

TEST REPORT IEC 61347-2-11 Part 2: Particular requirements: Section 11: Miscellaneous electronic circuits used with luminaires	
Report Number	GTSL202208000127S01
Date of issue.....	2022-09-15
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Testing Laboratory	Global United Technology Services Co., Ltd.
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Applicant's name	Shenzhen Sunricher Technology Limited
Address	3F & 5F, Building E, Qihang Innovation Industrial Park, No. 1008 Songbai Road, Nanshan District, Shenzhen, Guangdong 518055 China
Manufacturer's name	Shenzhen Sunricher Technology Limited
Address	3F & 5F, Building E, Qihang Innovation Industrial Park, No. 1008 Songbai Road, Nanshan District, Shenzhen, Guangdong 518055 China
Test specification:	
Standard	IEC 61347-2-11:2001, AMD1:2017 used in conjunction with IEC 61347-1:2015, AMD1:2017 EN 61347-2-11:2001+A1:2019 used in conjunction with EN 61347-1:2015/A1:2021
Test procedure	Test Report
Non-standard test method.....	N/A
Test Report Form No.....	IEC61347_2_11F
Test Report Form(s) Originator	Intertek Semko AB
Master TRF.....	Dated 2018-11-09
Test item description	LED controller
Trade Mark	--
Model/Type reference	See the page 4 for "General product information"
Ratings	Input: 12-24Vdc, 20.5A Output:4X(12-24)Vdc, 4X5A, 4X(60-120)W, Class III, IP20

Eleven Yang
Project Engineer

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Technical Director
Safety Laboratory



Summary of testing:**Testing location:**

Global United Technology Services Co., Ltd.

No.123-128, Tower A, Jinyuan Business Building, No. 2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China

Tests performed (name of test and test clause):

- EN 61347-1:2015/A1:2021
- EN 61347-2-11:2001+A1:2019

The submitted samples were found to comply with the requirements of above specification.

This test report includes:

Attachment 1:

Test report for European group differences and national differences;

Attachment 2:

Test report for IEC 60598-1:2014, IEC 60598-1:2014/AMD1:2017;

Test report for European group differences and national differences for EN 60598-1:2015+A1:2018;

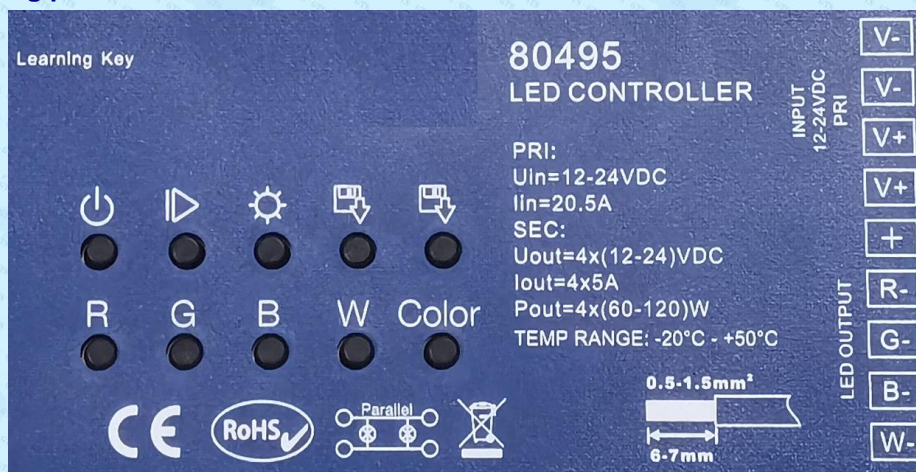
Attachment 3:

Test Report for photographs.

K-type thermocouple used for temperature measurement.

Summary of compliance with National Differences

Compliance with the National requirements of CENELEC common modification.

Copy of marking plates:**Shenzhen Sunricher Technology Limited**

3F & 5F, Building E, Qihang Innovation Industrial Park, No. 1008 Songbai Road, Nanshan District, Shenzhen, Guangdong 518055 China

Remark:

The above label is draft of the artwork for marking plate pending approval by National Certification Bodies and they shall not be affixed to products prior to such approvals.

The marking plate for all models were identical except model name

Test item particulars	LED controller
Classification of installation and use	Independent
Supply Connection	Terminal block
ta.....	50°C
tc.....	75°C
Possible test case verdicts:	
- test case does not apply to the test object.....	N
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
Testing.....	
Date of receipt of test item	2022-08-11
Date (s) of performance of tests.....	2022-08-11–2022-09-15
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Clause numbers between brackets refer to clauses in IEC/EN 61347-1</p> <p>Throughout this report a point is used as the decimal separator.</p> <p>This document is issued by the company under its General Conditions of Service accessible at www.gtstest.com. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.</p> <p>Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</p> <p>Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 1 month. This document cannot be reproduced except in full, without prior approval of the company.</p>	

General product information:

LED controller, powered by DC sources. For indoor use only.

All models were identical except model name, test with models : Receiver: 80495, Transmitter: 80579

Receiver:

SR-1009MS-RGBW,80495, SR-1009MS-MONO,80494

SR-1009XXX-YYYY, SR-1029XXX-YYYY "X" , "Y" indicates the customer code for market purpose, it could be alphanumeric characters or blank.

Transmitter:

SR-1009MS-MONO-REMOTE, SR-1009MS-MONO Kit,80579, SR-2833K4, SR-2833K1, SR-2833K2, SR-2833K5, SR-2833K8, SR-2833K-CCT, SR-2833T1, SR-2833T2, SR-2833CCT, SR-2833N-Z3, SR-2833N-Z4, SR-2833N-Z5, SR-2801, SR-2801F, SR-2833N-K5-CCT, SR-1009MS-RGBW-REMOTE, 80578, SR-1009MS-RGBW Kit, SR-2839WK, SR-2839CCT, SR-2839RGB, SR-2839DIM, SR-2839W Kit, SR-2839RGB Kit, SR-2833N-K5-RGBW,

SR-1009XX-YYYY-ZZZZZZ, SR-28XXXXXX, SR-28XXXXXX-YYY, "X" , "Y" , "Z" indicates the customer code for market purpose, it could be alphanumeric characters or blank.

Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.

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Clause	Requirement + Test	Result - Remark	Verdict
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4 (4) GENERAL REQUIREMENTS			—
- (4)	<u>Insulation materials</u> for double or reinforced insulation according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of <u>independent controlgear enclosure</u> with IEC 60598-1		P
- (4)	<u>Built-in magnetic ballast</u> with double or reinforced insulation comply with Annex I of IEC 61347-1		N/A
- (4)	<u>Built-in electronic controlgear</u> with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
- (4)	<u>SELV controlgear</u> comply with Annex L of IEC 61347-1		N/A

6 (6) CLASSIFICATION			—
	Built-in controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Independent controlgear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Integral controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

7 (7) MARKING			—
7.1 (7.1)	Mandatory markings		P
	a) mark of origin		P
	b) model number or type reference	See marking label	P
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)	12-24 Vdc	P
	supply frequency (Hz)		N/A
	supply current (A)	See marking label	P
	f) earthing symbol, if applicable		N/A
	k) wiring diagram		P
	l) value of t_c	t_c : 75°C	P
	s) SELV symbol		N/A
7.1 (-)	- control terminals identified, if applicable		P
	- t_a alternative to t_c if independent		P
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P
7.2 (7.1)	Information to be provided, if applicable		P
	h) declaration of protection against accidental contact		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	i) cross-section of conductors (mm ²)		P
	j) number, type and wattage of lamp(s)		P
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P

8 (10)	PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS		—
- (10.1)	Controlgear protected against accidental contact with live parts		N/A
- (A2)	Voltage measured with 50 kΩ	(see Annex A)	N/A
- (A3)	Voltage > 35 V peak or > 60 V d.c.	(see Annex A)	N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A
	Adequate mechanical strength on parts providing protection		N/A
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V		N/A
- (10.3)	Controlgear providing SELV		N/A
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		N/A
	No connection between output circuit and the body or protective earthing circuit		N/A
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		N/A
	SELV outputs separated by at least basic insulation		N/A
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1	(see Annex L)	N/A
- (10.4)	Accessible conductive parts in SELV circuits		N/A
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.		N/A
	If output voltage > 25 V r.m.s. or > 60 V d.c.; No load output ≤ 35 V peak or ≤ 60 V d.c and touch current does not exceed 0,7 Ma (peak) or 2 Ma d.c.		N/A
	One conductive part is insulated if output voltage or current exceeding the values above and withstand test voltage 500 V		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A

9 (8)	TERMINALS		—
- (8.1)	Integral terminals		N/A
	Screw terminals according section 14 of IEC 60598-1	(see Annex 2)	N/A
	Screwless terminals according section 15 of IEC 60598-1	(see Annex 3)	N/A
- (8.2)	Terminals other than integral terminals		P
	Comply with relevant IEC standard	(see Annex 1)	P
	Suit the conditions		P
	Satisfy additional relevant requirements of this standard		P

