)	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/α	3,3e+04	28000/α	-	71000/α	-	
Retinal thermal, weak visual stimulus**	R(λ)	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/α	9,0e+01	6000/α	-	6000/α	-	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0	570	-	3200	-	
* Small source defined as one with α < 0,011 radian. Averaging field of view at 10000 s is 0,1 radian. ** Involves evaluation of non-GLS source										

IEC 62471: 2006 (LED for night light)						
Table 6.1	Emission limits for risk groups of continuous wave lamps					P
Risk	Action spectrum	Symbol	Units	Emission Measurement		
				Exempt	Low risk	Mod risk

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict

IEC 62471: 2006 (LED for night light)

Table 6.1 Emission limits for risk groups of continuous wave lamps — P

				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W•m^{-2}$	0,001	0	0,003	-	0,03	-
Near UV		E_{UVA}	$W•m^{-2}$	10	7,5e-05	33	-	100	-
Blue light	B(λ)	L_B	$W•m^{-2}•sr^{-1}$	100	1,9e+00	10000	-	4000000	-
Blue light, small source	B(λ)	E_B	$W•m^{-2}$	1,0*	-	1,0	-	400	-
Retinal thermal	R(λ)	L_R	$W•m^{-2}•sr^{-1}$	28000/α	4,0e+01	28000/α	-	71000/α	-
Retinal thermal, weak visual stimulus**	R(λ)	L_{IR}	$W•m^{-2}•sr^{-1}$	6000/α	2,6e-02	6000/α	-	6000/α	-
IR radiation, eye		E_{IR}	$W•m^{-2}$	100	0	570	-	3200	-

* Small source defined as one with α < 0,011 radian. Averaging field of view at 10000 s is 0,1 radian.
** Involves evaluation of non-GLS source

EN 62471: 2008(LED for flash light)

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC) — P

Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W•m^{-2}$	0,001	3,5e-05	-	-	-	-
Near UV		E_{UVA}	$W•m^{-2}$	0,33	1,2e-03	-	-	-	-
Blue light	B(λ)	L_B	$W•m^{-2}•sr^{-1}$	100	-	10000	2,7e+03	4000000	-
Blue light, small source	B(λ)	E_B	$W•m^{-2}$	0,01*	-	1,0	-	400	-
Retinal thermal	R(λ)	L_R	$W•m^{-2}•sr^{-1}$	28000/α	3,3e+04	28000/α	-	71000/α	-
Retinal thermal, weak visual stimulus**	R(λ)	L_{IR}	$W•m^{-2}•sr^{-1}$	545000 0,0017≤ α ≤ 0,011	-				

EN 60598-2-12			
Clause	Requirement - Test	Result – Remark	Verdict

EN 62471: 2008(LED for flash light)									
Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								P
				6000/α 0,011≤ α ≤ 0,1	9,0e+01				
IR radiation, eye		E_{IR}	$W•m^{-2}$	100	0	570	-	3200	-
* Small source defined as one with α < 0,011 radian. Averaging field of view at 10000 s is 0,1 radian. ** Involves evaluation of non-GLS source NOTE The action functions: see Table 4.1 and Table 4.2 The applicable aperture diameters: see 4.2.1 The limitations for the angular subtenses: see 4.2.2 The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.									

EN 62471: 2008(LED for night light)									
Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								P
Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W•m^{-2}$	0,001	0	-	-	-	-
Near UV		E_{UVA}	$W•m^{-2}$	0,33	7,5e-05	-	-	-	-
Blue light	B(λ)	L_B	$W•m^{-2}•sr^{-1}$	100	1,9e+00	10000	-	4000000	-
Blue light, small source	B(λ)	E_B	$W•m^{-2}$	0,01*	-	1,0	-	400	-
Retinal thermal	R(λ)	L_R	$W•m^{-2}•sr^{-1}$	28000/α	4,0e+01	28000/α	-	71000/α	-
Retinal thermal, weak visual stimulus**	R(λ)	L_{IR}	$W•m^{-2}•sr^{-1}$	545000 0,0017≤ α ≤ 0,011	-				
				6000/α 0,011≤ α ≤ 0,1	2,6e-02				
IR radiation, eye		E_{IR}	$W•m^{-2}$	100	0	570	-	3200	-
* Small source defined as one with α < 0,011 radian. Averaging field of view at 10000 s is 0,1 radian. ** Involves evaluation of non-GLS source NOTE The action functions: see Table 4.1 and Table 4.2 The applicable aperture diameters: see 4.2.1 The limitations for the angular subtenses: see 4.2.2 The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.									

