TEST REPORT
IEC 62560
Self-Ballasted LED-Lamp
for general lighting services by voltage > 50V Safety specifications

Report Number.....:	**ZKT-2306264824S**
Date of issue.....:	Jul. 04, 2023
Total number of pages.....:	**18 pages**
Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address.....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name.....:	**Red100 Lighting Co.,Ltd.**
Address.....:	No.33 Qingdao East road, Taicang city, Jiangsu, China
Test specification:	
Standard..... :	EN 62560:2012+A1:2015+A11:2019 EN IEC 62031:2020+A11:2021
Test procedure.....:	LVD
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC62560B
Test Report Form(s) Originator.....:	DEKRA Certification B.V.
Master TRF.....:	Dated 2015-11

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Test item description.....:	SMART BULB
Trade Mark.....:	N/A
Manufacturer.....:	Same as applicant
Model/Type reference.....:	OMI-12AS300 OMI-618AS300, OMI-1824AS300, OMI-9AS300, OMI-7AS300, OMI-6AS300, OMI-12AS300F, OMI-9AS300F, OMI-7AS300F, OMI-6AS300F
Ratings.....:	Input: AC 100-240V, 50/60Hz, 0.25A

Testing procedure and testing location:

Testing Laboratory .....:	**Shenzhen ZKT Technology Co., Ltd.**
Address .....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Date of Test .....:	Jun. 26, 2023 to Jul. 04, 2023
Tested by (name + signature) .....:	Peter Huang
Reviewed by (name + signature) .....:	Simon Gong
Approved by (name + signature) .....:	Awen He

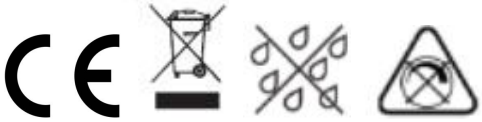
List of Attachments (including a total number of pages in each attachment):
Attachment I: 1 pages for EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
Attachment II: 4 pages for EN 62031:2020+A11:2021
Attachment III: 2 Photo-documentation

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
-- EN 62560:2012+A1:2015+A11:2019 -- EN IEC 62031:2020+A11:2021 The submitted samples were found to comply with the requirements of above specification.	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an 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.

SMART BULB
Model: OMI-12AS300
Input: AC 100-240V, 50/60Hz, 0.25A



Manufacturer: SHENZHEN OMI LIGHTING CO.,LTD.
Address: No. 47, 2 Lane, Jinxing 1 Street, Sansha Industrial Zone,Henglan Town,Zhongshan City, Guangdong Province, China
Made in China

Remark on above marking:
1, The height of CE symbols is more than 5 mm;
2, The height of WEEE symbols is more than 7 mm;
3, The and symbols will be printed on the lamp or immediate wrapping or container or in installation instructions

Test item particulars..... :	
Classification of installation and use.....:	Class II and LED optical source
Supply Connection.....:	E27
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)
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. **Throughout this report a ☐ comma / ☒ point is used as the decimal separator.**	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 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.....:	☐ **Yes** ☒ **Not applicable**
General product information: 1. The appliances are designed for indoors use. The main use is LED lighting. 2. Model differences differ only in power and shape.	

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

4	**GENERAL REQUIREMENTS**		P
4.1	The lamp shall be so designed and constructed that in normal use cause no danger to the user.		P
4.2	Self-ballasted LED-Lamp are non-repairable.		P

5	**MARKING**		P
5.1	Mandatory marking		P
	- mark of origin		N/A
	- rated supply voltage (V)..... :	100-240V~	P
	- rated wattage (W)..... :	60W	P
	- rated frequency (Hz)..... :	50/60Hz	P
5.2	Addition marking		P
	- rated current (A)..... :	0.25	P
	- weight significantly higher	No such explain	N/A
	- special conditions or restrictions		N/A
	Not suitable for dimming; symbol used 		P
	- not suitable for water contact		P
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible	Marking durable and legible	P

6	**INTERCHANGEABILITY**		P
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		P
6.2	Bending moment and mass imparted by the lamp at the lampholder		P
	Bending moment imparted by the lamp at the lampholder (Nm)..... :	2 Nm	P
	Mass not exceeding value table 2 or as specified in IEC 60061-1 (kg)..... :	under consideration	P