10 (9)	PROVISION FOR EARTHING		—
- (9.1)	Provisions for protective earthing		N/A
	Terminal complying with clause 8		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
	Test according 7.2.3 of IEC 60598-1		N/A
- (9.2)	Provision for functional earthing		N/A
	Comply with clause 8 and 9.1		N/A
	Functional earth insulated from live parts by double or reinforced insulation		N/A
- (9.3)	Lamp controlgear with conductors for protective earthing by tracks on printed circuit board		N/A
	Test with a current of 25 A between earthing terminal or earthing contact and each of the accessible metal parts; measured resistance (Ω) at ≥ 10 A according 7.2.3 of IEC 60598-1: $< 0,5 \Omega$		N/A
- (9.4)	Earthing of built-in lamp controlgear		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Earth by means of fixing to earthed metal of luminaire in compliance of 7.2 of IEC 60598-1		N/A
	Earthing terminal only for earthing the built-in controlgear		N/A
- (9.5)	Earthing via independent controlgear		N/A
- (9.5.1)	Earth connection to other equipment		N/A
	Looping or through connection, conductor min. 1,5 mm ² and of copper or equivalent		N/A
	Protective earthing wires in line with 5.3.1.1 and clause 7 of IEC 60598-1		N/A
- (9.5.2)	Earthing of the lamp compartments powered via the independent lamp controlgear		N/A
	Test with a current of 25 A between input and output earth terminals; measured resistance (Ω) between earthing terminal or earthing contact and each of the accessible metal parts at ≥ 10 A according 7.2.3 of IEC 60598-1: $< 0,5 \Omega$		N/A
	Output earthing terminal marked as in 7.1 t) of IEC 61347-1		N/A

11 (11)	MOISTURE RESISTANCE AND INSULATION		—
- (11)	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance:		P
	For basic insulation $\geq 2 \text{ M}\Omega$	100M Ω (required 2M Ω)	P
	For double or reinforced insulation $\geq 4 \text{ M}\Omega$		N/A
- (11)	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		N/A
12 (12)	ELECTRIC STRENGTH		—
- (12)	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		P
	Working voltage $\leq 50 \text{ V}$, test voltage 500 V		N/A
	Working voltage $> 50 \text{ V} \leq 1000 \text{ V}$, test voltage (V):		N/A
	Basic insulation, 2U + 1000 V		N/A
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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14 (14)	FAULT CONDITIONS		—
- (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)	P
- (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)	P
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq 1 \text{ M}\Omega$		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		—

15 (15)	CONSTRUCTION		—
- (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
- (15.3)	Plugs and socket-outlets used in SELV or ELV circuits		N/A
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
- (15.4)	Insulation between circuits and accessible parts		P
- (15.4.2)	SELV circuits		P
	Source used to supply SELV circuits:		P
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	Voltage in the circuit not higher than ELV		N/A
	SELV circuits insulated from LV by double or reinforced insulation		N/A
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		P
- (15.4.3)	FELV circuits		N/A
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating controlgear providing basic insulation between input and output circuits in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	- source in circuits separated by the LV supply by basic insulation		N/A
	Voltage in the circuit not higher than ELV		N/A
	FELV circuits insulated from LV supply by at least basic insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	FELV circuits insulated from other FELV circuits if functional purpose		N/A
	FELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
	Plugs and socket-outlets for FELV system comply with:		N/A
	- plugs not able to enter socket-outlets of other voltage systems		N/A
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		N/A
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according Table 6 in 15.4.5.		N/A
- (15.4.5)	Insulation between circuits and accessible conductive parts		P
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		P
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A
	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A

16 (16)	CREEPAGE DISTANCES AND CLEARANCES		—
- (16)	Creepage distances and clearances according to 16.2 and 16.3		N/A
	Controlgears providing SELV comply with additional requirements in Annex L		N/A
	Insulating lining of metallic enclosures		N/A
	Controlgear protected against pollution comply with Annex P	(see Annex P)	N/A
- (16.2)	Creepage distances		N/A
- (16.2.2)	Minimum creepage distances for working voltages		N/A
	Creepage distances according to Table 7	(see appended table)	N/A
- (16.2.3)	Creepage distances for working voltages with frequencies above 30 kHz		N/A
	Creepage distances according to Table 8	(see appended table)	N/A
- (16.3)	Clearances		N/A
- (16.3.2)	Clearances for working voltages		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Clearances distances according to Table 9	(see appended table)	N/A
- (16.3.3)	Clearances for ignition voltages and working voltages with higher frequencies		N/A
	Clearances distances for basic or supplementary insulation according to Table 10	(see appended table)	N/A
	Clearances distances for reinforced insulation according to Table 11	(see appended table)	N/A

17 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		—
- (17)	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		P
(4.11)	Electrical connections		P
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	Mechanical connections and glands		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part :		N/A
	Torque test: torque (Nm); part :		N/A
	Torque test: torque (Nm); part :		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(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
(4.12.5)	Screwed glands; force (Nm) :		N/A

18 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING		—
- (18.1)	Ball-pressure test :	See Test Table 18 (18.1)	P
- (18.2)	Test of printed boards :	See Test Table 18 (18.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
- (18.3)	Glow-wire test	See Test Table 18 (18.3)	P
- (18.4)	Needle flame test	See Test Table 18 (18.4)	P
- (18.5)	Tracking test	See Test Table 18 (18.5)	N/A

19 (19)	RESISTANCE TO CORROSION		—
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

20 (-)	ANNEXES		—
	Comply with appropriate annexes of IEC 61347-1	(see Annexes)	P

14	TABLE: tests of fault conditions		P
Part	Simulated fault		Hazard
D19	12/24VDC, short-circuit: Unit shutdown, No hazard.		NO
C20	12/24VDC, short-circuit: Unit shutdown, No hazard.		NO
Q6 pin G-S	12/24VDC, short-circuit: Unit shutdown, No hazard.		NO
Q6 pin G-D	12/24VDC, short-circuit: Unit shutdown, No hazard.		NO
Q6 pin D-S	12/24VDC, short-circuit: Normal working, No hazard.		NO
Output	12/24VDC, short-circuit: Unit shutdown, No hazard.		NO
Remark: --			

16 (16)	TABLE: creepage distance and clearance (mm)						N/A
Applicable part of IEC 61347-1 Table 7 – 11*							
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:							
Distance 2:							
Distance 3:							
Distance 4:							
Working voltage (V)							—
Frequency if applicable (kHz)							—
PTI			< 600 ☒		≥ 600 ☐		—
Peak value of the working voltage \hat{U}_{out} if applicable (Kv)			--				—
Pulse voltage if applicable (Kv)			--				—

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Clause	Requirement + Test	Result - Remark	Verdict
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Supplementary information:

Remark: minimum measured value recorded

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

16 (16)	TABLE: creepage distance and clearance (mm)	N/A
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Applicable part of IEC 61347-1 Table 7 – 11*

Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table

Distance 1:							
Distance 2:							
Distance 3:							
Distance 4:							

Working voltage (V)		—
Frequency if applicable (kHz)		—
PTI.....	< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>	—
Peak value of the working voltage \hat{U}_{out} if applicable (Kv)	--	—
Pulse voltage if applicable (Kv)	--	—

Supplementary information:

Remark: minimum measured value recorded

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

18 (18.1)	TABLE: Ball Pressure Test	P
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Allowed impression diameter (mm)	2,0	—
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Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
PCB	See TABLE: Critical components information	125.0	0.5
Enclosure	See TABLE: Critical components information	88.0	0.7
Terminal	See TABLE: Critical components information	125.0	0.9

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict
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18 (18.2)	TABLE: Test of printed boards				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
-	-	-	-	-	-
Supplementary information:					

18 (18.3)	TABLE: Glow-wire test				P
Glow wire temperature			650°C	—	
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict	
Enclosure	See TABLE: Critical components information	No	0	Pass	
Supplementary information:					

18 (18.4)	TABLE: Needle-flame test				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
PCB	See TABLE: Critical components information	10	No	0	Pass
Enclosure	See TABLE: Critical components information	10	No	0	Pass
Terminal	See TABLE: Critical components information	10	No	0	Pass
Supplementary information:					

18 (18.5)	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
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(A)	ANNEX A – TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK		N/A
(A.1)	Comply with A.2 or A.3		N/A
(A.2)	Voltage ≤ 35 V peak or ≤ 60 V d.c :		N/A
(A.3)	If voltage measured according Clause A.2 exceeds the limit value; touch current does not exceed 0,7 Ma (peak) or 2 Ma d.c. :		N/A

