Test Report issued under the responsibility of:

TEST REPORT
IEC 60598-2-2
Luminaires
Part 2: Particular requirements
Section 2: Recessed luminaires and recessed air-handling luminaires

Report Number.....:	RGT260825191005
Date of issue.....:	2026-10-21
Total number of pages.....:	55 pages
Applicant's name.....:	FOSHAN ZHONG WANG CSF CO., LTD.
Address.....:	The Third Floor of Building 1, No.5 South Second Road, Jiyou Industrial Zone, Xingtan Town, Shunde District, Foshan City Guangdong Province, China
Test item description.....:	LED DOWN LIGHT
Trade Mark(s) .....:	--
Manufacturer.....:	Same as applicant
Model/Type reference.....:	NRP-IRDL0107-6-30K-GR-5D, NRP-IRDL0107-6-40K-GR-5D, NRP-IRDL0107-6-60K-GR-5D, NRP-IRDL0107-12-30K-GR-24D, NRP-IRDL0107-12-40K-GR-24D, NRP-IRDL0107-12-60K-GR-24D, NRP-IRDL0107-12-30K-GR-36D, NRP-IRDL0107-12-40K-GR-36D, NRP-IRDL0107-12-60K-GR-36D, NRP-IRDL0107-12-30K-GR-50D, NRP-IRDL0107-12-40K-GR-50D, NRP-IRDL0107-12-60K-GR-50D,
Ratings.....:	220-240V~, 50/60Hz, IP20, ta: 40°C, Class II more information see model list.
Test specification:	
Standard.....:	IEC 60598-2-2:2023 used in conjunction with IEC 60598-1:2024
Test procedure.....:	IEC test report/CE-LVD
Non-standard test method.....:	N/A

General disclaimer:

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

The uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

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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. The report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 30 days from date of issuance of this report to notify us of any material error or omission caused by our negligence. however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report. the tests conducted and the correctness of the report contents. Unless specific mention.

Ring Testing Technology (Zhongshan) Co., Ltd. 维茵检测技术（中山）有限公司	Room 203, 2nd Floor, Building D, Wanwei Lighting Plaza, No.59 Tongxing Road, Guzhen Town, Zhongshan City, China.	Tel:+86-15821224749 Email: rgt@rgtlab.com website: www.rgtlab.com

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

Attachment 1: Other national requirements of Europe.

Attachment 2: Additional requirements for LED module according to IEC 62031:2018 and EN IEC 62031:2020+A11:2021.

Attachment 3: Blue light hazard to light sources and luminaires according to IEC/TR 62778:2014.

Attachment 4: EMF had been evaluated according to EN 62493:2015+A1:2022.

Attachment 5: Photo documentation.

Summary of testing:

Tests performed (name of test and test clause): Full tests.	**Testing location:** **Ring Testing Technology (Zhongshan) Co., Ltd.** Room 203, 2nd Floor，Building D, Wanwei Lighting Plaza, No.59 Tongxing Road, Guzhen Town, Zhongshan City, China.
Tested by **(Name, function, signature)**	Sunny Lu/ Engineer
Approved by **(Name, function, signature)**	Jin Liang/ Project Manger

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

EU Group differences

☒ **The product fulfils the requirements of EN IEC 60598-2-2:2024 and EN IEC 60598-1: 2021 + A11: 2022**

Copy of marking plate:

The artwork below may be only a draft.

Representative

LED DOWN LIGHT
Model: NRP-IRDL0107-12-30K-GR-50D
Input: 220-240V~ 50/60Hz
Power: 12W
CCT: 3000K, ta: 40°C



Made in China

Location: attached on the luminaires

L N

Location: attached on supply cord

Importer: XXX
Address: XXX

Label: Attached on the outer surface of the lamp body (only for EU).

Remark:
1. The height of letters and numerals was not less than 2mm.
2. The height of graphical symbol WEEE was not less than 7mm.
3. The height of the other graphical symbols was not less than 5mm.
4. The symbol “  ” shall be at least 25 mm for each side.
5. Label material: PET film.
6.The marking plate of others (models) is identical as above except the model name, trade mark and power.

Test item particulars..... :	
Classification of installation and use..... :	Class II IP20 for indoor use
Supply Connection ..... :	Supply cord
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 .....:	2026-10-10
Date (s) of performance of tests .....:	2026-10-11 to 2026-10-21

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.

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

The application for obtaining a 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 products covered by this report are Class II LED DOWN LIGHT with non-user replaceable LED module which suitable for used indoor.

Rating: 220-240V~ 50/60Hz, ta: 40°C, Class II IP20 for indoor use,

Model list:

Model name	Power	LED module	LED driver	Size	Weigh t	CCT
NRP-IRDL0107-6-30K-GR-5D	6W	3535	LS-12-280 LI1 EXC	Φ85*85mm	290g	3000K
NRP-IRDL0107-6-40K-GR-5D	6W	3535	LS-12-280 LI1 EXC	Φ85*85mm	290g	4000K
NRP-IRDL0107-6-60K-GR-5D	6W	3535	LS-12-280 LI1 EXC	Φ85*85mm	290g	6000K
NRP-IRDL0107-12-30K-GR-24D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	3000K
NRP-IRDL0107-12-40K-GR-24D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	4000K
NRP-IRDL0107-12-60K-GR-24D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	6000K
NRP-IRDL0107-12-30K-GR-36D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	3000K
NRP-IRDL0107-12-40K-GR-36D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	4000K
NRP-IRDL0107-12-60K-GR-36D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	6000K
NRP-IRDL0107-12-30K-GR-50D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	3000K
NRP-IRDL0107-12-40K-GR-50D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	4000K
NRP-IRDL0107-12-60K-GR-50D	12W	COB-12	LS-12-280 LI1 EXC	Φ85*85mm	290g	6000K

Analysis according to the differences and similarities, models NRP-IRDL0107-12-60K-GR-24D was chosen to perform full test. Model NRP-IRDL0107-6-60K-GR-5D was perform blue light hazard test.

