

TEST REPORT

Product Name : DMX512APP

Model Number : GFC007

Prepared for : Shenzhen Greatfavian Electronic CO., LTD
Address : 5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road,
Baoan District, Shenzhen, China 518126.

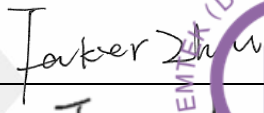

Prepared by : EMTEK(DONGGUAN) CO., LTD.
Address : Room 111&112, Building 8, -1&2F, Office Building 2, Zone
A, Zhongda Marine Biotechnology Research and
Development Base, No.9, Xincheng Avenue, Songshan
Lake High-Tech Industrial Development Zone, Dongguan,
Guangdong, China

Tel: +86-769-22807078
Fax: +86-769-22807079

Report Number : EDG2408190171L00501R
Date(s) of Tests : August 19, 2024 to November 08, 2024
Date of issue : November 18, 2024



| | |
|---|--|
| TEST REPORT IEC 61347-2-11 Part 2: Particular requirements Section 11: Miscellaneous electronic circuits used with luminaires | |
| Report Number. | EDG2408190171L00501R |
| Date of issue | November 18, 2024 |
| Total number of pages | 66 pages (including 4 attachments) |
| Name of Testing Laboratory preparing the Report | EMTEK(DONGGUAN) CO., LTD. |
| Applicant's name | Shenzhen Greatfavian Electronic CO., LTD |
| Address | 5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China 518126. |
| Test specification: | |
| Standard | IEC 61347-2-11:2001, AMD1:2017 used in conjunction with IEC 61347-1:2015, AMD1:2017 |
| Test procedure | Safety 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 |
| Copyright © 2018 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02. | |
| General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report. | |

| | | |
|--|--|--|
| Test item description | DMX512APP | |
| Trade Mark | N/A | |
| Manufacturer | Shenzhen Greatfavian Electronic CO., LTD 5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China 518126. | |
| Model/Type reference | GFC007 | |
| Ratings | Class III, Independent, SELV, IP20, ta: 25°C, tc:75°C; Input: 6V ---, 1A, Max. 6W; | |
| Testing location/ address | | |
| Room 111&112, Building 8, -1&2F, Office Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshan Lake High-Tech Industrial Development Zone, Dongguan, Guangdong, China | | |
| Tested by (name, function, signature) | Faker Zhou, PE |  |
| Approved by (name, function, signature) .. | June Luo, Reviewer |  |

List of Attachments (including a total number of pages in each attachment):
Attachment No. 1:

British differences and National Differences for BS EN 61347-2-11:2001+A1:2019 used in conjunction with BS EN 61347-1:2015+A1: 2021 (1 page);

Attachment No. 2:

Test report for IEC 60598-1:2020 (21 pages);

Attachment No. 3:

British Difference and National Differences for BS EN IEC 60598-1:2021+A11:2022 (2 pages);

Attachment No. 4:

Photo documentation (8 pages)

Summary of testing:
Tests performed (name of test and test clause):

All clauses of the standards mentioned above.

Unless otherwise specified, full tests were performed on the model GFC007.

Testing location:

EMTEK(DONGGUAN) CO., LTD.


Room 111&112, Building 8, -1&2F, Office Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshan Lake High-Tech Industrial Development Zone, Dongguan, Guangdong, China

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

☒ The product fulfils the requirements of BS EN 61347-2-11:2001+A1:2019 used in conjunction with BS EN 61347-1:2015+A1:2021

Copy of marking plate:

The artwork below may be only a draft.

DMX512APP
Model: GFC007
Input: 6V , 1A, Max. 6W;
SELV tc:75°C



Shenzhen Greatfavian Electronic CO., LTD
5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road, Baoan District,
Shenzhen, China 518126.

Importer name: XXXXXX
Importer address: XXXXXX



Marking on enclosure

Remark:

1. The above mark is the minimum requirements of the safety standard. For the final production, the additional marks, which do not give rise to misunderstanding, may be added.
2. Manufacturers shall indicate on the product their name, registered trade name or registered trade mark and postal address at which they can be contacted.
3. Importers shall indicate on the product their name, registered trade name or registered trade mark and postal address at which they can be contacted.
4. The height of graphical symbols shall not be less than 5mm, except for symbols for Class III classification which may be reduced to a minimum of 3mm where the space available for marking is restricted. The height of WEEE symbol shall not be less than 7mm.

| | |
|--|--|
| Test item particulars..... : | |
| Classification of installation and use : Independent and for indoor use only | |
| Supply Connection..... : Connector | |
| : | |
| 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..... : August 19, 2024 | |
| Date (s) of performance of tests : August 19, 2024 to November 08, 2024 | |
| General remarks: | |
| <p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in IEC 61347-1</p> | |
| Manufacturer's Declaration per sub-clause 4.2.5 of IEC 61347-1: | |
| 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable |
| When differences exist; they shall be identified in the General product information section. | |
| Name and address of factory (ie s) : Shenzhen Greatfavian Electronic CO., LTD 5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China 518126. | |
| General product information and other remarks: | |
| The product is class III independent SELV DMX Controller, IP20, for indoor use only, ta: 25°C, suitable for mounting on normal flammable surface. The product complied with EN 62493:2015 without test. | |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|--------------|--|---------------|----------|
| 4 (4) | GENERAL REQUIREMENTS | | P |
| - (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 | (see Annex L) | N/A |

| | | | |
|--------------|-------------------------------|---|----------|
| 6 (6) | CLASSIFICATION | | P |
| | 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 | | P |
| 7.1 (7.1) | Mandatory markings | | P |
| | a) mark of origin | | P |
| | b) model number or type reference | | P |
| | d) correlation between interchangeable parts and controlgear marked | | N/A |
| | e) rated supply voltage (V) | | P |
| | supply frequency (Hz) | | N/A |
| | supply current (A) | | P |
| | f) earthing symbol, if applicable | | N/A |
| | k) wiring diagram | | P |
| | l) value of t_c | $t_c: 75^{\circ}\text{C}$ | P |
| | s) SELV symbol | | P |
| 7.1 (-) | - control terminals identified, if applicable | | P |
| | - t_a alternative to t_c if independent | $t_a: 25^{\circ}\text{C}$ | 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 |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | h) declaration of protection against accidental contact | | N/A |
| | i) cross-section of conductors (mm ²) | | N/A |
| | j) number, type and wattage of lamp(s) | | N/A |
| 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 | | P |
| - (10.1) | Controlgear protected against accidental contact with live parts | | P |
| - (A2) | Voltage measured with 50 k Ω | (see Annex A) | P |
| - (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 | | P |
| - (10.2) | Capacitors > 0,5 μ F: 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 | | P |
| | Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c. | | P |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |

| | | | |
|----------------|---|---------------|------------|
| 9 (8) | TERMINALS | | N/A |
| - (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 | | N/A |
| | Comply with relevant IEC standard | (see Annex 1) | N/A |
| | Suit the conditions | | N/A |
| | Satisfy additional relevant requirements of this standard | | N/A |

| | | | |
|----------------|--|--|------------|
| 10 (9) | PROVISION FOR EARTHING | | N/A |
| - (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 |

| IEC 61347-2-11 | | | |
|------------------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |
| | 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 | | P |
| - (11) | After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance: | | P |
| | For basic insulation $\geq 2 \text{ M}\Omega$ | $> 100 \text{ M}\Omega$ | 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 | | P |
| - (12) | Immediately after clause 11 electric strength test for 1 min | | P |
| | Basic insulation for SELV, test voltage 500 V | | P |
| | Working voltage ≤ 50 V, test voltage 500 V | | P |

| IEC 61347-2-11 | | | |
|----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Working voltage $> 50 \text{ V} \leq 1000 \text{ V}$, test voltage (V): | | N/A |
| | Basic insulation, $2U + 1000 \text{ V}$ | | N/A |
| | Supplementary insulation, $2U + 1000 \text{ V}$ | | N/A |
| | Double or reinforced insulation, $4U + 2000 \text{ V}$ | | 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 |

| | | | |
|----------------|---|-------------------------|----------|
| 14 (14) | FAULT CONDITIONS | | P |
| - (14.1) | When operated under fault conditions the controlgear: | | P |
| | - does not emit flames or molten material | | P |
| | - does not produce flammable gases | | P |
| | - protection against accidental contact not impaired | | P |
| | Thermally protected controlgear does not exceed the marked temperature value | | N/A |
| | Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected | (see appended table) | 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 $\geq 1 \text{ M}\Omega$ | $> 100 \text{ M}\Omega$ | 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 | | — |

