Test Report issued under the responsibility of:

DEKRA

TEST REPORT
IEC 60598-2-4
Luminaires
Luminaires, Part 2: Particular requirements
Section 4: Portable general purpose luminaires

Report Number. ..... :	4916357.50
Date of issue ..... :	2024-06-18
Total number of pages ..... :	43 pages
Name of Testing Laboratory preparing the Report ..... :	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch
Applicant's name ..... :	Tangla Lighting & Living Limited
Address ..... :	10F Mass Mutual Tower, 33 Lockhart Road, Hong Kong
Test specification:	
Standard ..... :	IEC 60598-2-4:2017 for use in conjunction with IEC 60598-1:2020
Test procedure ..... :	Type test
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2020, Ed.1.3
Test Report Form No. ..... :	IEC60598_2_4I
Test Report Form(s) Originator .... :	UL (US)
Master TRF ..... :	Dated 2021-06-10

This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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 Issuing NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Portable general purpose luminaires
Trade Mark(s) ..... :	Tangla
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	TLF-9001-40-xx Note: "xx" is denoted lamp shape outlook color. "01" is white. "03" is blue.
Ratings ..... :	230 Vac, 50 Hz, Class I, IP44, E27, 1 x Max. 10 W LED bulb, ta: 40 °C

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**Testing Laboratory:**	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch	
Testing location/ address ..... :		Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China	
Tested by (name, function, signature) ..... :		Fair Deng (Project handler)	Fair Deng .....
Approved by (name, function, signature) ... :		Magic Tong (Reviewer)	Magic Tong .....
☐	**Testing procedure: CTF Stage 1:**	--	
Testing location/ address ..... :		--	
Tested by (name, function, signature) ..... :		--	--
Approved by (name, function, signature) ... :		--	--
☐	**Testing procedure: CTF Stage 2:**	--	
Testing location/ address ..... :		--	
Tested by (name + signature) ..... :		--	--
Witnessed by (name, function, signature) . :		--	--
Approved by (name, function, signature) ... :		--	--
☐	**Testing procedure: CTF Stage 3:**	--	
☐	**Testing procedure: CTF Stage 4:**	--	
Testing location/ address ..... :		--	
Tested by (name, function, signature) ..... :		--	--
Witnessed by (name, function, signature) . :		--	--
Approved by (name, function, signature) ... :		--	--
Supervised by (name, function, signature) :		--	--

List of Attachments (including a total number of pages in each attachment):

Attachment 1: CENELEC common difference (2 pages)

Attachment 2: Product photos (4 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
TLF-9001-40-01 was subjected to full test. Both models were subjected to construction check.	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China

Summary of compliance with National Differences (List of countries addressed):

☒ EU groups differences

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Representative

Location: affixed on position where visible during installation, normal use and replacing lamp.

Remark on above marking:

1. The height of graphical symbols is more than 5 mm;
2. The height of letters and numerals is more than 2 mm.
3. The height of rubbish bin symbol is more than 7 mm.

Test item particulars.....:	
Classification of installation and use.....:	Class I portable luminaire
Supply Connection.....:	Non-detachable supply cord with a 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 .....:	2024-04-23 to 2024-05-29
Date (s) of performance of tests.....:	2024-04-23 to 2024-06-05

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 ☒ comma / ☐ point is used as the decimal separator.

Clause numbers between brackets refer to clauses in IEC 60598-1

This report will not be used for social proof function in China market.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....: Same as applicant.

General product information and other remarks:

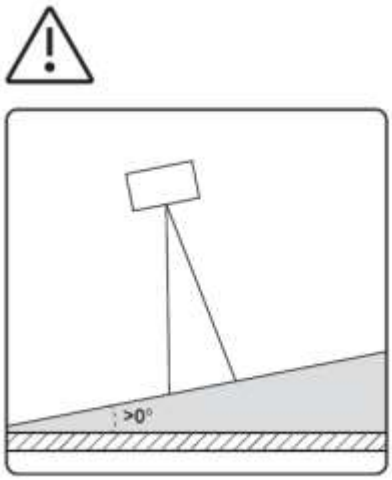
The samples have been tested/evaluated and found compliant with the requirements of the safety standards listed below:

- IEC 60598-2-4: 2017 used in conjunction with IEC 60598-1: 2020
- EN 60598-2-4: 2018 used in conjunction with EN IEC 60598-1: 2021 + A11: 2022
- EN 62493:2015

The products covered in this report are Class I ordinary portable luminaires equipped with E27 lamp holder. Both models have similar mechanical and electrical construction except the outlook color. Used LED lamps on these two models shall be able to comply with IP44 requirement.