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.4 (4)	**GENERAL TEST REQUIREMENTS**		P
2.4 (-)	Measurement of ambient temperature according to Annex A		
2.4 (4.1.2)	More parts of IEC 60598-2 series applicable.....:	Yes ☐ No ☒	—
	Part(s) .....:		
2.4 (4.2)	Batteries or EDLCs operated luminaire	(see ANNEX 5)	
2.4 (4.3)	Components	(see ANNEX 1)	—
2.4 (4.4)	**Information for luminaire design in light sources standards**		—
2.4 (4.4.2)	Light source and/or controlgear safety standard ....:	IEC/EN IEC 62031 IEC TR 62778	—
	Luminaire design in the light source and/or controlgear safety standard		P
2.5 (5)	**CLASSIFICATION OF LUMINAIRES**		P
2.5 (5.2)	Type of protection .....:	Class II	—
2.5 (5.3)	Degree of protection .....:	IP20	—
2.5 (5.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes ☒ No ☐	—
2.5 (5.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—
2.6 (6)	**MARKING**		P
2.6 (6.1)	Language of instructions		P
2.6 (6.2)	**Marking on luminaire**		P
	Position of the marking		P
	Format of symbols/text		P
2.6 (6.3)	Information on luminaire		P
2.6 (6.4)	**Additional information**		P
2.6 (6.4.2)	Combination luminaires		N/A
2.6 (6.4.3)	Rated frequency in Hz	50/60	P
2.6 (6.4.4)	Operating temperature		N/A
2.6 (6.4.5)	Wiring diagram		N/A
2.6 (6.4.6)	Special conditions		N/A
2.6 (6.4.7)	Metal halide lamp luminaire – warning		N/A
2.6 (6.4.8)	Limitation for semi-luminaires		N/A
2.6 (6.4.9)	Power factor and supply current	~	P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.6 (6.4.10)	Luminaires using remote controlgear		N/A
2.6 (6.4.11)	Clip-mounted luminaire – warning		N/A
2.6 (6.4.12)	Specifications of protective shields		N/A
2.6 (6.4.13)	Rough service luminaire		N/A
2.6 (6.4.14)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
2.6 (6.4.15)	Non-ordinary luminaires with PVC cable		N/A
2.6 (6.4.16)	Protective conductor current in instruction if applicable		N/A
2.6 (6.4.17)	Provided with information if not intended to be mounted within arm's reach		N/A
2.6 (6.4.18)	Non replaceable and non-user replaceable light sources information provided	non-user replaceable light	P
2.6 (6.4.19)	Controllable luminaires, classification of insulation provided		N/A
2.6 (6.4.20)	Luminaires without controlgear provided with necessary information for selection of appropriate component		N/A
2.6 (6.4.21)	If not supplied with terminal block, information on the packaging		P
2.6 (6.4.22)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
2.6 (6.4.23)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
2.6 (6.4.24)	Information for replacement or non-replacement of controlgear provided		P
	a) Non-serviceable controlgear		N/A
	b) Non-user serviceable controlgear		P
	c) Serviceable controlgear		N/A
2.6 (6.5)	**Test of marking**		P
	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
2.6.2 (-)	Luminaires with two IP ratings		N/A
2.6.3 (-)	Symbol "not suitable for direct mounting on normally flammable surface", if applicable		N/A
2.6.4 (-)	Symbol "not suitable for covering with thermally insulated material", if applicable		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (7)	**CONSTRUCTION**		P
2.7 (7.2)	Components replaceable or serviceable without difficulty		N/A
2.7 (7.3)	Wireways smooth and free from sharp edges		P
2.7 (7.4)	**Lamp holders**		N/A
2.7 (7.4.1)	Integral lamp holder		N/A
2.7 (7.4.2)	Wiring connection		N/A
2.7 (7.4.3)	Lamp holder for end-to-end mounting		N/A
2.7 (7.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	After test the lamp holder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation		N/A
	- bending test (N) ..... :		—
	After test the lamp holder has not moved from its position and show no permanent deformation		N/A
2.7 (7.4.5)	Peak pulse voltage		N/A
2.7 (7.4.6)	Centre contact		N/A
2.7 (7.4.7)	Parts in rough service luminaires resistant to tracking		N/A
2.7 (7.4.8)	Lamp connectors		N/A
2.7 (7.4.9)	Caps and bases correctly used		N/A
2.7 (7.4.10)	Light source for lamp holder or connection according to IEC 60061 not connected another way		N/A
2.7 (7.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
2.7 (7.6)	**Terminal blocks**		N/A
	Connecting leads (tails)		N/A
	Unsecured blocks		N/A
2.7 (7.7)	**Terminals and supply connections**		**P**
2.7 (7.7.1)	Contact to metal parts		P
2.7 (7.7.2)	Test 8 mm hazardous live conductor		N/A
	Test 8 mm earth conductor		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (7.7.3)	Terminals for supply conductors		P
2.7 (7.7.4)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- type Y and Z attachment		N/A
	- mechanical test according to 17.5.2		N/A
	- electrical test according to 17.5.3		N/A
	- heat test according to 17.5.3.3.4 and 17.5.3.3.5		N/A
2.7 (7.7.5)	Terminals other than supply connection		N/A
2.7 (7.7.6)	Heat-resistant wiring/sleeves		N/A
2.7 (7.7.7)	Multi-pole plug		N/A
	- test at 30 N		N/A
2.7 (7.8)	**Switches**		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1-1 or IEC 60669-1 for mechanical switches		N/A
	- compliance with IEC 61058-1-2 or IEC 60669-1 for electronic switches		N/A
	- compliance with IEC 61058-2-1 for cord switches		N/A
2.7 (7.9)	**Insulating lining and sleeves**		N/A
2.7 (7.9.1)	Retainment		N/A
	Method of fixing ..... :		N/A
2.7 (7.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) ..... :		N/A
2.7 (7.10)	**Double or reinforced insulation**		P
2.7 (7.10.1)	No contact, mounting surface – accessible metal parts –basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
2.7 (7.10.2)	Assembly gaps:		P
	- not coincidental		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- no straight access with test probe		P
2.7 (7.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lamp holder		N/A
2.7 (7.10.4)	Protective impedance device:		N/A
	Basic or 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 IEC 62368-1:2018, Clause G.10.		N/A
2.7 (7.11)	**Electrical connections and current-carrying parts**		**P**
2.7 (7.11.1)	Contact pressure		P
2.7 (7.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
2.7 (7.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
2.7 (7.11.4)	Material of current-carrying parts		P
	FELV, SELV or PELV supplying circuits:		N/A
	- load less than 15 W		N/A
	- load (including short-circuit) not higher than 2 A		N/A
2.7 (7.11.5)	No contact to wood or mounting surface		P
2.7 (7.11.6)	Electro-mechanical contact systems		N/A
2.7 (7.12)	**Screws and connections (mechanical) and glands**		P
2.7 (7.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	Screw fixed enclosure; 0.5 Nm	P
	Torque test: torque (Nm); part..... :	Cord anchorage screw of lampbody; 0.5Nm	P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Torque test: torque (Nm); part..... :	Screw fixed LED module; 0.5Nm	P
2.7 (7.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
2.7 (7.12.3)	Locked connections:		N/A
	- fixed arms; torque (Nm) ..... :		N/A
	- lamp holder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm ..... :		N/A
2.7 (7.12.4)	Screwed glands; force (Nm)..... :		N/A
2.7 (7.13)	**Mechanical strength**		**P**
2.7 (7.13.1)	Impact tests:		P
	- fragile parts; energy (Nm) ..... :		N/A
	- other parts; energy (Nm)..... :	0.35 Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
2.7 (7.13.2)	Metal parts have adequate mechanical strength		P
2.7 (7.13.3)	Test with straight unjointed test finger		P
2.7 (7.13.4)	Tumbling barrel		N/A
2.7 (7.14)	**Suspensions, fixings and means of adjusting**		**P**
2.7 (7.14.1)	Mechanical load:		P
	A) four times the weight	0.29kg x 4=1.16kg	P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm) ..... :		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) ..... :		N/A
	Fixed luminaire or independent controlgear without fixing devices		N/A
	Magnets not used as the primary fixing		N/A
2.7 (7.14.2)	Load to flexible cables:		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm²) ..... :		N/A
	Special cable or cord, force applied (N)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mass (kg) of semi-luminaire ..... :		N/A
	Bending moment (Nm) of semi-luminaire ..... :		N/A
2.7 (7.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles ..... :		N/A
	- strands broken ..... :		N/A
	- insulation resistance and electric strength tests afterwards		N/A
2.7 (7.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
2.7 (7.14.5)	Guide pulleys		N/A
2.7 (7.14.6)	Strain on socket-outlets		N/A
2.7 (7.15)	**Flammable materials**		**P**
	- glow-wire test 650°C ..... :	See Test Table 2.16 (15.3.3)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 15.3.2		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
2.7 (7.15.2)	Luminaires made of thermoplastic material with controlgear:		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
2.7 (7.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
2.7 (7.16.1)	No controlgear..... :		N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
2.7 (7.16.2)	Controlgear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
2.7 (7.16.3)	Thermal protection:		N/A
	- in controlgear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked controlgear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.7 (7.16.4)	Design to satisfy the test of 14.6	(see 14.6)	N/A
2.7 (7.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
2.7 (7.18)	**Resistance to corrosion**		N/A
2.7 (7.18.1)	- rust-resistance		N/A
2.7 (7.18.2)	- season cracking in copper		N/A
2.7 (7.18.3)	- corrosion of aluminium		N/A
2.7 (7.19)	Ignitors compatible with ballast		N/A
2.7 (7.20)	**Rough service luminaires**		N/A
2.7 (7.20.1)	Resistance to vibrations		N/A
2.7 (7.20.2)	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
2.7 (7.21)	**Protective shield**		N/A
2.7 (7.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
2.7 (7.21.2)	Particles from a shattering lamp not impair safety		N/A
2.7 (7.21.3)	No direct path		N/A
2.7 (7.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment ..... :	See Test Table 2 .16 (15.3.3)	N/A
2.7 (7.22)	**Attachments to lamps**		N/A
	Attachments to lamps do not cause overheating or damage		N/A
2.7 (7.23)	**Semi-luminaires**		N/A
	Semi-luminaires comply Class II		N/A
2.7 (7.24)	**Photobiological hazards**		P
2.7 (7.24.1)	**Actinic UV hazards for skin and eye 200 nm to 400 nm)**		P
	No excessive UV radiation; luminaires used with:		P
	- self-shielded lamps or light sources having a UV emission ≤ 2 mW · klm^{-1}		N/A
	- light sources emitting ≤ 6 mW · klm^{-1} and having a glass cover		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- light sources emitting > 6 mW · klm^{-1}, compliance with Annex M		N/A
2.7 (7.24.2)	**UV-A hazard for the eye lens (315 nm to 400 nm)**		N/A
	No excessive UV-A radiation		N/A
2.7 (7.24.3)	**Retinal blue light hazard**		P
2.7 (7.24.3.2)	**Luminaire assessment according to IEC 62471-7:2023**		P
	Luminaire application group .....:	☐ BLH-A ☒ BLH-B ☐ BLH-C	—
	Blue light radiance emission limit not exceeded for application group at applicable assessment distance		P
	Increased assessment distance for fixed luminaire based on luminaire application applied		N/A
	Assessment distance used (m).....:		—
	Information according to clause 6.3.22 a) provided		N/A
	Luminaire assessment based on light source data		N/A
	Light source application group .....:	☐ BLH-A ☐ BLH-B ☐ BLH-C	—
	Data in accordance with luminaire application group emission limit		N/A
2.7 (7.24.3.3)	**Luminaire assessment according to IEC TR 62778:2014**		P
	Class of risk group assessed according to IEC TR 62778 .....:	RG1	—
	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 6.3.22		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 6.3.22 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 TR 62778		N/A
2.7 (7.24.4)	**Retinal thermal hazard (380 nm to 1400 nm)**		N/A
	Not exceeding retinal thermal radiance limits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.7 (7.24.5)	**Infrared hazard for the eye (780 nm to 3000 nm)**		N/A
	Not exceeding limits for IR radiation		N/A
2.7 (7.24.6)	**Thermal hazard for the skin (380 nm to 3000 nm)**		N/A
	Not exceeding exposure limit		—
2.7 (7.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
2.7 (7.26)	**Short-circuit protection**		N/A
2.7 (7.26.1)	Means preventing impairing of safety of uninsulated accessible SELV / PELV parts		N/A
	Short-circuit test with test chain according 7.26.2:		N/A
	Supply source ES1 PSE		N/A
	Test chain does not melt through		N/A
	Test sample does not exceed values of Table 21 and 22		N/A
2.7 (7.27)	**Terminal blocks with integrated screwless protective earthing contacts**		N/A
	Test according to Annex R		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
2.7 (7.28)	**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 light source 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
2.7 (7.29)	**Luminaires with non-replaceable light source**		N/A
	Not possible to replace light source		N/A
	Hazardous live part not accessible after parts have been opened by hand or tools		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.7 (7.30)	**Luminaires with non-user replaceable light source and non-user serviceable components**		P
	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		P
2.7 (7.31)	**Insulation between circuits**		P
2.7 (7.31.1)	Circuits insulated from mains supply fulfil requirements according 7.31.2 – 7.31.4		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and mains supply fulfil requirements according 7.31.2 – 7.31.4		N/A
2.7 (7.31.2)	**SELV or PELV circuits**		N/A
	Used SELV/PELV source		N/A
	Voltage ≤ ELV		N/A
	PELV connected to earth		N/A
	Insulation of SELV/PELV circuits from mains supply		N/A
	Insulation of SELV/PELV circuits from other non SELV/PELV circuits		N/A
	Insulation of SELV/PELV circuits from FELV		N/A
	Insulation of SELV/PELV circuits from other SELV/PELV circuits		N/A
	SELV/PELV circuits insulated from accessible parts according Table T.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets do not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets do not have protective conductor contact		N/A
2.7 (7.31.3)	**FELV circuits**		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from mains supply		N/A
	FELV circuits insulated from accessible parts according Table T.1		N/A
	Plugs not able to make any electrical contact with socket-outlets of other voltage systems		N/A
	Socket outlets do not admit plugs of other voltage systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Socket-outlets have protective conductor contact		N/A
2.7 (7.31.4)	**Other circuits**		P
	Other circuits insulated from accessible conductive parts according Table T.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with hazardous live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 9.2.3		N/A
	- conductive part does not cause electric shock in case of insulation fault		N/A
	- equipotential bonding used in applications when one or more luminaires supplied by another		N/A
	- supplying luminaire provided with terminal for accessible conductive parts of other luminaires		N/A
	- other luminaire constructed as class I		N/A
2.7 (7.31.5)	**Additional requirements for luminaires using controllable controlgear providing SELV output(s)**		N/A
	Insulation between SELV output(s) of controlgear and control port meets requirements of IEC 61347-1 for interconnected controlgear		N/A
2.7 (7.32)	**Overvoltage protective devices external to controlgear**		N/A
2.7 (7.32.1)	SPDs comply with requirements in 7.32.2		N/A
	SPCs comply with requirements in 7.31.3		N/A
	SPDs requiring connection to earth:		N/A
	- only used in fixed luminaires		N/A
	- only connected to protective earth		N/A
2.7 (7.32.2)	**Surge protective devices (SPDs)**		N/A
	Compliance with IEC 61643-11		N/A
	Rated ambient temperature verified according to test in 14.4		N/A
2.7 (7.32.3)	**Surge protective components (SPCs)**		N/A
2.7 (7.32.3.1)	Only connected across the mains (L to L or L to N)		N/A
	Compliance with IEC 61051-2:2021 or IEC 61643-331:2020		N/A
	Compliance with requirements in 7.32.3.2 – 7.32.3.6		N/A
2.7 (7.32.3.2)	**Climatic conditions**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Climatic conditions according to:		N/A
	- Option A		N/A
	- Option B		N/A
2.7 (7.32.3.3)	**Maximum continuous voltage**		N/A
	At least 1.25 times rated voltage of luminaire / upper voltage of rated voltage range		N/A
2.7 (7.32.3.4)	**Surge capability**		N/A
	Mains supply voltage (V).....:		—
2.7 (7.32.3.5)	**SPC resistance to fire**		N/A
	Needle flame test	See Test Table 2.16 (15.3.2)	N/A
2.7 (7.32.3.6)	**SPC overload test**		N/A
2.7 (7.33)	**Luminaire powered via information technology communication cabling**		N/A
	Requirements for Class III luminaire		N/A
	Rated voltage does not exceed maximum voltage of used connector		N/A
	Luminaire does not create any hazard from overvoltage	(see Annex 2)	N/A
2.7 (7.34)	**Electromagnetic fields (EMF)**		P
	No harmful electromagnetic fields		P
2.7 (7.35)	**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
2.7 (7.36)	**Track-mounted luminaires**		N/A
	Test in accordance with Annex A of IEC 60570:2003/AMD2:2019		N/A
			N/A

