



TEST REPORT EN 60598-2-4 Luminaires - Part 2: Particular requirements – Section 4: Portable general purpose luminaires	
Report Number	MYTS24200703GGLUAF-CS
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Tested by (name + signature)	Lantern 
Approved by (name + signature) ...	Steve Lin 
Testing Laboratory Name	Shenzhen ManYi Testing Technology Co., Ltd
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Applicant's name	Shenzhen Nukit Technology LLC
Address	Longgang district, Shenzhen
Manufacturer's name	Shenzhen Nukit Technology LLC
Address	Longgang district, Shenzhen
Test specification:	
Standard	IEC 60598-2-4:2017 EN 60598- 1:2015+A1:2018, EN 60598-2-4:2018
Test procedure	CE-LVD
Non-standard test method	N/A
Test item description	Lantern
Trade Mark	N/A
Model/Type reference	Lantern
Ratings	AC 110-220V,50Hz 1A 6W

General disclaimer:

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List of Attachments:

Attachment 1 : 2 pages of National deviation for: European Group (EN 60598- 1:2015+A1:2018,EN 60598-2-4:2018).

Attachment 2: 2 pages of photos.

Summary of testing:

N/A

Testing location:

Shenzhen ManYi Testing Technology Co., Ltd

1019-F35, Xinhua Insurance Building, No. 171 Mintian Road, Fu'an Community, Futian Street, Futian District, Shenzhen

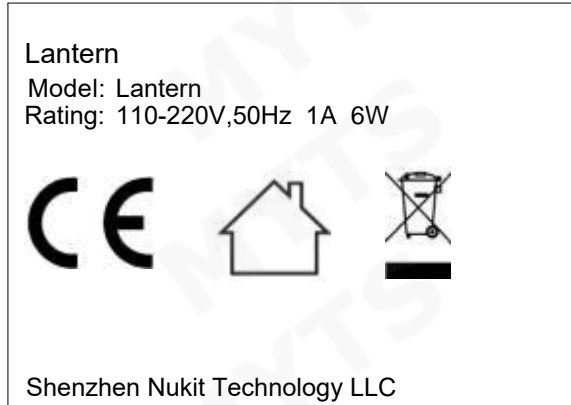
Summary of compliance with National Differences:

List of countries addressed: European National Differences.

The product fulfils the requirements of EN 60598- 1:2015+A1:2018,EN 60598-2-4:2018.

Copy of marking plate:

The artwork below may be only a draft.



Importer: XXX

Address: XXXXXX

Note:

- The Markings are attached on external enclosure and visible during normal use.

-All models rating label are in the same design except for type designation. Above label was shown for representing the others models.

- The information of the importer is noted on the package or instruction.

Test item particulars : See test report
Classification of installation and use : class III
Supply Connection : Not connected to AC Mains directly
Possible test case verdicts: - test case does not apply to the test object..... : N/A - test object does meet the requirement..... : P (Pass) - test object does not meet the requirement..... : F (Fail)
Testing : Date of receipt of test item : Jun.28,2024 Date (s) of performance of tests : Jun.28,2024~July.03,2024
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.
Name and address of factory (ies) : Same as applicant
General product information: General product information: The series products have the same circuit diagram , PCB layout and functionality. The differences are the model name, so, we select mao001-2 to test. The ambient temperature is 25℃ .

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Clause	Requirement + Test	Result - Remark	Verdict
4.2 (0)	GENERAL TEST REQUIREMENTS		P
4.2 (0.1)	Information for luminaire design considered	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.2 (0.3)	More sections applicable.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.4 (2)	CLASSIFICATION		P
4.4 (2.2)	Type of protection	class III	—
4.4 (2.3)	Degree of protection	IP20	—
4.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.4 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.5 (3)	MARKING		P
4.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.5 (3.3)	Additional information		P
	Language of instructions	English	P
4.5 (3.3.1)	Combination luminaires		N/A
4.5 (3.3.2)	Nominal frequency in Hz		N/A
4.5 (3.3.3)	Operating temperature		P
4.5 (3.3.4)	Symbol or warning notice		N/A
4.5 (3.3.5)	Wiring diagram		N/A
4.5 (3.3.6)	Special conditions		N/A
4.5 (3.3.7)	Metal halide lamp luminaire - warning		N/A
4.5 (3.3.8)	Limitation for semi-luminaires		N/A
4.5 (3.3.9)	Power factor and supply current		P
4.5 (3.3.10)	Suitability for use indoors		N/A
4.5 (3.3.11)	Luminaires with remote control		N/A
4.5 (3.3.12)	Clip-mounted luminaire - warning		N/A
4.5 (3.3.13)	Specifications of protective shields		N/A
4.5 (3.3.14)	Symbol for nature of supply	≡	P
4.5 (3.3.15)	Rated current of socket outlet		N/A
4.5 (3.3.16)	Rough service luminaire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
4.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
4.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
4.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
4.5 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non replaceable	P
	Cautionary symbol		N/A
4.5 (3.3.22)	Controllable luminaires, insulation		N/A
4.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

