



TEST REPORT
IEC 60598-2-2
Luminaires
Part 2: Particular requirements
Section 2: Recessed luminaires

Report Number.....: LCSB09063004S

Date of issue.....: September 25, 2023

Total number of pages.....: 54 pages

Name of Testing Laboratory
preparing the Report.....: **Shenzhen Southern LCS Compliance Testing Laboratory Ltd.**

Applicant's name.....: Foshan Rayven Lighting Co., Ltd.

Address.....: A1 New Lighting Source Industry Zone, Luocun, Nanhai District,
Foshan city, Guangdong province 528200, P.R. China

Test specification:

Standard.....: IEC 60598-2-2:2023 used in conjunction with IEC 60598-1:2020

Test procedure.....: CE-LVD

Non-standard test method.....: N/A

TRF template used.....: IECEE OD-2020-F1:2022, Ed.1.5

Test Report Form No.....: IEC60598_2_2H

Test Report Form(s) Originator.....: Intertek Semko AB

Master TRF.....: Dated 2023-02-21

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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.

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Shenzhen, China

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Test item description.....:	LED Downlight	
Trade Mark.....:	Rayvenlights	
Manufacturer.....:	Same as the applicant	
Address.....:	Same as the applicant	
Model/Type reference.....:	See the model list on the page 5	
Ratings.....:	See the model list on the page 5	
☒ Testing Laboratory:		
Testing location/ address.....:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	
Tested by.....:	Yeoh Zhang (Engineer)	<i>Yeoh Zhang</i>
Check by.....:	Torres He (Director)	<i>Torres He</i>
Approved by.....:	Jesse Liu (Manager)	<i>Jesse Liu</i>
List of Attachments (including a total number of pages in each attachment): Attachment No. 1: European group differences and national differences according to EN 60598-2-2:2012 used in conjunction with EN IEC 60598-1:2021+A11:2022 Attachment No. 2: Report IEC/EN IEC 62031. Attachment No. 3: Report IEC TR 62778. Attachment No. 4: Pages of photo documentation.		
Summary of testing:		
Tests performed (name of test and test clause): IEC 60598-2-2:2023 IEC 60598-1:2020 IEC TR 62778:2014 IEC 62031:2018 IEC 62493:2015+A1:2022	Testing location: Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	
Summary of compliance with National Differences:		
List of countries addressed European Group differences ☒ The product fulfils the requirements of EN 60598-2-2:2012; EN IEC 60598-1:2021+A11:2022; EN 62493:2015+A1:2022; EN IEC 62031:2020+A11:2021		



**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.

Label located on the Light:**LED Downlight Rayvenlights****Model: RAV10FHE21****32-40Vdc, 10W****IP65(Parts below the ceiling space)****IP20(Parts within the ceiling space)****Foshan Rayven Lighting Co., Ltd.****A1 New Lighting Source Industry Zone, Luocun, Nanhai District,
Foshan city, Guangdong province 528200, P.R. China****Importer:xxxxxx****Address:xxxxxx****Made in China****Label located on the package:****LED Downlight Rayvenlights****Model: RAV10FHE21****AC220-240V, 50/60Hz, 10W****IP65(Parts below the ceiling space)****IP20(Parts within the ceiling space)****Foshan Rayven Lighting Co., Ltd.****A1 New Lighting Source Industry Zone, Luocun, Nanhai District,
Foshan city, Guangdong province 528200, P.R. China****Importer: xxxxxxxx****Address: xxxxxxxx****MADE IN CHINA****Remarks:**

1. Height of CE mark at least 5mm, height of WEEE symbol should not less than 7mm, height of other marks at least 5mm, height of letters and numerals at least 2mm.



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**Test item particulars..... :****Classification of installation and use.....:** Recessed luminaires**Supply Connection.....:** Terminal block on driver**Protection Class.....:** Class III for the lamp, Class II for the driver**Degree of Protection..... :** IP65(Parts below the ceiling space)
IP20(Parts within the ceiling space)**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..... :** 2023-09-06**Date (s) of performance of tests..... :** 2023-09-06 ~ 2023-09-22**General remarks:**

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Clause numbers with "*" were not within the scope of CNAS recognition.

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

The general information of applicant and manufacturer (such as the name and address), product name, model/type reference, trademark and other similar information contained in this report are all provided by the applicant, the laboratory is not responsible for verifying its authenticity.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.

Modified Information

Version	Report No.	Revision Date	Summary
V1.0	LCSB09063004S	/	Original Version

Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60598-1:

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 manufacturer

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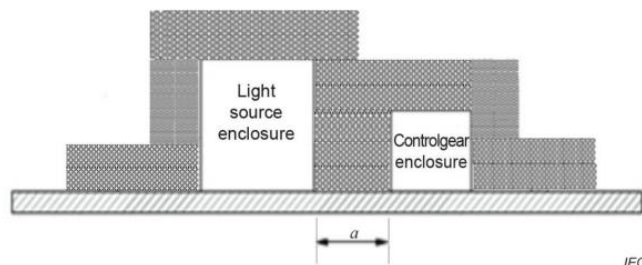
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**General product information:**

- All models have similar construction except power LED type and size.
- luminaire suitable for direct mounting on normally flammable surfaces, suitable for indoor use only.
- The products are suitable for covering with thermal insulating material.
- The driver connects to recessed light through a connector, which is detachable
- During heating test, fix the luminaire to a ceiling, a box as following cover the luminaire, $a=50\text{mm}$:



- Unless otherwise specified, the model RAV10FHE21 was chosen as representative model to perform all test.

Model list:

For all model: IP65 (Parts below the ceiling space), IP20 (Parts within the ceiling space)

Model	Rating	LED Type	LED driver	Size(ϕ *H)/mm
RAV10FHE21	AC220-240V, 50/60Hz, 10W, ta.25°C	COB	RAV10D240	$\phi 85 \times 80$
RAV8FHB21	AC220-240V, 50/60Hz, 8W, ta.25°C	COB	RAV8D180/ RAV7D300	$\phi 85 \times 56.5$
RAV6FHB21	AC220-240V, 50/60Hz, 6W, ta.25°C	COB	RAV6D140/ RAV5D300	$\phi 85 \times 56.5$
RAV8FHB22	AC220-240V, 50/60Hz, 8W, ta.25°C	COB	RAV8D180/ RAV7D300	$\phi 85 \times 45$
RAV6FHB22	AC220-240V, 50/60Hz, 6W, ta.25°C	COB	RAV6D140/ RAV5D300	$\phi 85 \times 45$
RAV10FHC21	AC220-240V, 50/60Hz, 10W, ta.25°C	SMD	RAV10D095	$\phi 85 \times 80$
RAV9FHC21	AC220-240V, 50/60Hz, 9W, ta.25°C	SMD	RAV9D090	$\phi 85 \times 80$
RAV6FHC21	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D075	$\phi 85 \times 80$
RAV5FHC21	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV5D070	$\phi 85 \times 80$
RAV8FHC21	AC220-240V, 50/60Hz, 5W/8W, ta.25°C	SMD	RAV8D085P/ RAV8D085	$\phi 85 \times 75$