| IEC 61347-2-11 | | | |
|-------------------|---|-----------------|----------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 15 (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 |
| - (15.3) | Plugs and socket-outlets used in SELV or ELV circuits | | P |
| | No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies | | P |
| | 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: | | P |
| | - plugs not able to enter socket-outlets of other standardised system | | P |
| | - socket-outlets not admit plugs of other standardised system | | P |
| | - 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 | | P |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|-----------------|--|----------------------|----------|
| 16 (16) | CREEPAGE DISTANCES AND CLEARANCES | | P |
| - (16) | Creepage distances and clearances according to 16.2 and 16.3 | | P |
| | Controlgears providing SELV comply with additional requirements in Annex L | (see 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 | | P |
| - (16.2.2) | Minimum creepage distances for working voltages | | P |
| | Creepage distances according to Table 7 | (see appended table) | P |
| - (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 | | P |
| - (16.3.2) | Clearances for working voltages | | P |
| | Clearances distances according to Table 9 | (see appended table) | P |
| - (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 | | P |
| - (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 |

| IEC 61347-2-11 | | | |
|----------------|--|--|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| (4.11.6) | Electro-mechanical contact systems | | N/A |
| (4.12) | Mechanical connections and glands | | P |
| (4.12.1) | Screws not made of soft metal | | P |
| | Screws of insulating material | | N/A |
| | Torque test: torque (Nm); part | Screw fixed metal enclosure: 2.97mm, 0.5Nm | P |
| | Torque test: torque (Nm); part | Screw fixed display and button PCB: 2.91mm, 0.5Nm | P |
| | Torque test: torque (Nm); part | Screw fixed connector: 2.65mm, 0.4Nm | P |
| (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 | | P |
| - (18.1) | Ball-pressure test | See Test Table 18 (18.1) | P |
| - (18.2) | Test of printed boards | See Test Table 18 (18.2) | P |
| - (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 | | N/A |
| | - test according 4.18.1 of IEC 60598-1 | | N/A |
| | - adequate varnish on the outer surface | | N/A |
| 20 (-) | ANNEXES | | P |
| | Comply with appropriate annexes of IEC 61347-1 | (see Annexes) | P |
| 14 | TABLE: tests of fault conditions | | P |
| Part | Simulated fault | | Hazard |
| U7 | Short circuit, unit shut down, recoverable | | NO |
| U4 | Short circuit, unit shut down, recoverable | | NO |

| IEC 61347-2-11 | | | |
|----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| U5 | Short circuit, unit shut down, recoverable | | NO |
| U6 | Short circuit, unit shut down, recoverable | | NO |
| Q1 (G-D) | Short circuit, unit shut down, recoverable | | NO |
| Q1 (G-S) | Short circuit, unit shut down, recoverable | | NO |
| U2 | Short circuit, unit shut down, recoverable | | NO |

| 16 (16) | TABLE: creepage distance and clearance (mm) | | | | | | P |
|---|---|--------------------|-----------|--------|--------------------------------|--------------------------------|--------|
| Applicable part of IEC 61347-1 Table 7 – 11* | | | | | | | |
| Distances | Insulation type ** | Measured clearance | Required | | Measured creepage | Required | |
| | | | clearance | *Table | | creepage | *Table |
| Distance 1: | -- | -- | -- | -- | -- | -- | -- |
| Working voltage (V) | | | | | -- | — | |
| Frequency if applicable (kHz) | | | | | -- | — | |
| PTI | | | | | < 600 <input 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: -- | | | | | | | |
| Distance 2: | -- | -- | -- | -- | -- | -- | -- |
| Working voltage (V) | | | | | -- | — | |
| Frequency if applicable (kHz) | | | | | -- | — | |
| PTI | | | | | < 600 <input 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: -- | | | | | | | |
| Distance 3: | -- | -- | -- | -- | -- | -- | -- |
| Working voltage (V) | | | | | -- | — | |
| Frequency if applicable (kHz) | | | | | -- | — | |
| PTI | | | | | < 600 <input 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: | | | | | | | |
| Working voltage <60VDC. No values are specified for working voltages below 25 V RMS and 60 V DC as the electric strength test is considered sufficient. | | | | | | | |

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

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 18 (18.1) | TABLE: Ball Pressure Test | | | P |
|--|---------------------------|-----------------------|--------------------------|---|
| Allowed impression diameter (mm) | | 2 | | — |
| Object/ Part No./ Material | Manufacturer/ trademark | Test temperature (°C) | Impression diameter (mm) | |
| Switch | See Annex 1 | 125 | 0,89 | |
| DMX connector | See Annex 1 | 125 | 0,44 | |
| Control PCB, Button PCB | See Annex 1 | 125 | 0,57 | |
| Internal connector(J8) | See Annex 1 | 125 | 1,03 | |
| Button | See Annex 1 | 125 | 1,42 | |
| Terminal block(J6,J9) | See Annex 1 | 125 | 0,98 | |
| Supplementary information: -- | | | | |

| 18 (18.2) | TABLE: Test of printed boards | | | | 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 |
| Control PCB, Button PCB | See Annex 1 | 30 | No | 0 | P |
| -- | -- | -- | -- | -- | -- |
| 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 |
| Plastic under the display | See Annex 1 | No | 0s | P |
| -- | -- | -- | -- | -- |
| 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 |
| Switch | See Annex 1 | 10 | No | 2 | P |

| IEC 61347-2-11 | | | | | |
|------------------------------|--------------------|----|-----------------|---|---------|
| Clause | Requirement + Test | | Result - Remark | | Verdict |
| DMX connector | See Annex 1 | 10 | No | 2 | P |
| Internal connector(J8) | See Annex 1 | 10 | No | 2 | P |
| Button | See Annex 1 | 10 | No | 0 | P |
| Terminal block(J6,J9) | See Annex 1 | 10 | No | 0 | P |
| 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:-- | | | | | | |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|------------|---|------|----------|
| (A) | ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK | | P |
| (A.1) | Comply with A.2 or A.3 | | P |
| (A.2) | Voltage ≤ 35 V peak or ≤ 60 V d.c | 6VDC | P |
| (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 |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|------------|
| 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 | | P |
| | Draught-proof enclosure in accordance with the description | | P |
| | Dimensions of the enclosure | | P |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| 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 | | N/A |
| (L.3) | Classification | | |
| | Class I | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | Class II | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | Class III | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | non-inherently short circuit proof controlgear | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | inherently short circuit proof controlgear | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | fail safe controlgear | Yes <input type="checkbox"/> No <input type="checkbox"/> | — |
| | non-short-circuit proof controlgear | Yes <input type="checkbox"/> No <input 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 | | — |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Comply with tests of clause 14 of IEC 61558-1 with adjustments | | N/A |
| (L.7) | Short-circuit and overload protection | | N/A |
| | Comply with tests of clause 15 of IEC 61558-1 with adjustments | | 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 |

| IEC 61347-2-11 | | | |
|----------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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) | | — |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| (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 |
| | 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 |

| IEC 61347-2-11 | | | |
|----------------|--|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |
| (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.....: | | — |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |
| (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 | | — |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| ANNEX 1 TABLE: Critical components information | | | | | | P |
|--|------|---|--------------|-----------------------------|---------------|-------------------------------------|
| Object / part No. | Code | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity ¹⁾ |
| Input connector | C | Shenzhen Greatfavianian Electronic CO., LTD | GX12 | DC6V/1A | EN 61347-2-11 | Tested with appliance |
| Input wire | C | Shenzhen Greatfavianian Electronic CO., LTD | / | Min. 24AWG | EN 61347-2-11 | Tested with appliance |
| DMX 5PIN IN connector | C | Shenzhen Greatfavianian Electronic CO., LTD | Canon | 5-core male | EN 61347-2-11 | Tested with appliance |
| DMX 3PIN IN connector | C | Shenzhen Greatfavianian Electronic CO., LTD | Canon | 3-core male | EN 61347-2-11 | Tested with appliance |
| Control PCB | C | Shenzhen Greatfavianian Electronic CO., LTD | -- | V-0, 130℃ | EN 61347-2-11 | Tested with appliance |
| Internal connector(J8) | C | Shenzhen Greatfavianian Electronic CO., LTD | -- | 2.5mm, 8Pin | EN 61347-2-11 | Tested with appliance |
| Terminal block(J6,J9) | C | Shenzhen Greatfavianian Electronic CO., LTD | -- | 1.25*12p/fx | EN 61347-2-11 | Tested with appliance |
| Internal wire for Internal connector(J8) | C | Shenzhen Greatfavianian Electronic CO., LTD | 1007 | Min.24AWG, 80℃, 300V, VW-1, | EN 61347-2-11 | Tested with appliance |
| Internal wire for Terminal block(J6,J9) | C | Shenzhen Greatfavianian Electronic CO., LTD | 1571 | Min.28AWG, 80℃, 30V, VW-1, | EN 61347-2-11 | Tested with appliance |
| Button PCB | C | Shenzhen Greatfavianian Electronic CO., LTD | -- | V-0, 130℃ | EN 61347-2-11 | Tested with appliance |