(C)	ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING		N/A
(C3)	GENERAL REQUIREMENTS		N/A
(C3.1)	Thermal protection means integral with the convertor, protected against mechanical damage		N/A
	Renewable only by means of a tool		N/A
	If function depending on polarity, for cord-connected equipment protection means in both leads		N/A
	Thermal links comply with IEC 60691		N/A
	Electrical controls comply with IEC 60730-2-3		N/A
(C3.2)	No risk of fire by breaking (clause C7)		N/A
(C5)	CLASSIFICATION		N/A
	a) automatic resetting type		—
	b) manual resetting type		—
	c) non-renewable, non-resetting type		—
	d) renewable, non-resetting type		—
	e) other type of thermal protection; description :		—
(C6)	MARKING		N/A
(C6.1)	Symbol for temperature declared thermally protected ballasts		N/A
(C6.2)	Declaration of the type of protection provided		N/A
(C7)	LIMITATION OF HEATING		N/A
(C7.1)	Preselection test:		N/A
	Test sample placed for at least 12 h in an oven having temperature ($t_c - 5$) K		N/A
	No operation of the protection device		N/A
(C7.2)	Functioning of protection means:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that ($t_c +0; -5$) °C is obtained		N/A
	No operation of the protection device		N/A
	Introducing of the most onerous test condition determined during test of clause 14.2 to 14.5		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the controlgear operated under normal conditions		N/A
	Increasing of the current through the windings continuously until operation of the protection means		N/A
	Continuous measuring of the highest surface temperature		N/A
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		N/A
	Ballasts according to C5 b) working 6 times		N/A
	Ballasts according to C5 c) and C5) d) working once		N/A
	Highest temperature does not exceed the marked value		N/A
	Any overshoot of 10% over the marked value within 15 min		N/A
	After 15 min value not exceed marked value		N/A
(D)	ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A
(F)	ANNEX F – DRAUGHT-PROOF ENCLOSURE		N/A
	Draught-proof enclosure in accordance with the description		N/A
	Dimensions of the enclosure		N/A
	Other design; description		N/A
(H)	ANNEX H – TESTS		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P

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Clause	Requirement + Test	Result - Remark	Verdict
(I)	ANNEX I – ADDITIONAL REQUIREMENTS FOR BUILT-IN MAGNETIC BALLASTS WITH DOUBLE OR REINFORCED INSULATION		N/A
(I.6)	Symbol on ballasts with double or reinforced insulation		N/A
	Symbol explained in manufacturers catalogue		N/A
(I.9)	No protective earthing terminal		N/A
(I.12)	Devices for limiting the temperature bridged		—
	After the test according clause 13		N/A
	At least six of seven ballast start the lamp and the current not exceed 115%		N/A
	Insulation resistance not less than 4 MΩ between winding and case for all ballasts		N/A
	All ballasts withstand electric strength test reduced to 35% of values in Table 1 of IEC 61347-1		N/A
(I.15)	Built-in ballasts with double or reinforced insulation comply with corresponding values of creepage and clearances in IEC 60598-1		N/A

(L)	ANNEX L – PARTICULAR ADDITIONAL REQUIREMENTS FOR CONTROLGEARS PROVIDING SELV		—
(L.3)	Classification		N/A
	Class I	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Class II	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Class III	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	non-inherently short circuit proof controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	inherently short circuit proof controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	fail safe controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	non-short-circuit proof controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
(L.4)	Marking		N/A
	Adequate symbols are used		N/A
(L.5)	Protection against electric shock		N/A
	Comply with clause 9.2 of IEC 61558-1		N/A
(L.6)	Heating		N/A
	No excessive temperatures in normal use		N/A
	Value if capacitor t _c marked :		—
	Winding insulation classified as Class :		—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(L.7)	Short-circuit and overload protection		N/A
	Comply with tests of clause 15 of IEC 61558-1 with adjustments	(See appended table 15.2&L.6 of IEC 61347-2-11)	N/A
(L.8)	Insulation resistance and electric strength		N/A
(L.8.1)	Conditioned 48 h between 91 % and 95 %		N/A
(L.8.2)	Insulation resistance		N/A
	Between input- and output circuits not less than 5 MΩ :		N/A
	Between metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MΩ :		N/A
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ :		N/A
(L.8.3)	Electric strength		N/A
	1) Between live parts of input circuits and live parts of output circuits :		N/A
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity :		N/A
	b) live parts and body if intended to be connected to protective earth :		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord :		N/A
	d) live parts and an intermediate metal part :		N/A
	e) intermediate metal parts and the body :		N/A
	f) each input circuit and all other input circuits :		N/A
	3) Over reinforced insulation between the body and live parts :		N/A
(L.9)	Construction		N/A
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		N/A
	HF transformer comply with 19 of IEC 61558-2-16		N/A
(L.10)	Components		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
(L.11)	Creepage distances, clearances and distances through insulation		N/A
	Creepage distances and clearances not less than in Clause 16		N/A
	Distance through insulation according Table L.5 in IEC 61347-1		N/A
	1) Basic distance through insulation		N/A
	Required distance (mm) :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured (mm) :		N/A
	Supplementary information		—
	2) Supplementary distance through insulation		N/A
	Required distance (mm) :		—
	Measured (mm) :		N/A
	Supplementary information		—
	3) Reinforced distance through insulation		N/A
	Required distance (mm) :		—
	Measured (mm) :		N/A
	Supplementary information		—

(N)	ANNEX N – REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION		N/A
(N.4)	General requirements		N/A
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		N/A
(N.4.2)	Solid insulation		N/A
	Electric strength test at least 5 Kv or 1,35 x test voltage in Table N.1		N/A
	If not classified according IEC 60085 and IEC 60216 series: Electric strength test increased 10 % to 5,5 Kv or 1,5 x test voltage in Table N.1		N/A
(N.4.3)	Thin sheet insulation		N/A
(N.4.3.1)	Thickness and composition of thin sheet insulation		N/A
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		N/A
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N		N/A
	- Separated layers: Min. 2 layers and each layer fulfil mandrel test of 50N		N/A
	- Separated layers (alternative): Min. 3 layers and 2/3 of the layers fulfil mandrel test of 100N		N/A
(N.4.3.2)	Mandrel test (electric strength test during mechanical stress)		N/A
	Electric strength test after mandrel test:		N/A
	- Non-separated layers: min. 5 Kv or 1,35 x test voltage in Table N.1		N/A
	- 2/3 of min. 3 separated layers: min. 5 Kv or 1,25 x test voltage in Table N.1		N/A
	- one of 2 separated layers: min. 5 Kv or 1,25 x test voltage in Table N.1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No flashover or breakdown occurred		N/A
(O)	ANNEX O – ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION		N/A
(O.6)	Marking		N/A
	Marking according clause 7 (7)	See clause 7	N/A
	Special symbol		N/A
	Meaning of the special symbol explained in catalogue		N/A
(O.7)	Protection against accidental contact with live parts		N/A
	Requirements of clause 8 (10)	See clause 8	N/A
	Test finger not possible to make contact with basic insulated metal parts		N/A
(O.8)	Terminals		N/A
	Clause 9 (8)	See clause 9	N/A
(O.9)	Provision for earthing		N/A
	Functional earthing terminals comply with clause 9 of part 1		N/A
	No protective earthing terminal		N/A
(O.10)	Moisture resistance and insulation		N/A
	Clause 11 (11)	See clause 11	N/A
(O.11)	Electric strength		N/A
	Clause 12 (12)	See clause 12	N/A
(O.13)	Fault conditions		N/A
	Clause – (14)	See clause 14	N/A
	End of test, between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface comply with dielectric strength test reduced to 35 % of values according Table 3 in part 1		N/A
	Insulation resistance according to Cl.10 between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface not less than 4 MΩ		N/A
(O.14)	Construction		N/A
	Clause 17 (15)	See clause 17	N/A
	Accessible metal parts insulated from live parts by double or reinforced insulation		N/A
	Live part insulated from supporting surface in contact with external faces by double or reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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(O.15)	Creepage distances and clearances		N/A
	Clause 18 (16)	See clause 18	N/A
	Comply with corresponding values for luminaries in IEC 60598-1		N/A
(O.16)	Screws, current-carrying parts and connections		N/A
	Clause 19 (17)	See clause 19	N/A
(O.17)	Resistance to heat and fire		N/A
	Clause 20 (18)	See clause 20	N/A
(O.18)	Resistance to corrosion		N/A
	Clause 21 (19)	See clause 21	N/A