4.6 (4)	CONSTRUCTION		P
4.6 (4.2)	Components replaceable without difficulty		P
4.6 (4.3)	Wireways smooth and free from sharp edges		P
4.6 (4.4)	Lampholders		N/A
4.6 (4.4.1)	Integral lampholder		N/A
4.6 (4.4.2)	Wiring connection		N/A
4.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.6 (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
4.6 (4.4.5)	Peak pulse voltage		N/A
4.6 (4.4.6)	Centre contact		N/A
4.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.6 (4.4.8)	Lamp connectors		N/A
4.6 (4.4.9)	Caps and bases correctly used		N/A
4.6 (4.5)	Starter holders		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
4.6 (4.7)	Terminals and supply connections		N/A
4.6 (4.7.1)	Contact to metal parts		N/A
4.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.6 (4.7.3)	Terminals for supply conductors		N/A
4.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
4.6 (4.7.4)	Terminals other than supply connection		N/A
4.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
4.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
4.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058- 1 for electronic switches		N/A
4.6 (4.9)	Insulating lining and sleeves		N/A
4.6 (4.9.1)	Retainment		N/A
	Method of fixing..... :		—
4.6 (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

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Clause	Requirement + Test	Result - Remark	Verdict
4.6 (4.10)	Insulation of Class II luminaires		N/A
4.6 (4.10.1)	No contact, mounting surface - accessible metal parts - wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.6 (4.10.3)	Retention of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
4.6 (4.11)	Electrical connections		P
4.6 (4.11.1)	Contact pressure		P
4.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
4.6 (4.11.4)	Material of current-carrying parts		P
4.6 (4.11.5)	No contact to wood or mounting surface		P
4.6 (4.11.6)	Electro-mechanical contact systems		N/A
4.6 (4.12)	Mechanical connections and glands		N/A
4.6 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part :	Fixed enclosure: 0.5Nm	N/A
	Torque test: torque (Nm); part :		N/A
	Torque test: torque (Nm); part :		N/A
4.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm) :		N/A
	- lampholder; torque (Nm) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- push-button switches; torque 0,8 Nm		N/A
4.6 (4.12.5)	Screwed glands; force (Nm)		N/A
4.6 (4.13)	Mechanical strength		P
4.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm).....	0.35Nm for enclosure	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
4.6 (4.13.3)	Straight test finger		P
4.6 (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
4.6 (4.13.6)	Tumbling barrel		N/A
4.6 (4.14)	Suspensions and adjusting devices		P
4.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		—
	Bending moment (Nm) of semi-luminaire		N/A
4.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.6 (4.14.5)	Guide pulleys		N/A
4.6 (4.14.6)	Strain on socket-outlets		N/A
4.6 (4.15)	Flammable materials:		P
	- glow-wire test 650. C	See Test Table 4.15 (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
4.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
4.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear.....	(compliance with Section 12)	P
4.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
4.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
4.6 (4.18)	Resistance to corrosion:		N/A
4.6 (4.18.1)	- rust-resistance		N/A
4.6 (4.18.2)	- season cracking in copper		N/A
4.6 (4.18.3)	- corrosion of aluminium		N/A
4.6 (4.19)	Igniters compatible with ballast		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6 (4.20)	Rough service vibration		N/A
4.6 (4.21)	Protective shield:		N/A
4.6 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
4.6 (4.21.3)	No direct path		N/A
4.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment :	See Test Table 4.15 (13.3.2)	N/A
4.6 (4.22)	Attachments to lamps		N/A
4.6 (4.23)	Semi-luminaires comply Class II		N/A
4.6 (4.24.1)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.6 (4.24.2)	Retinal blue light hazard		P
	Luminaires with E_{thr}		N/A
	a) Fixed luminaires		N/A
	Distance x m, borderline between RG1 and RG2.... :		N/A
	Marking and instruction		N/A
	b) Portable and handheld luminaires		N/A
	RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Marking		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12		N/A
	RG at 200 mm according to IEC/62778		N/A
4.6 (4.25)	No sharp point or edges		P
4.6 (4.26)	Short-circuit protection:		P
4.6 (4.26.1)	Uninsulated accessible SELV parts		P
4.6 (4.26.2)	Short-circuit test		N/A
4.6 (4.26.3)	Test chain according to Figure 29		N/A
4.6 (4.27)	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
4.6 (4.28)	Fixing of thermal sensing control		N/A
	External to lamp control gear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Plug-in or easily replaceable type		N/A
	Adhesive fixing		N/A
	Positioning		N/A
	Temperature (°C) :		N/A
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
4.6 (4.29)	Luminaires with non-replaceable light source		N/A
	Replacement not possible		N/A
	Live part not accessible		N/A
	Breaking of the luminaire or its parts		N/A
	Removal of parts		N/A
	Compliance with test probe		N/A
	Access to live parts		N/A
4.6 (4.30)	Luminaires with non-user replaceable light source		N/A
	Protective cover		N/A
	Fixing means		N/A
	Cautionary symbol		N/A
4.6 (4.31)	Insulation between circuits		N/A
	Transformer or control gears		N/A
	Insulation between circuits		N/A
	Circuits insulated from LV supply		N/A
	Insulation provided		N/A
	Controllable luminaires		N/A
	Control terminals		N/A
	Insulation		N/A
	Control gear U-OUT		N/A
4.6 (4.31.1)	SELV circuits		P
	Source		P
	Insulation between circuits		N/A
	Control gear U-OUT		N/A
	Plug and socket outlet		N/A
4.6 (4.31.2)	FELV circuits		N/A
	Source		N/A
	Insulation between circuits		N/A
	Plug and socket outlet		N/A
4.6 (4.31.3)	Other circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	CI II		N/A
	Equipotential bonding		N/A
	All conductive part connected		N/A
	Resistance < 0,5 Ω		N/A
	Insulation fault: accessible part cause electric shock		N/A
	Master/slave applications		N/A
4.6 (4.32)	Overvoltage protective devices		N/A
	External to lamp control gear, connected to earth		N/A
	Fixed luminaires connected to a protective earth		N/A
4.6.1 (-)	Insulation not damaged when placing on support		N/A
4.6.2 (-)	Wiring fixed, to avoid rubbing		N/A
4.6.3 (-)	Stability (6.)		N/A
4.6.4 (-)	Candlestick luminaires with switch		N/A
4.6.5 (-)	E5 lampholders		N/A