2.8 (13)	**CREEPAGE DISTANCES AND CLEARANCES**		P
2.8 (13.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Category III according to Annex Q		—
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1:2015		N/A
2.8 (13.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 2.8 (13) I	N/A
	Creepage distances for frequency over 30 kHz:		P
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according to IEC 61347-1:2015, clause 7.1, item w	See Test Table 2.8 (13) II	N/A
	- Requirements according to IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 2.8 (13) II	N/A
2.8 (13.2.3)	Clearances for frequency up to 30 kHz	See Test Table 2.8 (13) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 2.8 (13) II	N/A
	- Requirements according to IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 2.8 (13) II	N/A
2.9 (9)	**PROVISION FOR EARTHING**		N/A
2.9 (9.2.1 + 9.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω ..... :		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Protective earth makes contact first		N/A
	Terminal blocks with integrated screwless protective earthing contacts tested according to Annex R		N/A
	Protective earthing of the luminaire not via built-in controlgear		N/A
2.9 (9.2.2 + 9.2.3)	Protective earth continuity in joints, etc.		N/A
2.9 (9.2.4)	Locking of clamping means		N/A
	Compliance with 7.7.3		N/A
2.9 (9.2.5)	Protective earth terminal integral part of connector socket		N/A
2.9 (9.2.6)	Protective earth terminal adjacent to mains terminals		N/A
2.9 (9.2.7)	Electrolytic corrosion of the protective earth terminal		N/A
2.9 (9.2.8)	Material of protective earth terminal		N/A
	Contact surface bare metal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.9 (9.2.10)	Class II luminaire for looping-in or through wiring		N/A
	Double or reinforced insulation to functional earth		N/A
2.9 (9.2.11)	Protective earthing core coloured green-yellow		N/A
	Length of protective earthing conductor		N/A
2.9 (9.2.12)	PELV circuit connected to protective earth for functional purpose		N/A
2.10 (16)	**SCREW TERMINALS**		N/A
	Separately approved; component list	(See Annex 1)	N/A
	Part of the luminaire	(See Annex 3)	N/A
2.10 (17)	**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
2.11 (8)	**EXTERNAL AND INTERNAL WIRING**		P
2.11 (8.2)	**Supply connection and external wiring**		**P**
2.11 (8.2.1)	Means of connection ..... :	Supply cord	P
	Outdoor luminaire without PVC insulated external wiring unless Class III or SELV/PELV circuits ≤ 25 V AC or 60 V DC or 25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment		N/A
2.11 (8.2.2)	Type of cable..... :	See Annex1	P
	Nominal cross-sectional area (mm²)..... :	See Annex1	P
	Cables equal to IEC 60227 or IEC 60245		P
2.11 (8.2.3)	Type of attachment, X, Y or Z	Type Y	P
2.11 (8.2.5)	Type Z not connected to screws		N/A
2.11 (8.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
2.11 (8.2.7)	Cable entries through rigid material have rounded edges		P
2.11 (8.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- tubes or guards made of insulating material		N/A
2.11 (8.2.9)	Locking of screwed bushings		N/A
2.11 (8.2.10)	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
2.11 (8.2.10.2)	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
2.11 (8.2.10.3)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
2.11 (8.2.10.4)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) ..... :	60	P
	- torque test: torque (Nm)..... :	0.15	P
	- displacement ≤ 2 mm	Max. 0.9mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		N/A
2.11 (8.2.10.5)	Luminaire with/designed for use with supply cord with maximum current of 2A:		P
	- Ordinary Class III luminaire supplied with SELV ≤ 25 V RMS or 60 V DC		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- Ordinary Class III luminaire supplied with PELV ≤12 V RMS or 30 V DC		P
	- Other than ordinary Class III luminaire supplied with voltage ≤12 V RMS or 30 V DC		P
	Pull test of 30 N		P
2.11 (8.2.11)	External wiring passing into luminaire		P
2.11 (8.2.12)	Looping-in terminals		N/A
2.11 (8.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
2.11 (8.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
2.11 (8.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
2.11 (8.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Appliance inlet or connector systems (IEC 61984)		N/A
2.11 (8.2.17)	No standardized interconnecting cables properly assembled		N/A
2.11 (8.2.18)	Used plug in accordance with:		N/A
	- IEC 60083		N/A
	- other standard		N/A
2.11 (8.3)	**Internal wiring**		**P**
2.11 (8.3.1.1)	Internal wiring of suitable size and type		P
	Through wiring:		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	Green-yellow for protective earth only		N/A
2.11 (8.3.1.2)	Internal wiring connected directly to fixed wiring:		N/A
	Cross-sectional area (mm²) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Insulation thickness (mm) :		N/A
	Extra insulation added where necessary		N/A
2.11 (8.3.1.3)	Internal wiring connected to fixed wiring via internal current-limiting device:		P
	Cross-sectional area (mm²) .....:		P
2.11 (8.3.1.4)	Double or reinforced insulation for class II		N/A
2.11 (8.3.1.5)	Conductors without insulation		N/A
2.11 (8.3.1.6)	SELV/PELV current-carrying parts		P
2.11 (8.3.1.7)	Insulation thickness other than PVC or rubber		N/A
2.11 (8.3.2)	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
2.11 (8.3.3)	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
2.11 (8.3.4)	Joints and junctions effectively insulated		N/A
2.11 (8.3.5)	Strain on internal wiring		N/A
2.11 (8.3.6)	Wire carriers		N/A
2.11 (8.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
2.11 (8.4)	**Test to determine suitability of conductors having a reduced cross-sectional area**		P
	Under test the temperature of the luminaire wiring insulation does not exceed the limits stated in Table 22	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A
2.12 (10)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
2.12 (10.2.1)	Hazardous 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		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starter holders in portable, settable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under light source/ starter replacement or for accessing serviceable components		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp or equivalent lamps		N/A
	Insulation lacquer not reliable		P
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 6.3.18 fitted to the luminaire		N/A
2.12 (10.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
2.12 (10.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible		N/A
	- required insulation from hazardous live parts in compliance with Table T.1		N/A
	- glass protective shields not used as supplementary insulation		N/A
2.12 (10.2.3.b)	BC lamp holder of metal in class I luminaires shall be connected to protective earth		N/A
2.12 (10.2.3.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 if required		N/A
	Other than ordinary luminaire:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- voltage under load/ no-load AC (V) ..... :		N/A
	- voltage under load/ no-load DC (V)……...:		N/A
	- Interrupted DC (f<10Hz or f >200Hz) (mA)……..:		N/A
	- Interrupted DC (10Hz ≤ f ≤ 200 Hz) (mA)…….....:		N/A
	Class III luminaire only for connection to SELV/PELV		N/A
2.12 (10.2.3.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
	One pole insulated if required		N/A
2.12 (10.2.4)	Portable luminaire has protection independent of mounting surface		N/A
2.12 (10.2.5)	Compliance with the standard test finger or relevant probe		P
2.12 (10.2.6)	Covers reliably secured		P
2.12 (10.2.7)	Luminaire other than below with capacitor > 0,5 μF not exceed 50 V, 1 min after disconnection	Approved LED driver	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
2.12 (-)	Parts within celling space provide same degree of protection against electric shock as parts below celling space		N/A