(P)	ANNEX P – Creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting		N/A
(P.1)	General		N/A
	P.2 applies if creepage distances less than the minimum in Table 7 and 8		N/A
	P.3 applies if clearance less than the minimum in Table 9, 10 and 11		N/A
(P.2)	Creepage distances		N/A
(P.2.2)	Minimum creepage distances for working voltages and rated voltages with frequencies up to 30 kHz (Table P.1)		N/A
	Basic or supplementary insulation:		N/A
	Required creepage :		—
	Measured :		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Required creepage :		—
	Measured :		N/A
	Supplementary information		—
(P.2.3)	Creepage distances for working voltages with frequencies above 30 kHz (Table P.2)		N/A
	Voltage \hat{U}_{out} Kv :		—
	Frequency :		—
	Required distance :		—
	Measured :		N/A
	Supplementary information		—
(P.2.4)	Compliance with the required creepage distances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
(P.2.4.1)	Compliance in accordance with 16.3.3 and test according P.2.4.2		N/A
(P.2.4.3)	Electrical tests after conditioning		N/A
(P.2.4.3.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3)	Distance through isolation		N/A
(P.3.4)	Electrical tests after conditioning		N/A
(P.3.4.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3.4.2)	Impulse voltage dielectrical test		N/A
	Basic or supplementary insulation:		N/A
	Working/rated voltage :		—
	Impulse voltage :		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Working/rated voltage :		—
	Impulse voltage :		N/A
	Supplementary information		—

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Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 1	TABLE: Critical components information	P
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Object/part No.	Code	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity
Terminal block	B	Dongguan Changhe Electronics Co., Ltd.	CS350-08-500	0,5-2,5mm ² ; AC 400V; 16A T125	EN60998-2-4	VDE 40043413
Plastic enclosure	B	CHI MEI CORPORATION	PC-110(+)	V-2 125°C	UL94	UL E56070
Fuse (L2,L3,L4,L5, L6)	B	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO., LTD	211 (followed by 1 or 2, followed by three digit number)	250V,10A	UL248-1	UL E300003
PCB	B	SHENZHEN SHAN XU ELECTRONIC CO., LTD	SX-01	130°C, V-0	UL94	UL E360487
Alt	B	SHENZHEN HONGMY PRECISION CIRCUIT CO., LTD	HMY-D	130°C, V-0	UL94	UL E320045
Alt	B	HUIZHOU HUAGAO ELECTRIC CIRCUIT CO., LTD	HG-D	130°C, V-0	UL94	UL 483905
Alt.	B	Various	Various	V-0; 130 °C	UL94	UL

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

*License available upon request

#Please refer summary of testing in TRF for the test standard publication year

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

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Clause	Requirement + Test	Result - Remark	Verdict
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ANNEX 3	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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(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										N/A
	Voltage drop after 10th alt. 25th cycle										N/A
	Max. allowed voltage drop (mV)										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)	-	-	-	-	-	V	-	-	-	-	
	Voltage drop after 50th alt. 100th cycle										N/A
	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										N/A
	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										N/A
	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
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15.2&L.6	TABLE: heating---normal operation		P
	Type reference..... :	Receiver: 80495, Transmitter: 80579	—
	Lamp used..... :	4X120W(LED Lamp)	—
	Mounting position..... :	As in normal use	—
	Test voltage..... :	24Vdc	—
Temperature of part		Test (°C) Max.	Limit(°C)
Input terminal		59.1	Ref.
PCB near U5		68.5	130
PCB near Q6		82.7	130
PCB (Transmitter)		50.8	130
C20 body		59.4	105
Plastic enclosure inside		78.6	Ref.
Plastic enclosure outside(tc)		73.5	75
Support		71.3	90
Plastic enclosure (Transmitter)		50.4	Ref.
Ambient		50.0	--
Remark: Max. values were recorded.			

ATTACHMENT 1

Clause	Requirement + Test	Result - Remark	Verdict
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<p>ATTACHMENT TO TEST REPORT IEC 61347-2-11 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Part 2: Particular requirements: Section Eleven – Miscellaneous electronic circuits used with luminaires)</p>			
<p>Differences according to.....: EN 61347-2-11:2001+A1:2019 used in conjunction with EN 61347-1:2015/A1:2021</p>			

	CENELEC COMMON MODIFICATIONS (EN)		N
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ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		—
	No special National conditions		N

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		—
	No National deviations		N

IEC 60598-1			
Clause	Requirement + Test	Result - Remark	Verdict


<p>TEST REPORT IEC 60598-1 Luminaires – Part 1: General requirements and tests</p>

0	GENERAL TEST REQUIREMENTS		—
0.3	More sections applicable..... :	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
0.5	Components	(see Annex 1)	—
0.7	Information for luminaire design in light sources standards		—
0.7.2	Light source safety standard		—
	Luminaire design in the light source safety standard		—

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

3	MARKING		—
3.2	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
3.3	Additional information		P
	Language of instructions	English	P
3.3.1	Combination luminaires		N/A
3.3.2	Nominal frequency in Hz		N/A
3.3.3	Operating temperature		N/A
3.3.5	Wiring diagram		N/A
3.3.6	Special conditions		N/A
3.3.7	Metal halide lamp luminaire – warning		N/A
3.3.8	Limitation for semi-luminaires		N/A
3.3.9	Power factor and supply current		N/A
3.3.10	Suitability for use indoors		N/A
3.3.11	Luminaires with remote control		N/A
3.3.12	Clip-mounted luminaire – warning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.3.13	Specifications of protective shields		N/A
3.3.14	Symbol for nature of supply		N/A
3.3.15	Rated current of socket outlet		N/A
3.3.16	Rough service luminaire		N/A
3.3.17	Mounting instruction for type Y, type Z and some type X attachments		N/A
3.3.18	Non-ordinary luminaires with PVC cable		N/A
3.3.19	Protective conductor current in instruction if applicable		N/A
3.3.20	Provided with information if not intended to be mounted within arm's reach		N/A
3.3.21	Non replaceable and non-user replaceable light sources information provided		N/A
3.3.22	Controllable luminaires, classification of insulation provided		N/A
3.3.23	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
3.3.24	If not supplied with terminal block, information on the packaging		N/A
3.4	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

4	CONSTRUCTION		—
4.2	Components replaceable without difficulty		N/A
4.3	Wireways smooth and free from sharp edges		P
4.4	Lampholders		N/A
4.4.1	Integral lampholder		N/A
4.4.2	Wiring connection		N/A
4.4.3	Lampholder for end-to-end mounting		N/A
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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
4.4.5	Peak pulse voltage		N/A
4.4.6	Centre contact		N/A
4.4.7	Parts in rough service luminaires resistant to tracking		N/A
4.4.8	Lamp connectors		N/A
4.4.9	Caps and bases correctly used		N/A
4.4.10	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
4.5	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
4.6	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
4.7	Terminals and supply connections		P
4.7.1	Contact to metal parts		N/A
4.7.2	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
4.7.3	Terminals for supply conductors		P
4.7.3.1	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
4.7.4	Terminals other than supply connection		P
4.7.5	Heat-resistant wiring/sleeves		N/A
4.7.6	Multi-pole plug		N/A
	- test at 30 N		N/A
4.8	Switches		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- compliance with IEC 61058-1 for electronic switches		N/A
4.9	Insulating lining and sleeves		N/A
4.9.1	Retainment		N/A
	Method of fixing		N/A
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
4.10	Double or reinforced insulation		N/A
4.10.1	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
4.10.2	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
4.10.3	Retainment of insulation:		P
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
4.10.4	Protective impedance device		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
4.11	Electrical connections and current-carrying parts		P
4.11.1	Contact pressure		P
4.11.2	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
4.11.3	Screw locking:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- spring washer		N/A
	- rivets		N/A
4.11.4	Material of current-carrying parts		P
4.11.5	No contact to wood or mounting surface		P
4.11.6	Electro-mechanical contact systems		N/A
4.12	Screws and connections (mechanical) and glands		P
4.12.1	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	Screws for fixing enclosure: 0,5Nm	P
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :		N/A
4.12.2	Screws with diameter < 3 mm screwed into metal		N/A
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
4.12.5	Screwed glands; force (Nm)..... :		N/A
4.13	Mechanical strength		P
4.13.1	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm)	Enclosure: 0,5Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
4.13.2	Metal parts have adequate mechanical strength		N/A
4.13.3	Straight test finger		P
4.13.4	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
4.13.6	Tumbling barrel		N/A
4.14	Suspensions, fixings and means of adjusting		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.14.1	Mechanical load:		N/A
	A) four times the weight		N/A
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
4.14.2	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
4.14.3	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.14.4	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.14.5	Guide pulleys		N/A
4.14.6	Strain on socket-outlets		N/A
4.15	Flammable materials		N/A
	- glow-wire test 650°C		N/A
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted	Electronic lamp controlgear is exempted from this requirement	N/A
4.15.2	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
4.16	Luminaires for mounting on normally flammable surfaces		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No lamp control gear		N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
4.16.1	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
4.16.2	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
4.16.3	Design to satisfy the test of 12.6		N/A
4.17	Drain holes		N/A
	Clearance at least 5 mm		N/A
4.18	Resistance to corrosion		N/A
4.18.1	- rust-resistance		N/A
4.18.2	- season cracking in copper		N/A
4.18.3	- corrosion of aluminium		P
4.19	Igniters compatible with ballast		N/A
4.20	Rough service vibration		N/A
4.21	Protective shield		N/A
4.21.1	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
4.21.2	Particles from a shattering lamp not impair safety		N/A
4.21.3	No direct path		N/A
4.21.4	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :		N/A
4.22	Attachments to lamps not cause overheating or damage		N/A
4.23	Semi-luminaires comply Class II		N/A
4.24	Photobiological hazards		N/A
4.24.1	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
4.24.2	Retinal blue light hazard		N/A
	Class of risk group assessed according to IEC/TR 62778		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 ...:		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
4.25	Mechanical hazard		P
	No sharp point or edges		P
4.26	Short-circuit protection		N/A
4.26.1	Adequate means of uninsulated accessible SELV parts		N/A
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
4.27	Terminal blocks with integrated screwless earthing contacts		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
4.28	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material ($^{\circ}\text{C}$):		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
4.29	Luminaires with non-replaceable light source		N/A
	Not possible to replace light source		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Live part not accessible after parts have been opened by hand or tools		N/A
4.30	Luminaires with non-user replaceable light source		N/A
	If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol:		N/A
	Minimum two fixing means		N/A
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
4.31.1	SELV circuits		P
	Used SELV source		P
	Voltage ≤ ELV		P
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		P
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
4.31.2	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter 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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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
11	CREEPAGE DISTANCES AND CLEARANCES		—
11.2.1	Impulse withstand category (Normal category II)	Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
11.2.2	Creepage distances for frequency up to 30 kHz	See Table 16 (16) of IEC 61347-2-11	N/A
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with \hat{U}_{OUT} and f_{UOUT} according IEC 61347-1, clause 7.1, item w		N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347		N/A
11.2.3	Clearances for frequency up to 30 kHz	See Table 16 (16) of IEC 61347-2-11	N/A
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_p		N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347		N/A
7	PROVISION FOR EARTHING		—