4.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		N/A
4.7 (11.2)	Creepage distances and clearances	See Table 4.7 (11.2)	N/A
	Working voltage (V)	5V	—
	Rated pulse voltage (kV)		—
	Voltage form.....	Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	—
	PTI.....	< 600 <input checked="" type="checkbox"/> \geq 600 <input type="checkbox"/>	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—

4.8 (7)	PROVISION FOR EARTHING		N/A
4.8 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Built-in control gear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
4.8 (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
4.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
4.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
4.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
4.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
4.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A

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

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

4.10 (5)	EXTERNAL AND INTERNAL WIRING		P
4.10 (5.2)	Supply connection and external wiring		P
4.10 (5.2.1)	Means of connection		P
4.10 (5.2.2)	Type of cable.....		P
	Nominal cross-sectional area (mm ²)		P
	Cables equal to IEC 60227 or IEC 60245		P
4.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
4.10 (5.2.5)	Type Z not connected to screws		N/A
4.10 (5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
4.10 (5.2.7)	Cable entries through rigid material have rounded edges		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
4.10 (5.2.9)	Locking of screwed bushings		N/A
4.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
4.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
4.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
4.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) : 30N		P
	- torque test: torque (Nm)..... : 0.08Nm		P
	- displacement < 2 mm	0.88mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
4.10 (5.2.11)	External wiring passing into luminaire		N/A
4.10 (5.2.12)	Looping-in terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
4.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector		N/A
	Relevant IEC standard		N/A
4.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
4.10 (5.3)	Internal wiring		P
4.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A) :		N/A
	- temperatures..... :	(see Annex 2)	N/A
	Green-yellow for earth only		N/A
4.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²) :		P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
4.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
4.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
4.10 (5.3.1.4)	Conductors without insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.10 (5.3.1.5)	SELV current-carrying parts		P
4.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
4.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360.		P
4.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
4.10 (5.3.4)	Joints and junctions effectively insulated		N/A
4.10 (5.3.5)	Strain on internal wiring		N/A
4.10 (5.3.6)	Wire carriers		N/A
4.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A