7	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		
	Internal, basic insulated or live metal parts not accessible		P
	Tested with a test finger with a force of 10 N		P
	Compliance checked with appropriate gauges		P

8	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict
8.2	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	≥ 4 MΩ for double or reinforced insulation.....:	Between live parts and enclosure, resistance>100MΩ	P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P
	Double or reinforced insulation, 4U + 2000 V	Between live parts and Enclosure 2960V	P
	No flashover or breakdown		P
9	**MECHANICAL STRENGTH**		
	Torsion resistance of unused lamps		P
9.2.1	Torque test		P
	B15d or E14 Cap..... 1,15 Nm		N/A
	B22d, E26, E26d or E27 Cap.....3,0 Nm		P
	E11 or E12 Cap.....0,8 Nm		N/A
	E17 Cap.....1,5 Nm		N/A
	E39 or E40 Cap.....5,0 Nm		N/A
	GX53 Cap.....3,0 Nm		N/A
9.3	Compliance criteria		P
	Clause 8 shall comply after the mechanical strength test.		P
9.4	Axial strength of Edison caps		P
	After full insertion into the gauge an axial force of Table 4 is applied to the central contact (N).....:	120N	P
	The insulation around the central contact shall remain intact		P
10	**CAP TEMPERATURE RISE**		
	The cap temperature rise Δt_s of the lamp shall not exceed 120 K.	Max.52.2K	P
11	**RESISTANCE TO HEAT**		**P**
	Parts of insulating material providing protection against electric shock, retaining live parts in position, ball-pressure test:	(see appended table)	P

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

12	**RESISTANCE TO FLAME AND IGNITION**		**P**
	External parts of insulating material preventing electric shock glow-wire test 650 °C	(see appended table)	P

13	**FAULT CONDITIONS**		**P**
13.2	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table)	P
13.3	When operated under fault conditions the lamp		P
	- does not emit flames or molten material		P
	- does not produce flammable gases or smoke		P
	- live parts not accessible		P
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1.....:	No Hazard	P

14 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Creepage distances and clearances according to IEC 61347-1	(see appended table)	P
	Conductive accessible parts according to IEC 60598-1	(see appended table)	N/A

15	**ABNORMAL OPERATION**		P
	Non-dimmable self-ballasted lamps are tested on a dimmer or an electronic switch according the test circuit shown in Figure 8	dimmable self-ballasted lamps	P
	Operate the lamp for 8 h at most onerous dimming level		P
	When operated under abnormal operation the lamp		P
	- does not catch fire		P
	- does not produce flammable gases		P
	- live parts not accessible		P

16	**TEST CONDITIONS FOR DIMMABLE LAMPS**		**P**
	Test are carried out at maximum power setting for Clause 10 and Clause 17		P

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

17	**PHOTOBIOLOGICAL SAFETY**		**P**
17.1	UV radiation		N/A
	The Led bulb doesn't exceed 2mW/klm		N/A
17.2	Blue light hazard		P
	Assessed according to IEC TR 62778		P
	Led bulbs shall be RG0 or RG1	RG0	P

18	**INGRESS PROTECTION**		N/A
18.1	Lamps shall be suitable for water contact unless marked with Figure 6		N/A
18.2	The lamp is subjected to an IPX4 test according to IEC 60598-1		N/A
	The lamp complies with the compliance provisions of 9.2 of IEC 60598-1		N/A
	Lamps constructed so that it is sealed to exclude water need not to be tested		N/A

11	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm) .....:		2	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Internal plastic parts of lamp holder	See annex 1	80	1.3
PCB	See annex 1	125	0.9
T1 bobbin	See annex 1	125	1.0
Supplementary information:			

12	TABLE: Resistance to heat and fire - Glow wire tests			P
Object/ Part No./ Material	Manufacturer/ trademark	Glow wire test (GWT); (°C)		Verdict
		650		
		te	ti	
Enclosure	See annex 1	0	0	P
Shell	See annex 1	0	0	P
T1 bobbin	See annex 1	0	0	P