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Clause	Requirement + Test	Result - Remark	Verdict

7.2.1 + 7.2.3	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω..... :		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
7.2.2 + 7.2.3	Earth continuity in joints, etc.		N/A
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
7.2.5	Earth terminal integral part of connector socket		N/A
7.2.6	Earth terminal adjacent to mains terminals		N/A
7.2.7	Electrolytic corrosion of the earth terminal		N/A
7.2.8	Material of earth terminal		N/A
	Contact surface bare metal		N/A
7.2.10	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
7.2.11	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A

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

15	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		—
	Separately approved; component list..... :	(see Annex 1 of IEC 61347-2-11)	N/A
	Part of the luminaire	(see Annex 3)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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5	EXTERNAL AND INTERNAL WIRING		—
5.2	Supply connection and external wiring		P
5.2.1	Means of connection : Terminal block		P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
5.2.2	Type of cable :		N/A
	Nominal cross-sectional area (mm ²) :		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
5.2.3	Type of attachment, X, Y or Z		N/A
5.2.5	Type Z not connected to screws		N/A
5.2.6	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
5.2.7	Cable entries through rigid material have rounded edges		N/A
5.2.8	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
5.2.9	Locking of screwed bushings		N/A
5.2.10	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Labyrinth type anchorages		N/A
5.2.10.2	Adequate cord anchorage for type Y and type Z attachment		N/A
5.2.10.3	Tests:		P
	- impossible to push cable; unsafe	Tested with specified supply cord H03VV-F, 0,5mm ² and 2,5mm ² ,	P
	- pull test: 25 times; pull (N)..... :	Max. 120	P
	- torque test: torque (Nm) :	Max. 0.35	P
	- displacement ≤ 2 mm	No obvious displacement	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
5.2.11	External wiring passing into luminaire		N/A
5.2.12	Looping-in terminals		N/A
5.2.13	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
5.2.14	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
5.2.16	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
5.2.17	No standardized interconnecting cables properly assembled		N/A
5.2.18	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
5.3	Internal wiring		N/A
5.3.1	Internal wiring of suitable size and type		N/A
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A) :		N/A
	- temperatures :	(see Annex 2)	N/A
	Green-yellow for earth only		N/A
5.3.1.1	Internal wiring connected directly to fixed wiring		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Cross-sectional area (mm ²)..... :		N/A
	Insulation thickness (mm) :		N/A
	Extra insulation added where necessary		N/A
5.3.1.2	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Cross-sectional area (mm ²)..... :		N/A
5.3.1.3	Double or reinforced insulation for class II		N/A
5.3.1.4	Conductors without insulation		N/A
5.3.1.5	SELV current-carrying parts		N/A
5.3.1.6	Insulation thickness other than PVC or rubber		N/A
5.3.2	Sharp edges etc.		N/A
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
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
5.3.4	Joints and junctions effectively insulated		N/A
5.3.5	Strain on internal wiring		N/A
5.3.6	Wire carriers		N/A
5.3.7	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
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		N/A
	No damage to luminaire wiring after test		N/A

8	PROTECTION AGAINST ELECTRIC SHOCK		—
8.2.1	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high-pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
8.2.2	Portable luminaire adjusted in most unfavourable position		N/A
8.2.3.a	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
8.2.3.b	BC lampholder of metal in class I luminaires shall be earthed		N/A
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
8.2.4	Portable luminaire has protection independent of supporting surface		N/A
8.2.5	Compliance with the standard test finger or relevant probe		P
8.2.6	Covers reliably secured		P

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Clause	Requirement + Test	Result - Remark	Verdict

8.2.7	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection		N/A
	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

12	ENDURANCE TEST AND THERMAL TEST		—
	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13		—
12.2	Selection of lamps and ballasts		—
	Lamp used according Annex B	(Lamp used see Annex 2)	—
	Controlgear if separate and not supplied	(Controlgear used see Annex 2)	—
12.3	Endurance test		P
	a) mounting-position	As in normal use	—
	b) test temperature (°C).....	60°C	—
	c) total duration (h)	240h	—
	d) supply voltage (V)	24VDC	—
	d) if not equipped with controlgear, constant voltage/current (V) or (A)		—
	e) luminaire ceases to operate		—
12.3.2	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
12.4	Thermal test (normal operation)		P
	See appended table 15.2&L.6 of IEC 61347-2-11		
12.5	Thermal test (abnormal operation)		N/A
12.6	Thermal test (failed lamp control gear condition):		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
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
12.7	Thermal test (failed lamp control gear in plastic luminaires):		N/A
12.7.1	Luminaire without temperature sensing control		N/A
12.7.1.1	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test	See Test Table 13.2.1	N/A
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 13.2.1	N/A
12.7.1.3	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—

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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
12.7.2	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/ exposed part (°C):		—
	Ball-pressure test:	See Test Table 13.2.1)	N/A

9	RESISTANCE TO DUST AND MOISTURE		—
	If IP > IP 20 the order of tests as specified in clause 1.12		P
9.2	Tests for ingress of dust, solid objects and moisture:		N/A
	- classification according to IP	IP20	—
	- mounting position during test	As in normal use	—
	- fixing screws tightened; torque (Nm)	--	—
	- tests according to clauses	Clause 9.2.0	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		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
	d) no water in watertight or pressure watertight 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
9.3	Humidity test 48 h	25°C; 93%R.H.	P

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Clause	Requirement + Test	Result - Remark	Verdict
10	INSULATION RESISTANCE AND ELECTRIC STRENGTH		—
10.2.1	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)		—
	SELV		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface.....	100MΩ (required: 1MΩ)	P
	- between current-carrying parts and metal parts of the luminaire	100MΩ (required: 1MΩ)	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch.....		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....		N/A
	- Insulation bushings as described in Section 5		N/A
10.2.2	Electric strength test		N/A
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)		N/A
	SELV		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface.....	500V	P
	- between current-carrying parts and metal parts of the luminaire	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....		N/A
	- Insulation bushings as described in Section 5		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Other than SELV		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
10.3	Touch current or protective conductor current (mA):		N/A

13	RESISTANCE TO HEAT, FIRE AND TRACKING		—
13.2.1	Ball-pressure test	(see Test Table 18 (18.1) of IEC/EN 61347-2-11)	P
13.3.1	Needle-flame test (10 s)	(see Test Table 18 (18.4) of IEC/EN 61347-2-11)	P
13.3.2	Glow-wire test (650°C)	(see Test Table 18 (18.3) of IEC/EN 61347-2-11)	P
13.4	Proof tracking test (IEC 60112)		N/A

IEC60598-1_ ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
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**ATTACHMENT TO TEST REPORT IEC 60598-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Luminaires

Part 1: General requirements and tests

Differences according to : EN 60598-1:2015+A1:2018

	CENELEC COMMON MODIFICATIONS (EN)	—
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3	MARKING	—
3.3.101	For luminaires not supplied with terminal block: Adequate warning on the package	N/A

