



TEST REPORT
IEC 61347-2-13
Part 2: Particular requirements
Section 13 – d.c. or a.c. supplied electronic controlgear for LED modules

Report Number.....: LCSB060523056S
 Date of issue.....: June 26, 2023
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Name of Testing Laboratory

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

Applicant's name.....: Aurora (Shanghai) Technology Co., Ltd
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Test specification:

Standard.....: IEC 61347-2-13:2014+A1:2016 used in conjunction with
 IEC 61347-1:2015+A1:2017
 Test procedure.....: IEC
 Non-standard test method.....: N/A

Test Report Form No.....: IEC61347_2_13G
 Test Report Form(s) Originator.....: Intertek Semko AB
 Master TRF.....: 2017-12

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Test item description.....:	LED Driver	
Trade Mark.....:	N/A	
Manufacturer.....:	Shenzhen DOME Microelectronics Co., Ltd.	
Address.....:	Plant 401, Building A, No. 10, East Shangxue Science and Technology Industrial City, Xinxue Community, Bantian Street, Longgang District, Shenzhen	
Model/Type reference.....:	JDE7	
Ratings.....:	Input:220-240V~, 50/60Hz, 0.06A Output: 24-40Vdc, U _{out} :45Vdc, 200mA, max.7W, ta.45°C, tc.75°C	
<input checked="" type="checkbox"/>	Testing Laboratory:	
Testing location/ address.....:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	
Tested by.....:	Yeoh Zhang (Engineer)	<i>Yeoh Zhang</i>
Check by.....:	Torres He (Director)	<i>Torres He</i>
Approved by.....:	Jesse Liu (Manager)	<i>Jesse Liu</i>
List of Attachments (including a total number of pages in each attachment):		
Attachment No. 1: Photo documentation.		
Summary of testing:		
Tests performed (name of test and test clause):	Testing location:	
IEC 61347-2-13:2014+A1:2016 IEC 61347-1:2015+A1:2017	Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	

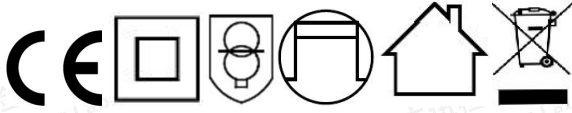




Copy of marking plate:

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

On the LED driver surface:

Input L N	<p>LED Driver Model:JDE7 Input:220-240V~, 50/60Hz, 0.06A Output: 24-40Vdc, Uout:45Vdc, 200mA, max.7W</p>  <p>SELV ta.45°C, tc.75°C</p> <p>Shenzhen DOME Microelectronics Co., Ltd. Plant 401, Building A, No. 10, East Shangxue Science and Technology Industrial City, Xinxue Community, Bantian Street, Longgang District, Shenzhen Importer No.: xxxxxxxx MADE IN CHINA</p>	Output LED+ LED-
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Remarks:

Height of WEEE mark at least 7mm, height of other mark at least 5mm, height of letters and numerals at least 2mm.





Test item particulars :									
Classification of installation and use:	Independent								
Supply Connection:	Supply cord								
Protection Class:	Class II								
Degree of Protection :	IP20								
Possible test case verdicts:									
- test case does not apply to the test object..... :	N/A								
- test object does meet the requirement..... :	P (Pass)								
- test object does not meet the requirement..... :	F (Fail)								
Testing :									
Date of receipt of test item :	2023-06-01								
Date (s) of performance of tests :	2023-06-01 ~ 2023-06-21								
General remarks:									
<p>This report shall not be reproduced except in full without the written approval of the testing laboratory. The test results presented in this report relate only to the item tested. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Clause numbers with "*" were not within the scope of CNAS recognition. Clause numbers between brackets refer to clauses in IEC/EN 61347-1.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p style="text-align: center;">.Modified Information</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Version</th> <th>Report No.</th> <th>Revision Date</th> <th>Summary</th> </tr> </thead> <tbody> <tr> <td>V1.0</td> <td>LCSB060523056S</td> <td>/</td> <td>Original Version</td> </tr> </tbody> </table>		Version	Report No.	Revision Date	Summary	V1.0	LCSB060523056S	/	Original Version
Version	Report No.	Revision Date	Summary						
V1.0	LCSB060523056S	/	Original Version						
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 02:									
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	<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 (ies) : Same as manufacturer									





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

4 (4)	GENERAL REQUIREMENTS		P
- (4)	Insulation materials for double or reinforced insulation according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of independent controlgear enclosure with IEC 60598- 1		P
- (4)	Built-in electronic controlgear with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
4 (4)	SELV controlgear comply with Annex I of this part 2 and Annex L of IEC 61347-1	(see Annex L)	P
4 (-)	Transformer comply with IEC 61558		P
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage ≤ 300 V		P

