


TEST REPORT EN 60598-2-4 Luminaires - Part 2: Particular requirements – Section 4: Portable general purpose luminaires	
Report Number.....	KEYS20092501001LD-01
Date of issue.....	Sep.28,2020
Total number of pages	37 pages
Tested by (name + signature).....	Jason Zhan
Approved by (name + signature)....	Gerry Liang
	
Testing Laboratory Name	Dongguan KEYS Testing Technology Co., Ltd.
Address.....	6 / f, Building B, Chuangyigu Industrial Park, No.5 Hehe Street, Songxi Road, Hengkeng, Liaobu, Dongguan City
Applicant's name	Huizhou Grand Champ Lighting Technology Limited
Address.....	TangKou Village,Xinxu Town,Huiyang District,Huizhou City,Guangdong
Manufacturer's name.....	Huizhou Grand Champ Lighting Technology Limited
Address.....	TangKou Village,Xinxu Town,Huiyang District,Huizhou City,Guangdong
Test specification:	
Standard	<input type="checkbox"/> IEC 60598-2-4:2017 <input checked="" type="checkbox"/> EN 60598-1:2015+A1:2018, EN 60598-2-4:2018
Test procedure	CE-LVD
Non-standard test method	N/A
Test item description.....	floor lamp
Trade Mark.....	N/A
Model/Type reference	GL-FLWS001,GL-FLWS1001,GL-FLWS1002,GL-FLWS1006, GL-FLWS1007,GL-FLS1008,GL-FLWS1009,GL-FLWS1010, GL-FLWS1011,GL-FLWS1012,GL-FLWS1013,GL-FLWS1014, GL-FLWS1015,GL-FLWS1016
Ratings.....	220-240V~,50Hz,150W

General disclaimer:

This report is only for applicant use. Any copying this report to/for any other person or entity, and use our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

List of Attachments:

Attachment 1 : National deviation for: European Group (EN 60598-1:2015+A1:2018, EN 60598-2-4:2018, EN 62493:2015).

Attachment 2: 4 pages of photos.

Summary of testing:

N/A

Testing location:

Dongguan KEYS Testing Technology Co., Ltd.

6 / f, Building B, Chuangyigu Industrial Park, No.5 Hehe Street, Songxi Road, Hengkeng, Liaobu, Dongguan City .

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.

floor lamp

Model: GL-FLWS001

220-240V~,50Hz,150W



Huizhou Grand Champ Lighting Technology Limited
Made in China

Test item particulars	See test report
Classification of installation and use	Class II
Supply Connection	Power cord with plug
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	Sep.19,2020
Date (s) of performance of tests	Sep.20,2020 to Sep.28,2020
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)	Huizhou Grand Champ Lighting Technology Limited TangKou Village,Xinxu Town,HuiyangDistrict, Huizhou City,Guangdong
General product information:	
1. The products are Portable luminaires and indoor use.	
2. The specified max. ambient temperature is 25°C.	

EN 60598-2-4			
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 II	—
4.4 (2.3)	Degree of protection	IP20	P
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	50Hz	P
4.5 (3.3.3)	Operating temperature		N/A
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		P
4.5 (3.3.11)	Luminaires with remote control		N/A
4.5 (3.3.12)	Clip-mounted luminaire – warning		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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
4.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	type Y	P
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		N/A
	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		P
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		P
	- bending test (N) :	E27:2.0Nm	—
	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
	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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
4.6 (4.9.1)	Retainment		P
	Method of fixing :		—
4.6 (4.9.2)	Insulated linings and sleeves		P
	Resistant to a temperature > 20 °C to the wire temperature or		P
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) :		P
4.6 (4.10)	Insulation of Class II luminaires		P
4.6 (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
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)	Retainment 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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:		P
	- spring washer		P
	- 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		N/A
4.6 (4.11.6)	Electro-mechanical contact systems		P
4.6 (4.12)	Mechanical connections and glands		P
4.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		P
	Torque test: torque (Nm); part..... :	Fixed enclosure: 0.5Nm	P
	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:		P
	- fixed arms; torque (Nm)		N/A
	- lampholder; torque (Nm)	E27:2.0Nm	P
	- 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
4.6 (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
	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
	- 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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)	N/A
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:		P
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		P
4.6 (4.19)	Igniters compatible with ballast		N/A
4.6 (4.20)	Rough service vibration		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	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:		N/A
4.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	Plug-in or easily replaceable type		N/A
	Adhesive fixing		N/A
	Positioning		N/A
	Temperature ($^{\circ}\text{C}$) :		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		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