13	TABLE: tests of fault conditions		NO
Part	Simulated fault	Result	Hazard
C1	S-C	Unrecoverable, Fuse resistor breakdown	No
VDR1	S-C	Unrecoverable, Fuse resistor breakdown	No
U1((3-6)	S-C	Unrecoverable, Fuse resistor breakdown	No
LED	S-C	Unrecoverable, Fuse resistor breakdown	No
T1 pin 1-3	S-C	Unrecoverable, Fuse resistor breakdown	No

14	TABLE: Clearance And Creepage Distance Measurements					P
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Between L and N of PCB	--	240	1.5	3.5	2.5	3.5
Supplementary information:						

Annex 1 : Critical components information					
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Lamp Housing	Ningbo RS Plastic Technology Co Ltd	PA-CF-HB	HB	--	--
Cover	Fujian Huasu Innovative Plastics Material Co LTD	HS12(aa)T(f1)	V-2/80℃	UL 746C	E477366
Fuse resistor (F1)	SHENZHEN GREAT ELECTRONICS CO LTD	RXF-1W Series/RXF 2W Series	2W,2.2Ω 1W,2.2Ω	UL 1412	UL E301541
PCB	SHENZHEN XIANGYU PRINTED CIRCUIT CO LTD	XY-2	V-0,130℃,Min thickness:1.0mm	UL 94	UL E123995
Varistor	HONGZHI ENTERPRISES LTD	HEL10D511*#	320VAC/105℃ for 18W/24W	--	E324904
Input Line	TONGXIANG CITY LI'AO CABLE CO.,LTD.	1015	AWG24/80℃	E479070	UL E479070 Test with appliance
LED	Bridgelux	2835	18V 50mA/36V 30mA	IEC 62778	Tested as a part of lamp
Transformer (T1)	JUNMEIJIA ELECTRONICS (SHENZHEN) CO LTD	USB-190PD-A	Class B	IEC/EN 62560-1	Test with appliance
--Bobbin	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	Phenolic,V-0, 150°C, Min.0.75mm thickness	UL 94	UL E59481
--Insulation Tape	DONGGUAN SHIN YAHUA ELECTRONIC MATERIAL CO LTD	CT* (c)(g)	130℃	UL510	UL E324093
Electrolytic Capacitor (EC1)	Interchangeable	Interchangeable	22uF,Min. 400V, 105℃	IEC/EN 62560-1	Test with appliance

Attachment I

IEC 62560B- ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62560
SELF-BALLASTED LED-LAMP
FOR GENERAL LIGHTING SERVICES BY VOLTAGE > 50V SAFETY SPECIFICATIONS

Differences according to..... : EN 62560:2012+A1:2015

Attachment Form No..... : IEC62560B
Attachment Originator..... : DEKRA Certification B.V.
Master Attachment..... : Dated 2015-11

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	ANNEX ZA	**P**

	NO COMMON MODIFICATIONS	P

Attachment II

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict

TEST REPORT
EN 62031
LED modules for general lighting – Safety specifications

4	**GENERAL REQUIREMENTS**		—
4.4	Integral modules tested assembled in the luminaire		P
4.5	Independent modules complies with requirements in IEC 60598-1		N/A

5	**GENERAL TEST REQUIREMENTS**		—
5.5	SELV-operated LED modules comply with Annex I of IEC 61347-2-13	(see Annex 1)	N/A
	General conditions for tests in Annex A	(see Annex A)	P

6	**CLASSIFICATION**		—
	Built-in module :	Yes ☐ No ☒	—
	Independent module :	Yes ☐ No ☒	—
	Integral module :	Yes ☒ No ☐	—
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		—

7	**MARKING**	N/A
	Requirements not applicable to the evaluated product.	—

8	**TERMINALS**		N/A
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 2)	N/A
	Part of the luminaire	(see Annex 3)	N/A
	Screwless terminals according section 15 of IEC 60598-1:		N/A
	Separately approved; component list	(see Annex 2)	N/A
	Part of the luminaire	(see Annex 4)	N/A
	Connectors according IEC 60838-2-2:		N/A
	Separately approved; component list	(see Annex 2)	N/A
9 (9)	**PROVISION FOR PROTECTIVE EARTHING**		N/A
	Requirements not applicable to the evaluated product.		—
10 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		N/A
	Requirements not applicable to the evaluated product.		—