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"/>	—
6 (-)	Auto-wound controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Separating controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Isolating controlgear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	SELV controlgear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—

7 (7)	MARKING		P
7.1 (7.1)	Mandatory markings		P
	a) mark of origin		P
	b) model number or type reference	See marking label	P
	c) symbol for independent controlgear, if applicable		P
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)		P
	supply frequency (Hz)		P
	supply current (A)		P
	f) earthing symbol		N/A



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 Scan code to check authenticity



IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	k) wiring diagram		P
	l) value of t_c		P
	m) symbol for declared temperature		N/A
	t) LUM earthing symbol		N/A
	u) if not SELV maximum working voltage U_{out} between:		N/A
	- output terminals (V)		N/A
	- output terminals and earth (V)		N/A
	v) Declaration of the maximum equivalent output peak voltage U_p		N/A
	w) maximum output peak voltage \hat{U}_{out} and its corresponding frequency f_{Uout}		N/A
7.1 (-)	Constant voltage type:		—
	- rated output power P_{rated} (W)		N/A
	- rated output voltage U_{rated} (V)		N/A
	Constant current type:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	- rated output power P_{rated} (W)	See marking label	P
	- rated output current I_{rated} (A)	See marking label	P
	Indication if for LED modules only		P
7.1 (7.2)	Marking durable and legible		P
	Rubbing 15 s water, 15 s petroleum; marking legible		P
7.2 (7.1)	Information to be provided, if applicable		P
	h) declaration on protection against accidental contact		P
	i) cross-section of conductors (mm^2)		P
	j) number, type and wattage of lamp(s)		P
	s) SELV symbol		P
7.2 (-)	- declaration of mains connected windings		N/A
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	(see Annex A)	P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
- (A3)	Voltage > 35 V peak or > 60 V d.c. or protective impedance device		N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A
	Adequate mechanical strength on parts providing protection		N/A
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V	4V after 1min	P
- (10.3)	Controlgear providing SELV		P
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		P
	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		P
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1	(see Annex L)	P
- (10.4)	Accessible conductive parts in SELV circuits		P
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.	(see Annex A)	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
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor	Y1 capacitor	P
	Y1 or Y2 capacitors comply with IEC 60384-14		P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A

9 (8)	TERMINALS		P
- (8.1)	Integral terminals		P
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the controlgear	(see Annex 2)	N/A
	Screwless terminals according section 15 of IEC 60598-1:		P
	Separately approved; component list	(see Annex 1)	P
	Part of the controlgear	(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 PROTECTIVE 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 61347-2-13			
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
	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (M Ω):		P
	For basic insulation ≥ 2 M Ω	>100M Ω	P
	For double or reinforced insulation ≥ 4 M Ω	>100M Ω	P
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		P

12 (12)	ELECTRIC STRENGTH		P
	Immediately after clause 11 electric strength test for 1 min		P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation for SELV, test voltage 500 V	500V	P
	Working voltage ≤ 50 V, test voltage 500 V		N/A
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V	See ANNEX L	P
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V	See ANNEX L	P
	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)	P
- (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)	P
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	P
	Short-circuit or interruption of SPDs	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance ≥ 1 MΩ	>100MΩ	P
	No flammable gases		P
	No accessible parts have become live		P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	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 supply		—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A

15 (-)	TRANSFORMER HEATING		P
15.1(-)	General		P
	Transformer comply with clause L.6 and L.7 of IEC 61347-1		P
	Output voltage of SELV controlgear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2		P
15.2 (-)	Normal operation		P
	Comply with clause L.6 of IEC 61347-1		P
15.3 (-)	Abnormal operation		P
	Comply with clause L.7 of IEC 61347-1		P
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type		N/A
	Double LED modules or equivalent load connected in series to the output terminals of constant current type		P
	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		P

16 (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	No such material used	P
- (15.2)	Printed circuits		P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	Plugs and socket-outlets used in SELV or ELV circuits		N/A
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
- (15.4)	Insulation between circuits and accessible parts		P
- (15.4.2)	SELV circuits		P
	Source used to supply SELV circuits:		P
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		P
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		P
	- another source		N/A
	Voltage in the circuit not higher than ELV		P
	SELV circuits insulated from LV by double or reinforced insulation		P
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
-(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		N/A
	Accessible conductive parts shall be insulated from active parts of electric circuit by an insulation according to Table 6		N/A
	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





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A
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17 (16)	CREEPAGE DISTANCES AND CLEARANCES		P
- (16.1)	General		P
	Creepage distances and clearances according to 16.2 and 16.3		P
	Controlgears providing SELV comply with additional requirements in Annex L		P
	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