2.13 (14)	**ENDURANCE TEST AND THERMAL TEST**		P
2.13.1 (-)	If IP > IP 20 relevant test of (14.4), (14.5), (14.6) and (14.7) after (11.2) before (11.3) specified in 2.14		—
2.13.2 (-)	Luminaire mounted and tested according to Annex B		
2.13 (14.2)	**Selection of lamps and control gear**		**—**
	Lamp used according to Annex B	(Lamp used see Annex 2)	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Controlgear if separate and not supplied	(Controlgear used, see Annex 2)	—
2.13 (14.3)	**Endurance test**		**P**
2.13 (14.3.2)	a) mounting-position ..... :	As normal use	—
	b) test temperature (°C) ..... :	50	—
	c) total duration (h) ..... :	240	—
	d) supply voltage (V) ..... :	1.1Un	—
	d) if not equipped with control gear, constant voltage/current (V) or (A) ..... :		—
	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 constant light output function		—
2.13 (14.3.3)	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
2.13 (14.4)	**Thermal test (normal operation)**	(see Annex 2)	P
2.13 (14.5)	**Thermal test (abnormal operation)**	(see Annex 2)	N/A
2.13 (14.6)	**Thermal test (failed windings in control gear)**		N/A
2.13 (14.6.2)	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
2.13 (14.6.3)	Temperature sensing control:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
2.13 (14.7)	**Thermal test in regard to fault conditions in control gear or electronic devices incorporated in thermoplastic luminaires**		N/A
2.13 (14.7.2)	**Luminaire without temperature sensing control**		N/A
2.13 (14.7.2.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 14.7.1.1 or Annex S ..... :		—
	Test according to 14.7.1.1:		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 S:		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 2.16 (15.2.2)	N/A
2.13 (14.7.2.2)	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 2.16 (15.2.2)	N/A
2.13 (14.7.2.3)	Luminaire with short circuit proof transformers ≤ 10 VA:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- case of abnormal conditions ..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
2.13 (14.7.3)	**Luminaire with temperature sensing control**		N/A
	- thermal link..... :	Yes ☐ No ☐	—
	- manual reset cut-out ..... :	Yes ☐ No ☐	—
	- auto reset cut-out..... :	Yes ☐ No ☐	—
	- case of abnormal conditions ..... :		—
	- highest measured temperature of fixing point/ exposed part (°C): ..... :		—
	Ball-pressure test: ..... :	See Test Table 2.16 (15.2.2)	N/A
2.13.3 (-)	Wiring, for connection to the supply, not reach unsafe temperature:		N/A
	- measured temperature of the cable (°C)		N/A
2.13. 4(-)	Test for air-handling luminaires under static operating conditions:		N/A
	-..... normal operation.....:		N/A
	-..... abnormal operation.....:		N/A