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RAV4FHC21	AC220-240V, 50/60Hz, 4W/6W, ta.25°C	SMD	RAV6D075P	φ85*80
RAV8FHF21	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D180/ RAV7D300/ RAV8D270	φ85*50
RAV8FHF21-CCT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D180/ RAV7D300/ RAV8D270	φ85*50
RAV8FHF21-SMT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D180/ RAV7D300/ RAV8D270	φ85*50
RAV6FHF21	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV6FHF21-CCT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV6FHF21-SMT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV5FHF21	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV5FHF21-CCT	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV5FHF21-SMT	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*50
RAV4FHF21	AC220-240V, 50/60Hz, 4W, ta.25°C	SMD	RAV5D300	φ85*50
RAV4FHF21-CCT	AC220-240V, 50/60Hz, 4W, ta.25°C	SMD	RAV5D300	φ85*50
RAV10FHG21	AC220-240V, 50/60Hz, 10W, ta.25°C	SMD	RAV10D240	φ85*51
RAV8FHG21	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D180/ RAV7D300/ RAV8D270	φ85*51
RAV6FHG21	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*51
RAV5FHG21	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV6D140/ RAV5D300	φ85*51
RAV10FHM21	AC220-240V, 50/60Hz, 10W, ta.25°C	SMD	RAV10D240	φ85*51
RAV8FHM31	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D180/ RAV7D300	φ85*51



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RAV10FHM31	AC220-240V, 50/60Hz, 6W/4W, ta.25°C	SMD	RAV6D140	φ85*50
RAV8FHJ21	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV8FHJ21-CCT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV8FHJ21-SMT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV6FHJ21-CCT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D070	φ85*50
RAV6FHJ21-SMT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D070	φ85*50
RAV6FHJ21	AC220-240V, 50/60Hz, 4W/6W, ta.25°C	SMD	RAV6D070/ RAV6D070P	φ85*50
RAV5FHJ21	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV5D070	φ85*50
RAV5FHJ21-CCT	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV5D070	φ85*50
RAV5FHJ21-SMT	AC220-240V, 50/60Hz, 5W, ta.25°C	SMD	RAV5D070	φ85*50
RAV4FHJ21	AC220-240V, 50/60Hz, 4W, ta.25°C	SMD	RAV4D060	φ85*50
RAV4FHJ21-CCT	AC220-240V, 50/60Hz, 4W, ta.25°C	SMD	RAV4D060	φ85*50
RAV8FHJ21A	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV8FHJ21A-CCT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV8FHJ21A-SMT	AC220-240V, 50/60Hz, 8W, ta.25°C	SMD	RAV8D085	φ85*50
RAV6FHJ21A	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D065	φ85*50
RAV6FHJ21A-CCT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D065	φ85*50
RAV6FHJ21A-SMT	AC220-240V, 50/60Hz, 6W, ta.25°C	SMD	RAV6D065	φ85*50

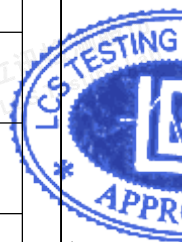


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RAV8FHK21	AC220-240V, 50/60Hz, 8W, ta.25℃	SMD	RAV8D085	φ85*52
RAV8FHK21-CCT	AC220-240V, 50/60Hz, 8W, ta.25℃	SMD	RAV8D085	φ85*52
RAV8FHK21-SMT	AC220-240V, 50/60Hz, 8W, ta.25℃	SMD	RAV8D085	φ85*52
RAV6FHK21	AC220-240V, 50/60Hz, 6W, ta.25℃	SMD	RAV6D065	φ85*52
RAV6FHK21-CCT	AC220-240V, 50/60Hz, 6W, ta.25℃	SMD	RAV6D065	φ85*52
RAV6FHK21-SMT	AC220-240V, 50/60Hz, 6W, ta.25℃	SMD	RAV6D065	φ85*52
RAV5FHK21	AC220-240V, 50/60Hz, 5W, ta.25℃	SMD	RAV5D055	φ85*52
RAV5FHK21-CCT	AC220-240V, 50/60Hz, 5W, ta.25℃	SMD	RAV5D055	φ85*52
RAV5FHK21-SMT	AC220-240V, 50/60Hz, 5W, ta.25℃	SMD	RAV5D055	φ85*52
RAV4FHK21	AC220-240V, 50/60Hz, 4W, ta.25℃	SMD	RAV4D050	φ85*52
RAV4FHK21-CCT	AC220-240V, 50/60Hz, 4W, ta.25℃	SMD	RAV4D050	φ85*52
RAV4FHK21-SMT	AC220-240V, 50/60Hz, 4W, ta.25℃	SMD	RAV4D050	φ85*52
RAV6FHL21	AC220-240V, 50/60Hz, 6W, ta.25℃	SMD	RAV6D065	φ82*58
RAV6FHL21-CCT	AC220-240V, 50/60Hz, 6W, ta.25℃	SMD	RAV6D065	φ82*58
RAV5FHL21	AC220-240V, 50/60Hz, 5W, ta.25℃	SMD	RAV5D055	φ82*58
RAV5FHL21-CCT	AC220-240V, 50/60Hz, 5W, ta.25℃	SMD	RAV5D055	φ82*58
RAV4FHL21	AC220-240V, 50/60Hz, 4W, ta.25℃	SMD	RAV4D050	φ82*58
RAV4FHL21-CCT	AC220-240V, 50/60Hz, 4W, ta.25℃	SMD	RAV4D050	φ82*58





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

2.4 (0)	GENERAL TEST REQUIREMENTS		P
2.4 (-)	Measurement of ambient temperature according to Annex A		—
2.4 (0.3)	More sections applicable.....:	Yes ☐ No ☒ Section/s:	—
2.4 (0.5)	Components	(see Annex 1)	—
2.4 (0.7)	Information for luminaire design in light sources standards		—
2.4 (0.7.2)	Light source safety standard	IEC/EN IEC 62031	—
	Luminaire design in the light source safety standard		P

2.5 (2)	CLASSIFICATION OF LUMINAIRES		P
2.5 (2.2)	Type of protection	Class III for the lamp, Class II for the driver	P
2.5 (2.3)	Degree of protection.....:	IP65(Parts below the ceiling space) IP20(Parts within the ceiling space)	P
2.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes ☒ No ☐	—
2.5 (2.5)	Luminaire for normal use	Yes ☒ No ☐	—
	Luminaire for rough service	Yes ☐ No ☒	—

2.6 (3)	MARKING		P
2.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
2.6 (3.3)	Additional information		P
	Language of instructions	English	P
2.6 (3.3.1)	Combination luminaires		N/A
2.6 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
2.6 (3.3.3)	Operating temperature		N/A
2.6 (3.3.5)	Wiring diagram		N/A
2.6 (3.3.6)	Special conditions		N/A
2.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.6 (3.3.8)	Limitation for semi-luminaires		N/A
2.6 (3.3.9)	Power factor and supply current		P
2.6 (3.3.10)	Suitability for use indoors		N/A
2.6 (3.3.11)	Luminaires with remote control		N/A
2.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
2.6 (3.3.13)	Specifications of protective shields		N/A
2.6 (3.3.14)	Symbol for nature of supply	~	P
2.6 (3.3.15)	Rated current of socket outlet		N/A
2.6 (3.3.16)	Rough service luminaire		N/A
2.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y(between driver and lamp part)	P
2.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
2.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
2.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
2.6 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided	Non-user replaceable	P
2.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
2.6 (3.3.23)	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
2.6 (3.3.24)	If not supplied with terminal block, information on the packaging		N/A
2.6 (3.3.25)	Luminaires employing light sources emitting UV on mains wiring, information provided		N/A
2.6 (3.3.26)	Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided		N/A
2.6 (3.4)	Test with water	15s	P
	Test with hexane	15s	P
	Legible after test		P
	Label attached		P
2.6.2 (-)	Luminaires with two IP ratings		P
2.6.3 (-)	Symbol “not suitable for direct mounting on normally flammable surface”, if applicable		N/A