	Source		N/A
	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
	CI II		N/AP
	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		P
4.6.2 (-)	Wiring fixed, to avoid rubbing		P
4.6.3 (-)	Stability (6°)		P
4.6.4 (-)	Candlestick luminaires with switch		N/A
4.6.5 (-)	E5 lampholders		N/A

4.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
4.7 (11.2)	Creepage distances and clearances.....:	See Table 4.7 (11.2)	P
	Working voltage (V).....:	220-240V~	—
	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"/>	—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

	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		
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
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

	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	Power cord with plug	P
4.10 (5.2.2)	Type of cable		P
	Nominal cross-sectional area (mm ²)	2x0.75 mm ²	P
	Cables equal to IEC 60227 or IEC 60245	60227	P
4.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
4.10 (5.2.5)	Type Z not connected to screws		N/A
4.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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	type Y	P
4.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) :	60N	P
	- torque test: torque (Nm) :	0.25Nm	P
	- displacement ≤ 2 mm	<2mm	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
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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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		P
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		P
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		P
4.10 (5.3.1.4)	Conductors without insulation		N/A
4.10 (5.3.1.5)	SELV current-carrying parts		N/A
4.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
4.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, 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		P
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Double-ended high pressure discharge lamp		N/A
	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		P
4.11 (8.2.3.a)	Class II luminaire:		P
	- 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:		N/A
	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		P
4.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
4.11 (8.2.6)	Covers reliably secured		P
4.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

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	—
	- test temperature (°C)	35°C	—
	- total duration (h)	240h	—
	- supply voltage: Un factor; calculated voltage (V) ...	264V	—
	- lamp used	Incandescent lamp	—
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		—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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		—
	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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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

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		N/A
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or 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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	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, 93%RH	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		N/A
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :		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
	Other than SELV		P
	- between live parts of different polarity	> 100 MΩ	P
	- between live parts and mounting surface	> 100 MΩ	P
	- between live parts and metal parts	> 100 MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/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

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :		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
	Other than SELV		P
	- between live parts of different polarity	1480Vac	P
	- between live parts and mounting surface	1480Vac	P
	- between live parts and metal parts	1480Vac	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
4.14 (10.3)	Touch current or protective conductor current (mA) :	1.04mA<3.5mA	P

4.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
4.15 (13.2.1)	Ball-pressure test	See Test Table 4.15 (13.2.1)	P
4.15 (13.3.1)	Needle-flame test (10 s)	See Test Table 4.15 (13.3.1)	P
4.15 (13.3.2)	Glow-wire test (650°C)	See Test Table 4.15 (13.3.2)	P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

4.15 (13.4.1)	Proof tracking test (IEC 60112).....:		N/A
	- part tested		N/A

4.7 (11.2)	TABLE: Clearance and creepage distance measurements							
Class of luminaire		Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/>						—
Impulse withstand category		Category I <input type="checkbox"/> Category II <input checked="" type="checkbox"/>						—
Clearance (cl) and creepage distance (cr) at/of/between:	Insulation type	U peak (V)	U r.m.s. (V)	Required cl (mm)	Measured cl (mm)	Required cr (mm)	Measured cr (mm)	
Current-carrying parts of different polarity	B	--	240V	1.5	>3.0	2.5	>3.0	
Current-carrying parts and accessible parts	B	--	240V	1.5	>3.0	2.5	>3.0	
Supplementary information: B – Basic; S – Supplementary; R – Reinforced								

4.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm) :				—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Lampholder	--	125	1.09	
Supplementary information: --				

4.15 (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	
--	--	--	--	--	--	
Supplementary information:--						

4.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)							N/A
Glow wire temperature		650°C						—

EN 60598-2-4					
Clause	Requirement + Test		Result - Remark		Verdict
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
Lampholder	--	30s	No	10s	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)					--
Supplementary information:--					

ANNEX 1		TABLE: Critical components information					--
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Plug	B	Interchangeable	Interchangeable	250V 4A	--	VDE	
Power cord	B	Interchangeable	Interchangeable	2x0.75mm ²	--	VDE	
Heat shrinkable	B	Interchangeable	Interchangeable	VW-1 125°C 0.6KV	--	Test with appliance	
Lampholder	B	Interchangeable	Interchangeable	250V 4A	--	VDE	
Supplementary information:							
¹⁾ Provided evidence ensures the agreed level of compliance..							
The codes above have the following meaning:							
A - The component is replaceable with another one, also certified, with equivalent characteristics							
B - The component is replaceable if authorised by the test house							
C - Integrated component tested together with the appliance							
D - Alternative component							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference	GL-FLWS001	—
	Lamp used.....	Incandescent lamp	—
	Lamp control gear used.....	No use	—
	Mounting position of luminaire	See product manual	—
	Supply wattage (W)	150W	—
	Supply current (A)		—
	Calculated power factor.....	--	—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