The products do not contain any active electronic parts, so they are considered to comply with EN 62493: 2015 without any testing.

For the stability test 15° to the horizontal for luminaires for outdoor use, there is the limitation in the user manual as below:



IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.4 (0)	**GENERAL TEST REQUIREMENTS**		
4.4 (0.3)	More sections applicable ..... :	Yes ☐ No ☒ Section/s:	—
4.4 (0.5)	Components	(see Annex 1)	—
4.4 (0.7)	**Information for luminaire design in light sources standards**		**—**
4.4 (0.7.2)	Light source safety standard ..... :	IEC/EN 62560	—
	Luminaire design in the light source safety standard		P
4.5 (2)	**CLASSIFICATION OF LUMINAIRES**		
4.5 (2.2)	Type of protection ..... :	Class I	P
4.5 (2.3)	Degree of protection ..... :	IP44	—
4.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces ..... :	Yes ☒ No ☐	
4.5 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—
4.5.1 (-)	Ordinary luminaire classified “for indoor use only” ... :	Yes ☐ No ☒	—
	Luminaires other than ordinary classified “for indoor use only” ..... :	Yes ☐ No ☒	—
	Luminaires other than ordinary classified for “outdoor use” and “for indoor use” ..... :	Yes ☒ No ☐	—
4.5.2 (-)	Portable luminaire for outdoor use classified IPX4 or higher		N/A
4.5.3 (-)	Luminaires designed for standing on a floor or table classified as suitable for direct mounting on normally flammable surfaces		P
4.6 (3)	**MARKING**		
4.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.6 (3.3)	Additional information		P
	Language of instructions		P
4.6 (3.3.1)	Combination luminaires		N/A
4.6 (3.3.2)	Nominal frequency in Hz		P
4.6 (3.3.3)	Operating temperature		N/A
4.6 (3.3.5)	Wiring diagram		N/A
4.6 (3.3.6)	Special conditions		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
4.6 (3.3.8)	Limitation for semi-luminaires		N/A
4.6 (3.3.9)	Power factor and supply current		N/A
4.6 (3.3.10)	Suitability for use indoors		N/A
4.6 (3.3.11)	Luminaires with remote control		N/A
4.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
4.6 (3.3.13)	Specifications of protective shields		N/A
4.6 (3.3.14)	Symbol for nature of supply	~	P
4.6 (3.3.15)	Rated current of socket outlet		N/A
4.6 (3.3.16)	Rough service luminaire		N/A
4.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
4.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
4.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
4.6 (3.3.20)	Provided with information if not intended to be mounted within arm’s reach		N/A
4.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided		N/A
4.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
4.6 (3.3.23)	Luminaires without controlgear provided with necessary information for selection of appropriate component		N/A
4.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
4.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
4.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0,3 m, information provided		N/A
4.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
4.6.1 (-)	Luminaire not suitable for outdoor application		N/A
	Required symbol		N/A
	Information in the instructions		N/A
4.6.2 (-)	Outdoor use, socket outlet incorporated in the luminaire		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum power rating marked		N/A
	Position of the marking		N/A
4.7 (4)	**CONSTRUCTION**		
4.7 (4.2)	Components replaceable without difficulty		P
4.7 (4.3)	Wireways smooth and free from sharp edges		P
4.7 (4.4)	**Lampholders**		**P**
4.7 (4.4.1)	Integral lampholder		N/A
4.7 (4.4.2)	Wiring connection		N/A
4.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.7 (4.4.4)	Positioning		P
	- 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) ..... :	E27: 2,0 Nm;	—
	After test the lampholder has not moved from its position and show no permanent deformation		P
4.7 (4.4.5)	Peak pulse voltage		N/A
4.7 (4.4.6)	Centre contact		N/A
4.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
4.7 (4.4.8)	Lamp connectors		N/A
4.7 (4.4.9)	Caps and bases correctly used		N/A
4.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		P
4.7 (4.5)	**Starter holders**		**N/A**
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.7 (4.6)	**Terminal blocks**		**N/A**
	Tails		N/A
	Unsecured blocks		N/A
4.7 (4.7)	**Terminals and supply connections**		**P**
4.7 (4.7.1)	Contact to metal parts		P
4.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.7.3)	Terminals for supply conductors		N/A
4.7 (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
	- 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
4.7 (4.7.4)	Terminals other than supply connection		N/A
4.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
4.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
4.7 (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
4.7 (4.9)	**Insulating lining and sleeves**		P
4.7 (4.9.1)	Retainment		P
	Method of fixing ..... :	By construction	P
4.7 (4.9.2)	Insulated linings and sleeves:		P
	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
4.7 (4.10)	**Double or reinforced insulation**		**P**
4.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation	For Class II part	P
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
4.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.7 (4.10.3)	Retainment of insulation:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		P
4.7 (4.10.4)	Protective impedance device		N/A
	Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor		N/A
	Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s)		N/A
	Capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.2 of IEC 60065		N/A
4.7 (4.11)	**Electrical connections and current-carrying parts**		**P**
4.7 (4.11.1)	Contact pressure		P
4.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.7 (4.11.3)	Screw locking:		P
	- spring washer		P
	- rivets		N/A
4.7 (4.11.4)	Material of current-carrying parts		P
4.7 (4.14.7)	No contact to wood or mounting surface		P
4.7 (4.14.7)	Electro-mechanical contact systems		N/A
4.7 (4.12)	**Screws and connections (mechanical) and glands**		**P**
4.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		P
	Torque test: torque (Nm); part..... :	Screw for fixing luminaire foot: 2,0 Nm	P
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
4.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.7 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm) ..... :	The connection between E27 lampholder and metal tube: 2,5 Nm;	P
	- lampholder; torque (Nm) ..... :	E27: 2,0 Nm	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- push-button switches; torque 0,8 Nm ..... :		N/A
4.7 (4.12.5)	Screwed glands; force (Nm)..... :	Cord anchorage Gland: 2,5 Nm	P
4.7 (4.13)	**Mechanical strength**		**P**
4.7 (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		P
	3) protection		P
	4) covers		P
4.7 (4.13.2)	Metal parts have adequate mechanical strength		P
4.7 (4.13.3)	Straight test finger		P
4.7 (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
4.7 (4.13.6)	Tumbling barrel		N/A
4.7 (4.14)	**Suspensions, fixings and means of adjusting**		N/A
4.7 (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
	Fixed luminaire or independent control gear without fixing devices		N/A
4.7 (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