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IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4 (-)	Symbol “not suitable for covering with thermally insulated material”, if applicable		N/A

2.7 (4)	CONSTRUCTION		P
2.7 (4.2)	Components replaceable without difficulty		P
2.7 (4.3)	Wireways smooth and free from sharp edges		P
2.7 (4.4)	Lampholders		N/A
2.7 (4.4.1)	Integral lampholder	No lampholder	N/A
2.7 (4.4.2)	Wiring connection		N/A
2.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
2.7 (4.4.4)	Positioning		N/A
	- pressure test (N)	--	—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)	--	—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
2.7 (4.4.5)	Peak pulse voltage		N/A
2.7 (4.4.6)	Centre contact		N/A
2.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
2.7 (4.4.8)	Lamp connectors		N/A
2.7 (4.4.9)	Caps and bases correctly used		N/A
2.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
2.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II	No starter holders	N/A
	Starter holder class II construction		N/A
2.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
2.7 (4.7)	Terminals and supply connections		P





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (4.7.1)	Contact to metal parts		N/A
2.7 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		N/A
2.7 (4.7.3)	Terminals for supply conductors		P
2.7 (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
2.7 (4.7.4)	Terminals other than supply connection		N/A
2.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
2.7 (4.7.6)	Multi-pole plug	No plug	N/A
	- test at 30 N		N/A
2.7 (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
2.7 (4.9)	Insulating lining and sleeves		N/A
2.7 (4.9.1)	Retainment		N/A
	Method of fixing.....: --		N/A
2.7 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
2.7 (4.10)	Double or reinforced insulation		P
2.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
2.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
2.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
2.7 (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
2.7 (4.11)	Electrical connections and current-carrying parts		P
2.7 (4.11.1)	Contact pressure		P
2.7 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
2.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
2.7 (4.11.4)	Material of current-carrying parts		P
2.7 (4.11.5)	No contact to wood or mounting surface		P
2.7 (4.11.6)	Electro-mechanical contact systems		N/A
2.7 (4.12)	Screws and connections (mechanical) and glands		P
2.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Torque test: torque (Nm); part..... :	Fixed LED cover: 0.5Nm	P
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
2.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
2.7 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :	--	N/A
	- lampholder; torque (Nm)..... :	--	N/A
	- push-button switches; torque 0,8 Nm..... :	--	N/A
2.7 (4.12.5)	Screwed glands; force (Nm)..... :	--	N/A
2.7 (4.13)	Mechanical strength		P
2.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm)..... :	For enclosure: 0.35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
2.7 (4.13.2)	Metal parts have adequate mechanical strength		P
2.7 (4.13.3)	Straight test finger		P
2.7 (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
2.7 (4.13.6)	Tumbling barrel		N/A
2.7 (4.14)	Suspensions, fixings and means of adjusting		P
2.7 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :	--	N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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
2.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)	No such cable used	—
	Stress in conductors (N/mm ²)	--	N/A
	Mass (kg) of semi-luminaire	--	N/A
	Bending moment (Nm) of semi-luminaire	--	N/A
2.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....		N/A
	- strands broken.....		N/A
	- electric strength test afterwards		N/A
2.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors	No such part	N/A
2.7 (4.14.5)	Guide pulleys		N/A
2.7 (4.14.6)	Strain on socket-outlets		N/A
2.7 (4.15)	Flammable materials		P
	- glow-wire test 650°C.....	See Test Table 2.16 (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
2.7 (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
2.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear.....	(compliance with Section 12)	N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
2.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
2.7 (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
2.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
2.7 (4.17)	Drain holes		N/A
	Clearance at least 5 mm	For indoor use only	N/A
2.7 (4.18)	Resistance to corrosion		P
2.7 (4.18.1)	- rust-resistance		P
2.7 (4.18.2)	- season cracking in copper		N/A
2.7 (4.18.3)	- corrosion of aluminium		P
2.7 (4.19)	Ignitors compatible with ballast		N/A
2.7 (4.20)	Rough service vibration		N/A
2.7 (4.21)	Protective shield		N/A
2.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps	No such lamps used	N/A
	Shield of glass if tungsten halogen lamps		N/A
2.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
2.7 (4.21.3)	No direct path		N/A
2.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 2.16 (13.3.2)	N/A
2.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
2.7 (4.23)	Semi-luminaires comply Class II		N/A
2.7 (4.24)	Photobiological hazards		P
2.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)	Not designed for such lamps	N/A



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IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (4.24.2)	Retinal blue light hazard		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 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
2.7 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
2.7 (4.26)	Short-circuit protection		N/A
2.7 (4.26.1)	Adequate means of uninsulated accessible SELV or PELV parts		N/A
2.7 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
2.7 (4.27)	Terminal blocks with integrated screwless earthing contacts		N/A
	Test according Annex V	No such terminal	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 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type	No thermal sensing control	N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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 (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
2.7 (4.30)	Luminaires with non-user replaceable light source		P
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	One fixing means requiring the use of a tool for its removal		P
2.7 (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
2.7 (4.31.1)	SELV or PELV circuits		P
	Used SELV or PELV source		P
	Voltage ≤ ELV		P
	PELV circuit shall have one pole connected to functional earth		N/A
	The connection between PELV and earth shall comply with functional earth		N/A
	Insulating of SELV or PELV circuits from LV supply		P
	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		P





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Plugs not able to make any electrical contact socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets in SELV systems does not have protective conductor contact		N/A
2.7 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage $\leq$ 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 socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
2.7 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
2.7 (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





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (4.33)	Luminaire powered via information technology communication cabling		N/A
	Luminaire shall fulfil the requirement for Class III		N/A
	Rated voltage of luminaire shall be within range of ES1, not exceed maximum voltage rated to used connector		N/A
	The luminaire shall be designed in line with the limits of the electrical parameters of a PSE.		N/A
	No hazard with 130% rated input voltage minimum 7.5VDC for circuit greater than 5VDC		N/A
	No hazard with 150% rated input voltage for circuit equal to or less than 5VDC		N/A
2.7 (4.34)	Electromagnetic field (EMF)		P
	Compliance to IEC 62493:2015+A1:2022		P
2.7 (4.35)	Protection against moving fan blades		N/A
	Fan blades not accessible when installed and wired as in normal use and replacing light sources or components		N/A
	This test is not necessary for fans have leading edges and tips rounded with a radius of not less than 0,5mm and:		N/A
	Hardness less than D60 Shore, or		N/A
	Peripheral speed less than 15m/s supplied with rated voltage, or		N/A
	Fan has input power not exceeding 2W supplied with rated voltage.		N/A
2.7 (4.36)	Track-mounted luminaires		N/A
	Tested according to Annex A of IEC 60570		N/A