Appendix 1
Photo Documentation

Photo 1 View: [√] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

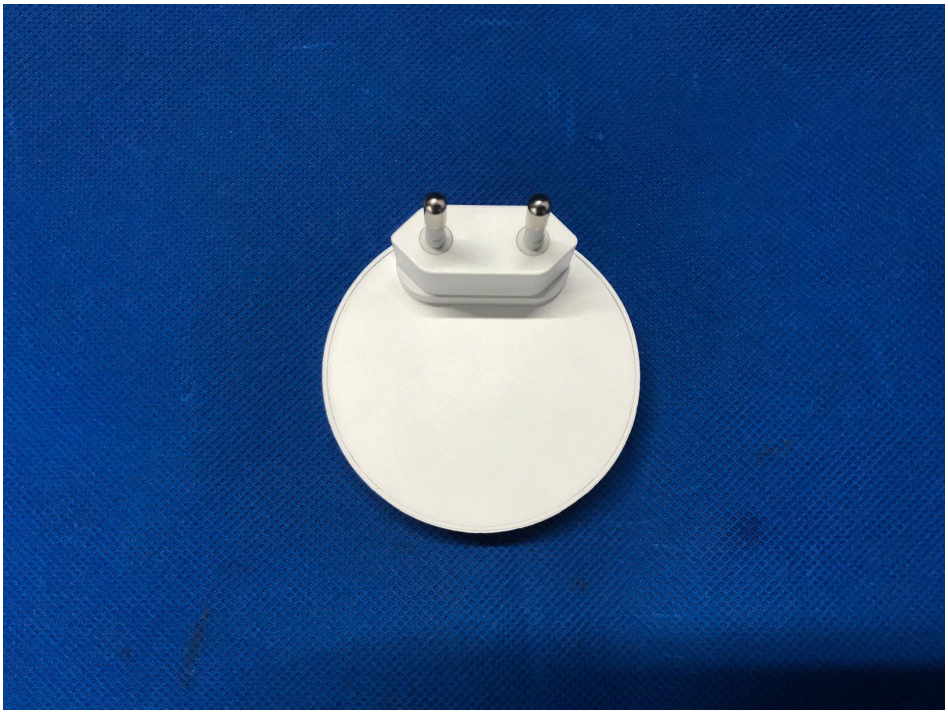
Photo 2 View: [ ] Front [√] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

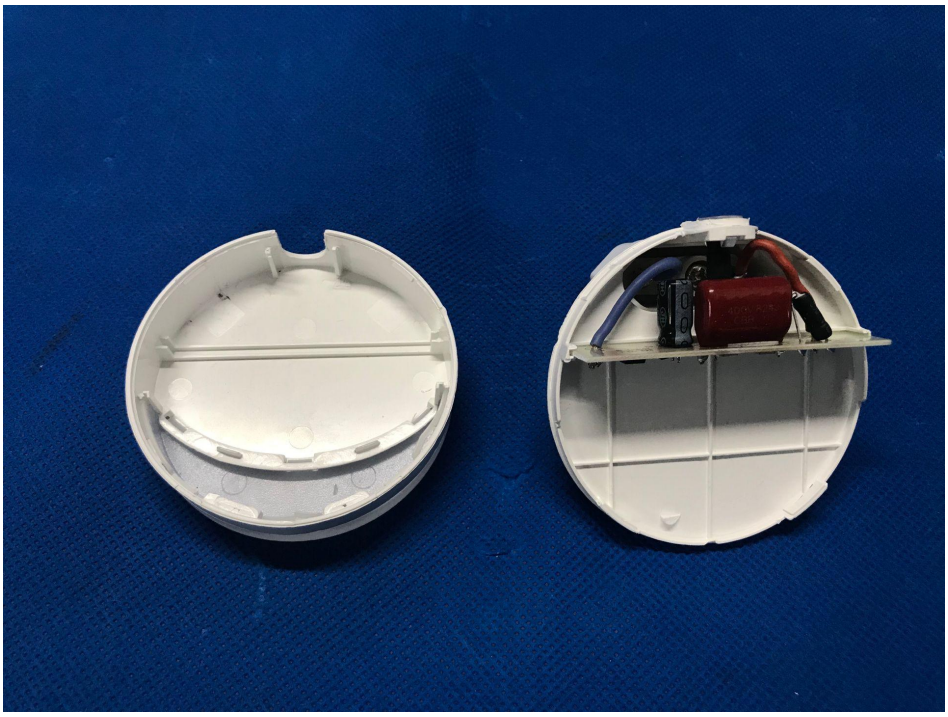
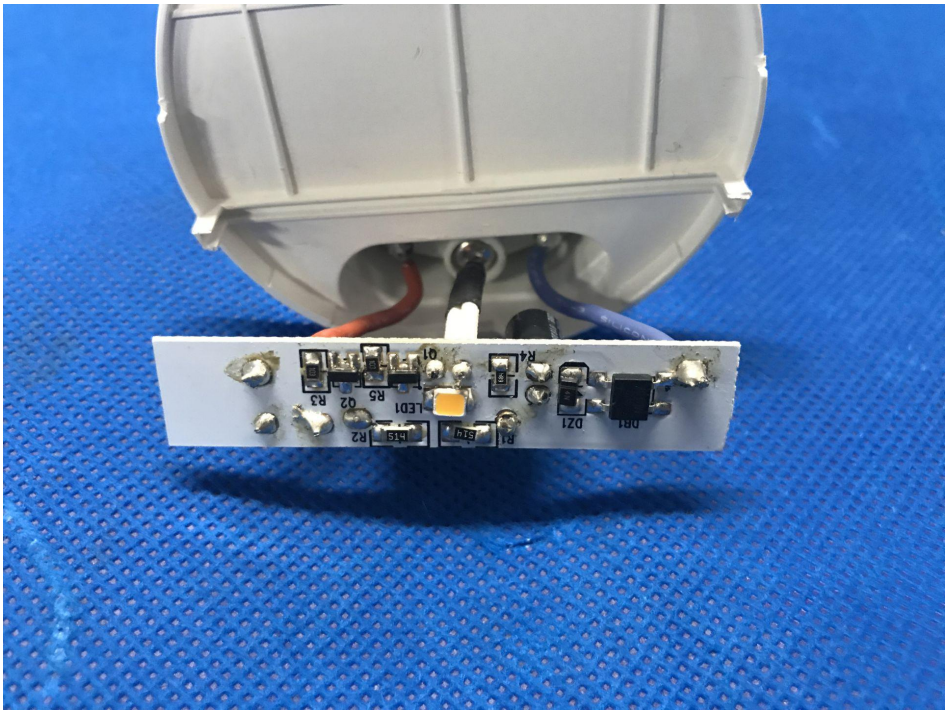
Photo 3 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

Photo 4 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

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