18 (17)	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
	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





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	Mechanical connections and glands		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....: --		N/A
	Torque test: torque (Nm); part.....: --		N/A
	Torque test: torque (Nm); part.....: --		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....: --		N/A
	- lampholder; torque (Nm).....: --		N/A
	- push-button switches; torque 0,8 Nm.....: --		N/A
(4.12.5)	Screwed glands; force (Nm).....: --		N/A

19 (18)	RESISTANCE TO HEAT, FIRE AND TRACKING	P
- (18.1)	Ball-pressure test: See Test Table 19 (18.1)	P
- (18.2)	Test of printed boards: See Test Table 19 (18.2)	P
- (18.3)	Glow-wire test: See Test Table 19 (18.3)	P
- (18.4)	Needle flame test: See Test Table 19 (18.4)	P
- (18.5)	Tracking test: See Test Table 19 (18.5)	N/A

20 (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

21 (-)	MAXIMUM WORKING VOLTAGE (Uout) IN ANY LOAD CONDITION	N/A
	Not exceed declared maximum working voltage Uout in any load condition	N/A





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

14	TABLE: tests of fault conditions	P
Part	Result	Hazard
BD1	Short circuit, fuse open, no flame, no flammable gas, no molten parts, no hazard.	YES/NO
D1	Short circuit, fuse open, no flame, no flammable gas, no molten parts, no hazard.	YES/NO
D2	Unit shutdown, no flammable gas, no molten parts, no hazard.	YES/NO
EC1	Short circuit, fuse open, no flame, no flammable gas, no molten parts, no hazard.	YES/NO
T1(1-5)	Unit shutdown, no flammable gas, no molten parts, no hazard.	YES/NO
T1(2-4)	Unit shutdown, no flammable gas, no molten parts, no hazard.	YES/NO
T1(3-6)	Unit shutdown, no flammable gas, no molten parts, no hazard.	YES/NO
EC2	Unit shutdown, no flammable gas, no molten parts, no hazard.	YES/NO
Output (+&-)	Unit shutdown, recoverable, no flammable gas, no molten parts, no hazard.	YES/NO
Supplementary information:		



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IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

17 (16)		TABLE: clearance and creepage distance measurements (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:	B	2.7	1.5	Table 9	2.7	2.5	Table 7
Distance 2:	B	2.9	1.5	Table 9	2.9	2.5	Table 7
Distance 3:	R	5.6	3.0	Table 9	5.6	5.0	Table 7
Distance 4:	R	6.3	3.0	Table 9	6.3	5.0	Table 7
Distance 5:	R	6.5	4.7	Table 13 of IEC 61558-1	6.5	5.0	Table 13 of IEC 61558-1
Distance 6:	R	>7.0	3.0	Table 9	>7.0	5.0	Table 7
Distance 7:	R	7.9	3.0	Table 9	7.9	5.0	Table 7
Working voltage (V)..... :					240VAC		—
Frequency if applicable (kHz)..... :					50Hz		—
PTI..... :					<input checked="" type="checkbox"/> < 600 <input type="checkbox"/> ≥ 600		—
Peak value of the working voltage \hat{U}_{out} if applicable (kV)					--		—
Pulse voltage if applicable (kV)					--		—
Supplementary information:							
Distance 1: L/N.							
Distance 2: two ends of fuse.							
Distance 3: between primary circuit and secondary circuit on PCB.							
Distance 4: between Y-cap							
Distance 5: between transformer primary and secondary winding.							
Distance 6: between transformer core and secondary component.							
Distance 7: between live part and accessible enclosure..							

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





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Clause	Requirement + Test	Result - Remark	Verdict

(18.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)		2,0mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
PCB	See annex 1	125	0.9	
Bobbin	See annex 1	125	1.0	
Enclosure	See annex 1	100	1.3	
Supplementary information:--				

(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
PCB	See annex 1	30s	No	0	P
Supplementary information:--					

(18.3)	TABLE: Glow-wire test (IEC 60695-2-11)				P
Glow wire temperature		650°C		—	
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb)(s)	Verdict	
PCB (650°C)	See annex 1	No	0s	P	
Bobbin (650°C)	See annex 1	No	0s	P	
Enclosure(650°C)	See annex 1	No	0s	P	
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....				Yes	
Supplementary information:--					

(18.4)	TABLE: needle flame test	P
--------	--------------------------	---





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
PCB	See annex 1	10s	No	0s	P
Bobbin	See annex 1	10s	No	0s	P

Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....: Yes

Supplementary information:--

- (18.5)	TABLE: Proof tracking test (IEC 60112)	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 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