2.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
2.8 (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
2.8 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 2.8 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347-1, clause 7.1, item w	See Test Table 2.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 2.8 (11.2) II	N/A
2.8 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 2.8 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 2.8 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 2.8 (11.2) II	N/A

2.9 (7)	PROVISION FOR EARTHING		N/A
2.9 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω:		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
2.9 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
2.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
2.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
2.9 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
2.9 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
2.9 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
2.9 (7.2.10)	Class II luminaire for looping-in		N/A



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IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Double or reinforced insulation to functional earth		N/A
2.9 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
2.9 (7.2.12)	PELV circuit connected to protective earth for functional purpose		N/A

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

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

2.11 (5)	EXTERNAL AND INTERNAL WIRING		P
2.11 (5.2)	Supply connection and external wiring		P
2.11 (5.2.1)	Means of connection.....:	Terminal block on the driver	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c/60 V d.c./25V peak interrupted DC voltage with frequency between 10Hz and 200Hz or protected from outdoor environment		N/A
2.11 (5.2.2)	Type of cable.....:	See ANNEX1	P
	Nominal cross-sectional area (mm ²).....:	See ANNEX1	P
	Cables equal to IEC 60227 or IEC 60245		P
2.11 (5.2.3)	Type of attachment, X, Y or Z	Type Y(between driver and lamp part)	P
2.11 (5.2.5)	Type Z not connected to screws		N/A
2.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
2.11 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
2.11 (5.2.8)	Insulating bushings:		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
2.11 (5.2.9)	Locking of screwed bushings		N/A
2.11 (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		N/A
2.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
2.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
2.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... : 30N(2*22AWG)		P
	- torque test: torque (Nm)..... : 0.08Nm(2*22AWG)		P
	- displacement ≤ 2 mm	Max.1.0mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- function independent of electrical connection		P
2.11 (5.2.10.4)	Exemption from cord anchorage test in 5.2.10.3 if maximum current 2A, including short circuit current.		N/A
	Prior to the operation of an overcurrent limiting device and the following conditions and test requirements are met		N/A
	Ordinary SELV Class III luminaire at voltage not exceeding 25Vrms or 60VDC		N/A
	Ordinary PELV Class III luminaire at voltage not exceeding 12Vrms or 30VDC		N/A
	Other than ordinary Class III luminaire at voltage not exceeding 12Vrms or 30VDC		N/A
	Pull test 30N for 1min		N/A
2.11 (5.2.11)	External wiring passing into luminaire		P
2.11 (5.2.12)	Looping-in terminals		N/A
2.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
2.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
2.11 (5.2.15)	Connectors for Class III luminaires (IEC 60603 or IEC 62680)		N/A
2.11 (5.2.16)	Appliance inlets (IEC 60320)	No such inlet used	N/A
	Installation couplers (IEC 61535)		N/A
	For appliance inlet or connector systems according to IEC 61984, additional requirements apply:		N/A
	a) Polarization		N/A
	b) Protection against electric shock		N/A
	c) Mechanical locking		N/A
	d) Early contact making		N/A
	e) Protection against short circuit of poles		N/A
	f) Cable Clamp		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
2.11 (5.2.17)	No standardized interconnecting cables properly assembled	No inter-connection cable	N/A
2.11 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083	No plug used	N/A
	- other standard		N/A
2.11 (5.3)	Internal wiring		P
2.11 (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 earth only		P
2.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²)..... :	--	N/A
	Insulation thickness (mm)		N/A
	Extra insulation added where necessary		N/A
2.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Cross-sectional area (mm ²)..... :		P
2.11 (5.3.1.3)	Double or reinforced insulation for class II		P
2.11 (5.3.1.4)	Conductors without insulation		N/A
2.11 (5.3.1.5)	SELV current-carrying parts		P
2.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
2.11 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.	No such parts	N/A
	Joints, raising/lowering devices	No such devices	N/A
	Telescopic tubes etc.	No such part	N/A
	No twisting over 360°		P



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IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.11 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
2.11 (5.3.4)	Joints and junctions effectively insulated		N/A
2.11 (5.3.5)	Strain on internal wiring		N/A
2.11 (5.3.6)	Wire carriers		N/A
2.11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
2.11 (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 not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A

2.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
2.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements	Not such luminaire	N/A
	Basic insulation only accessible under lamp or starter replacement	No replaceable part	N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable	Not used	N/A
	Double-ended high-pressure discharge lamp	No such lamp	N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
2.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position	Not portable	N/A
2.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
2.12 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
2.12 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load (V).....:		N/A
	- no-load voltage (V).....:	--	N/A
	- touch current if applicable (mA)	--	N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage (V)	--	N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
2.12 (8.2.3.d)	PELV circuit may have exposed current carrying parts under the following conditions:		N/A
	For ordinary luminaires voltage not exceed 12 VRMS or 30VDC (under load and no load)		N/A
	For other than ordinary, voltage nor exceed 12 VRMS or 30VDC (under load and no load)		N/A
	If voltage exceed, only the earthed pole may be accessible, other pole shall be insulated accordance with 10.2.2		N/A
	Class III luminaires are accepted by connection to SELV source or PELV source		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
2.12 (8.2.4)	Portable luminaire has protection independent of supporting surface	Not portable luminaire	N/A
2.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
2.12 (8.2.6)	Covers reliably secured		P
2.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection	0V	P
	Portable luminaire with capacitor > 0,1 μ F (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μ F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A
2.12 (-)	Parts within the ceiling space provide same degree of protection against electric shock as parts below the ceiling space		P

2.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
2.13.1 (-)	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and (12.7) after (9.2) before (9.3) specified in 2.14		—
2.13.2 (-)	Luminaire mounted and tested according to Annex B		—
2.13 (12.2)	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Control gear used see Annex 2)	—
2.13 (12.3)	Endurance test		P
	a) mounting- position	Mounted in a cavity as instructed in user manual	—
	b) test temperature (°C).....	25°C+10°C	—
	c) total duration (h)	240h	—
	d) supply voltage (V).....	1,1x240V	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A)	--	—
	e) luminaire ceases to operate		—
2.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P





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Clause	Requirement + Test	Result - Remark	Verdict
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
2.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
2.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
2.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
2.13 (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
2.13 (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
2.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
2.13 (12.7.1)	Luminaire without temperature sensing control		N/A
2.13 (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)	--	—





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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 2.16 (13.2.1)	N/A
2.13 (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 2.16 (13.2.1)	N/A
2.13 (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
2.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....:	Yes ☐ No ☐	—
	- manual reset cut-out.....:	Yes ☐ No ☐	—
	- auto reset cut-out.....:	Yes ☐ No ☐	—
	- case of abnormal conditions.....:	--	—
	- highest measured temperature of fixing point/ exposed part (°C):.....:	--	—
	Ball-pressure test.....:	See Test Table 2.16 (13.2.1)	N/A
2.13.3 (-)	Wiring, for connection to the supply, not reach unsafe temperature		P