| IEC 61347-2-11 | | | | | | |
|---|--------------------|--|--------------------------|-----------------|---------------|-----------------------|
| Clause | Requirement + Test | | | Result - Remark | | Verdict |
| Switch | C | Shenzhen Greatfavian Electronic CO., LTD | KCD-105-3P | 6A, AC220V, T85 | EN 61347-2-11 | Tested with appliance |
| Button (S1, S2, S3) | C | Shenzhen Greatfavian Electronic CO., LTD | -- | DC6V, 1A | EN 61347-2-11 | Tested with appliance |
| Display | C | Shenzhen Greatfavian Electronic CO., LTD | ZJY240S0800 TG02-IL19341 | 2.4 INCH | EN 61347-2-11 | Tested with appliance |
| Plastic under the display | C | Shenzhen Greatfavian Electronic CO., LTD | ABS | ABS | EN 61347-2-11 | Tested with appliance |
| <p>Supplementary information:</p> <p>1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.</p> <p>The codes above have the following meaning:</p> <p>A - The component is replaceable with another one, also certified, with equivalent characteristics</p> <p>B - The component is replaceable if authorised by the test house</p> <p>C - Integrated component tested together with the appliance</p> <p>D - Alternative component</p> | | | | | | |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|----------------|--|---|------------|
| ANNEX 2 | Screw terminals(part of the controlgear) | | N/A |
| (14) | SCREW TERMINALS (IEC 60598-1) | | 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 |

| IEC 61347-2-11 | | | |
|----------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|----------------|---|--|------------|
| ANNEX 3 | Screwless terminals(part of the controlgear) | | N/A |
| (15) | SCREWLESS TERMINALS (IEC 60598-1) | | 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 |

| IEC 61347-2-11 | | | |
|----------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| (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 |
| (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) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 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) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 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:-- | | | | | | | | | | | |

Attachment No. 1

| IEC61347_2_11F ATTACHMENT | | | |
|---------------------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | |
|--|---|
| ATTACHMENT TO TEST REPORT IEC 61347-2-11 BRITISH DIFFERENCES AND NATIONAL DIFFERENCES Part 2: Particular requirements Section Eleven – Miscellaneous electronic circuits used with luminaires | |
| Differences according to | BS EN 61347-2-11:2001+A1:2019 used in conjunction with BS EN 61347-1:2015+A1 :2021 |
| Attachment Form No. | BS_GD_IEC61347_2_11F |
| Attachment Originator | EMTEK |
| Master Attachment | Date 2021-05 |
| | |

| | | |
|--|--|----------|
| | CENELEC COMMON MODIFICATIONS (BS) | P |
| | No Common modifications | P |

Attachment No. 2

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

| | | | |
|------------|--|---|----------|
| 0 | GENERAL TEST REQUIREMENTS | | P |
| 0.3 | More sections applicable.....: | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Section/s: | — |
| 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 | | N/A |

| | | | |
|----------|---|---|----------|
| 2 | CLASSIFICATION OF LUMINAIRES | | P |
| 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 | | P |
| 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 | | P |
| 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 | | P |
| 3.3.10 | Suitability for use indoors | | P |
| 3.3.11 | Luminaires with remote control | | N/A |
| 3.3.12 | Clip-mounted luminaire – warning | | N/A |
| 3.3.13 | Specifications of protective shields | | N/A |
| 3.3.14 | Symbol for nature of supply | — — — | P |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 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 | Luminaires without control gear 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 |
| 3.3.25 | Luminaires employing light sources emitting UV on mains wiring, information provided | | N/A |
| 3.3.26 | Wall mounted luminaire using external flexible cable or cord longer than 0.3 m, information provided | | N/A |
| 3.4 | Test with water | 15s | P |
| | Test with hexane | 15s | P |
| | Legible after test | | P |
| | Label attached | | P |