2.14 (11)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
2.14 (-)	If IP > IP 20 the order of tests as specified in clause 2.13		N/A
2.14 (11.2.1)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP ..... :	IP20	—
	- mounting position during test..... :	As normal use	—
	- fixing screws tightened; torque (Nm) ..... :	2/3 torque of clause 2.7 (7.12.1)	—
	- tests according to clauses ..... :	Clause 11.2.2	—
	- 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		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	c.2) For luminaires with drain holes – no hazardous water entry		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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)		P
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	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		N/A
	g) no damage of protective shield or glass envelope		N/A
2.14 (11.3)	Humidity test 48 h		P
2.15 (12)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH, TOUCH CURRENT AND PROTECTIVE CONDUCTOR CURRENT**		P
2.15 (12.2.2)	**Insulation resistance test**		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø ..... :		—
	Insulation resistance (MΩ):		P
	SELV/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface ..... :	>100MΩ	P
	- between current-carrying parts and metal parts of the luminaire..... :	>100MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts ..... :		N/A
	- Insulation bushings as described in Clause 8 ..... :		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity ..... :	>100MΩ	P
	- between live parts and mounting surface ..... :	>100MΩ	P
	- between live parts and metal parts ..... :	>100MΩ	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 ..... :	>100MΩ	P
	- Insulation bushings as described in Clause 8 ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.15 (12.2.3)	**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/PELV:		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface ..... :	500V	P
	- between current-carrying parts and metal parts of the luminaire..... :	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts ..... :		N/A
	- Insulation bushings as described in Clause 8 ..... :		N/A
	Other than SELV/PELV:		P
	- between live parts of different polarity ..... :		N/A
	- between live parts and mounting surface ..... :	2960V	P
	- between live parts and metal parts ..... :	2960V	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 ..... :	1480V	P
	- Insulation bushings as described in Clause 8 ..... :		N/A
2.15 (12.3)	**Touch current, protective conductor current and electric burn**		P
2.15 (12.3)	Touch current (mA).....:	Max. 0.024mA	P
	Protective conductor current (mA).....:		N/A

2.16 (15)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
2.16 (15.2.2)	Ball-pressure test ..... :	See Test Table 2.16 (15.2.2)	P
2.16 (15.3.2)	Needle-flame test (10 s)..... :	See Test Table 2.16 (15.3.2)	P
2.16 (15.3.3)	Glow-wire test (650°C)..... :	See Test Table 2.16 (15.3.3)	P
2.16 (15.4.2)	Proof tracking test (IEC 60112)..... :	See Test Table 2.16 (15.4.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.8 (13)	**TABLE I: Creepage distances and clearances**							**P**
	Minimum distances (mm) for AC up to 30 kHz sinusoidal voltages							**P**
	Applicable part of IEC 60598-1 Table 18*, 19* and 20*							**P**
	Insulation type **	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	B	No need	Approved LED driver	13.1B	No need	Approved LED driver	13.1A	
Working voltage (V) .....:					Max. 240V~			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					—			—
Supplementary information: Between L and N before fuse resistor.								
Distance 2:	B	No need	Approved LED driver	13.1B	No need	Approved LED driver	13.1A	
Working voltage (V) .....:					Max. 240V~			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					—			—
Supplementary information: Between end of fuse resistor.								
Distance 3:	R	No need	No need	13.1B	No need	No need	13.1A	
Working voltage (V) .....:					Max. 240V~ Uout: 59VDC			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage or U_P if applicable (kV) .....:					—			—
Supplementary information: LED module circuit and accessible parts.								

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

2.8 (13)	**TABLE II: Creepage distances and clearances**							**N/A**
	Minimum distances (mm) for AC higher than 30 kHz sinusoidal voltages							**N/A**
	Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2							**N/A**
Distances	**Insulation type ****	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:								
Working voltage (V) .....:								—
Frequency if applicable (kHz) .....:								—

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Clause	Requirement + Test	Result - Remark	Verdict

PTI.....:				< 600 ☐ ≥ 600 ☐			—
Peak value of the working voltage Ûout if applicable (kV) .....:							—
Supplementary information:							
Distance 2:							
Working voltage (V).....:							—
Frequency if applicable (kHz).....:							—
PTI.....:				< 600 ☐ ≥ 600 ☐			—
Peak value of the working voltage Ûout if applicable (kV) .....:							—
Supplementary information:							
Distance 3:							
Working voltage (V).....:							—
Frequency if applicable (kHz).....:							—
PTI.....:				< 600 ☐ ≥ 600 ☐			—
Peak value of the working voltage Ûout if applicable (kV) .....:							—
Supplementary information:							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced.

2.16 (15.2.2)	**TABLE: Ball Pressure Test of Thermoplastics**		**N/A**
Allowed impression diameter (mm) .....:		2	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
--	--	--	--
Supplementary information:			

2.16 (15.3.2)	**TABLE: Needle-flame test**				**P**
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Lens	See Annex 1	10	No	0	P
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

2.16 (15.3.3)	**TABLE: Resistance to heat and fire - Glow wire tests**					**P**
Object/ Part No./ Material	Manufacturer/ trademark	GWT (°C) : 650			Ignition of specified layer	Verdict
		t_E (s)	t_i (s)	t_R (s)	Yes/No	
Lamp diffuser	See Annex 1	0	0	0	No	P
Lens	See Annex 1	0	0	0	No	P
Supplementary information:						

2.16 (15.4.2)	**TABLE: Proof tracking test**				**N/A**
Test voltage PTI .....:		175 V			—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
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)]**
Input wire	B	Zhongshan zhongguang Wire Co.,Ltd	H03VVH2-F	2x0.75mm²	EN 50525-2-11	VDE 40054338
Output wire of LED driver	B	Zhongshan Shunrui Electronics Co., Ltd.	1007	2x0.3mm²	IEC/EN 60598- 2-2, IEC/ EN IEC 60598-1	Test with appliance
LED driver	B	EAGLERISE ELECTRIC & ELECTRONIC (JI AN) CO.,LTD	LS-12-280 LI1 EXC	Input: 220-240V~ 50/60Hz, 0.075A; Output: 27-42VDC, 280mA; Uout: Max.59VDC Power: 11.8W; ta: 45°C, tc:75°C; SELV, IP20, independent	IEC 61347-1 IEC 61347-2-13	Nemko CB NO132634
LED chip for 6W models	C	Tongyifang	3535	27V, 6W CCT:3000K/4000K/6000K	IEC/EN IEC 62031, IEC/TR 62778	Tested with appliance
LED PCB for 6W models	C	Foshan Shunde Qinji Electronic Technology Co., Ltd.	/	V-0, 130°C, AL base	IEC/EN 60598- 2-2, IEC/ EN IEC 60598-1	Tested with appliance
LED module for 12W models	C	Tongyifang	COB 12	36V, 12W CCT:3000K/4000K/6000K	IEC/EN IEC 62031, IEC/TR 62778	Tested with appliance
LED lens	C	Zhongshan Jingxin Lighting Co., Ltd.	/	PC material	IEC/EN 60598- 2-2, IEC/ EN IEC 60598-1	Tested with appliance
LED diffuser	C	Zhongshan Jingxin Lighting Co., Ltd.	/	PC material	IEC/EN 60598- 2-2, IEC/ EN IEC 60598-1	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

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: Thermal tests of Clause 14		P
	Type reference ..... :	NRP-IRDL0107-12-60K-GR-24D	—
	Lamp used ..... :	LED module	—
	Lamp control gear used ..... :	LS-12-280 LI1 EXC	—
	Mounting position of luminaire ..... :	Normal position	—
	Supply wattage (W) ..... :	12.2	—
	Supply current (A) ..... :	0.051	—
	Temperatures in test 1 - 4 below are corrected for ta (°C) ..... :	40	—
	- abnormal operating mode ..... :	LED short-circuit, unit shutdown	—
2.13 (14.4)	- test 1: rated voltage ..... :	—	—
	- test 2: 1,06 times rated voltage, or 1,05 times rated wattage or 1,1 times constant voltage/current ..... :	—	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :	240V x 1.06=254.4V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—
2.13 (14.5)	- 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	Sub-cl. 14.4 – normal				Sub-cl. 14.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Input wire of LED driver	40	—	44.3	—	90	—	—
Tc point	40	—	66.0	—	75	—	—
Output wire	40	—	55.0	—	90	—	—
Input wire of LED module	40	—	76.6	—	90	—	—
LED PCB	40	—	79.6	—	130	—	—
Plastic over LED module	40	—	81.6	—	Ref.	—	—
LED lens	40	—	107.4	—	Ref.	—	—
Diffuser	40	—	60.7	—	Ref.	—	—
Mounting surface	40	—	47.1	—	90	—	—
Light object(0.1m)	40	—	44.6	—	90	—	—