A (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	Max.12.3V	P
-(A.3)	If voltage > 35 V peak or > 60 V d.c. or protective impedance device; touch current does not exceed 0,7 mA (peak) or 2 mA d.c.		N/A
	Comply with Annex G.2 of IEC 60598-1		N/A

C (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		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
(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
	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		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the convertor 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





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Clause	Requirement + Test	Result - Remark	Verdict
	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		NA

D (D)	ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR	P
	Tests in C7 performed in accordance with Annex D, if applicable	P

F (F)	ANNEX F - DRAUGHT-PROOF ENCLOSURE	N/A
	Draught-proof enclosure in accordance with the description	N/A
	Dimensions of the enclosure	N/A
	Other design; description	N/A

H (H)	ANNEX H - TESTS	P
	All tests performed in accordance with the advice given in Annex H, if applicable	P

I (L)	ANNEX I: PARTICULAR ADDITIONAL REQUIREMENTS FOR SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR LED MODULES	P
(L.3)	Classification	P
	Class I	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Class II	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Class III	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	non-inherently short circuit proof controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>





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Clause	Requirement + Test	Result - Remark	Verdict
	inherently short circuit proof controlgear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	fail safe controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	non-short-circuit proof controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
(L.4)	Marking		P
	Adequate symbols are used		P
(L.5)	Protection against electric shock		P
	Comply with 9.2 of IEC 61558-1		P
(L.6)	Heating		P
	No excessive temperatures in normal use		P
	Value if capacitor t_c marked	See Annex 1	—
	Winding insulation classified as Class	See Annex 1	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		P
(L.7)	Short-circuit and overload protection		P
	Comply with tests of clause 15 of IEC 61558-1 with adjustments		P
(L.8)	Insulation resistance and electric strength		P
(L.8.1)	Conditioned 48 h between 91 % and 95 %		P
(L.8.2)	Insulation resistance		P
	Between input- and output circuits not less than 5 M Ω	>100 M Ω	P
	Between metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 M Ω		N/A
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 M Ω		N/A
	between LV parts and functional earthing parts		N/A
(L.8.3)	Electric strength		P






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Clause	Requirement + Test	Result - Remark	Verdict
	1) Between live parts of input circuits and live parts of output circuits	3750V	P
	2) Over basic or supplementary insulation between:		P
	a) live parts having different polarity	1875V	P
	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	3750V	P
	4) between LV parts and functional earthing parts		N/A
(L.9)	Construction		P
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		P
	HF transformer comply with 19 of IEC 61558-2-16		N/A
(L.10)	Components		P
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		P
(L.11)	Creepage distances, clearances and distances through insulation		P
	Creepage distances and clearances not less than in Clause 16		P
	Distance through insulation according Table L.5 in IEC 61347-1		P
	1) Basic distance through insulation		N/A
	Required distance (mm)	--	—
	Measured (mm)	--	N/A
	Supplementary information		—
	2) Supplementary distance through insulation		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	Required distance (mm)	--	—
	Measured (mm)	--	N/A
	Supplementary information		—
	3) Reinforced distance through insulation		P
	Required distance (mm)	0.83	—
	Measured (mm)	1.3	P
	Supplementary information		—

Annex J (--)	Particular additional safety requirements for a.c., a.c./d.c. or d.c. supplied electronic controlgear for emergency lighting		N/A
J.1 (--)	General		N/A
J.2 (--)	Marking		N/A
J.2.1	Mandatory markings		N/A
	a) symbol of a.c., a.c./d.c. or d.c maintained emergency electronic controlgear		N/A
	b) rated emergency power supply voltage or voltage range		N/A
J.2.2	Information to be provided if applicable		N/A
	a) Limits of the ambient temperature range		N/A
	b) Emergency output factor		N/A
	c) Information on whether the control gear is intended for use in luminaires for high-risk task area lighting		N/A
J.3	General notes on tests		N/A
J.4	Starting conditions		N/A
	Control gears shall start rated load(s) without adversely affecting the performance when operated in emergency mode		N/A
J.5	Operating condition		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	The provisions of 7.2 of IEC 62384:2006 apply at 90 % and 110 % of the rated emergency supply voltage		N/A
J.6	Emergency supply current		N/A
	At the rated emergency supply voltage or voltage range, the emergency supply current shall not differ by more than $\pm 15\%$ from the declared value when the control gear is operated in emergency mode with maximum load power		N/A
J.7	EMC immunity		N/A
J.8	Pulse voltage from central battery systems		N/A
	The d.c. supplied emergency controlgear shall withstand, without failure, any pulses caused by switching other equipment in the same circuit		N/A
J.9	Tests for abnormal conditions		N/A
	The provisions of Clause 12 of IEC 62384:2006 apply		N/A
J.10	Temperature cycling test and endurance test		N/A
	The provisions of Clause 13 of IEC 62384:2006 apply		N/A
J.11	Functional safety		N/A
	EOFx is measured 5 s and 60 s after switch on of the control gear in emergency mode at maximum emergency supply voltage and at minimum emergency supply voltage		N/A
	For the calculation of EOFx the lower value of the measurements below is used:		N/A
	a) electrical output parameter measured after 60 s at maximum voltage/electrical output parameter measured in reference setting		N/A
	b) electrical output parameter measured in steady state conditions at minimum supply voltage/electrical output parameter measured in reference setting		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	After 5 s of operation with maximum emergency supply voltage at least 50 % of the declared EOFx shall be reached		N/A