| | | | |
|------------|--|--|------------|
| 4 | CONSTRUCTION | | P |
| 4.2 | Components replaceable without difficulty | | N/A |
| 4.3 | Wireways smooth and free from sharp edges | | P |
| 4.4 | Lamp holders | | N/A |
| 4.4.1 | Integral lamp holder | | N/A |
| 4.4.2 | Wiring connection | | N/A |
| 4.4.3 | Lamp holder for end-to-end mounting | | N/A |
| 4.4.4 | Positioning | | N/A |
| | - pressure test (N) | | — |
| | After test the lamp holder comply with relevant standard sheets and show no damage | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | After test on single-capped lamp holder the lamp holder has not moved from its position and show no permanent deformation | | N/A |
| | - bending test (N) | | — |
| | After test the lamp holder has not moved from its position and show no permanent deformation | | N/A |
| 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 lamp holder 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 | | P |
| 4.7.2 | Test 8 mm live conductor | | N/A |
| | Test 8 mm earth conductor | | N/A |
| 4.7.3 | Terminals for supply conductors | | N/A |
| 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 |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.8 | Switches | | P |
| | - adequate rating | | P |
| | - adequate fixing | 10000 cycles | P |
| | - polarized supply | | N/A |
| | - 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 | Class III | 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 |
| 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: | | N/A |
| | - fixed | | N/A |
| | - unable to be replaced; luminaire inoperative | | N/A |
| | - sleeves retained in position | | N/A |
| | - lining in lamp holder | | N/A |
| 4.10.4 | Protective impedance device | | N/A |
| | Basic and supplementary insulation bridged by resistor(s) or appropriate capacitor | | N/A |
| | Double or reinforced insulation bridged by at least two separate resistors in series or appropriate capacitor(s) | | N/A |
| | Capacitors comply with IEC 60384-14 | | N/A |
| | Resistors comply with test (a) in 14.2 of IEC 60065 | | N/A |
| 4.11 | Electrical connections and current-carrying parts | | P |
| 4.11.1 | Contact pressure | | P |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 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 | Screws and connections (mechanical) 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 |
| | 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 |
| | - lamp holder; 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 | | N/A |
| 4.13.4 | Rough service luminaires | | N/A |
| | - IP54 or higher | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|------------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 |
| 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..... | See Test Table 1.15 (13.3.2) | 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 |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|------------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - thermal protection | | N/A |
| | - electronic circuits exempted | | 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 | | P |
| | No lamp control gear | (compliance with Section 12) | 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 | (see clause 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 | | N/A |
| 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 |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|------------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Glow-wire test on lamp compartment | See Test Table 1.15 (13.3.2) | 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 | | — |
| | 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 | | P |
| 4.26.1 | Adequate means of uninsulated accessible SELV / PELV parts | | P |
| 4.26.2 | Short-circuit test with test chain according 4.26.3: | | P |
| | Supply source ES1 PSE | | N/A |
| | Test chain not melt through | | P |
| | Test sample not exceed values of Table 12.1 and 12.2 | | P |
| 4.27 | Terminal blocks with integrated screwless protective earthing contacts | | N/A |
| | Test according Annex V | | N/A |
| | Pull test of terminal fixing (20 N) | | N/A |
| | After test, resistance < 0,05 Ω | | N/A |
| | Pull test of mechanical connection (50 N) | | N/A |
| | After test, resistance < 0,05 Ω | | N/A |
| | Voltage drop test, resistance < 0,05 Ω | | N/A |
| 4.28 | Fixing of thermal sensing control | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|---------------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Not plug-in or easily replaceable type | | N/A |
| | Reliably kept in position | | N/A |
| | No adhesive fixing if UV radiations from a lamp can degrade the fixing | | N/A |
| | Not outside the luminaire enclosure | | N/A |
| | Test of adhesive fixing: | | N/A |
| | Max. temperature on adhesive material (°C) | | — |
| | 100 cycles between t min and t max | | N/A |
| | Temperature sensing control still in position | | N/A |
| 4.29 | Luminaires with non-replaceable light source | | N/A |
| | Not possible to replace light source | | N/A |
| | Live part not accessible after parts have been opened by hand or tools | | N/A |
| 4.30 | Luminaires with non-user replaceable light source | | N/A |
| | If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol: | | N/A |
| | At least one fixing means requiring use of tool | | N/A |
| 4.31 | 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 or PELV circuits | | P |
| | Used SELV/PELV source | | P |
| | Voltage ≤ ELV | | P |
| | Insulating of SELV/PELV circuits from LV supply | | P |
| | Insulating of SELV/PELV circuits from other non SELV/PELV circuits | | N/A |
| | Insulating of SELV/PELV circuits from FELV | | N/A |
| | Insulating of SELV/PELV circuits from other SELV/PELV circuits | | N/A |
| | SELV/PELV circuits insulated from accessible parts according Table X.1 | | P |
| | Plugs not able to make any electrical contact with socket-outlets of other voltage systems | | N/A |
| | Socket outlets does not admit plugs of other voltage systems | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 \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 with 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 |
| 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 |
| 4.33 | Luminaire powered via information technology communication cabling | | N/A |
| | Requirements for Class III luminaire | | N/A |
| | Rated voltage within the range of ES1 and does not exceed maximum voltage of used connector | | N/A |
| | Luminaire does not create any hazard from overvoltage | (see Annex 2) | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.34 | Electromagnetic fields (EMF) | | P |
| | No harmful electromagnetic fields | Complied without test | P |
| 4.35 | Protection against moving fan blades | | N/A |
| | Test with a standard test finger | | N/A |
| | Test with test probe acc. to Figure 13 (IEC 61032) for portable luminaire | | N/A |
| | Blades rounded with radius ≥ 0.5 mm and: | | N/A |
| | -hardness less than D60 Shore | | N/A |
| | -peripheral speed less than 15 m/s | | N/A |
| | -input power of fan ≤ 2 W at rated voltage | | N/A |
| 4.36 | Track-mounted luminaires | | N/A |
| | Test in accordance with Annex A of IEC60570:2003/AMD2:2019 | | N/A |
| 11 | CREEPAGE DISTANCES AND CLEARANCES | | N/A |
| 7 | PROVISION FOR EARTHING | | N/A |
| 14 | SCREW TERMINALS | | N/A |
| | Separately approved; component list | (see Annex 1) | N/A |
| | Part of the luminaire | (see Annex 3) | N/A |
| 15 | SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS | | N/A |
| | Separately approved; component list..... : | (see Annex 1) | N/A |
| | Part of the luminaire : | (see Annex 4) | N/A |
| 5 | EXTERNAL AND INTERNAL WIRING | | P |
| 5.2 | Supply connection and external wiring | | P |
| 5.2.1 | Means of connection : | Connector | P |
| | Outdoor luminaire has not PVC insulated external wiring if not Class III or SELV/PELV circuits ≤ 25 V AC/60 V DC/25 V peak interrupted DC voltage with frequency 10Hz -200 Hz or protected from outdoor environment | | N/A |
| 5.2.2 | Type of cable : | (See Annex 1) | N/A |
| | Nominal cross-sectional area (mm ²) : | (See Annex 1) | N/A |
| | Cables equal to IEC 60227 or IEC 60245 | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 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: | | N/A |
| | - suitable for introduction | | N/A |
| | - adequate degree of protection | | N/A |
| 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: | | N/A |
| | - covering protected from abrasion | | N/A |
| | - clear how to be effective | | N/A |
| | - no mechanical or thermal stress | | N/A |
| | - no tying of cables into knots etc. | | N/A |
| | - insulating material or lining | | N/A |
| 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 |
| 5.2.10.2 | Adequate cord anchorage for type Y and type Z attachment | | N/A |
| 5.2.10.3 | Tests: | | N/A |
| | - impossible to push cable; unsafe | | N/A |
| | - pull test: 25 times; pull (N) : | | N/A |
| | - torque test: torque (Nm) : | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|----------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - displacement ≤ 2 mm | | N/A |
| | - no movement of conductors | | N/A |
| | - no damage of cable or cord | | N/A |
| | - function independent of electrical connection | | N/A |
| 5.2.10.4 | Luminaire with/ designed for use with supply cord with maximum current of 2A: | | N/A |
| | - Ordinary Class III luminaire supplied with SELV ≤ 25 V RMS/60V DC | | N/A |
| | - Ordinary Class III luminaire supplied with PELV ≤ 12 V RMS/30V DC | | N/A |
| | - Other than ordinary Class III luminaire supplied with voltage ≤ 12 V RMS/30V DC | | N/A |
| | Pull test of 30N | | N/A |
| 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 |
| 5.2.15 | Connectors for Class III luminaires (IEC 60603 or IEC 62680) | | N/A |
| 5.2.16 | Appliance inlets (IEC 60320) | | N/A |
| | Installation couplers (IEC 61535) | | N/A |
| | Appliance inlet or connector systems (IEC 61984) | | 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 | | P |
| 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 |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Green-yellow for protective earth only | | N/A |
| 5.3.1.1 | Internal wiring connected directly to fixed wiring | | N/A |
| | Cross-sectional area (mm ²) : | (see Annex 1) | 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 | | P |
| | Cross-sectional area (mm ²): | (see Annex 1) | P |
| 5.3.1.3 | Double or reinforced insulation for class II | | N/A |
| 5.3.1.4 | Conductors without insulation | | P |
| 5.3.1.5 | SELV/PELV current-carrying parts | | P |
| 5.3.1.6 | Insulation thickness other than PVC or rubber | | N/A |
| 5.3.2 | Sharp edges etc. | | P |
| | No moving parts of switches etc. | | N/A |
| | Joints, raising/lowering devices | | N/A |
| | Telescopic tubes etc. | | N/A |
| | No twisting over 360° | | P |
| 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 | | P |
| 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 | | P |
| 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 |
| 8 | PROTECTION AGAINST ELECTRIC SHOCK | | P |
| 8.2.1 | Live parts not accessible | | P |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Basic insulated parts not used on the outer surface without appropriate protection | | P |
| | Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires | | N/A |
| | Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires | | P |
| | Lamp and starter holders in portable 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 lamp holder of metal in class I luminaires shall be connected to protective earth | | N/A |
| 8.2.3.c | SELV circuits with exposed current carrying parts: | | P |
| | Ordinary luminaire: | | P |
| | - voltage under load/ no-load AC (V) | | N/A |
| | - voltage under load/ no-load DC (V)..... | 6VDC | P |
| | - interrupted DC voltage (V) | | N/A |
| | - touch current if applicable (mA) | | N/A |
| | One conductive part insulated if required | | N/A |
| | Other than ordinary luminaire: | | N/A |
| | - voltage under load/ no-load AC (V) | | N/A |
| | - voltage under load/ no-load DC (V)..... | | N/A |
| | - interrupted DC voltage (V) | | N/A |

Attachment No. 2

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

| | | | |
|---------|---|--|-----|
| | Class III luminaire only for connection to SELV | | N/A |
| | Class III luminaire not provided with means for protective earthing | | N/A |
| 8.2.3.d | PELV circuits with exposed current carrying parts: | | N/A |
| | Ordinary luminaire: | | N/A |
| | - voltage under load/ no-load AC (V) | | N/A |
| | - voltage under load/ no-load DC (V)..... | | N/A |
| | Other than ordinary luminaire: | | N/A |
| | - voltage under load/ no-load AC (V) | | N/A |
| | - voltage under load/ no-load DC (V)..... | | N/A |
| | One pole insulated if required | | 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 |
| 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 | | P |
| 12.2 | Selection of lamps and ballasts | | — |
| | Lamp used according Annex B | (Lamp used see Annex 2) | — |
| | Control gear if separate and not supplied | (Control gear used see Annex 2) | — |
| 12.3 | Endurance test | | P |
| | a) mounting-position | As normal use | — |
| | b) test temperature (°C)..... | 35 | — |
| | c) total duration (h) | 240 | — |
| | d) supply voltage (V) | -- | — |
| | d) if not equipped with control gear, constant voltage/current (V) or (A) | 1,1 X 6 = 6,6DC | — |
| 12.3.1d | d) Class III luminaires powered via information technology communication cable: | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - voltage under normal operation (V).....: | | — |
| | - voltage under abnormal operation (V).....: | | — |
| | e) luminaire ceases to operate | | — |
| | f) luminaire with constant light output function | | N/A |
| 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) | (see Annex 2) | P |
| 12.5 | Thermal test (abnormal operation) | (see Annex 2) | 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 |
| | - 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 $\leq 70W$ | | N/A |
| | Test method 12.7.1.1 or Annex W | | — |
| | Test according to 12.7.1.1: | | N/A |
| | - case of abnormal conditions | | — |