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 3	**Screw terminals (part of the luminaire)**		N/A
(16)	**SCREW TERMINALS**		N/A
(16.2)	Type of terminal ..... :		—
	Rated current (A) ..... :		—
(16.2.2.2)	One or more conductors		N/A
(16.2.2.3)	Special preparation		N/A
(16.2.2.4)	Terminal size		N/A
	Cross-sectional area (mm²) ..... :		—
(16.2.3)	Conductor space (mm) ..... :		N/A
(16.3)	**Mechanical tests**		N/A
(16.3.1)	Minimum distance		N/A
(16.3.2)	Cannot slip out		N/A
(16.3.3)	Special preparation		N/A
(16.3.4)	Nominal diameter of thread (metric ISO thread)..... :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(16.3.5)	Corrosion		N/A
(16.3.6)	Nominal diameter of thread (mm) ..... :		N/A
	Torque (Nm)..... :		N/A
(16.3.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(16.3.8)	Without undue damage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 4	**Screwless terminals (part of the luminaire)**		N/A
(17)	**SCREWLESS TERMINALS**		N/A
(17.2)	Type of terminal ..... :		—
	Rated current (A) ..... :		—
(17.2.1)	Material		N/A
(17.2.2)	Clamping		N/A
(17.2.3)	Stop		N/A
(17.2.4)	Unprepared conductors		N/A
(17.2.5)	Pressure on insulating material		N/A
(17.2.6)	Clear connection method		N/A
(17.2.7)	Clamping independently		N/A
(17.2.8)	Fixed in position		N/A
(17.2.10)	Conductor size		N/A
	Type of conductor		N/A
(17.4)	**Terminals and connections for internal wiring**		N/A
(17.4.1)	Mechanical tests		N/A
(17.4.1.2.1)	Pull test spring-type terminals (4 N, 4 samples) ..... :		N/A
(17.4.1.2.3)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(17.4.1.3)	Permanent connections: pull-off test (20 N)		N/A
(17.4.2)	**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
(17.5)	**Terminals and connections for external wiring**		N/A
(17.5.1)	Conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Terminal size and rating		N/A
17.5.2	Mechanical tests		N/A
(17.5.2.2)	Pull test spring-type terminals or welded connections (4 samples); pull (N) ..... :		N/A
(17.5.2.3)	Pull test pin or tab terminals (4 samples); pull (N) ..... :		N/A
(17.5.3)	**Electrical tests**		N/A
	Tests according 17.5.3.2 + 17.5.3.3 in IEC 60598-1		N/A

(17.5.3.2) **(17.5.3.3)**	**TABLE: Contact resistance test / Heating tests**									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)										
	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:										

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 5	**Battery/EDLC-operated luminaires**		N/A
(Annex W)	**Battery/EDLC-operated luminaires**		N/A
(W.3)	**Marking**		N/A
(W.3.2)	Luminaires with replaceable battery		N/A
	Relevant information and warnings provided		N/A
(W.3.3)	Coin and button batteries		N/A
	Relevant information, warnings and marking provided		N/A
(W.3.4)	Other standardized batteries		N/A
	Compartment and polarity correctly marked		N/A
	Compartment marked with the shape of the batteries		N/A
(W.3.5)	Luminaires with non-standardized replaceable rechargeable battery		N/A
	Relevant information, warnings and marking provided		N/A
(W.3.6)	Luminaires with non-user replaceable battery/EDLC		N/A
	Relevant information, warnings and marking provided		N/A
(W.3.7)	Luminaires with non-replaceable battery/EDLC		N/A
	Relevant information, warnings and marking provided		N/A
(W.3.8)	Luminaires supplied by external dedicated power supply units		N/A
	Relevant information, warnings and marking provided		N/A
(W.3.9)	Rechargeable luminaires other than ordinary		N/A
	Relevant information provided		N/A
(W.3.10)	Conditions for charging		N/A
	Relevant information provided		N/A
(W.4)	**Construction**		N/A
(W.4.1)	Luminaires with a replaceable battery/EDLC, the compartment is designed to reduce the possibility of children removing the battery:		—
	- tool required		N/A
	- two independent and simultaneous movements required		N/A
	Luminaires with a non-replaceable battery/EDLC, no access to the battery or EDLC		N/A
	No recharging function for luminaires intended for non-rechargeable and rechargeable batteries		N/A
(W.4.2)	Small batteries		N/A
	Batteries that fit within the small parts cylinder not removable without a tool		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Parts that fit within the small parts cylinder not removable without a tool		N/A
	Battery compartment has adequate mechanical strength		N/A
(W.4.3)	Battery compartment fasteners for small batteries and other standardized batteries		N/A
	Screws or fasteners are captive		N/A
(W.4.4)	Battery/EDLC chargers incorporated in luminaires		N/A
	Electronic circuits used in battery or EDLC chargers comply with IEC 61347-2-11		N/A
	Battery or EDLC charger considered a controlgear and comply with ..... :		N/A
(W.4.5)	Short-circuit protection		N/A
	The luminaire is operated under the following fault conditions:		—
	- cord short-circuited		N/A
	- battery terminals short-circuited		N/A
	- simultaneously accessible charging terminal short-circuited		N/A
	Appliance does not emit flames, molten metal, or ignitable gas		N/A
	No explosion or ignition of the battery		N/A
	Venting of the cells		N/A
(W.4.6)	Electrical parameters of batteries operation		N/A
(W.4.6.2)	Normal charging of lithium-ion systems		N/A
	Specified operating region for charging not exceeded		N/A
	- min. temperature (°C) ..... :		—
	- max. temperature (°C) ..... :		—
	Imbalanced battery		N/A
(W.4.7)	Protection against overpressure for Li-ion batteries used in luminaires		N/A
	The battery enclosure or compartment withstands the pressure generated when a cell vents during failure:		N/A
	- capacity of the single Li-ion cell (Ah) ..... :		—
	a) area of the unobstructed openings (mm^2) ..... :		N/A
	b) volume of air injected (ml)..... :		N/A
(W.4.8)	Protection against the consequence of failure of cells or EDLCs		N/A
	Vents of cells not obstructed		N/A
	Space provided to allow EDLC expansion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(W.5)	**Protection against electric shock**		N/A
	Hazardous live parts not accessible when the luminaire is opened for replacing batteries		N/A
	Protective cover provided		N/A
(W.6)	**Endurance test and thermal test**		N/A
(W.6.1)	Endurance test		N/A
	Luminaires with charging function:	Yes ☐ No ☐	—
	c) total duration (h) ..... :		—
	d) supply voltage (V) ..... :		—
(W.6.2)	Thermal test (normal operation)	(see Annex 2)	N/A
(W.6.3)	Thermal test (abnormal operation)	(see Annex 2)	N/A
(W.6.4)	Lithium-ion charging systems – Fault conditions		N/A
	a) electronic components in the charging system of the luminaire subjected to the fault condition test according to IEC 61347-1:2015, Clause 14		N/A
	b) series configured battery charged with a deliberate imbalance		N/A
	c) one cell shorted		N/A
	No explosion during the test		N/A
	No charring or burning of the gauze or tissue paper		N/A
	No evidence of damage to any cell vent		N/A
	Upper limit charging voltage not exceeded		N/A
	Charging system permanently disabled		N/A
	Hazardous live parts shall not become accessible		N/A

(W.6.4)	**TABLE: Lithium-ion charging systems – Fault conditions**	N/A
Part	Simulated fault	Hazard
		YES/NO

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 1	**CENELEC COMMON MODIFICATIONS (EN)**	P