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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken ..... :		N/A
	- electric strength test afterwards		N/A
4.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.7 (4.14.5)	Guide pulleys		N/A
4.7 (4.14.6)	Strain on socket-outlets		N/A
4.7 (4.15)	**Flammable materials**		**P**
	- glow-wire test 650°C ..... :	See Test Table 1.15 (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
4.7 (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
4.7 (4.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
	No lamp control gear..... :	(compliance with Section 12)	P
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
4.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.7 (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
4.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
4.7 (4.17)	**Drain holes**		**N/A**
	Clearance at least 5 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.18)	**Resistance to corrosion**		**P**
4.7 (4.18.1)	- rust-resistance		P
4.7 (4.18.2)	- season cracking in copper		P
4.7 (4.18.3)	- corrosion of aluminium		N/A
4.7 (4.19)	Ignitors compatible with ballast		N/A
4.7 (4.20)	Rough service vibration		N/A
4.7 (4.21)	**Protective shield**		**N/A**
4.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
4.7 (4.21.3)	No direct path		N/A
4.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 1.15 (13.3.2)	N/A
4.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
4.7 (4.23)	Semi-luminaires comply Class II		N/A
4.7 (4.24)	**Photobiological hazards**		**N/A**
4.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.7 (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 .. :		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
4.7 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
4.7 (4.26)	**Short-circuit protection**		**N/A**
4.7 (4.26.1)	Adequate means of uninsulated accessible SELV or PELV parts		N/A