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Clause	Requirement + Test	Result - Remark	Verdict
	- measured temperature of the cable (°C)		P
2.13. 4(-)	Test for air-handling luminaires under static operating conditions:		N/A
	Normal operation		N/A
	Abnormal operation		N/A

2.14 (9)	RESISTANCE TO DUST AND MOISTURE		P
2.14 (-)	If IP > IP 20 the order of tests as specified in clause 2.13		P
2.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....	IP65(Parts below the ceiling space) IP20(Parts within the ceiling space)	—
	- mounting position during test.....	According to manual	—
	- fixing screws tightened; torque (Nm).....	2/3 torque of cl 4.12.1	—
	- tests according to clauses.....	Clauses 9.2.0, 9.2.2 and 9.2.6	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	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 or pressure watertight luminaire or high pressure and temperature water jet-proof luminaire 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





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Clause	Requirement + Test	Result - Remark	Verdict
2.14 (9.3)	Humidity test 48 h	25°C, 93%RH	P
2.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
2.15 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ).....	See below	—
	SELV/PELV		P
	- between current-carrying parts of different polarity:	--	N/A
	- between current-carrying parts and mounting surface.....	>100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....	>100 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....		N/A
	- Insulation bushings as described in Section 5	--	N/A
	Other than SELV/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.....	No 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
2.15 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test	No ignitor	N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V).....	See below	P
	SELV/PELV		P





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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts of different polarity:	--	N/A
	- between current-carrying parts and mounting surface.....:	500V	P
	- between current-carrying parts and metal parts of the luminaire.....:	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....:		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV/PELV		P
	- between live parts of different polarity.....:	1480V	P
	- 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.....:	No 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
2.15 (10.3)	Touch current or protective conductor current (mA):	Max. 0.06mA	P

2.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
2.16 (13.2.1)	Ball-pressure test.....:	See Test Table 2.16 (13.2.1)	P
2.16 (13.3.1)	Needle-flame test (10 s).....:	See Test Table 2.16 (13.3.1)	P
2.16 (13.3.2)	Glow-wire test (650°C).....:	See Test Table 2.16 (13.3.2)	P
2.16 (13.4)	Proof tracking test (IEC 60112).....:	See Test Table 2.16 (13.4)	P





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Clause	Requirement + Test	Result - Remark	Verdict

2.8 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	See below	1.5	Table 11.1.B	See below	2.5	Table 11.1.A
Distance 2:	B	1.3	0.5	Table 11.1.B	1.3	1.2	Table 11.1.A
Working voltage (V)..... :					240V~ for input		—
PTI..... :					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV)					--		—
Supplementary information:							
Distance 1: Approved LED driver and terminal block used,							
Distance 2: Between current-carrying part and the metal enclosure,							

** 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

2.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)		2,0mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
DC connector	See Annex 1	125	1.5	
Supplementary information:--				

2.16 (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
DC connector	See Annex 1	10s	No	0s	P
Supplementary information:--					

2.16 (13.3.2)	TABLE: Resistance to heat and fire - Glow wire tests				P
Object/ Part No./ Material	Manufacturer/ trademark	GWT (°C): 650			Verdict
		t _E (s)	t _I (s)	t _R (s)	
LED cover	See Annex 1	0	0	0	P
Ignition of the specified layer placed underneath the test specimen (Yes/No).....:					No
Supplementary information:--					

2.16 (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
LED cover	See Annex 1	Yes	Yes	Yes	P
Supplementary information:--					





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Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 1	TABLE: Critical components information						--
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV10D240	Input:220-240V~, 50/60Hz 0.05A OUTPUT:32-40V 240mA, 10W max Uout:52Vdc, ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV8D180	Input: 220-240V~, 50/60Hz, 0.04A Output: 32-40Vdc, U-out:52Vdc, 0.18A, 8W, ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV7D300	Input: 220-240V~, 50/60Hz, 0.035A Output: 15-23Vdc, U-out:33Vdc, 0.3A, 7W, ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV6D140	Input: 220-240V~, 50/60Hz, 0.03A Output: 32-40Vdc, U-out:52Vdc, 0.14A, 6W, ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV5D300	Input: 220-240V~, 50/60Hz, 0.03A Output: 12-17Vdc, U-out:33Vdc, 0.3A, 5W, ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE	
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV10D095	Input:220-240V~, 50/60Hz 0.05A OUTPUT:72-90V	EN 61347.1 EN 61347.2.13	CE	



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IEC 60598-2-2						
Clause	Requirement + Test			Result - Remark		Verdict
				95mA, 10W max ta.25°C, tc.85°C, IP20, Independent, Class II		
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV9D090	Input:220-240V~, 50/60Hz 0.05A OUTPUT:72-90V 90mA, 9W max ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV8D085	Input:220-240V~, 50/60Hz 0.04A OUTPUT:72-90V 85mA, 8W max ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV6D075	Input:220-240V~, 50/60Hz 0.03A OUTPUT:72-90V 75mA, 6W max ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV5D070	Input:220-240V~, 50/60Hz 0.03A OUTPUT:72-90V 70mA, 5W max ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV8D085P	Input:220-240V~, 50/60Hz 0.04A OUTPUT:54-81V 85mA, 8W max , ta.25°C, tc.85°C, IP20, Independent, Class II	EN 61347.1 EN 61347.2.13	CE
LED driver	B	FOSHAN RAYVEN LIGHTING CO., LTD	RAV6D075P	Input:220-240V~, 50/60Hz 0.03A OUTPUT:54-81V	EN 61347.1 EN 61347.2.13	CE



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Clause	Requirement + Test			Result - Remark		Verdict
				75mA, 6W max ta.25°C, tc.85°C, IP20, Independent, Class II		
Output wire of driver	C	ZHONG SHAN YU XUAN ELECTRONICS CO LTD	2464	300VAC, 80°C, 22AWG	--	UL E316286
-Alt.	D	DONGGUAN CHENG XING ELECTRONIC CO LTD	2464	300VAC, 80°C, 22AWG	--	UL E249743
-Alt.	D	XIN SHENG TERMINAL MFG LTD	2464	300VAC, 80°C, 22AWG	--	UL E328303
-Alt.	D	LEADER ELECTRIC WIRE & CABLE CO LTD	2464	300VAC, 80°C, 22AWG	--	UL E154283
-Alt.	D	ZHONGSHAN CITY BOYU WIRE CO LTD	2464	300VAC, 80°C, 22AWG	--	UL E314089
-Alt.	D	ZHONGSHAN WEIFENG ELECTRIC APPLIANCES CO LTD	2464	300VAC, 80°C, 22AWG	--	UL E314135
Input wire of lamp part	C	ZHONGSHAN WEIFENG ELECTRIC APPLIANCES CO LTD	2733	300VAC, 105°C, 22AWG	--	UL E314135
-Alt.	D	DONGGUAN CHENG XING ELECTRONIC CO LTD	2733	300VAC, 105°C, 22AWG	--	UL E249743
-Alt.	D	ZHONGSHAN CITY BOYU WIRE CO LTD	2733	300VAC, 105°C, 22AWG	--	UL E314089
DC connector	C	Foshan Yongjun Optoelectronics Co., LTD	YJ	PC	IEC 60598-2-2	Tested with appliance
COB	C	Foshan zhonghao photoelectric co.LTD	BH1311	IF:240mA VF:36V 2700-6500K	IEC TR62778 IEC 62031	Tested with appliance
LED(SMD)	C	Shenzhen Xuyu Photoelectric Co., LTD	2835	IF=3v VF=150ma,IF=18v VF=600ma,IF=9V VF=100mA 2700-6500K	IEC TR62778 IEC 62031	Tested with appliance
Lens	C	FOSHAN RONG YI HARDWARE & PLASTIC FACTORY	C500n	V-2; PC	AS/NZS60598.2.2 AS/NZS 60598.1	Tested with appliance
-Alt.	D	JINYOUNG (XIAMEN) ADVANCED MATERIALS TECHNOLOGY CO., LTD	C500	PC; V-2	--	UL E475922
Supplementary information:						