2.6 (3)	**MARKING**		N/A
2.6 (3.2.12)	Note 4 deleted		N/A
2.7 (4)	**CONSTRUCTION**		N/A
2.7 (4.11.6)	Electro-mechanical contact systems: electric strength test at 1 500 V		N/A
2.11 (5)	**EXTERNAL AND INTERNAL WIRING**		P
2.11 (5.2.2)	Cables equal to EN 50525 (all parts)		P
	Paragraph 2 deleted		P
	Replace table 5.1 – Supply cord		P
2.13 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		N/A
2.13 (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)**		N/A
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(5.2.1)	CY, DK, FI, UK: type of plug		N/A
(5.2.18)	DK: socket-outlets		N/A
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings *(Decree of 30 December 2011 on safety regulations for the construction of high-rise buildings and their protection against fire and panic risks; Section VIII; Article GH 48, Lighting)* 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
	UK: Requirements according to United Kingdom Building Regulation		N/A

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 2	**Additional requirements for LED module according to IEC 62031:2018 and EN IEC 62031:2020+A11:2021**	**P**

12 (14)	**FAULT CONDITIONS**		P
- (14.1)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	N/A
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (after any reduction in 14.2 - 14.5)	(see appended table)	N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
	Short-circuit or interruption of SPDs	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ ..... :	>10	P
	No flammable gases		P
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power a.c. supply and in turn to a d.c. supply		—
12.2	**Overpower condition**		P
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	Molten material does not ignite tissue paper, spread below the module		P
12 (14)	**TABLE: tests of fault conditions**		P
Part	**Simulated fault**		**Hazard**
LED (+ -) SC	Short circuit, unit shutdown, recoverable.		NO
LED (+ -) OC	Short circuit, unit shutdown, recoverable.		NO

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 3	**Photo-biological hazards according to IEC/TR 62778: 2014**	**P**

7	**MEASUREMENT INFORMATION FLOW**		**P**
7.1	**Basic flow**		**P**
	'Law of conservation of luminance' applied		P
	Use of only true luminance/radiance values		P
	In case of luminaire: The light source is operated in the luminaire under similar conditions as when tested as a component		P
	In case Ethr value for RG2 was established the peak value was derived from angular light distribution		N/A
7.2	**Conditions for the radiance measurement**		**P**
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		N/A
7.3	**Special cases (I): Replacement by a lamp or LED module of another type**		**N/A**
	Light source is a white light source		N/A
	Evaluation done based on highest luminance		N/A
	Evaluation done based on CCT value		N/A
7.4	**Special cases (II): Arrays and clusters of primary light sources**		N/A
	LED package is evaluated as .....:	☐ RG0 unlimited ☐ RG1 unlimited	N/A
	Ethr of LED package applies to array		N/A
8	**RISK GROUP CLASSIFICATION**		**P**
	Risk group achieved:		P
	- .. Risk Group 0 unlimited		N/A
	- .. Risk Group 1 unlimited	RG1	P
	- Ethr ..... (lx) : Distance to reach RG1 ..... (m) :		N/A

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Spectroradiometric measurement		P
	Measurement performed on:	☐ **LED package** ☐ **LED module** ☐ **Lamp** ☒ **Luminaire**	—
	Model number.....:	NRP-IRDL0107-12-60K-GR-24D	—
	Test voltage (V).....:	240V~	—
	Test current (A).....:	—	—
	Test frequency (Hz).....:	—	—
	Ambient, t (°C).....:	25	—
	Measurement distance.....:	☒ 20 cm ☐ ... cm	—
	Source size.....:	☒ Non-small ☐ Small : .... mm	—
	Field of view.....:	☐ 100 mrad ☒ 11 mrad ☐ 1,7 mrad (for small sources)	—

Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	6529K	—	—
x/y colour coordinates			—	—
Blue light hazard radiance	L_B	W/(m²•sr¹)	9.658E+03	RG1
Blue light hazard irradiance	E_B	W/m²	—	—
Luminance	L	cd/m²	1.786E+07	—
Illuminance	E	lx	—	—
Supplementary information: —				

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Spectroradiometric measurement		P
	Measurement performed on:	☐ **LED package** ☐ **LED module** ☐ **Lamp** ☒ **Luminaire**	—
	Model number.....:	NRP-IRDL0107-6-60K-GR-5D	—
	Test voltage (V).....:	240V~	—
	Test current (A).....:	—	—
	Test frequency (Hz).....:	—	—
	Ambient, t (°C).....:	25	—
	Measurement distance.....:	☒ 20 cm ☐ ... cm	—
	Source size.....:	☒ Non-small ☐ Small : .... mm	—
	Field of view.....:	☐ 100 mrad ☒ 11 mrad ☐ 1,7 mrad (for small sources)	—

Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	6529K	—	—
x/y colour coordinates			—	—
Blue light hazard radiance	L_B	W/(m²•sr¹)	7.235E+03	RG1
Blue light hazard irradiance	E_B	W/m²	—	—
Luminance	L	cd/m²	7.653E+06	—
Illuminance	E	lx	—	—
Supplementary information: —				

IEC 60598-2-2 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

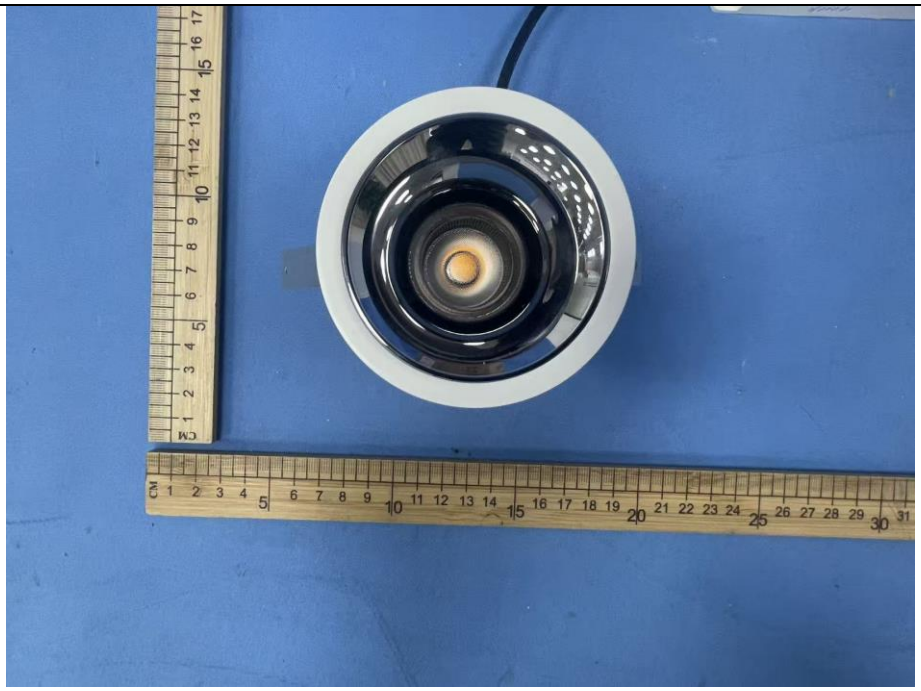
Attachment 4: EMF Assessment according to EN 62493:2015+A1:2022.	**P**

Procedure	Products are applications with	If No	If yes
a)	Non-electronic control gear?	☒ see Procedure b)	☐ Pass
b)	Incandescent-lamp technology or halogen?	☒ see Procedure c)	☐ see Procedure h)
c)	LED light-source technology?	☐ see Procedure d)	☒ see Procedure h)
d)	OLED light-source technology?	☐ see Procedure e)	☐ see Procedure h)
e)	High-pressure discharge lamp technology?	☐ see Procedure f)	☐ see Procedure h)
f)	Low-pressure discharge lamp technologies with a measurement distance >= 50cm (Distance for Hand lights, table lightings and Self-ballasted lamps is less than 50cm)	☐ see Procedure g)	☐ see Procedure h)
g)	Independent auxiliary?	☐ see Procedure i)	☐ see Procedure h)
h)	Non-wireless technology (exclude infra-red)?	☐ see Procedure i)	☒ Pass
i)	Additional test is performed and result is Pass Test Report with No.: ……..	☐ see Procedure b)	☐ Pass