	Table: measured temperatures corrected for $t_a=25\text{ }^{\circ}\text{C}$:		
	- abnormal operating mode		—
	- test 1: rated voltage.....		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage	$1.06 \times 240\text{V}=254.4\text{V}$	—
	- 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, ($^{\circ}\text{C}$)						
Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Supply cords	--	36.3	--	90	--	--
Plug	--	39.6	--	90	--	--
Lamp holder	--	74.6	--	210	--	--
Accessible surface(non-metallic)	--	40.1	--	90	--	--
Mounting surface	--	31.3	--	90	--	--
Ambient	--	25.1	--	Ref.	--	--

Supplementary information:

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).....	—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) :		N/A
	Torque (Nm) :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N) :		N/A
(14.4.8)	Without undue damage		N/A

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A) :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
(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	
voltage drop (mV)											

EN 60598-2-4											
Clause	Requirement + Test									Result - Remark	Verdict
	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	2015-04

	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

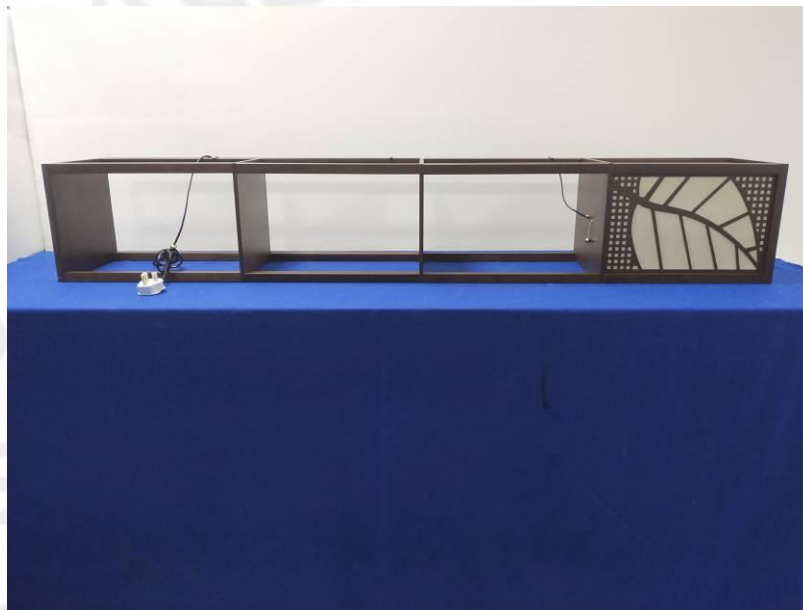
4.6 (4)	CONSTRUCTION	P
4.6 (4.11.6)	Electro-mechanical contact systems	P

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

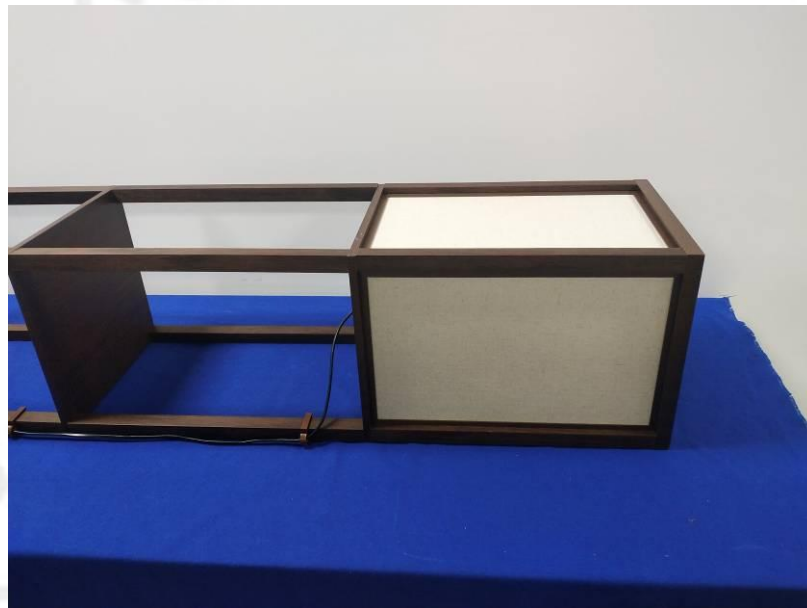
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket-outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		P

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









--- End of Report ---