IEC 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Supply source ES1 PSE		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
4.7 (4.27)	**Terminal blocks with integrated screwless protective 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
4.7 (4.28)	**Fixing of thermal sensing control**		**N/A**
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	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
4.7 (4.29)	**Luminaires with non-replaceable light source**		**N/A**
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
4.7 (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
	At least one fixing means requiring use of tool		N/A
4.7 (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

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Clause	Requirement + Test	Result - Remark	Verdict
4.7 (4.31.1)	SELV or PELV circuits		N/A
	Used SELV or PELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of SELV or PELV circuits from LV supply		N/A
	Insulating of SELV or PELV circuits from other non SELV or PELV circuits		N/A
	Insulating of SELV or PELV circuits from FELV		N/A
	Insulating of SELV or PELV circuits from other SELV or PELV circuits		N/A
	SELV or PELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
4.7 (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 make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets have protective conductor contact		N/A
4.7 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	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 does not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
4.7 (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
4.7 (4.33)	**Luminaire powered via information technology communication cabling**		**N/A**
	Requirements for Class III luminaire		N/A
	Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
4.7 (4.34)	**Electromagnetic fields (EMF)**		**P**
	No harmful electromagnetic fields		P
4.7 (4.35)	**Protection against moving fan blades**		**N/A**
	Test with a standard test finger		N/A
	Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire		N/A
	Blades rounded with radius ≥ 0.5 mm and:		N/A
	- hardness less than D60 Shore		N/A
	- peripheral speed less than 15 m/s		N/A
	- input power of fan ≤ 2 W at rated voltage		N/A
4.7 (4.36)	**Track-mounted luminaires**		**N/A**
	Test in accordance with Annex A of IEC60570:2003/AMD2:2019		N/A
4.7.1 (-)	Insulation not damaged when moving, adjusting or placing on support		P
4.7.2 (-)	Wiring fixed, to avoid rubbing		P
	Carrier or clips of insulation material or with insulating lining		P
4.7.3 (-)	Luminaire does not overturn:		P
	- at an angle of 6° for indoor use		P
	- at an angle 15° for outdoor use	There is the limitation use in user manual	P
4.7.4 (-)	Candlestick luminaires provided with switch		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Switch in candlestick luminaires with E5 or E10 lampholders switches all lamps on and off simultaneously		N/A
	Switch part of the luminaire or within 300 mm of the luminaire if with cord		N/A
4.7.5 (-)	Voltage not exceeding 25 V for E5 lampholders		N/A
	E10 lampholder voltage:		N/A
	- not exceeding 60 V for series connection		N/A
	- not exceeding 250 V for parallel connection		N/A
	Maximum rated wattage does not exceed 100 W		N/A
4.7.6 (-)	Tails not provided for luminaires for outdoor use		N/A
4.7.7 (-)	Not more than two cable entries for luminaires for outdoor use		N/A
4.7.8 (-)	Portable luminaires for outdoor use, socket-outlet degree of protection at least same as the luminaire but not less than IPX4.		N/A
	Degree of protection maintained with or without a plug inserted into the socket-outlet.		N/A
	Class II luminaires, mains socket-outlets comply with the standard and only allow connection to Class II luminaires		N/A
	Class I luminaires, mains socket-outlets comply with the standard and only allow connection to Class I or Class II luminaires		N/A
4.7.9 (-)	Lampholders and plugs resistant to tracking for luminaires for outdoor use	See Test Table 4.16 (13.4)	P
	Compliance to clause 13.4		P
4.8 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		
4.8 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
4.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 4.8 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347-1, clause 7.1, item w	See Test Table 4.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (11.2) II	N/A
4.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 4.8 (11.2) I	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 4.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 4.8 (11.2) II	N/A
4.9 (7)	**PROVISION FOR EARTHING**		
4.9 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω..... :	0,054 Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
4.9 (7.2.2 + 7.2.3)	Protective earthing continuity in joints, etc.		N/A
4.9 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
4.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
4.9 (7.2.6)	Earth terminal adjacent to mains terminals		P
4.9 (7.2.7)	Electrolytic corrosion of the protective earth terminal		P
4.9 (7.2.8)	Material of protective earth terminal		P
	Contact surface bare metal		P
4.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
4.9 (7.2.11)	Protective earthing core coloured green-yellow		P
	Length of protective earthing conductor		N/A
4.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A
4.10 (14)	**SCREW TERMINALS**		
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire ..... :	(see Annex 3)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