11 (11)	**MOISTURE RESISTANCE AND INSULATION**		—
	After storage 48 h at 91- 95% relative humidity and 20- 30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	For basic insulation ≥ 2 MΩ :	100MΩ	P
	For double or reinforced insulation ≥ 4 MΩ :		N/A
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		N/A

12 (12)	**ELECTRIC STRENGTH**		—
	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		N/A

Attachment II

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		N/A
	Basic insulation, 2U + 1000 V		N/A
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		N/A
13 (14)	**FAULT CONDITIONS**		—
- (14)	When operated under fault conditions the controlgear:		N/A
	- does not emit flames or molten material		N/A
	- does not produce flammable gases		N/A
	- protection against accidental contact not impaired		N/A
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	N/A
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	N/A
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664-3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	N/A
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
- (14.5)	After the tests has been carried out on three samples:		N/A
	The insulation resistance ≥ 1 MΩ :		N/A
	No flammable gases		N/A
	No accessible parts have become live		N/A
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		N/A
- (14.6)	Relevant fault condition tests with high-power supply		N/A
13.2	**Overpower condition**		P
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P
	Molten material does not ignite tissue paper, spread below the module		P
15	**CONSTRUCTION**		—
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
16 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		—
- (16)	Creepage and distances and clearances in compliance with IEC 61347-1		N/A
	Insulating lining of metallic enclosures		N/A

Attachment II

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation on printed boards tested according to clause 14		N/A
	Distances subjected to both sinusoidal voltage as non-sinusoidal pulses not less than value in Table 16		N/A
	Creepage distances not less than minimum clearance		N/A
16 (-)	Conductive accessible parts in compliance with applicable parts of IEC 60598-1	No values are specified for working voltage below 60VDC as the electric strength test voltage of 500V is considered sufficient.	N/A
15	**CONSTRUCTION**		—
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
16 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		—
- (16)	Creepage and distances and clearances in compliance with IEC 61347-1		N/A
	Insulating lining of metallic enclosures		N/A
	Basic insulation on printed boards tested according to clause 14		N/A
	Distances subjected to both sinusoidal voltage as non-sinusoidal pulses not less than value in Table 16		N/A
	Creepage distances not less than minimum clearance		N/A
16 (-)	Conductive accessible parts in compliance with applicable parts of IEC 60598-1	No values are specified for working voltage below 60VDC as the electric strength test voltage of 500V is considered sufficient.	N/A
17 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**		—
	Cl. 17 refer to Cl. 17 of IEC 61347-1 which refer to Cl. 4.11 and 4.12 of 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:		P
	- self-tapping screws		P
	- thread-cutting screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	**Mechanical connections and glands**		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part :		N/A
(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

Attachment II

EN 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	- push-button switches; torque 0,8 Nm :		N/A
(4.12.5)	Screwed glands; force (Nm) :		N/A
18 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		—
- (18.1)	Ball-pressure test :	See Test Table 18 (18.1)	N/A
- (18.3)	Glow- wire test (650°C) :	See Test Table 18 (18.3)	N/A
- (18.4)	Needle-flame test (10 s) :	See Test Table 18 (18.4)	N/A
- (18.5)	Proof tracking test :	See Test Table 18 (18.5)	N/A
19 (19)	**RESISTANCE TO CORROSION**		—
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A
20	**INFORMATION FOR LUMINAIRE DESIGN**		—
	Information in Annex D (informative)		—
21	**HEAT MANAGEMENT**		—
21.1	**General**		N/A
	Exchangeability is safeguarded by cap or base		N/A
21.2	**Heat-conducting foil and paste**		N/A
	Heat-conducting foil delivered with the module if necessary		N/A
22	**PHOTOBIOLOGICAL SAFETY**		—
22.1	**UV radiation**		N/A
	Luminous radiation not exceed 2mW/klm		N/A
22.2	**Blue light hazard**		P
	Assessed according to IEC TR 62778		P
22.3	**Infrared radiation**		N/A
	Requirements for infrared radiation when required		N/A
A	**ANNEX A - TESTS**		—
	All tests performed in accordance with the advice given in Annex H of IEC 61347-1, if applicable		P
ANNEX 1	**SELV-operated LED modules**		—
	Requirements not applicable to the evaluated product.		N/A