(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 % of 5,5 kV or 1,5 x test voltage in Table N.1		N/A
(N.4.3)	Thin sheet insulation		N/A
(N.4.3.1)	Thickness and composition of thin sheet insulation		N/A
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		N/A
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N		N/A
	- Separated layers: Min. 2 layers and each layer fulfil mandrel test of 50N		N/A
	- Separated layers (alternative): Min. 3 layers and 2/3 of the layers fulfil mandrel test of 100N		N/A
(N.4.3.2)	Mandrel test (electric strength test during mechanical stress)		N/A
	Electric strength test after mandrel test:		N/A
	- Non-separated layers: min. 5 kV or 1,35 x test voltage in Table N.1		N/A
	- 2/3 of min. 3 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1	5 kV	N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 (14)	See clause 14	N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	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 1 in part 1		N/A
	Insulation resistance according to O.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)	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





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Clause	Requirement + Test	Result - Remark	Verdict
	P.2 applies if creepage distances less than the minimum in Table 7 and 8		N/A
	P.3 applies if clearance less than the minimum in Table 9, 10 and 11		N/A
(P.2)	Creepage distances		N/A
(P.2.2)	Minimum creepage distances for working voltages and rated voltages with frequencies up to 30 kHz (Table P.1)		N/A
	Basic or supplementary insulation:		N/A
	Required creepage.....: --		—
	Measured.....: --		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Required creepage.....: --		—
	Measured.....: --		N/A
	Supplementary information		—
(P.2.3)	Creepage distances for working voltages with frequencies above 30 kHz (Table P.2)		N/A
	Voltage \hat{U}_{out} kV: --		—
	Frequency.....: --		—
	Required distance.....: --		—
	Measured.....: --		N/A
	Supplementary information		—
(P.2.4)	Compliance with the required creepage distances		N/A
(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





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Clause	Requirement + Test	Result - Remark	Verdict
(P.3.4.2)	Impulse voltage dielectrical test		N/A
	Basic or supplementary insulation:		N/A
	Working/rated voltage	--	—
	Impulse voltage.....	--	N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Working/rated voltage	--	—
	Impulse voltage.....	--	N/A
	Supplementary information		—



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Clause	Requirement + Test	Result - Remark	Verdict

Annex 1	Components					P
object/part No.	code	manufacturer/ trademark	type/model	technical data	Standard	mark(s) of conformity
Plastic enclosure	C	E I DUPONT DE NEMOURS & CO INC	SK652FR1	V-0, PC, Min 1.0mm	--	UL E41938
Supply cord	B	Kenic Electric Mfg. Co. Ltd.	H03VVH2-F	2 x 0.75 mm ²	EN 50525-2-11	VDE 103853
Terminal block	B	Dongguan Changhe Electronics Co., Ltd.	CS200-00-350	250VAC; 110°C; 0.75-1.0mm ²	EN 60998-1 EN 60998-2-2	VDE 40022503
Driver PCB	C	Suichuan Yaheng Circuit Co., Ltd	YH-D YH-M	V-0; 130°C Min 1.0mm	--	UL E501849
Fuse resistor	B	Dongguan Better Electronics Technology Co., Ltd.	212	250VAC; 1A	EN 60127-1 EN 60127-3	TUV R J 50242127
X-cap	B	Tenta Electric Industrial Co. Ltd.	MEX/MKP	0.22uF; AC305V Min;X2 type 100°C	IEC 60384-14	VDE 119119
Magnet wire	C	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	MW-75	130°C	--	UL E239508
Bobbin	C	SUMITOMO BAKELITE CO LTD	PM-9820	V-0; 150°C	--	UL E41429
Insulation tape	C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT*(b)(g)	130°C	--	UL E165111
Triple insulation wire	B	Shenzhen Darun Science and Technology Co., Ltd	DRTIW-B	130°C	IEC 61558-1	VDE 40041174
Teflon tube	C	GREAT HOLDING INDUSTRIAL CO LTD	TFT	300V, 200°C	--	UL E156256
Y-cap	B	Sichuan Teruixiang Electronics Co Ltd	TRXseries	Y1; AC 400V 2200pF 85°C min.	IEC 60384-14	ENEC-02084
Output wire	C	ZHONG SHAN YU XUAN ELECTRONICS CO LTD	2464	300VAC,80°C 22AWG	--	UL E316286
DC connector	C	NEO-NEON LED LIGHTING INTERNATIONAL LTD	YY-058	PVC; V-0	--	UL E201139