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Clause	Requirement + Test	Result - Remark	Verdict

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
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ANNEX 2	TABLE: Thermal tests of Section 12		P
	Type reference.....:	RAV10FHE21	—
	Lamp used.....:	LED module	—
	Lamp control gear used.....:	RAV10D240	—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W).....:	9.49W	—
	Supply current (A).....:	0.043A	—
	Calculated power factor.....:	0.858	—
	Temperatures in test 1 - 4 below are corrected for ta (°C)	25°C	—
	- abnormal operating mode.....:		—
2.13 (12.4)	- test 1: rated voltage		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current	1,06x240V~	—
	- 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		—
2.13 (12.5)	- test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current.....:		—

Temperature measurements (°C)

Part	Ambient	Cl. 12.4 – normal				Cl. 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Tc of driver	25	--	68.5	--	75	--	--
DC connector	25	--	30.1	--	Ref.	--	--
Output wire near LED	25	--	87.2	--	105	--	--
COB	25	--	90.2	--	Ref.	--	--
LED cover	25	--	69.4	--	Ref.	--	--
Mounting surface	25	--	57.9	--	90	--	--

Supplementary information:

Test condition:

Luminaires for recessing into ceilings with thermal insulating material covering the luminaireThermal insulating



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**IEC 60598-2-2**

Clause	Requirement + Test	Result - Remark	Verdict
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material is tightly fitted to the outside of the luminaire. The thermal insulation shall be equivalent to two 10 cm thick layers of mineral wool with a coefficient of thermal resistivity of 0,04 W/(m K). Thinner layers can be used when having a higher thermal resistivity. If a luminaire is provided with separate parts intended for recessed mounting, (for example, with separate light source enclosure and control gear enclosure), the test recess shall be constructed observing the manufacturer's recommendations for minimum spacing between parts (see Figure B.1). The space shall be filled with insulating material.

ANNEX 3	Screw terminals (part of the luminaire)	N/A
(14)	SCREW TERMINALS	N/A
(14.2)	Type of terminal..... :	—
	Rated current (A)..... :	—
(14.3.2.1)	One or more conductors	N/A
(14.3.2.2)	Special preparation	N/A
(14.3.2.3)	Terminal size	N/A
	Cross-sectional area (mm ²)..... :	—
(14.3.3)	Conductor space (mm)..... :	N/A
(14.4)	Mechanical tests	N/A
(14.4.1)	Minimum distance	N/A
(14.4.2)	Cannot slip out	N/A
(14.4.3)	Special preparation	N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :	M
	External wiring	N/A
	No soft metal	N/A
(14.4.5)	Corrosion	N/A
(14.4.6)	Nominal diameter of thread (mm)..... :	N/A
	Torque (Nm)..... :	N/A
(14.4.7)	Between metal surfaces	N/A
	Lug terminal	N/A
	Mantle terminal	N/A
	Pull test; pull (N)..... :	N/A
(14.4.8)	Without undue damage	N/A
ANNEX 4	Screwless terminals (part of the luminaire)	N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.1.2)	Pull test pin or tab terminals (4 N, 4 samples).....:		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples).....:		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

(15.6.3.1) (15.6.3.2)		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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IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 5: EMF test result according to IEC/EN 62493		P
4	LIMITS		P
4.1	General		P
	Comply with Van der Hoofden test limit in 4.2.3 or inherently compliant in 4.2.2 and pass assessment procedure for intentional radiators in 4.3		P
4.2	Unintentional radiating part of lighting equipment		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
	1) electronic controlgear	Yes ☐ No ☒	—
	2) incandescent-lamp technology	Yes ☐ No ☒	—
	3) LED-light-source technology	Yes ☒ No ☐	—
	4) OLED-light-source technology	Yes ☐ No ☒	—
	5) high-pressure discharge lamp	Yes ☐ No ☒	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes ☐ No ☒	—
	7) independent auxiliary	Yes ☐ No ☒	—
	Not fulfil any of 1-7 above subject to 4.2.3		—
4.2.3	Applications of limits		N/A
	Not fulfil any of 1-7 in 4.2.2 but the compliance factor F is ≤ 1		N/A
4.3	Intentional radiating part of lighting equipment		N/A
	Comply with one of methods in Clause 7 if intentional radiator		N/A

6	MEASUREMENT PROCEDURE FOR THE VAN DER HOOFDEN TEST		N/A
6.1	General		N/A
	Measurements carried out under conditions according Clause 6.1 – 6.6	See Table 6	N/A

7	ASSESSMENT PROCEDURE INTENTIONAL RADIATORS		N/A
7.2	Low-power exclusion method		N/A
7.2.1	Input $P_{\text{int,rad}}$:		—
	Exclusion level P_{max}:		—





IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Input power $P_{\text{int,rad}} < \text{exclusion level } P_{\text{max}}$		N/A
7.3	Application of the EMF product standard for body worn-equipment		N/A
	If not Clause 7.2 is met and expose distance $\leq 0.05 \text{ m}$, comply with IEC 62209-2		N/A
7.4	Application of the EMF product standard for base stations		N/A
	If not Clause 7.2 is met and if intentional radiator is base station, comply with IEC 62232		N/A
7.5	Application of another EMF standard		N/A
	If not Clause 7.2 is met and if intentional radiator cannot be considered as in Clause 7.3 or 7.4, comply with IEC 62311		N/A

6	TABLE: Measurement results with Van der Hoofden test head					N/A
Location of EUT		Test model	Measuring distance	Result(F)	Limit(F)	Verdict
Reference Annex B of IEC/EN 62493:2015+A1:2022		--	--	--	≤1.0	N/A





Attachment No.1

IEC60598_2_2H-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60598-2-2
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Luminaires

Part 2: Particular requirements

Section 2: Recessed luminaires

Differences according to..... : EN 60598-2-2:2012 used in conjunction with
EN IEC 60598-1:2021+A11:2022

	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	P
2.13 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring	P

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



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Attachment No.1

IEC60598_2_2H-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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