4.11 (5)	**EXTERNAL AND INTERNAL WIRING**		
4.11 (5.2)	**Supply connection and external wiring**		**P**
4.11 (5.2.1)	Means of connection ..... :	Non-detachable supply cord with a plug	P
	Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
4.11 (5.2.2)	Type of cable..... :	H05RN-F	P
	Nominal cross-sectional area (mm²) ..... :	3 x 1,0 mm²	P
	Cables equal to IEC 60227 or IEC 60245		P
4.11 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
4.11 (5.2.5)	Type Z not connected to screws		N/A
4.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
4.11 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
4.11 (5.2.9)	Locking of screwed bushings		N/A
4.11 (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
4.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
4.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
4.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) ..... :	60 N	P
	- torque test: torque (Nm) ..... :	0,25 Nm	P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
4.11 (5.2.10.4)	Luminaire with/designed for use with supply cord with maximum current of 2A:		N/A
	- Ordinary Class III luminaire supplied with SELV ≤ 25V RMS/60V DC		N/A
	- Ordinary Class III luminaire supplied with PELV ≤ 12V RMS/30V DC		N/A
	- Other than ordinary Class III luminaire supplied with voltage ≤ 12V RMS/30V DC		N/A
	Pull test of 30 N		N/A
4.11 (5.2.11)	External wiring passing into luminaire		P
4.11 (5.2.12)	Looping-in terminals		N/A
4.11 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
4.11 (5.2.14)	Mains plug same protection		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
4.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
4.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
4.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.11 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		N/A
	- other standard		P
4.11 (5.3)	**Internal wiring**		**P**
4.11 (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 protective earth only		P
4.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm²)..... :	See Annex 1	P
	Insulation thickness (mm) ..... :	See Annex 1	P
	Extra insulation added where necessary		N/A
4.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm²)..... :		N/A
4.11 (5.3.1.3)	Double or reinforced insulation for class II	For Class II part	P
4.11 (5.3.1.4)	Conductors without insulation		N/A
4.11 (5.3.1.5)	SELV or PELV current-carrying parts		N/A
4.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.11 (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
4.11 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- cables with protective sheath		P
4.11 (5.3.4)	Joints and junctions effectively insulated		N/A
4.11 (5.3.5)	Strain on internal wiring		P
4.11 (5.3.6)	Wire carriers		N/A
4.11 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
4.11 (5.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		**N/A**
	Under test the temperature of the luminaire wiring insulation does not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A
4.11.1 (-)	Cord anchorage of luminaire for indoor use made of glass or ceramic not fixed or integral		N/A
4.11.2 (-)	For Class I and Class II luminaires for indoor use, if:		N/A
	- mass < 1 kg (kg) ..... :		N/A
	- rated current ≤ 2,5 A (A)..... :		N/A
	- cable length ≤ 2 m (m) ..... :		N/A
	- the nominal cross-sectional area of copper conductor ≥ 0,5 mm² (mm²)..... :		N/A
4.11.3 (-)	Terminals, cord anchorage and inlet opening provided for luminaire for outdoor use delivered without a flexible cable or cord and a plug.		N/A
4.11.4 (-)	Non-detachable flexible cables or cords not lighter than type 245 IEC 57 for Class I and Class II luminaires for outdoor use.		P
4.12 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		
4.12 (8.2.1)	Live parts not accessible		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
4.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
4.12 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible		N/A
	- required insulation from live parts in compliance with Table X.1		N/A
	- glass protective shields not used as supplementary insulation		N/A
4.12 (8.2.3.b)	Metal BC lampholder in class I luminaires connected to protective earth		N/A
4.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V) ..... :		N/A
	- interrupted DC voltage (V) ..... :		N/A
	- touch current if applicable (mA) ..... :		N/A
	One conductive part insulated		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- interrupted DC voltage (V) ..... :		N/A
4.12 (8.2.3.d)	PELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V) ..... :		N/A
	Other than ordinary luminaire:		N/A
	- voltage under load/ no-load AC (V)..... :		N/A
	- voltage under load/ no-load DC (V) ..... :		N/A
	Pole not connected to earth insulated		N/A
	Class III luminaire only for connection to SELV or PELV		N/A
4.12 (8.2.4)	Portable luminaire has protection independent of supporting surface		P
4.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
4.12 (8.2.6)	Covers reliably secured		P
4.12 (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		N/A
4.12 (-)	Class I luminaire with bayonet lampholder:		N/A
	1) cap not accessible with test finger		N/A
	2) metal lampholder is earthed		N/A