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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.
 The codes above have the following meaning:
 A - The component is replaceable with another one, also certified, with equivalent characteristics
 B - The component is replaceable if authorised by the test house
 C - Integrated component tested together with the appliance
 D - Alternative component



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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests		P
	Type reference.....	JDE7	
	Load used.....	LED modules	
	Mounting position of luminaire.....	on the black testing board;	
	Ta.....	45°C	
	- test 1: rated voltage.....	--	
	- test 2: test voltage(normal).....	1.06x240V~	
	- test 3: test voltage(abnormal).....	1. Fault condition Shutdown 2. Double the LED modules or equivalent load Shut down. 3. The output terminals shall be short-circuited. Shut down. 4.Over load: Shut down.	

Normal operation

temperature (°C) of part	Normal			Abnormal	
	test 1	test 2	limit	test 3	limit
Input wire	--	49.2	90	--	--
Input terminal	--	56.4	110	--	--
VR1	--	62.5	85	--	--
CX1	--	64.7	110	--	--
EC1	--	68.1	105	--	--
CY1	--	69.4	125	--	--
T1 winding	--	83.6	130	--	--
T1 bobbin	--	81.8	150	--	--
Driver PCB	--	76.3	130	--	--
EC2	--	61.9	105	--	--



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IEC 61347-2-13					
Clause	Requirement + Test			Result - Remark	Verdict
Output terminal	--	54.1	110	--	--
Output wire	--	47.5	80	--	--
Tc (the outer surface of the controlgear)	--	66.8	75	--	--
Mounting surface of the test box	--	58.7	90	--	--
Ambient	--	45.0	--	--	--
Fault condition					
temperature (°C) of part	Normal			Abnormal	
	test 1	test 2	limit	test 3	limit
Unit operated until the case temperature at tc, then applied the fault condition, continued until stable condition are obtained, after the tests, no impairing safety no smoke or flammable gases produced.					
Short output					
temperature (°C) of part	Normal			Abnormal	
	test 1	test 2	limit	test 3	limit
Shut down, recoverable, no damage after 1 hours					
Double the LED modules or equivalent load					
temperature (°C) of part	Normal			Abnormal	
	test 1	test 2	limit	test 3	limit
Shut down, recoverable, no damage after 1 hours					
Over load output					
temperature (°C) of part	Normal			Abnormal	
	test 1	test 2	limit	test 3	limit





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²)..... :		—
(14.3.3)	Conductor space (mm)..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)..... :		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

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3.1)	Material		N/A



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IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(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





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
(15.6)	Terminals and connections for external wiring		N/A
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)	--	N/A
(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)	TABLE: Contact resistance test / Heating tests										N/A
(15.6.3.2)	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop of two inseparable joints										
	Voltage drop after 10th alt. 25th cycle										
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop after 50th alt. 100th cycle										
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Continued ageing: voltage drop after 10th alt. 25th cycle										
	Max. allowed voltage drop (mV).....:										—





IEC 61347-2-13										
Clause	Requirement + Test	Result - Remark							Verdict	

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										

Supplementary information:--



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IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 5	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE (Reference Clause 9.2 of IEC 60598-1)		P
9.2	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP20	P
	- mounting position during test	According to manual instruction	P
	- fixing screws tightened; torque (Nm)	--	P
	- tests according to clauses	Clause 9.2.0	P
	- electric strength		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A

ANNEX 6	CABLES AND CORDS (Reference Clause 5 of IEC 60598-1)		P
5.2	Supply connection and other external wiring		P
5.2.1	Means of connection.....	Supply cord	P
5.2.2	Type of supply cord.....	See ANNEX 1	P
	Nominal cross-section area (mm ²)	See ANNEX 1	P
	Cables equal to IEC 60227 and IEC 60245		P
5.2.3	Type of attachment, X ,Y or Z	Type Y	P
5.2.5	Type Z not connected to screws		N/A
5.2.6	Cable entries		N/A