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Attachment No.2

IEC/EN IEC 62031 LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
4.2	Classification		---
	Built-in.....:	Yes ☐ No ☒	—
	Independent.....:	Yes ☐ No ☒	—
	Integral.....:	Yes ☒ No ☐	—
4.6	Independent modules comply with requirements in IEC 60598-1:2020		N/A
4.8	Modules with integrated controlgear providing SELV comply with requirements according to IEC 61347-1:2015/AMD1:2017 clause L.5 to L.11.	(see Annex 1)	N/A
6	Marking		N/A
6.2	Contents of marking for built-in and for independent LED modules		N/A
6.3	Location of marking for built-in LED modules		N/A
6.4	Location of marking for independent LED modules		N/A
6.5	Marking of integral LED modules		P
6.6	Durability and legibility of marking		N/A
7	Terminals		N/A
8 (9)	EARTHING		N/A
9 (10)	Protection against accidental contact with live parts		N/A
10 (11)	Moisture resistance and insulation		P
11 (12)	Electric strength		P
12 (14)	Fault conditions		P
12.1	Fault conditions according to IEC 61347-1, Clause 14		P
12.2	Overpower condition	No damage	P
14 (15)	Construction		P
- (15.1)	Wood, cotton, silk, paper and similar fibrous material		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	Printed circuits		P
	Printed circuits used as internal connections complies with clause 14		P



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Attachment No.2

IEC/EN IEC 62031 LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
15 (16)	Creepage distances and clearances		N/A
16 (17)	Screws, current-carrying parts and connections		N/A
17 (18)	Resistance to heat, fire and tracking		N/A
18	Resistance to corrosion		N/A
20	Heat management		N/A
22	Photobiological safety		P
22.1	UV radiation		N/A
22.2	Blue light hazard		P
	Assessed according to IEC TR 62778		P
22.3	Infrared radiation		N/A



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Attachment No.3

IEC TR 62778 Photobiological safety of lamps and lamp systems			
Clause	Requirement + Test	Result - Remark	Verdict

Table 2.7 (4.24)		Spectroradiometric measurement (IEC 62778)			--
	Measurement performed on:	Luminaire			--
	Model number	RAV10FHE21			--
	Test voltage (V)	240V			--
	Test current (mA)	--			--
	Test frequency (Hz)	50			--
	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	Risk Group
Correlated colour temperature		CCT	K	--	--
x/y colour coordinates		--	--	--	--
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	3254	☐ RG0: <100 ☒ RG1: <10000 ☐ RG2: <4000000
Blue light hazard irradiance		E _B	W/m ²	--	--
Luminance		L	cd/m ²	--	--
Illuminance		E	lx	--	--
Supplementary information:					