4	CONSTRUCTION	—
4.11.6	Electro-mechanical contact systems	N/A

5	EXTERNAL AND INTERNAL WIRING	—
5.2.1	Connecting leads	N/A
	- without a means for connection to the supply	N/A
	- terminal block specified	N/A
	- relevant information provided	N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	N/A
5.2.2	Cables equal to EN 50525	N/A
	Replace table 5.1 – Supply cord	N/A

12	ENDURANCE TESTS AND THERMAL TESTS	—
12.4.2c	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring	P

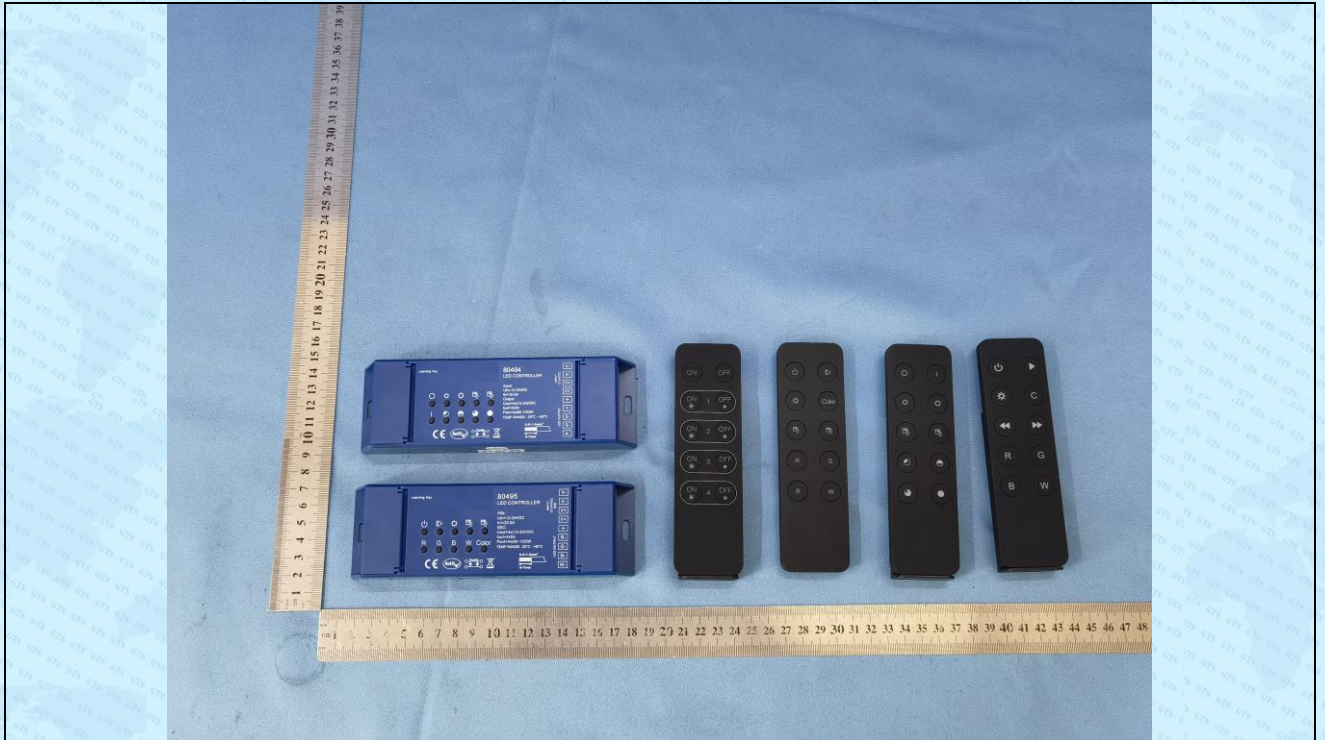
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	—
(3.3)	DK: power supply cords of class I luminaires with label	N/A
(4.5.1)	DK: socket-outlets	N/A
(5.2.1)	CY, DK, FI, GB: type of plug	N/A