4.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		--
4.11 (8.2.1)	Live parts not accessible		N/A
	Basic insulated parts not used on the outer surface without appropriate protection		N/A
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		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		N/A
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
4.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
4.11 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
4.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		P
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
4.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
4.11 (8.2.5)	Compliance with the standard test finger or relevant probe		N/A
4.11 (8.2.6)	Covers reliably secured		N/A
4.11 (8.2.7)	Discharging of capacitors > 0,5 μ F		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A
4.11.1 (-)	Class I luminaire with bayonet lampholder:		N/A
	- cap not accessible with test finger		N/A
	- metal lampholder is earthed		N/A
4.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
4.12 (12.3)	Endurance test:		P
	- mounting-position	As normal used	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- test temperature (° C)	25. C +10. C =35. C	—
	- total duration (h)	240h	—
	- supply voltage: Un factor; calculated voltage (V) ..	5.5V	—
	- lamp used	LED	—
4.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
4.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
4.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
4.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
4.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature (° C): at 1,1 Un		—
	- measured mounting surface temperature (° C) at 1,1 Un.....		N/A
	- calculated mounting surface temperature (° C)		N/A
	- track-mounted luminaires		N/A
4.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (° C)		N/A
	- track-mounted luminaires		N/A
4.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
4.12 (12.7.1)	Luminaire without temperature sensing control		N/A
4.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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 4.15 (13.2.1)	N/A
4.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (° C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (° C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (° C)		—
	Ball-pressure test	See Table 4.15 (13.2.1)	N/A
4.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
4.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (° C):		—
	Ball-pressure test:	See Table 4.15 (13.2.1)	N/A
4.12 (-)	Test overturned position (overturns < 15°)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
4.13 (-)	If IP > IP 20 the order of tests as specified in clause 4.12		P
4.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP	IP20	—
	- mounting position during test.....		—
	- fixing screws tightened; torque (Nm)		—
	- tests according to clauses		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes - no water entry		N/A
	d) ii) For luminaires with drain holes - no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A
4.13 (9.3)	Humidity test 48 h	24. C, 94%	P

4.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
4.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)		—
	SELV		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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- 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
4.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)		P
	SELV		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	500V	P
	- between current-carrying parts and metal parts of the luminaire.....	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict

4.14 (10.3)	Touch current or protective conductor current (mA) :	1.04mA < 3.5mA	N/A
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4.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		N/A
4.15 (13.2.1)	Ball-pressure test	See Test Table 4.15 (13.2.1)	N/A
4.15 (13.3.1)	Needle-flame test (10 s)	See Test Table 4.15 (13.3.1)	N/A
4.15 (13.3.2)	Glow-wire test (650。 C)	See Test Table 4.15 (13.3.2)	N/A
4.15 (13.4.1)	Proof tracking test (IEC 60112)		N/A
	- part tested		N/A

1.7 (11.2)	TABLES: Creepage distances and clearances						N/A
Table 11.1	Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages						N/A
RMS working voltage (V) not exceeding	50	150	250	500	750	1000	
Creepage distances							
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	--						
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	--						
Clearances							
Required basic insulation	0,2	0,8	1,5	3	4	5,5	
Measured	--						
Required supplementary insulation	-	0,8	1,5	3	4	5,5	
Measured							
Required reinforced insulation	-	1,6	3	6	8	11	
Measured	--						
Table 11.2	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								

1.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics				N/A
Allowed impression diameter (mm)					—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (° C)		Impression diameter (mm)	
--	--	--		--	
--	--	--		--	
Supplementary information:					

1.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
PCB	--	10s	No	0	P
--	--	--	--	--	--
Supplementary information:					

1.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)				N/A
Glow wire temperature				650°C	—
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
PCB	--	30s	No	0s	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:					

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Clause	Requirement + Test			Result - Remark	Verdict
1.15 (13.4)	TABLE: Proof tracking test (IEC 60112)				N/A
Test voltage PTI		24V		—	
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
--	--	--	--	--	--
Supplementary information:					