Attachment No. 2

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

| | | | |
|----------|--|--|-----|
| | - Ballast failure at supply voltage (V) | | — |
| | - Components retained in place after the test | | N/A |
| | - Test with standard test finger after the test | | N/A |
| | Test according to Annex W: | | N/A |
| | - case of abnormal conditions | | — |
| | - measured winding temperature (°C): at 1,1 Un..... | | — |
| | - measured temperature of fixing point/exposed part (°C): at 1,1 Un..... | | — |
| | - calculated temperature of fixing point/exposed part (°C) | | — |
| | Ball-pressure test | See Test Table 1.15 (13.2.1) | N/A |
| 12.7.1.2 | Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA | | N/A |
| | - case of abnormal conditions | | — |
| | - measured winding temperature (°C): at 1,1 Un..... | | — |
| | - measured temperature of fixing point/exposed part (°C): at 1,1 Un..... | | — |
| | - calculated temperature of fixing point/exposed part (°C) | | — |
| | Ball-pressure test | See Test Table 1.15 (13.2.1) | N/A |
| 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 |
| 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 1.15 (13.2.1) | N/A |

| | | | |
|----------|--|------|----------|
| 9 | RESISTANCE TO DUST AND MOISTURE | | P |
| 9.2 | Tests for ingress of dust, solid objects and moisture: | | P |
| | - classification according to IP | IP20 | — |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - mounting position during test | As normal use | — |
| | - fixing screws tightened; torque (Nm) | -- | — |
| | - tests according to clauses | Clause 9.2.0 | — |
| | - electric strength test afterwards | | N/A |
| | a) no deposit in dust-proof luminaire | | N/A |
| | b) no talcum in dust-tight luminaire | | N/A |
| | c) no trace of water on current-carrying parts or 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, pressure watertight, high pressure and temperature water jet-proof or high pressure and cold water jet-proof luminaire | | N/A |
| | e) no contact with live parts (IP 2X) | | P |
| | e) no entry into enclosure (IP 3X and IP 4X) | | N/A |
| | e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X) | | N/A |
| | f) no trace of water on part of lamp requiring protection from splashing water | | N/A |
| | g) no damage of protective shield or glass envelope | | N/A |
| 9.3 | Humidity test 48 h | 25°C, 93%R.H. | P |

| | | | |
|-----------|--|--------|----------|
| 10 | INSULATION RESISTANCE AND ELECTRIC STRENGTH | | P |
| 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): | | P |
| | SELV/PELV: | | P |
| | - between current-carrying parts of different polarity : | | N/A |
| | - between current-carrying parts and mounting surface | >100MΩ | P |
| | - between current-carrying parts and plastic parts of the luminaire | | N/A |
| | - between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts | | N/A |
| | - Insulation bushings as described in Section 5 | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Other than SELV/PELV: | | N/A |
| | - between live parts of different polarity | | N/A |
| | - between live parts and mounting surface | | N/A |
| | - between live parts and plastic 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 | | P |
| | Dummy lamp | | N/A |
| | Luminaires with ignitors after 24 h test | | N/A |
| | Luminaires with manual ignitors | | N/A |
| | Test voltage (V): | | P |
| | SELV/PELV: | | P |
| | - between current-carrying parts of different polarity : | | N/A |
| | - between current-carrying parts and mounting surface | 500V | P |
| | - between current-carrying parts and plastic parts of the luminaire | | N/A |
| | - between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts | | N/A |
| | - Insulation bushings as described in Section 5 | | N/A |
| | Other than SELV/PELV: | | N/A |
| | - between live parts of different polarity | | N/A |
| | - between live parts and mounting surface | | N/A |
| | - between live parts and plastic 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 (mA) | | N/A |
| | Protective conductor current (mA)..... | | N/A |

Attachment No. 2

| IEC 60598-1 | | | |
|-------------|--|----------------------------|----------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 13 | RESISTANCE TO HEAT, FIRE AND TRACKING | | P |
| 13.2.1 | Ball-pressure test..... : | See 61347-2-13 report | P |
| 13.3.1 | Needle-flame test (10 s) : | See 61347-2-13 report | P |
| 13.3.2 | Glow-wire test (650°C) : | See 61347-2-13 report | P |
| 13.4 | Proof tracking test (IE C 60112) : | See Test Table 1.16 (13.4) | N/A |



Attachment No. 2

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

| ANNEX 2 | TABLE: Thermal tests of Section 12 | | P |
|-------------|--|------------------|---|
| | Type reference | GFC007 | — |
| | Lamp used | -- | — |
| | Lamp control gear used | -- | — |
| | Mounting position of luminaire | As normal use | — |
| | Supply wattage (W) | 6,033W | — |
| | Supply current (A) | 0,914A | — |
| | Temperatures in test 1 - 4 below are corrected for t_a (°C) | 25 | — |
| | - abnormal operating mode | -- | — |
| 1.13 (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 | 1,1 x 6 = 6,6VDC | — |
| | - 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 | -- | — |
| 1.13 (12.5) | - test 4: 1,1 times rated voltage or 1,05 times rated wattage or 1,1 times constant voltage/current or 130/150% of rated input voltage | -- | — |

Temperature measurements (°C)

| Part | Ambient | Cl. 12.4 – normal | | | | Cl. 12.5 – abnormal | |
|--|---------|-------------------|--------|--------|-------|---------------------|-------|
| | | test 1 | test 2 | test 3 | limit | test 4 | limit |
| Switch | 25,0 | -- | 26,9 | -- | 70 | -- | -- |
| Input connector | 25,0 | -- | 28,4 | -- | Ref. | -- | -- |
| Input wire for input connector to PCB | 25,0 | -- | 27,9 | -- | 80 | -- | -- |
| DMX 5PIN IN connector | 25,0 | -- | 27,2 | -- | Ref. | -- | -- |
| DMX 3PIN IN connector | 25,0 | -- | 27,4 | -- | Ref. | -- | -- |
| Control PCB | 25,0 | -- | 33,7 | -- | Ref. | -- | -- |
| Internal connector(J8) | 25,0 | -- | 28,0 | -- | Ref. | -- | -- |
| Internal wire for Internal connector(J8) | 25,0 | -- | 27,6 | -- | 80 | -- | -- |
| Terminal block(J6,J9) | 25,0 | -- | 27,9 | -- | Ref. | -- | -- |
| Internal wire for Terminal block(J6,J9) | 25,0 | -- | 27,4 | -- | 80 | -- | -- |

Attachment No. 2

| IEC 60598-1 | | | | | | | |
|------------------------------|--------------------|----|------|-----------------|------|----|---------|
| Clause | Requirement + Test | | | Result - Remark | | | Verdict |
| Button PCB | 25,0 | -- | 28,7 | -- | Ref. | -- | -- |
| Button | 25,0 | -- | 27,6 | -- | 70 | -- | -- |
| Plastic under the display | 25,0 | -- | 27,0 | | Ref. | | |
| Metal enclosure | 25,0 | -- | 27,4 | -- | 90 | -- | -- |
| Mounting surface | 25,0 | -- | 26,6 | -- | 90 | -- | -- |
| Supplementary information:-- | | | | | | | |



Attachment No. 3

| IEC60598_1I - ATTACHMENT | | | |
|--------------------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| ATTACHMENT TO TEST REPORT IEC 60598-1:2020 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part1: General requirements and tests | | | |
|--|-------------------------------------|--|--|
| Differences according to | BS EN IEC 60598-1:2021 + AMD11:2022 | | |
| TRF template used..... | IECEE OD-2020-F2:2020, Ed. 1.1 | | |
| Attachment Form No. | BS_GD_IEC60598_1I | | |
| Attachment Originator | EMTEK | | |
| Master Attachment | 2021-05 | | |

| | CENELEC COMMON MODIFICATIONS (BS) | P |
|-----------|--|----------|
| 3 | MARKING | N/A |
| 3.2.12 | Note 4 deleted | N/A |
| 4 | CONSTRUCTION | N/A |
| 4.11.6 | Electro-mechanical contact systems: electric strength test at 1 500 V | N/A |
| 5 | EXTERNAL AND INTERNAL WIRING" | N/A |
| 5.2.2 | Cables equal to EN 50525 (all parts) | N/A |
| | Paragraph 2 deleted | N/A |
| | Replace table 5.1 – Supply cord | N/A |
| 12 | ENDURANCE TESTS AND THERMAL TESTS | N/A |
| 12.4.2c | Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring | N/A |
| ZB | ANNEX ZB, SPECIAL NATIONAL CONDITIONS (BS) | N/A |
| 3.3 | DK: power supply cords of class I luminaires with label | N/A |
| 5.2.1 | CY, DK, FI, UK: type of plug | N/A |
| 5.2.18 | DK: socket-outlets | N/A |
| ZC | ANNEX ZC, NATIONAL DEVIATIONS (BS) | P |
| 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: | P |

Attachment No. 3

| IEC60598_1I - ATTACHMENT | | | |
|--------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - 850°C for luminaires in stairways and horizontal travel paths | | N/A |
| | - 650°C for indoor luminaires | | P |
| | UK: Requirements according to United Kingdom Building Regulation | | N/A |