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IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
5.2.7	Cable entries through rigid material have rounded edges	Not cable entries	N/A
5.2.8	Insulating bushings in class II luminaires, in settable and adjustable luminaires or in portable luminaires other than those for wall mounting:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guard made of insulating material		N/A
5.2.9	Bushing locking of screw bushings	No such component	N/A
5.2.10	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		N/A
5.2.10.1	Cord anchorage for type X attachment cord		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 anchorage		N/A
5.2.10.2	Adequate cord anchorages for type Y and type Z attachments	Type Y	P
5.2.10.3	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)	60N(input wire:2*0.75mm ²) 30N(Output wire:2*22AWG)	P





IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
	- torque test: torque (Nm)	0.15Nm(input wire:2*0.75mm ²) 0.08Nm(Output wire:2*22AWG)	P
	- displacement 2 mm	Max. 1.4mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
5.2.11	External wiring passing into luminaire		P
5.2.12	Looping-in terminals		N/A
5.2.13	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
5.2.14	Mains plug same protection		N/A
	Class III luminaire plug		N/A
5.2.16	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
5.2.17	No standardized in interconnecting cables 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	No such appliance	N/A

ANNEX 7	CONSTRUCTION (Reference Clause 4 of IEC 60598-1)		P
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

ANNEX 8	CLASSIFICATION OF LUMINAIRES (Reference Clause 2 of IEC 60598-1)		P
2.2	Type of protection	Class II	—
2.3	Degree of protection.....	IP20	—



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Clause	Requirement + Test	Result - Remark	Verdict
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"/>	—

ANNEX 9	EMF test result according to IEC/EN 62493		P
4	LIMITS		P
4.1	General		P
	Comply with Van der Hoofden test limit in 4.2.3 or inherently compliant in 4.2.2 and pass assessment procedure for intentional radiators in 4.3		P
4.2	Unintentional radiating part of lighting equipment		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
	1) electronic controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	2) incandescent-lamp technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	3) LED-light-source technology	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	4) OLED-light-source technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	5) high-pressure discharge lamp LED-light-source technologies	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	7) independent auxiliary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Not fulfil any of 1-7 above subject to 4.2.3		—
4.2.3	Applications of limits		N/A
	Not fulfil any of 1-7 in 4.2.2 but the compliance factor F is ≤ 1		N/A
4.3	Intentional radiating part of lighting equipment		N/A
	Comply with one of methods in Clause 7 if intentional radiator		N/A

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

7	ASSESSMENT PROCEDURE INTENTIONAL RADIATORS		N/A
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IEC 61347-2-13			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Low-power exclusion method		N/A
7.2.1	Input $P_{int,rad}$:		—
	Exclusion level P_{max}:		—
	Input power $P_{int,rad} < \text{exclusion level } P_{max}$		N/A
7.3	Application of the EMF product standard for body worn-equipment		N/A
	If not Clause 7.2 is met and expose distance ≤ 0.05 m, comply with IEC 62209-2		N/A
7.4	Application of the EMF product standard for base stations		N/A
	If not Clause 7.2 is met and if intentional radiator is base station, comply with IEC 62232		N/A
7.5	Application of another EMF standard		N/A
	If not Clause 7.2 is met and if intentional radiator cannot be considered as in Clause 7.3 or 7.4, comply with IEC 62311		N/A