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12				P	
	Type reference	USB desktop clip plant light 4 heads			—	
	Lamp used	LED			—	
	Lamp control gear used	No use			—	
	Mounting position of luminaire	See product manual			—	
	Supply wattage (W)	10W			—	
	Supply current (A)	2A			—	
	Calculated power factor	1.0			—	
	Table: measured temperatures corrected for $t_a=25$ °C:					
	- abnormal operating mode				—	
	- test 1: rated voltage				—	
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1.06 × 5V=5.3V			—	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage				—	
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....				—	
	Through wiring or looping-in wiring loaded by a current of A during the test				—	
	Temperature measurements, (° C)					
Ambient	Clause 12.4 - normal				Clause 12.5 - abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Leads wire	--	34.2	--	75	--	--
LED aluminum substrate near LED	--	36.6	--	Ref.	--	--
LED cover	--	43.5	--	80	--	--
Mounting surface	--	25.3	--	90	--	--
Ambient	--	23.2	--	Ref.	--	--
Supplementary information:						

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

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal		—
	Rated current (A)		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A

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

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

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

ATTACHMENT TO TEST REPORT EN 60598-2-4
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
Luminaires
Part 2: Particular requirements
Section 4: Portable general purpose luminaires

Differences according to : EN 60598-2-4:2018 used in conjunction with
EN 60598-1:2015+A1:2018

Annex Form No..... : EU_GD_IEC60598_2_4C

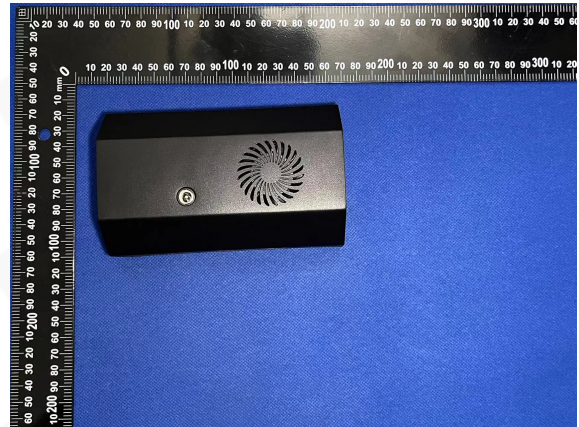
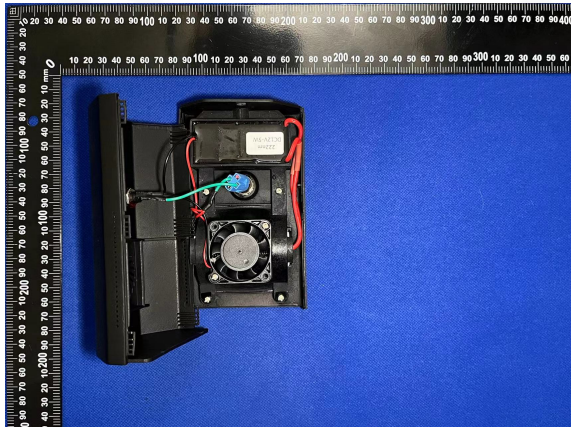
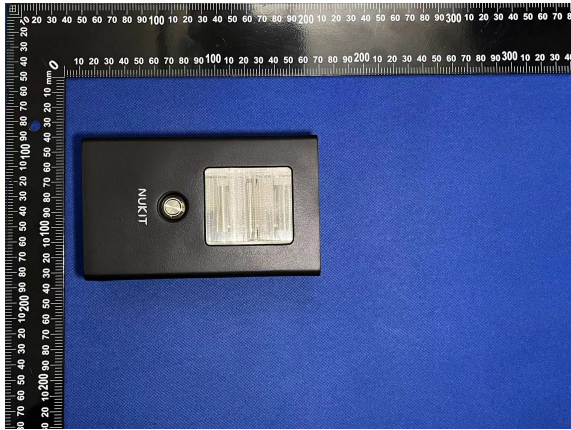
Annex Form Originator : OVE

Master Annex Form : 2019-04

	CENELEC COMMON MODIFICATIONS (EN)	P
4.5 (3)	MARKING	P
4.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package	P
4.6 (4)	CONSTRUCTION	P
4.6 (4.11.6)	Electro-mechanical contact systems	P
4.10 (5)	EXTERNAL AND INTERNAL WIRING	P
4.10 (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
4.10 (5.2.2)	Cables equal to EN 50525	N/A
	Replace table 5.1 - Supply cord	P
4.12 (12)	ENDURANCE TESTS AND THERMAL TESTS	P
4.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring	P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	N/A
(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, GB: type of plug		N/A

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



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