4.13 (12)	**ENDURANCE TEST AND THERMAL TEST**		
4.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) but before (9.3) specified in 4.14		—
4.13 (12.2)	**Selection of lamps and ballasts**		**—**
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	—
4.13 (12.3)	**Endurance test**		**P**
	a) mounting-position ..... :	Place on floor	—
	b) test temperature (°C) ..... :	50 °C	—
	c) total duration (h) ..... :	240 h	—

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Clause	Requirement + Test	Result - Remark	Verdict
	d) supply voltage (V) ..... :	253 Vac	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A) ..... :	—	—
1.13 (12.3.1d)	d) Class III luminaires powered via information technology communication cable:		—
	- voltage under normal operation (V) ..... :		—
	- voltage under abnormal operation (V) ..... :		
	e) luminaire ceases to operate		—
	f) luminaire with a constant light output function		N/A
4.13 (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
4.13 (12.4)	**Thermal test (normal operation)**	(Annex 2)	**P**
4.13 (12.5)	**Thermal test (abnormal operation)**	(Annex 2)	**P**
4.13 (12.6)	**Thermal test (failed lamp control gear condition):**		**N/A**
4.13 (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
4.13 (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

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Clause	Requirement + Test	Result - Remark	Verdict
4.13 (12.7)	**Thermal test (failed lamp control gear in plastic luminaires):**		**N/A**
4.13 (12.7.1)	Luminaire without temperature sensing control		N/A
4.13 (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 Test Table 1.15 (13.2.1)	N/A
4.13 (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 Test Table 1.15 (13.2.1)	N/A
4.13 (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
4.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link..... :	Yes ☐ No ☐	—
	- manual reset cut-out ..... :	Yes ☐ No ☐	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- auto reset cut-out ..... :	Yes ☐ No ☐	—
	- case of abnormal conditions ..... :		—
	- highest measured temperature of fixing point/ exposed part (°C): ..... :		—
	Ball-pressure test: ..... :	See Test Table 4.15 (13.2.1)	N/A
4.13 (-)	Luminaire for indoor use tested in overturned position (overturns < 15°)	For indoor use condition: TLF-9001-40-01 overturned in 15° but it can pass abnormal thermal test. For outdoor use condition, there is the limitation of the using position. It can pass 15° stability test.	P