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





Attachment No.1 Photo Documentation

Model:JDE7

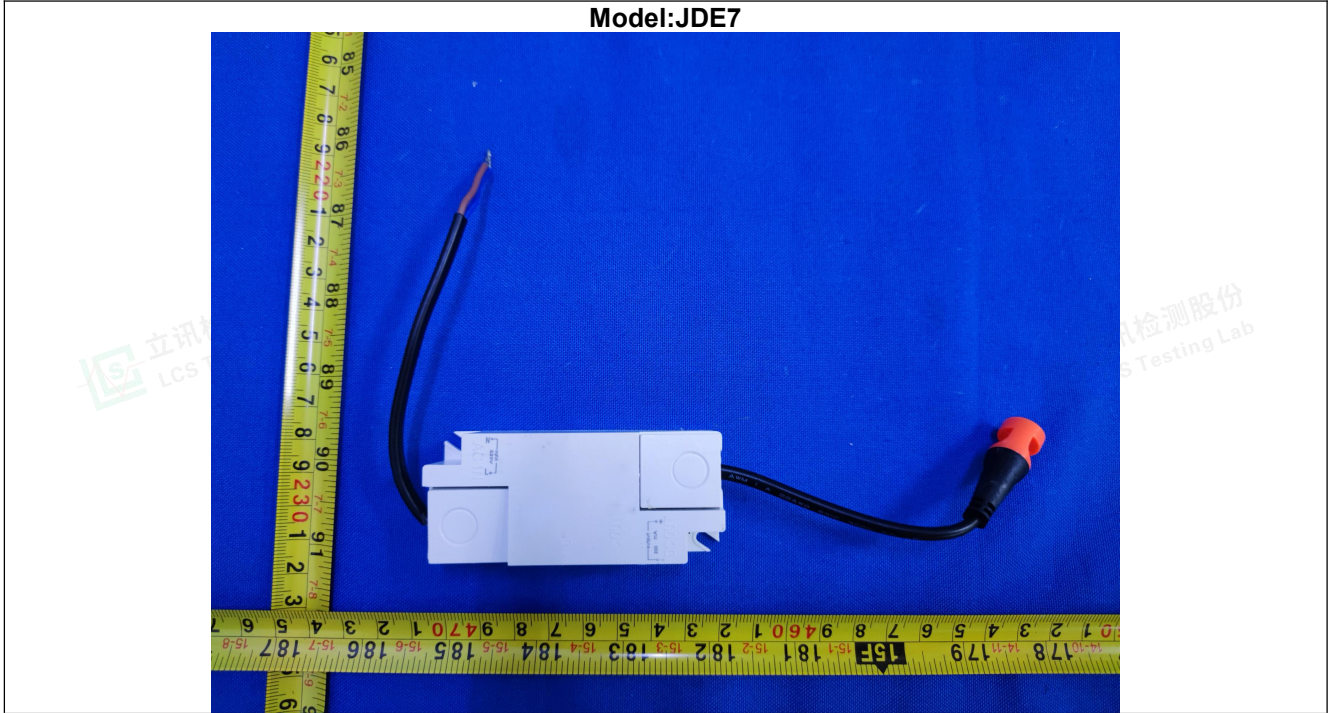


Photo 1

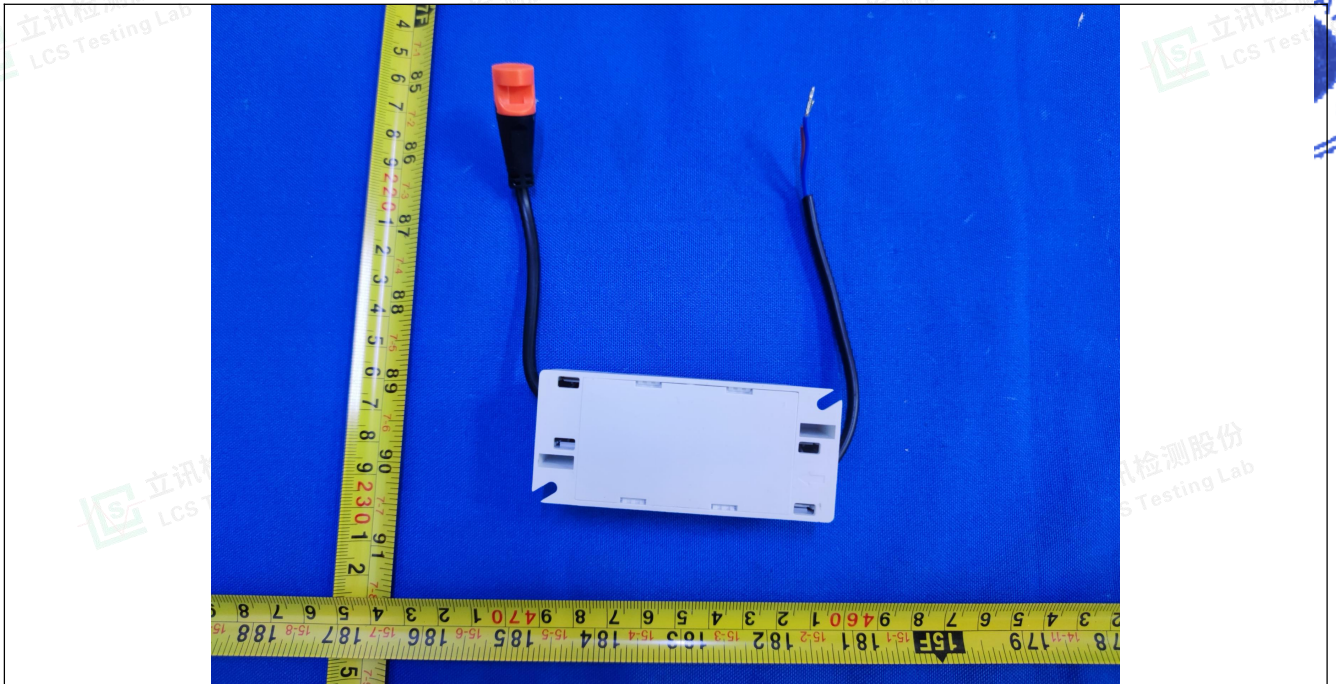


Photo 2

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



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