Attachment No. 4
Photo documentation



Figure 1: Top view

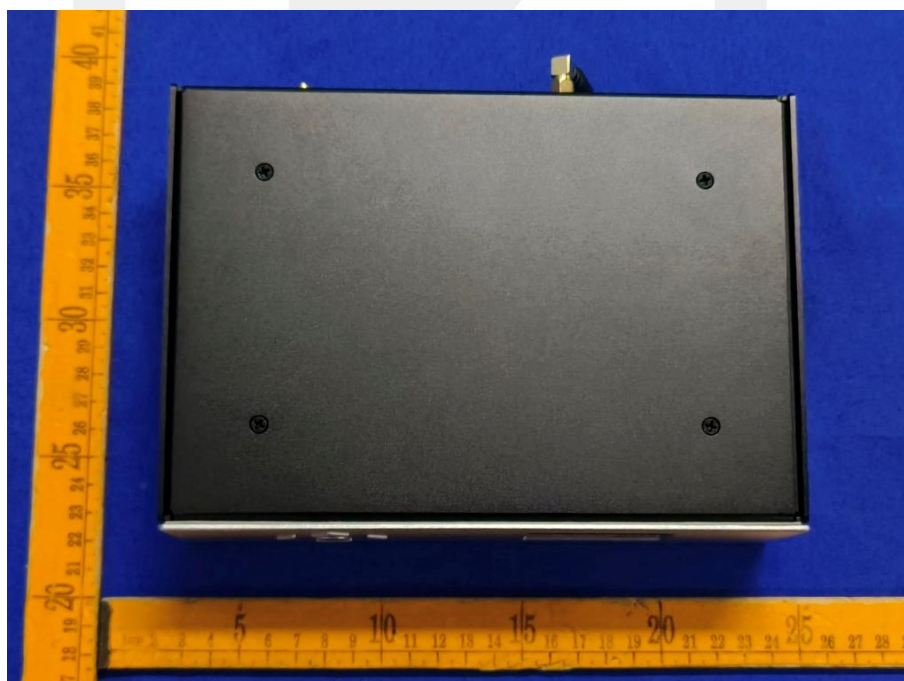


Figure 2: Bottom view

Attachment No. 4
Photo documentation

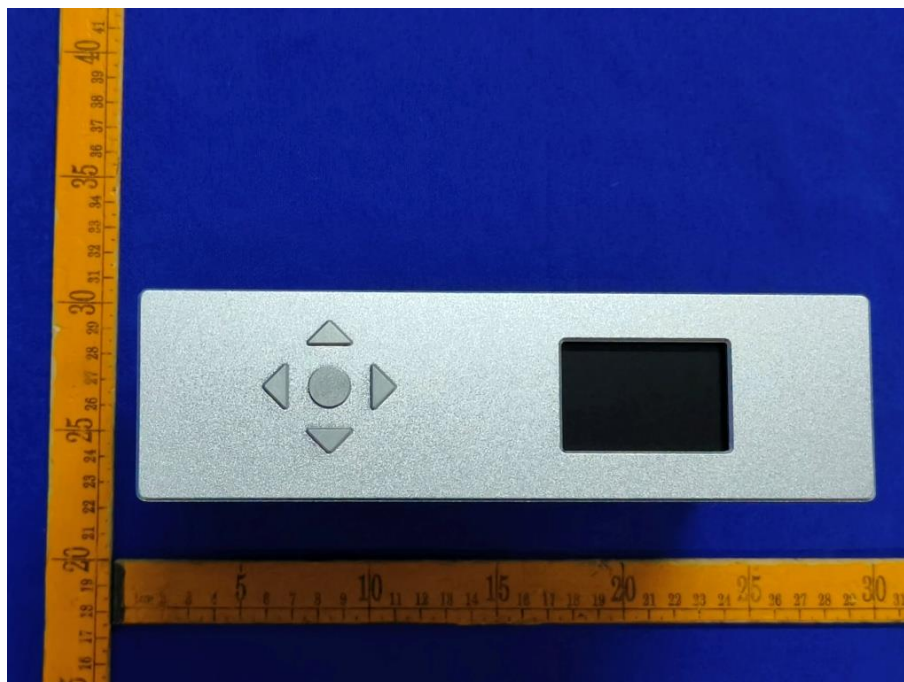


Figure 3: Front view



Figure 4: Rear view

Attachment No. 4
Photo documentation



Figure 5: Internal view

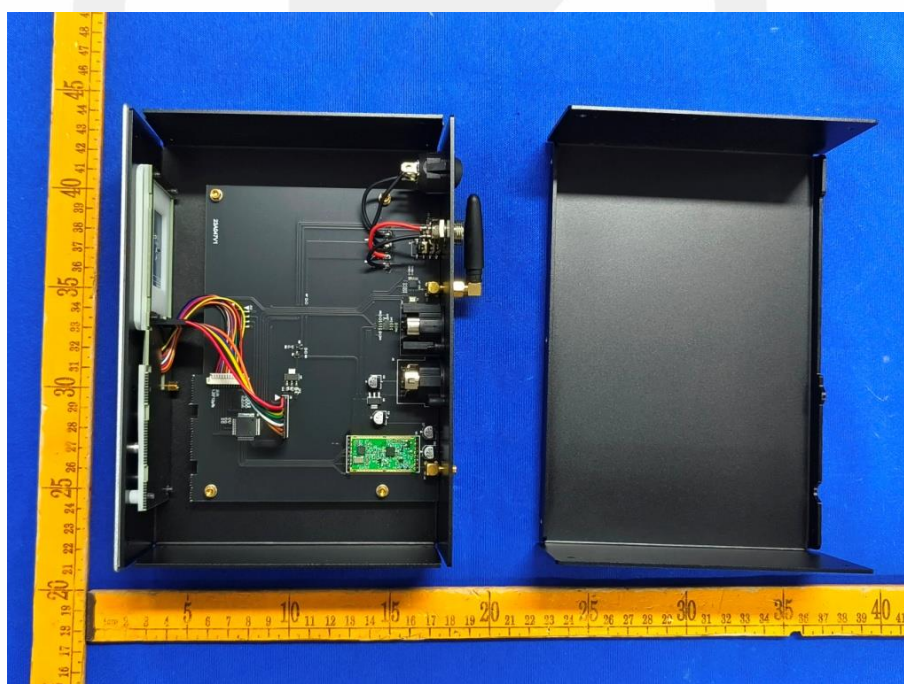


Figure 6: Internal view

Attachment No. 4
Photo documentation

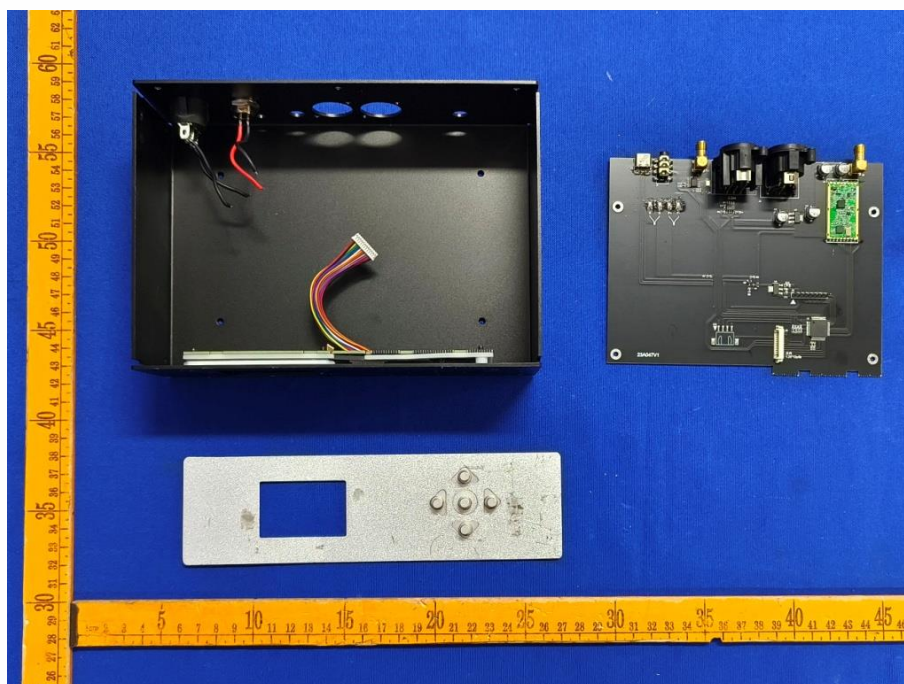


Figure 7: Internal view

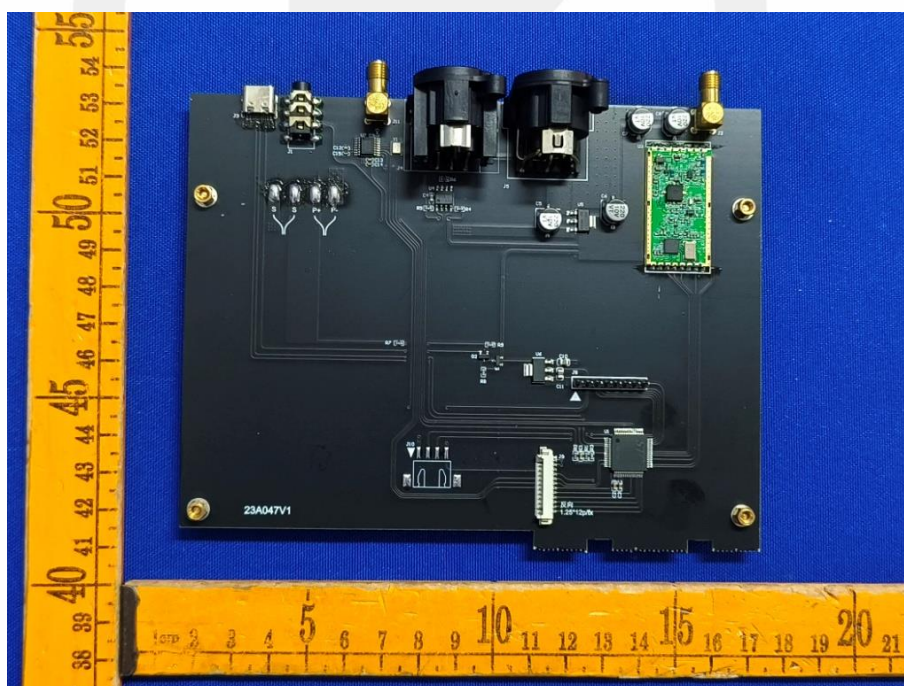


Figure 8: Control PCB front view

Attachment No. 4
Photo documentation

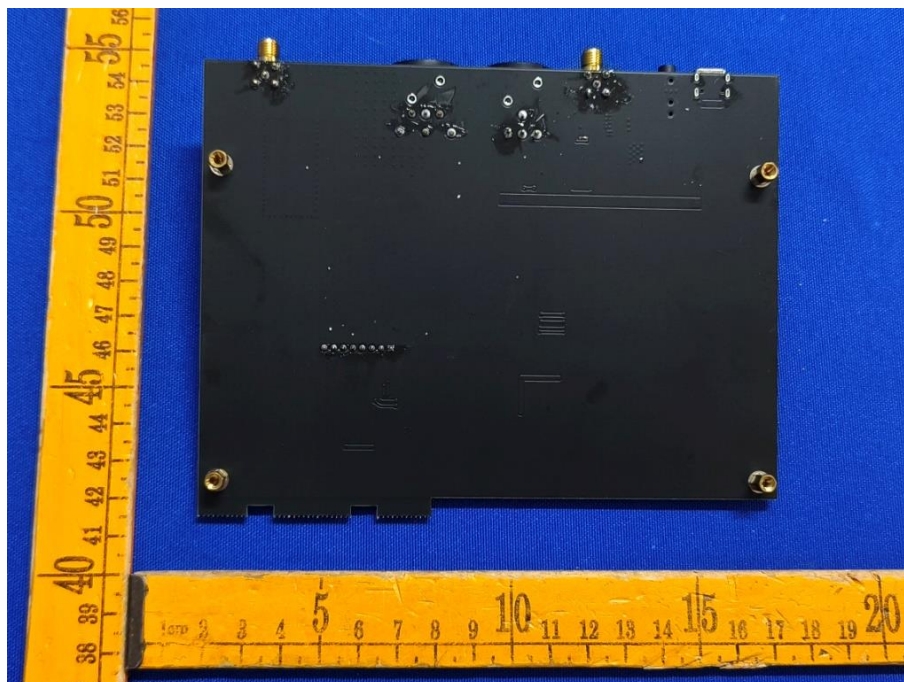


Figure 9: Control PCB rear view