4.14 (9)	**RESISTANCE TO DUST AND MOISTURE**		
4.14 (-)	If IP > IP 20 the order of tests as specified in clause 4.13		P
4.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP44	—
	- mounting position during test ..... :	Place on floor	—
	- fixing screws tightened; torque (Nm) ..... :	—	—
	- tests according to clauses..... :	9.2.0	—
	- 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 on insulation where it could become a hazard		P
	c.1) For luminaires without drain holes – no water entry		P
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold-water jet-proof luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		P
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		P
	g) no damage of protective shield or glass envelope		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.14 (9.3)	Humidity test 48 h		P
4.15 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		
4.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø :		N/A
	Insulation resistance (MΩ):		P
	SELV or PELV:		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 or PELV:		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
4.15 (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
	Luminaires with ignitors provided with ballasts conforming to IEC 61347-2-9		N/A
	SELV or PELV:		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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/PELV:		P
	- between live parts of different polarity ..... :	1480 V	P
	- between live parts and mounting surface ..... :	1480 V 2920 V (For Class II part)	P
	- between live parts and metal parts ..... :	1480 V 2920 V (For Class II part)	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
4.15 (10.3)	Touch current (mA) ..... :	For Class II part: Max. 0,17 mA	P
	Protective conductor current (mA) ..... :	0,56 mA	P

4.16 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		
4.16 (13.2.1)	Ball-pressure test ..... :	See Test Table 4.16 (13.2.1)	P
4.16 (13.3.1)	Needle-flame test (10 s) ..... :	See Test Table 4.16 (13.3.1)	N/A
4.16 (13.3.2)	Glow-wire test (650°C) ..... :	See Test Table 4.16 (13.3.2)	P
4.16 (13.4)	Proof tracking test (IEC 60112) ..... :	See Test Table 4.16 (13.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict

4.8 (11.2)	**TABLE I: Creepage distances and clearances**							**P**
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages							
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2* and Table U.1*							
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	B	*	1,5	11.1.B*	*	2,5	11.1.A*	
Working voltage (V) .....:					230 Vac			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					—			—
Supplementary information: * means approved plug and lampholder used.								
Distance 2:	R	7,0	3,0	11.1.B*	7,0	5,0	11.1.A*	
Working voltage (V) .....:					230 Vac			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					—			—
Supplementary information: - Current-carrying parts in lampholder and accessible parts; - Current-carrying parts in lampholder and supporting surface.								
Distance 3:	--	--	--	11.1.B*	--	--	11.1.A*	
Working voltage (V) .....:					--			—
PTI .....:					< 600 ☐ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					--			—
Supplementary information: --								

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.8 (11.2)	**TABLE II: Creepage distances and clearances**						**N/A**
	Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages						
	Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2						
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**	
			clearance	***Table**		**creepage**	***Table**
Distance 1:	--	--	--	--	--	--	--
Working voltage (V) .....:							—
Frequency if applicable (kHz) .....:							—
PTI .....:					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:							—
Supplementary information:							
Distance 2:	--	--	--	--	--	--	--
Working voltage (V) .....:							—
Frequency if applicable (kHz) .....:							—
PTI .....:					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:							—
Supplementary information:							
Distance 3:	--	--	--	--	--	--	--
Working voltage (V) .....:							—
Frequency if applicable (kHz) .....:							—
PTI .....:					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) .....:							—
Supplementary information:							
** Insulation type: B – Basic; S – Supplementary; R – Reinforced.							

4.16 (13.2.1)	**TABLE: Ball Pressure Test of Thermoplastics**		**P**
Allowed impression diameter (mm) ..... :		**2**	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Enclosure plastic around the lampholder	--	125	1,68
--	--	--	--
Supplementary information: --			

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Clause	Requirement + Test	Result - Remark	Verdict

4.16 (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
Enclosure plastic around the lampholder	--	--	--	--	--
Plastic ring	--	--	--	--	--
Supplementary information:--					

4.16 (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 plastic around the lampholder	--	No	0	P
Plastic ring	--	No	0	P
Supplementary information:				