Attachment 5: product photo



Overall view for all models



Overall view

Attachment 5: product photo



Rear view

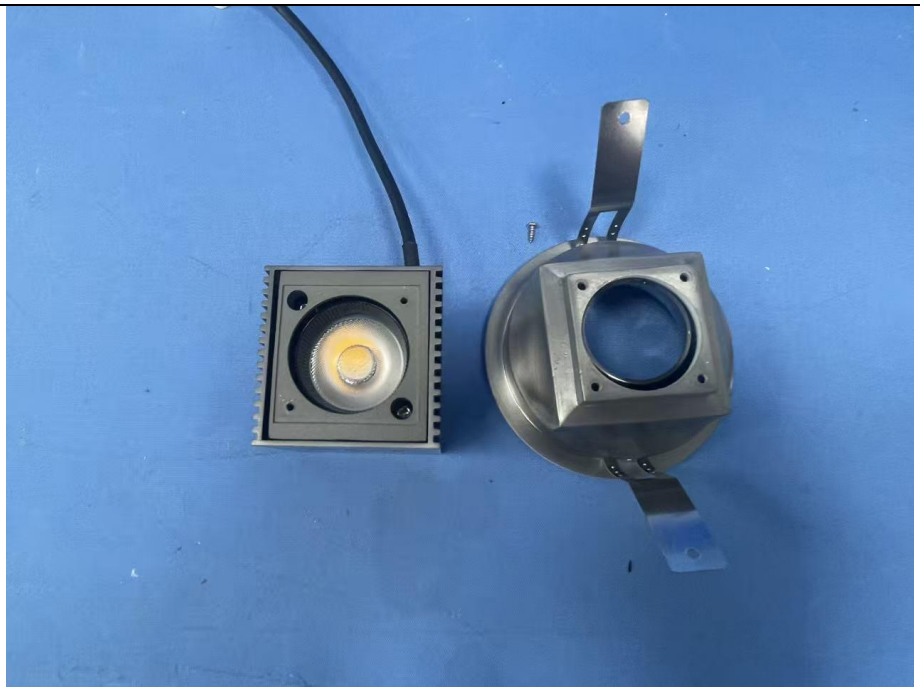


LED driver view

Attachment 5: product photo

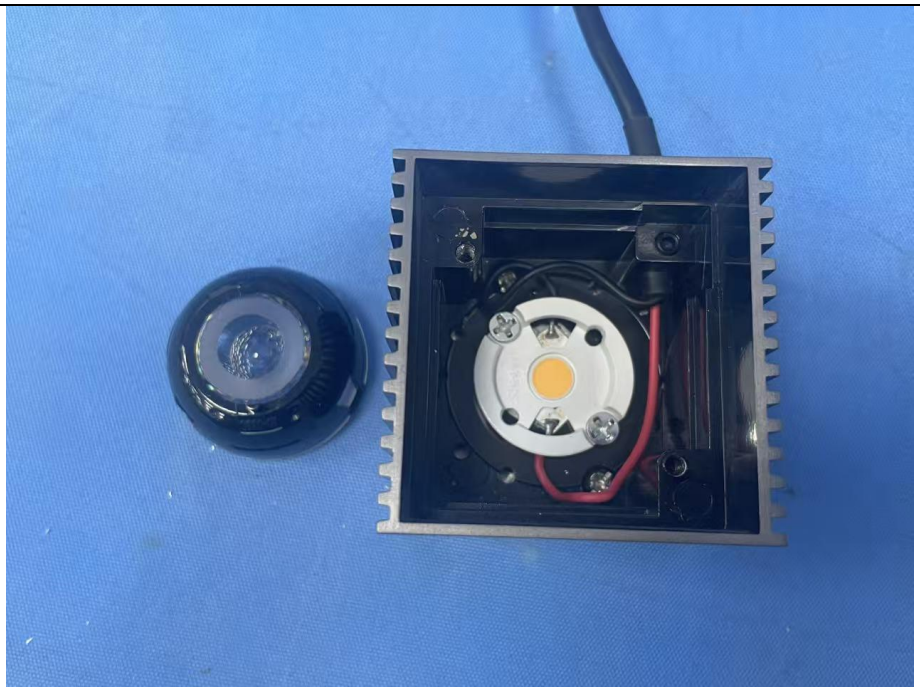


Disassembly view

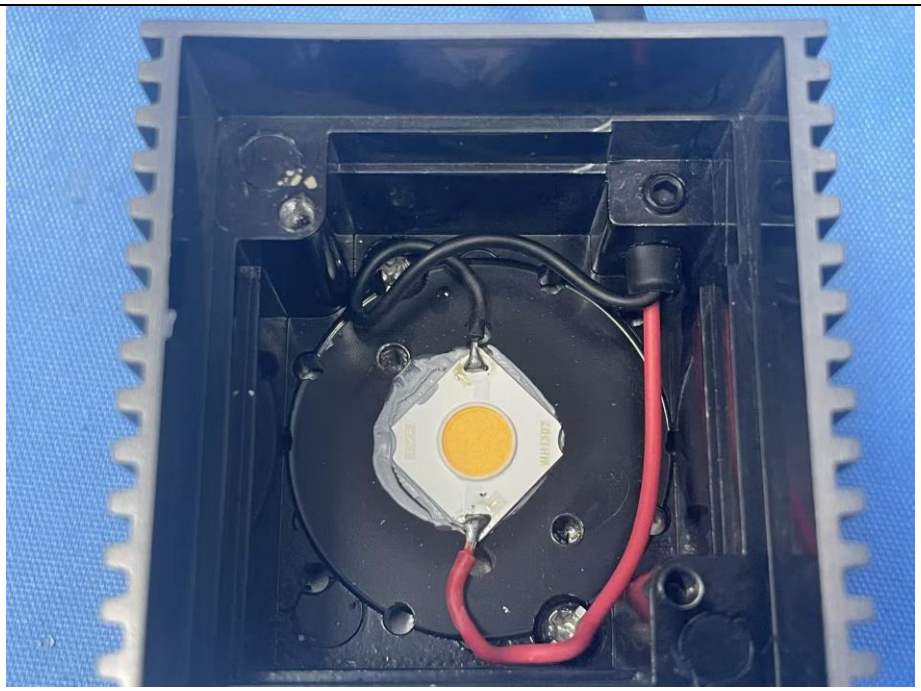


Disassembly view

Attachment 5: product photo

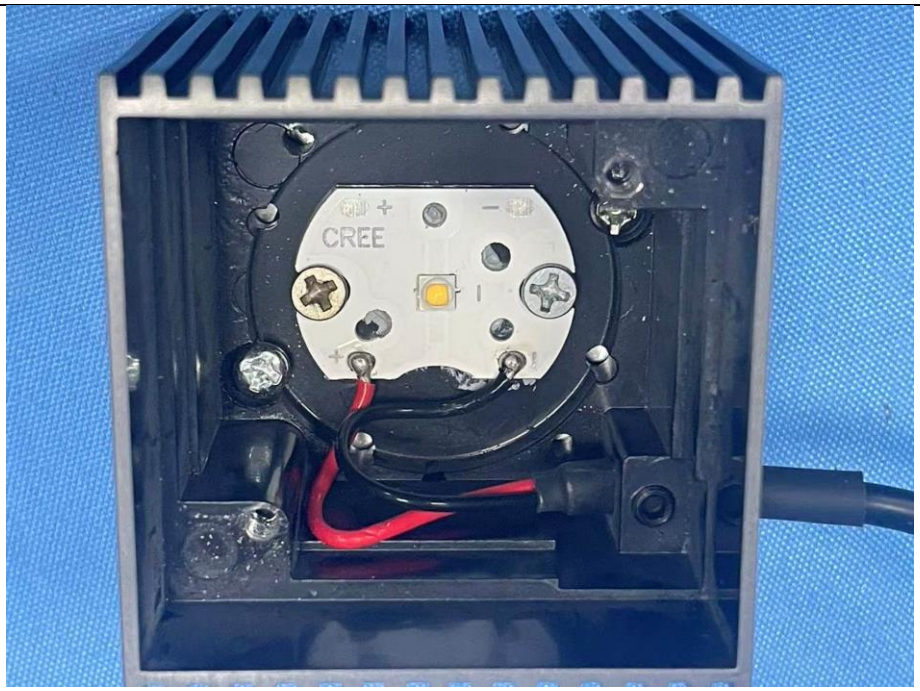


Disassembly view



LED module view for 12W models

Attachment 5: product photo



LED module view for 6W models

---End of Report---