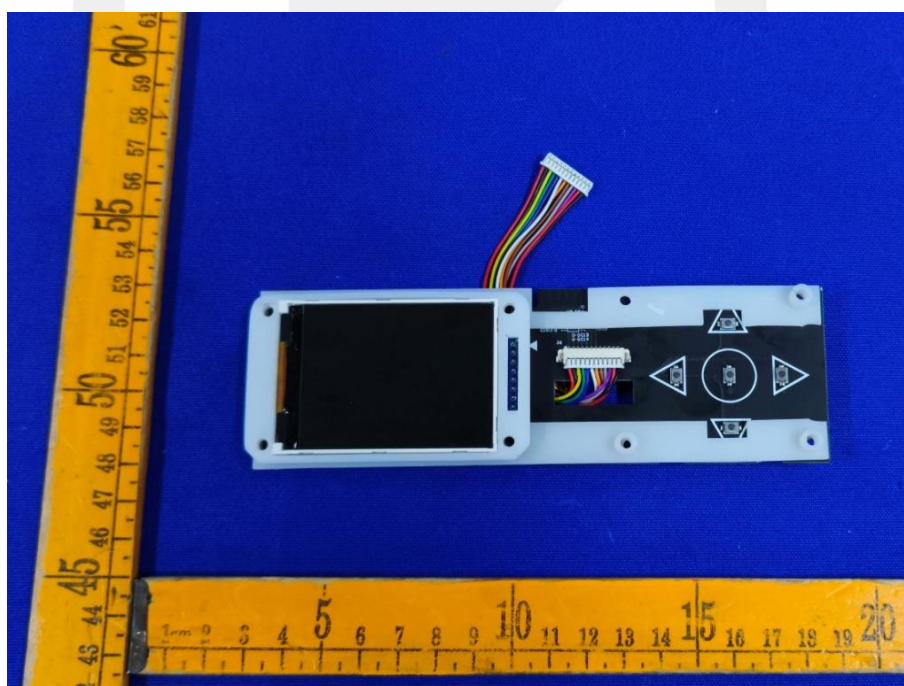


Figure 10: Internal view

Attachment No. 4
Photo documentation

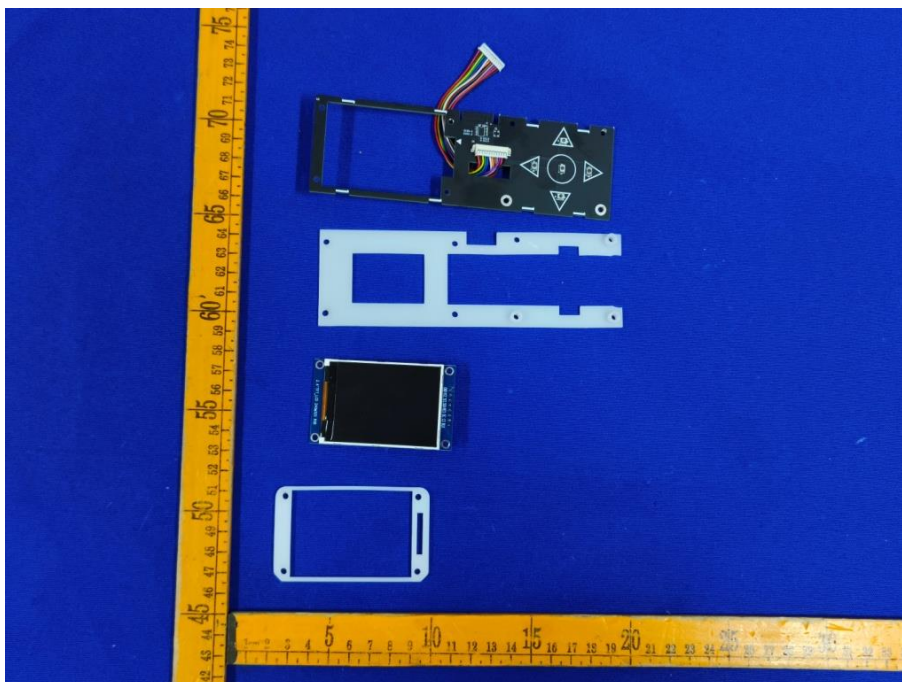


Figure 11: Internal view

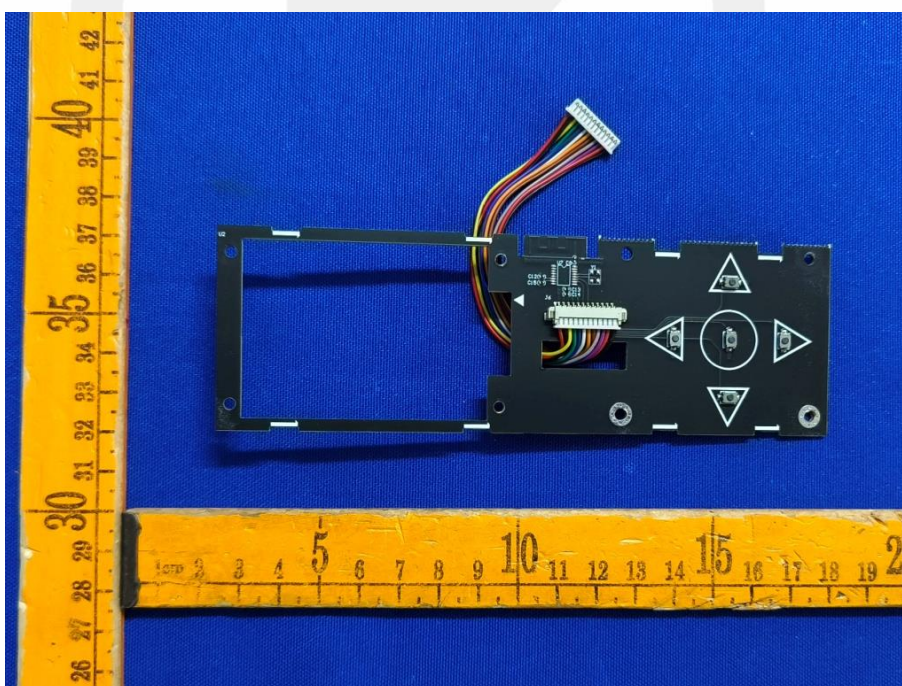


Figure 12: Button PCB front view

Attachment No. 4
Photo documentation

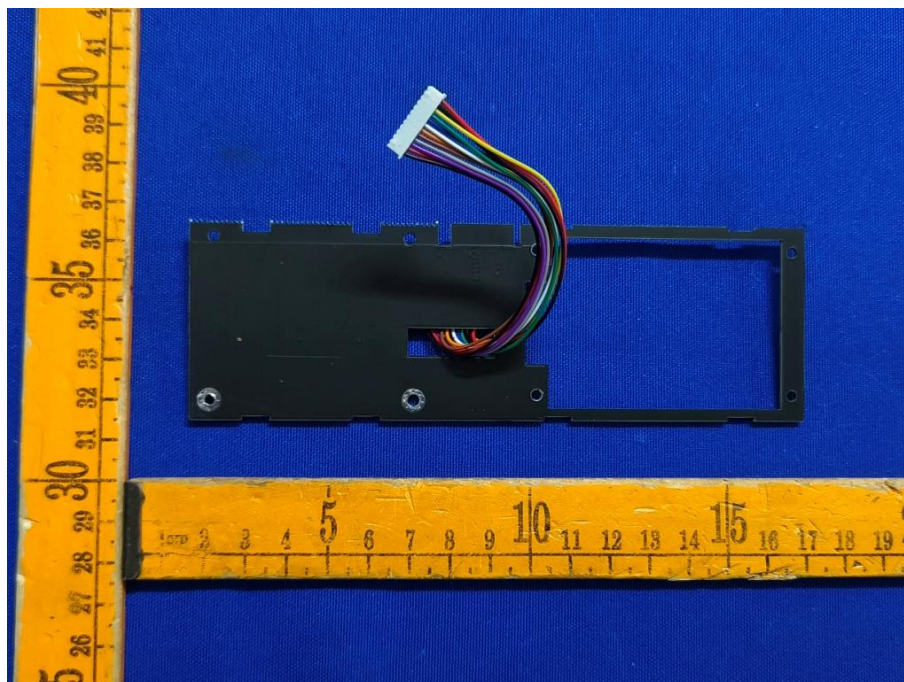


Figure 13: Button PCB rear view

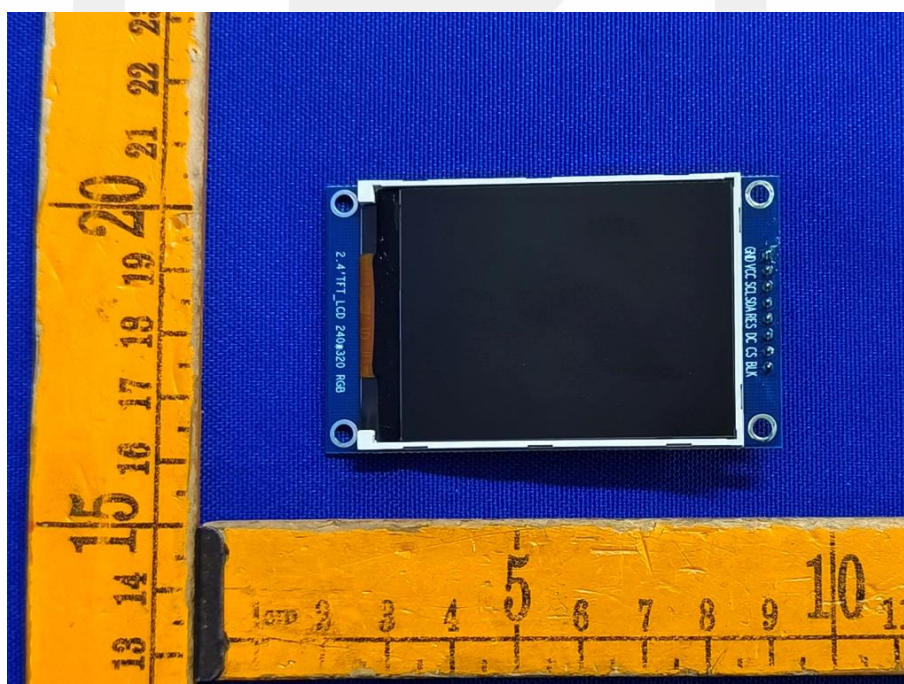


Figure 14: Display view

Attachment No. 4
Photo documentation

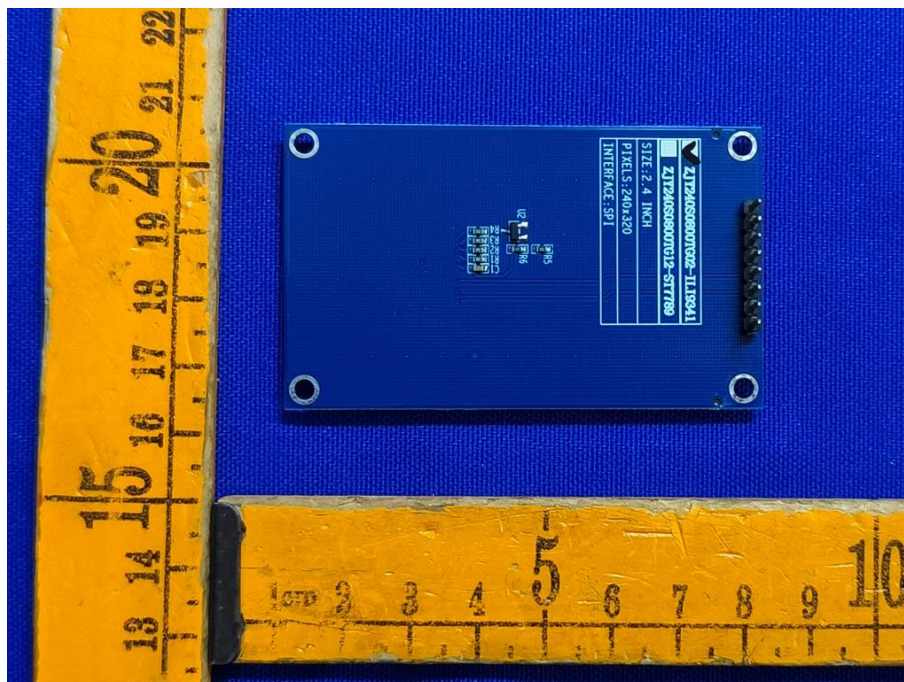


Figure 15: Display view

End of Report

声明

Statement

1. 本报告无授权批准人签字及“检验检测专用章”无效；

This report will be void without authorized signature or special seal for testing report.

2. 未经许可本报告不得部分复制；

This report shall not be copied partly without authorization.

3. 本报告的检测结果仅对送测样品有效，委托方对样品的代表性和资料的真实性负责；

The test results or observations are applicable only to tested sample. Client shall be responsible for representativeness of the sample and authenticity of the material.

4. 本检测报告中检测项目标注有特殊符号则该项目不在资质认定范围内，仅作为客户委托、科研、教学或内部质量控制等目的使用；

The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.

5. 本检测报告以实测值进行符合性判定，未考虑不确定度所带来的风险，本实验室不承担相关责任，特别约定、标准或规范中有明确规定的除外；

The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, EMTEK shall not assume any responsibility.

6. 对本检测报告若有异议，请于收到报告之日起 20 日内提出；

Objections shall be raised within 20 days from the date receiving the report.