4.16 (13.4)	TABLE: Proof tracking test (IEC 60112)				P
Test voltage PTI ..... :	175 V				—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
E27 Lampholder	**--**	Yes	Yes	Yes	P
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1	TABLE: Critical components information					
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Lampholder (E27)	B	Zhongshan Easy Colour Wire and Electrical Co., Ltd.	E27-LA1A	250 Vac, 4 A, T210 °C	EN IEC 60238: 2018+A1+A2	Nemko ENEC NO5079
Cable	A	Zhongshancity Defang Wire & Cable Co., Ltd.	H05RN-F	3 x 1,0 mm^2 , 300/350 V	EN 50525-2-21: 2011	VDE 40049745
Plug	A	Zhongshan Guzhen Hongli Cable & Appliance Factory	HL-28	16 A, 250 Vac, IP44	DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1): 2023-09	VDE 40018857
Alternative	D	Jiangmen Brothers Wire & Cable Co., Ltd.	XD-015	16 A, 250 Vac, IP44	NEN-IEC 60884-1: 2019 NEN-IEC 60884-1: 2019/A1: 2019 NEN-IEC 60884-1: 2019/A2: 2019	DEKRA KEMA KEUR 35-120601
Heat-shrinkable tube	A	Dongguan Huang Feng Insulation Material Co., Ltd.	HFT-01, HFT-2	600 V, 125 °C, VW-1	EN 60598-2-4: 2018 EN IEC 60598-1: 2021 + A11: 2022	Tested in appliance and UL E236485

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		
	Type reference ..... :	TLF-9001-40-01	—
	Lamp used..... :	1 x E27 10 W LED lamps	—
	Lamp control gear used..... :	—	—
	Mounting position of luminaire ..... :	Placed on floor	—
	Supply wattage (W) ..... :	11,34	—
	Supply current (A) ..... :	0,068	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	40	—
	- abnormal operating mode ..... :	—	—
4.12 (12.4)	- test 1: rated voltage..... :	230 Vac	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1,06 x 230 V= 243,8 Vac	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :	—	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage ..... :	—	—

Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Lamp cap	40	69,1	68,7	—	210	—	—
Lampholder contact	40	65,6	64,6	—	180	—	—
Lampholder rim	40	66,2	65,2	—	180	—	—
Lampholder wire	40	42,1	41,3	—	90	—	—
Mounting surface	40	49,1	47,5	—	90	—	—
Lighted object (0,1 m)	40	40,2	39,6	—	90	—	—

Supplementary information: —

	Type reference ..... :	TLF-9001-40-01	—
	Lamp used..... :	1 x E27 10 W LED lamps	—
	Lamp control gear used..... :	—	—
	Mounting position of luminaire ..... :	Placed on the floor	—
	Supply wattage (W) ..... :	11,74	—

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Clause	Requirement + Test	Result - Remark	Verdict

	Supply current (A) ..... :	0,068	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	40	—
	- abnormal operating mode ..... :	Overturned position	—
4.12 (12.4)	- test 1: rated voltage..... :	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	--	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :	—	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—
4.12 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage ..... :	1 x 10 x 1,05 = 10,5 W	—

Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Surface illuminated by the lamp	40	—	—	—	—	41,3	175
Normally flammable material	40	—	—	—	—	41,6	130
Supplementary information: —							

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT 1: TO TEST REPORT IEC 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 IEC 60598-1: 2021 + A11: 2022

	CENELEC COMMON MODIFICATIONS (EN)		
4.6 (3)	**MARKING**		
4.6 (3.2.12)	Note 4 deleted		N/A
4.7 (4)	**CONSTRUCTION**		
4.7 (4.11.6)	Electro-mechanical contact systems		N/A
4.11 (5)	**EXTERNAL AND INTERNAL WIRING**		
4.11 (5.2.2)	Cables equal to EN 50525		P
	Replace table 5.1 – Supply cord		P
4.11.4 (-)	For class I and class II portable luminaires for outdoor use, non-detachable flexible cables or cords shall be not lighter than cords of the type H05RN-F.		P
4.13 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		
4.13 (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)**		
(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
4.4.4 (-)	In Denmark, luminaires for outdoor use shall be classified as class II or class III.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		
(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

IEC 60598-2-4
Attachment 2: Product photos

Overview of TLF-9001-40-01

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Overview of TLF-9001-40-03

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Attachment 2: Product photos

Internal view of TLF-9001-40-03

Plug view

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Attachment 2: Product photos

Cord anchorage Gland view

Lampholder internal view

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Attachment 2: Product photos

Lampholder internal view

Lampholder internal view and earth wire connection

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