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

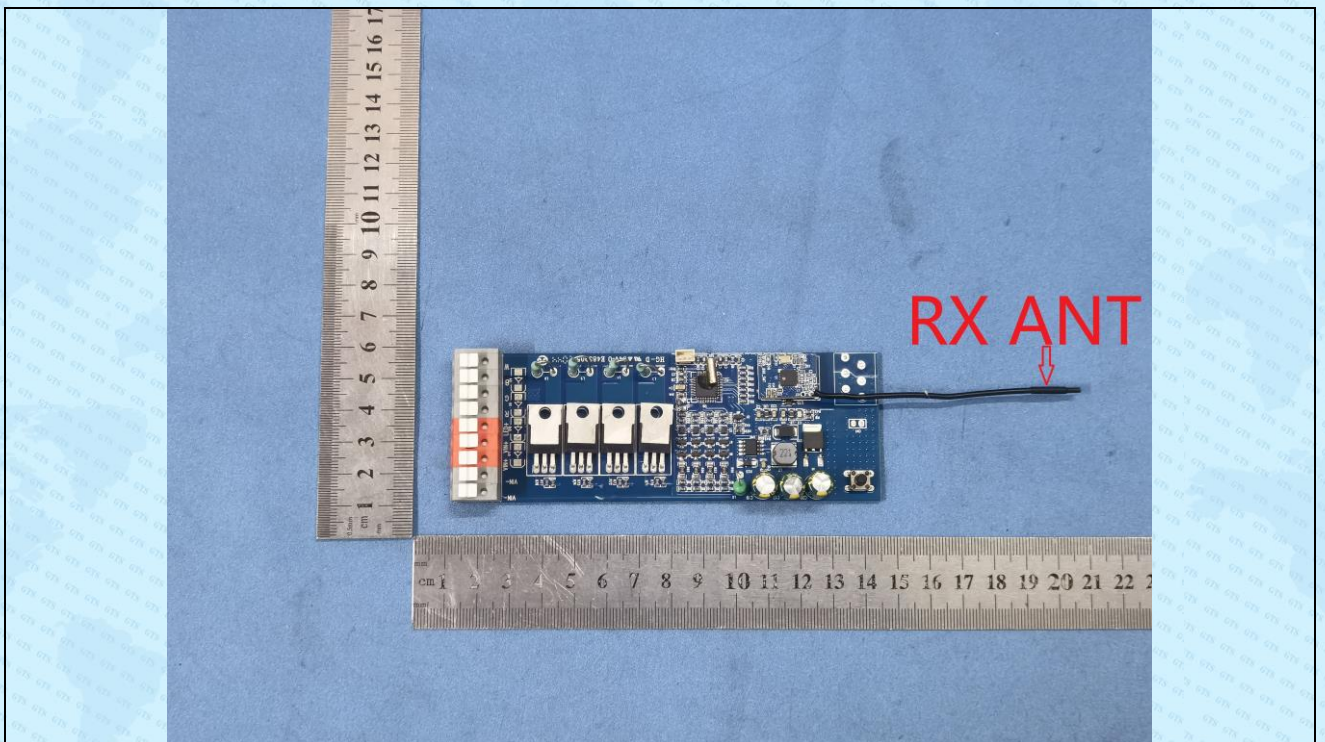
IEC60598-1_ ATTACHMENT

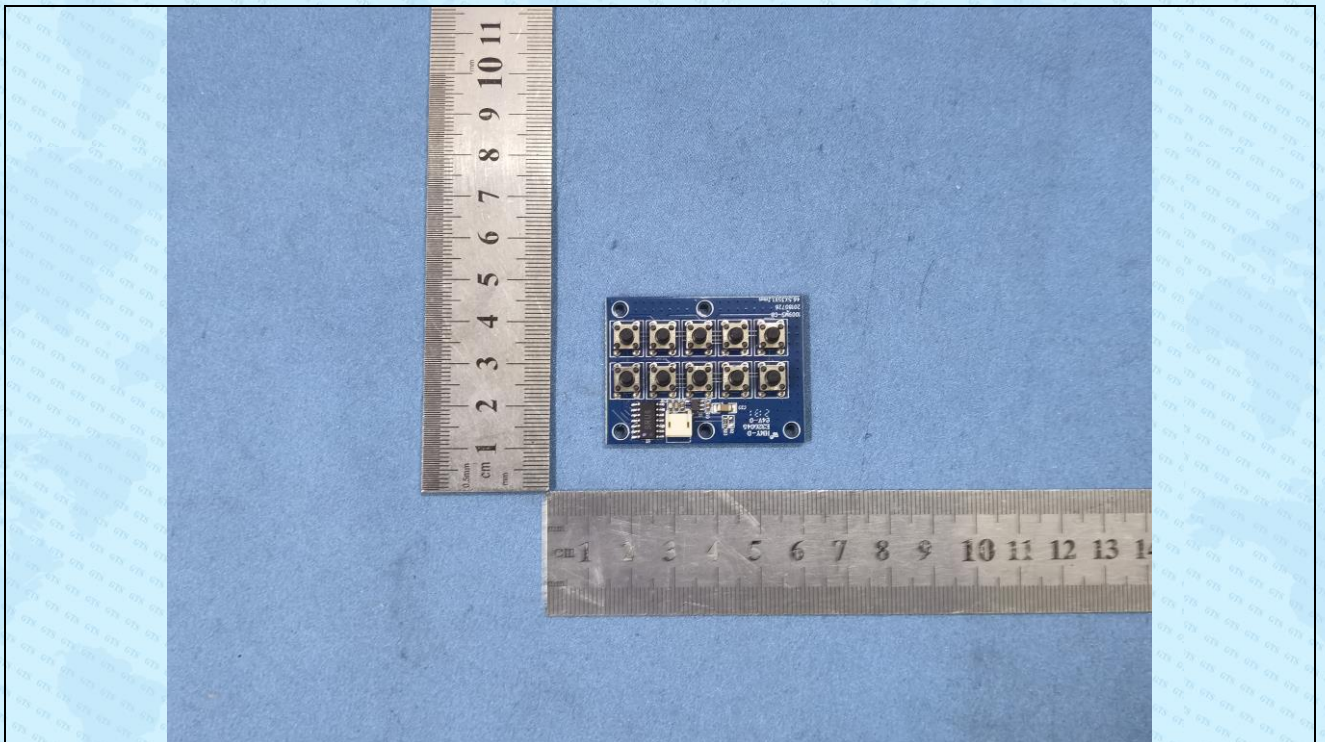
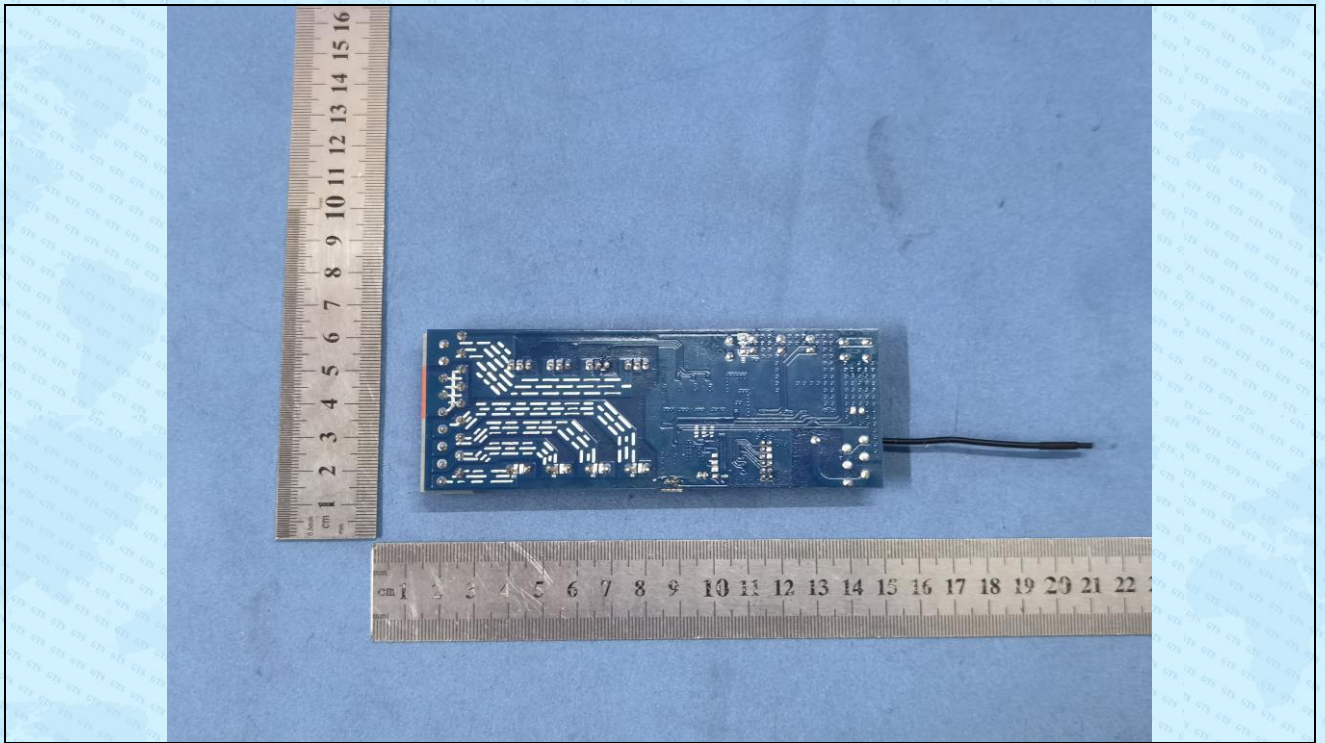
Clause	Requirement + Test	Result - Remark	Verdict
	<p>FR: Safety requirements for high buildings</p> <p>(Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage)</p> <p>Glow-wire test for outer parts of luminaires:</p>		N/A
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

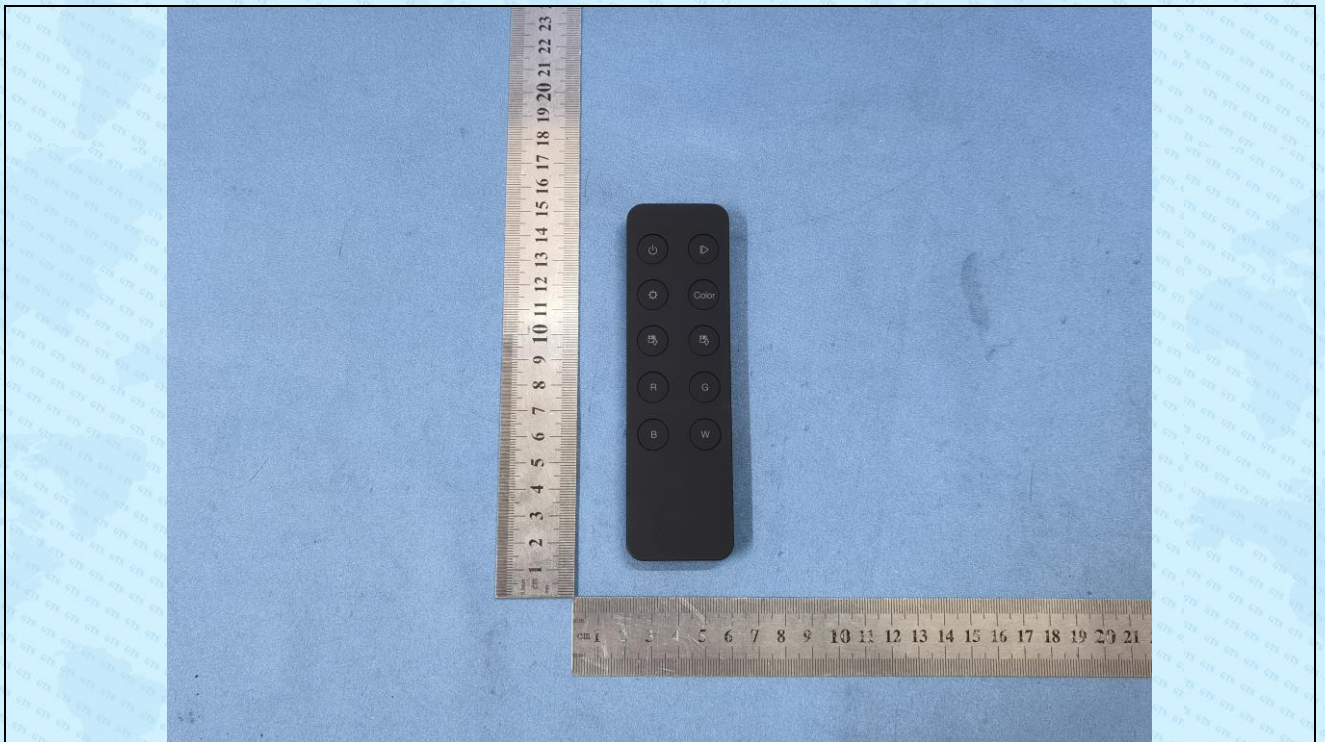
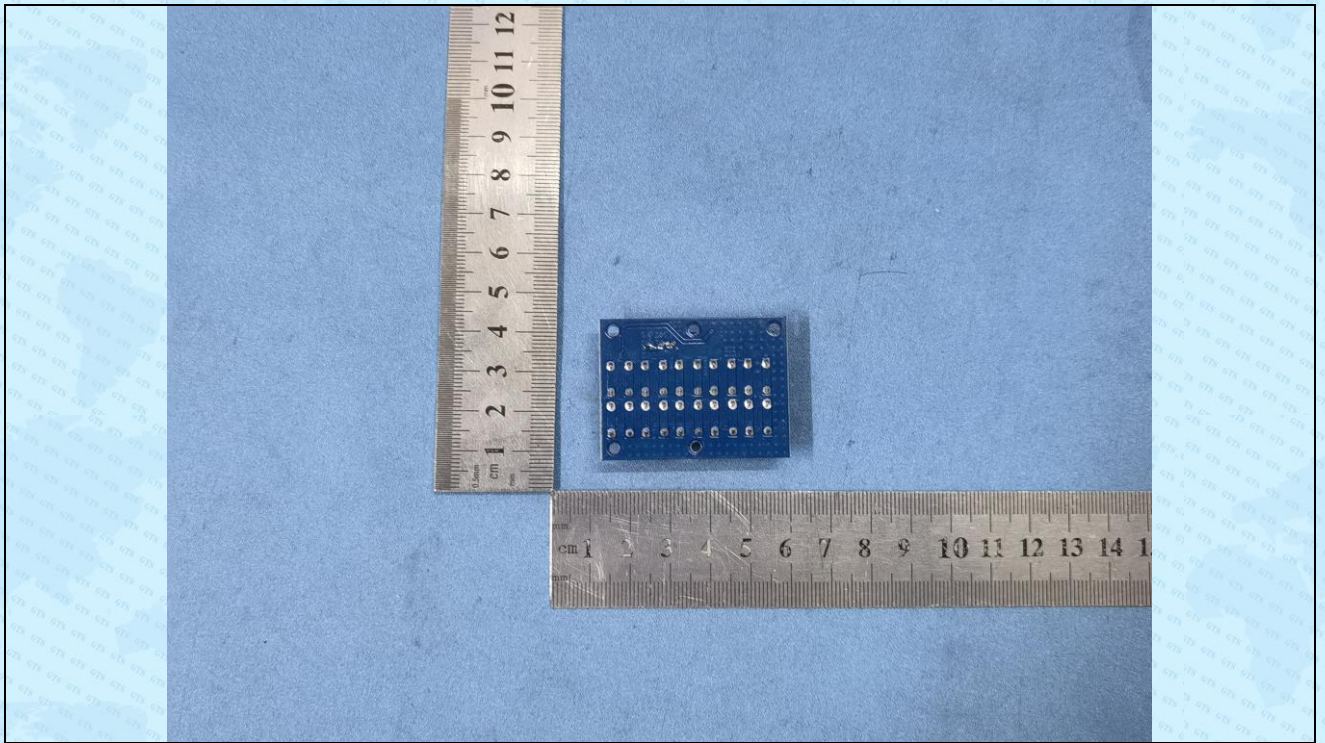
Attachment: Photos of the product