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Attachment No.4

Photo Documentation

Model: RAV10FHE21



Photo 1



Photo 2



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Attachment No.4

Photo Documentation



Photo 3



Photo 4





Attachment No.4

Photo Documentation

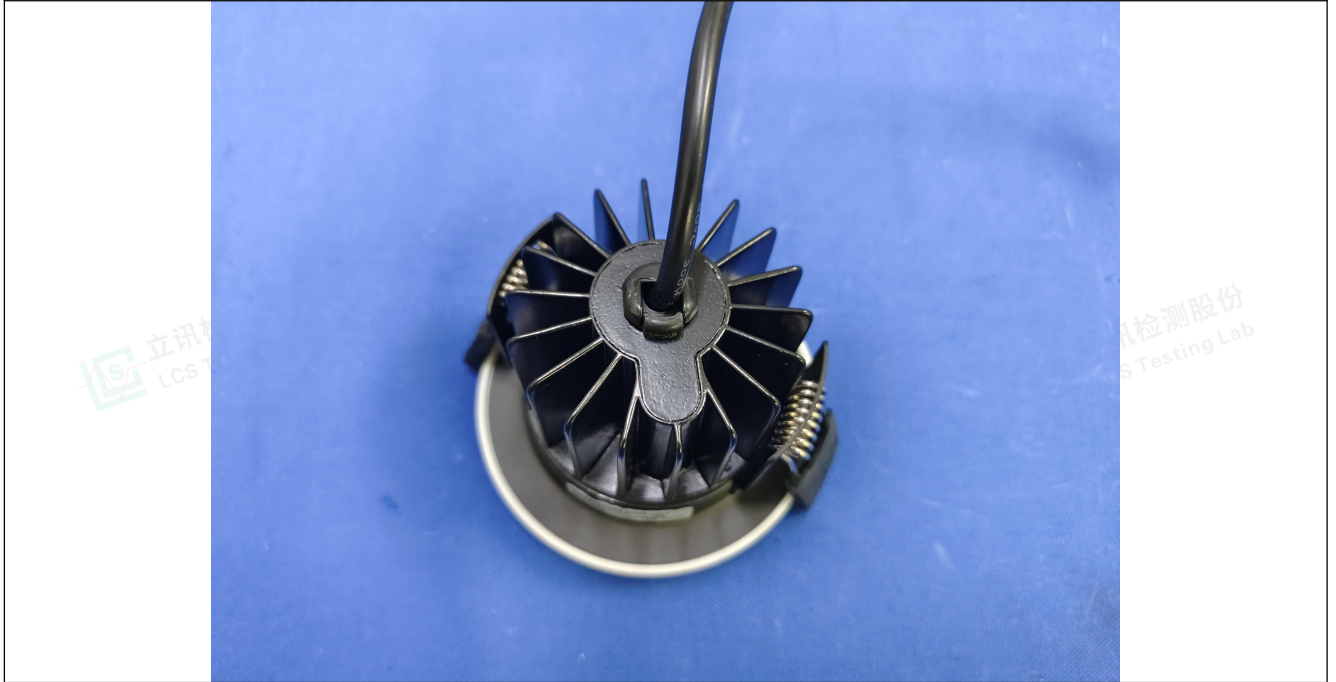


Photo 5

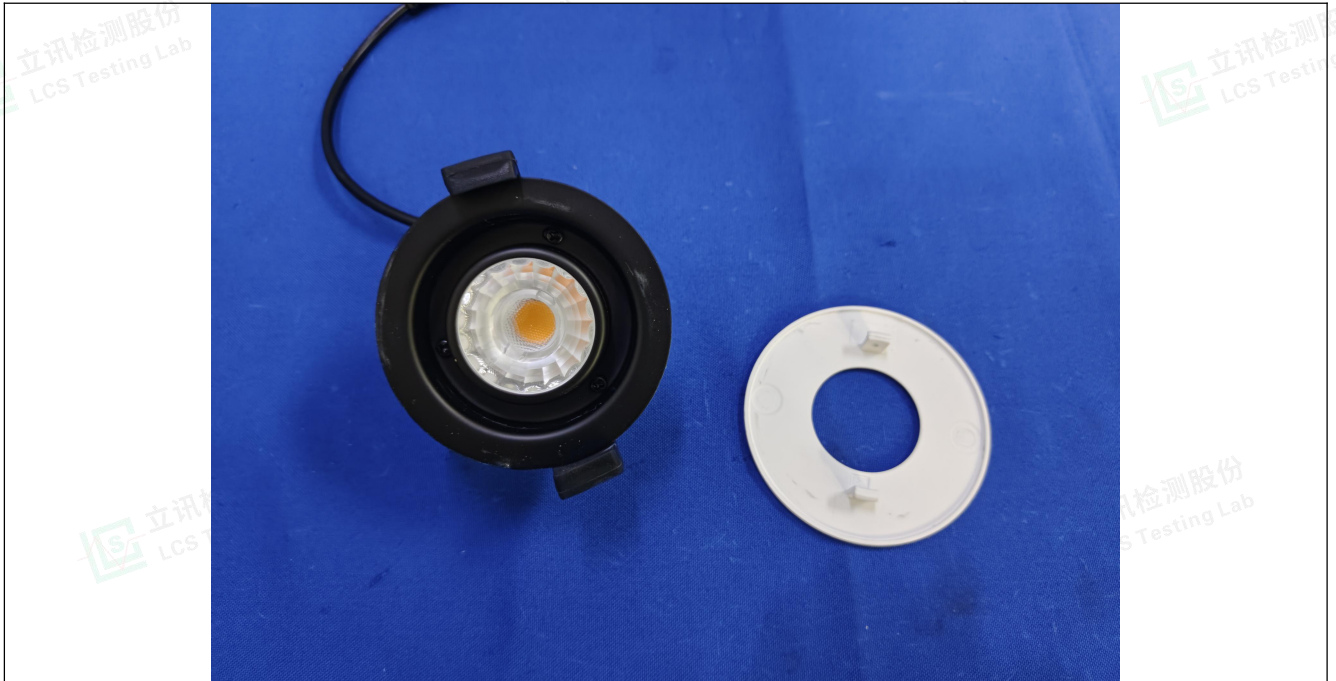


Photo 6





Attachment No.4

Photo Documentation

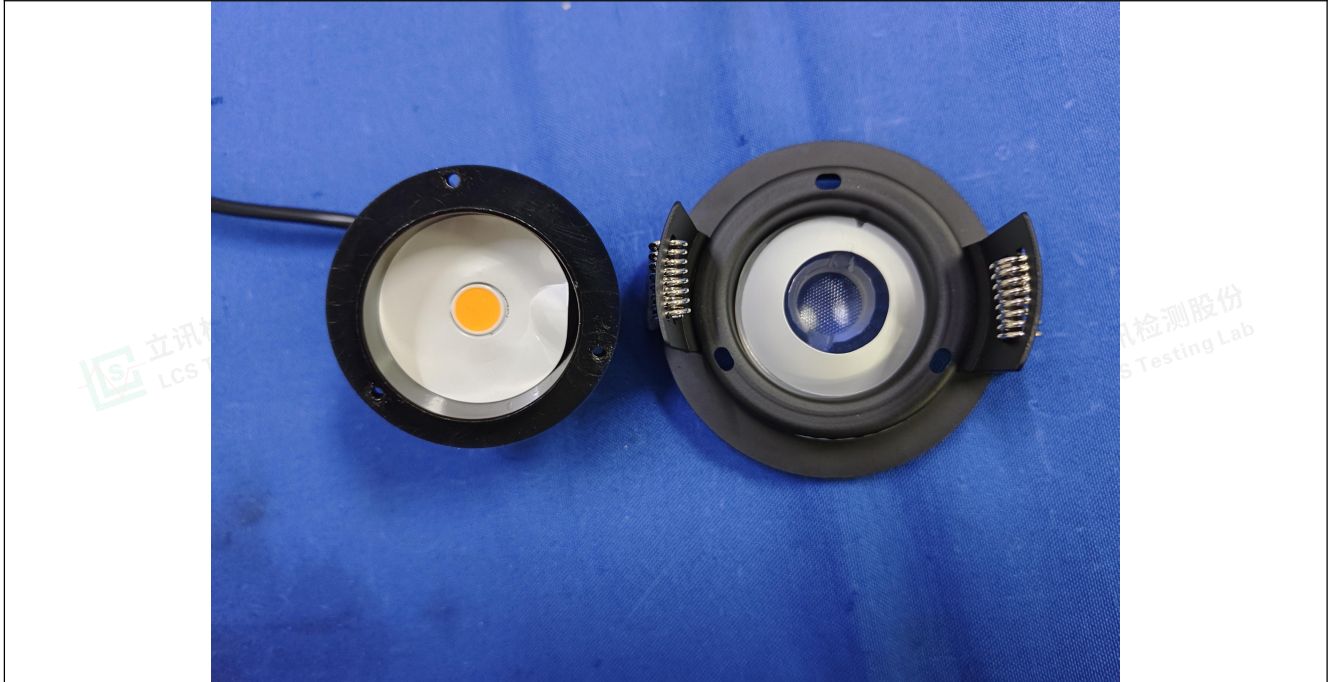


Photo 7

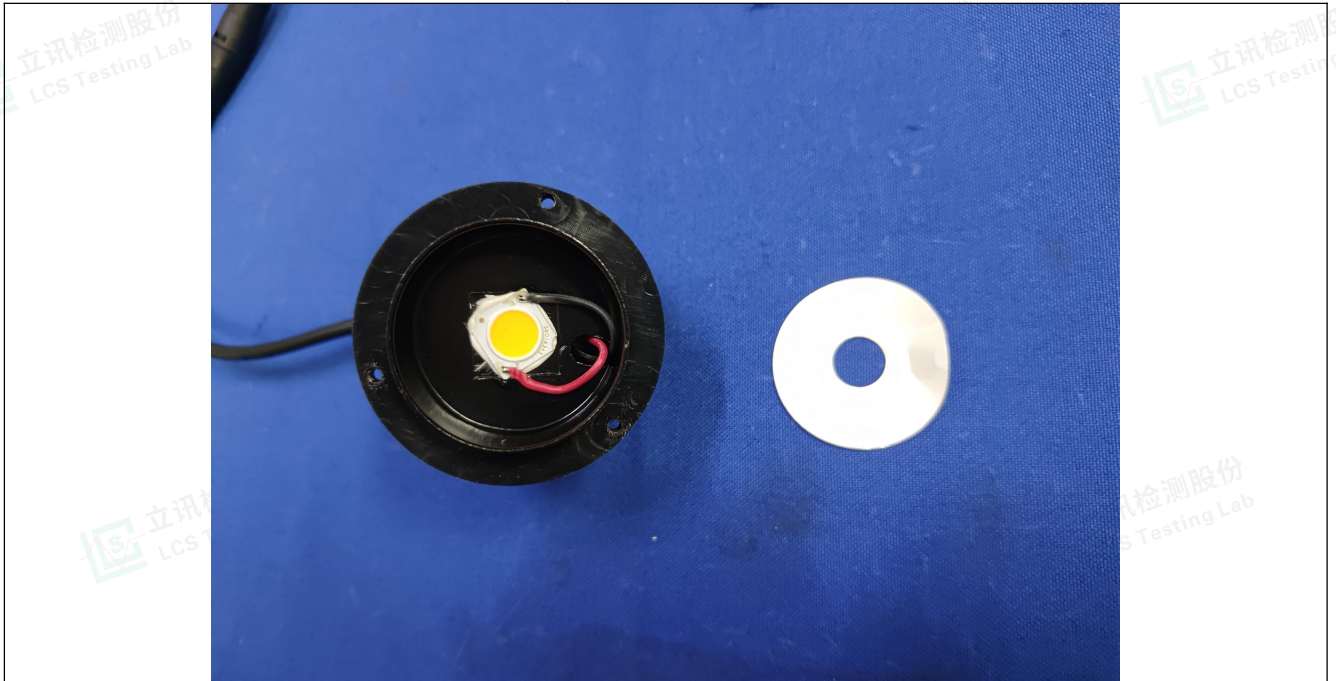


Photo 8

-----End of Test Report-----



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