Attachment III:
Photo-documentation

EUT Photo 1



EUT Photo 2



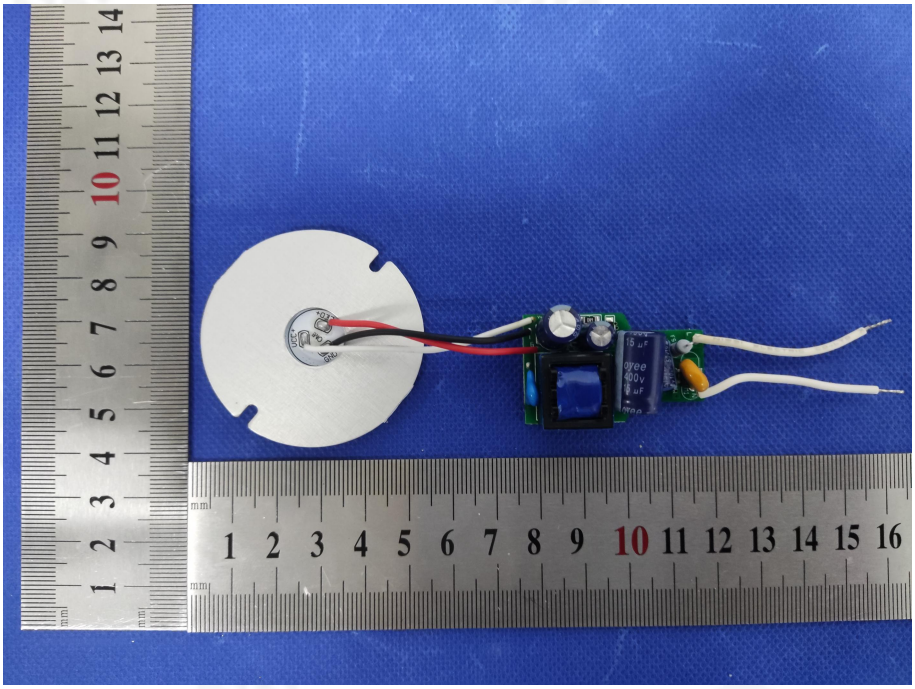
EUT Photo 3



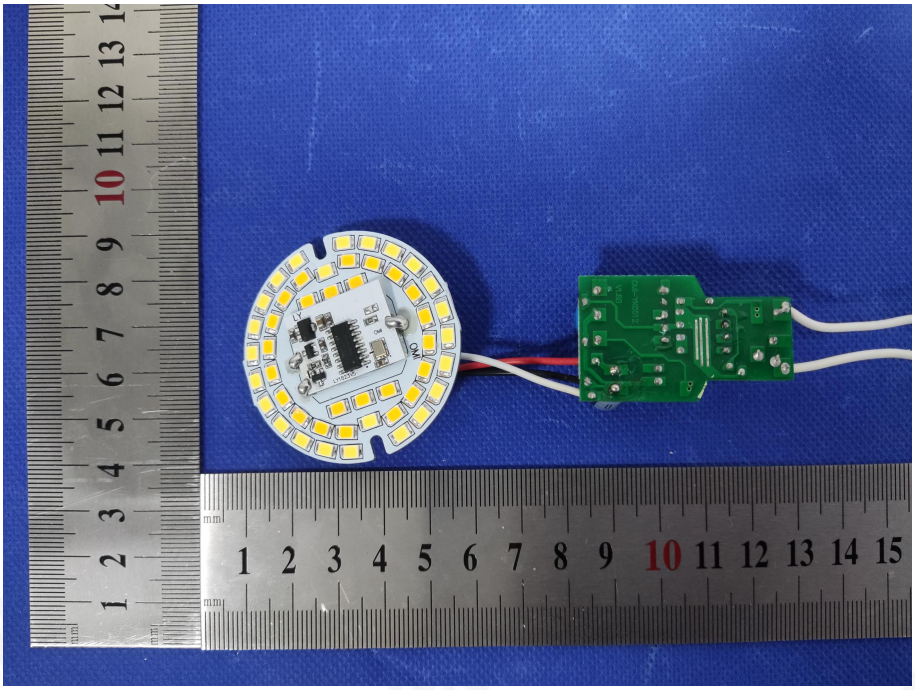
EUT Photo 4



EUT Photo 5



EUT Photo 6



===== End of report =====