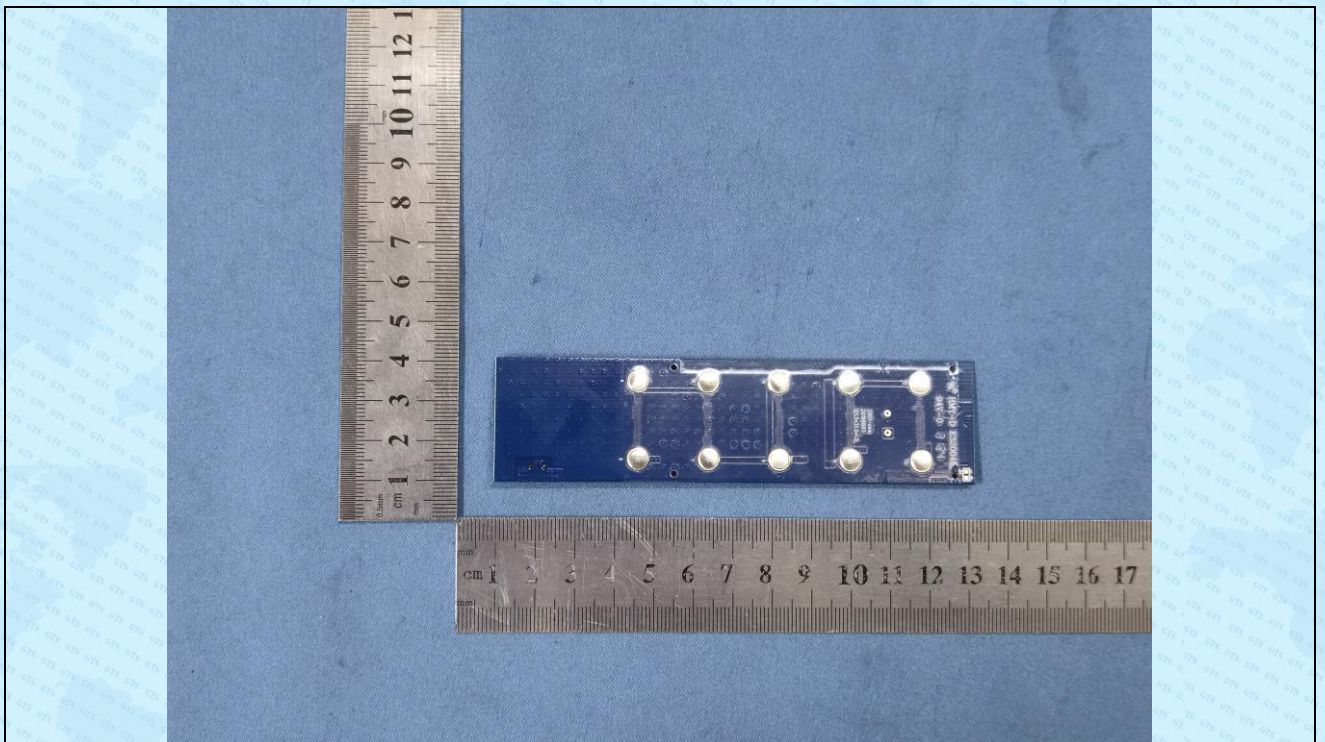
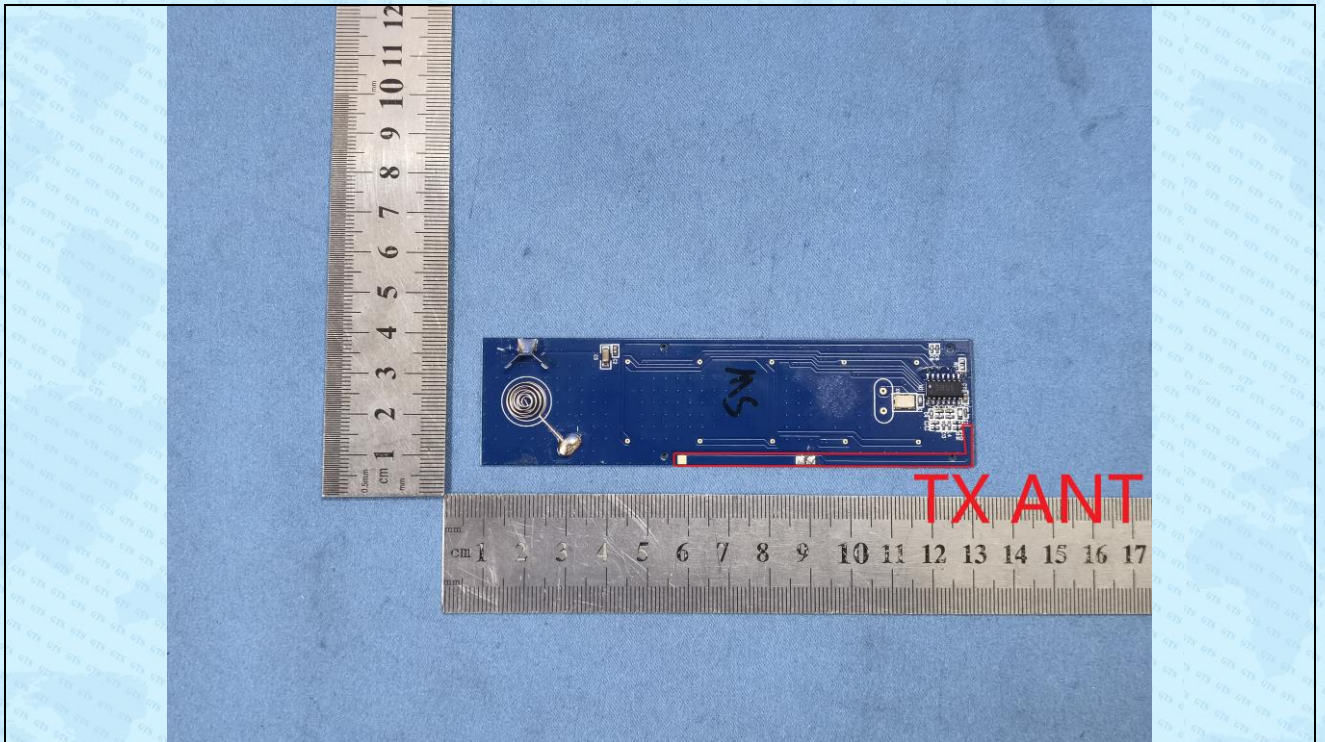












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