

FCC Test Report (sDoC)
Shenzhen Sresky CO.,LTD
Solar Bollard Light
Test Model .: ABL-02

Additional Models : Please Refer To Page 8 Model List

Prepared for : Shenzhen Sresky CO.,LTD
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Date of receipt of test sample : April 01, 2021
Number of tested samples : 1
Serial number : Prototype
Date of Test : April 01, 2021 ~ April 07, 2021
Date of Report : April 07, 2021



FCC TEST REPORT(sDoC)
CFR47 FCC Part 15 Subpart B

Report Reference No. : LCS210401001BE

Date Of Issue..... : April 07, 2021

Testing Laboratory Name..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Address..... : 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China

Testing Location/ Procedure.... : Full application of Harmonised standards
Partial application of Harmonised standards
Other standard testing method

Applicant's Name..... : Shenzhen Sresky CO.,LTD

Address..... : Jingmei building, Taiwan industrial park, SHIYAN town, Baoan District, ShenZhen, China

Test Specification

Standard..... : CFR47 FCC Part 15 Subpart B, ANSI C63.4-2014

Test Report Form No..... : SLCSEMC-1.0

TRF Originator..... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2016-08

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Test Item Description..... : Solar Bollard Light

Test Model : ABL-02

Trade Mark..... : 

Ratings..... : DC 4.2V, 3W

Result : PASS

Compiled by:

Amy Liu

Amy Liu/ File administrators

Supervised by:

Dm Gu

Dm Gu/ Technique principal



Cherry Chen/ Manager

FCC -- TEST REPORT

Test Report No. : LCS210401001BE	<u>April 07, 2021</u> Date of issue
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Type / Model.....	: ABL-02
EUT.....	: Solar Bollard Light
Applicant.....	: Shenzhen Sresky CO.,LTD
Address.....	: Jingmei building, Taiwan industrial park, SHIYAN town, Baoan District, ShenZhen, China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Shenzhen Sresky CO.,LTD
Address.....	: Jingmei building, Taiwan industrial park, SHIYAN town, Baoan District, ShenZhen, China
Telephone.....	: /
Fax.....	: /
Factory.....	: Shenzhen Sresky CO.,LTD
Address.....	: Jingmei building, Taiwan industrial park, SHIYAN town, Baoan District, ShenZhen, China
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 6: PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
000	April 07, 2021	Initial Issue	Cherry Chen

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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance	CFR47 FCC Part 15 Subpart B	/	N/A
Radiated disturbance	CFR47 FCC Part 15 Subpart B	Class B	PASS

N/A is an abbreviation for Not Applicable.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Solar Bollard Light

Trade Mark : 

Test Model : ABL-02

Power Supply : DC 4.2V, 3W

2.2. Description of Test Facility

EMC Lab. : TUV RH Registration Number. is UA 50362241 0001.
UL Registration Number. is 100571-492.
NVLAP Registration Number. is 600112-0.

Test Facilities : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
101-201, No.39 Building, Xialang Industrial Zone, Heshuikou
Community, Matian Street, Guangming District, Shenzhen,
China

2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4. Measurement Uncertainty

Test	Parameters	Expanded uncertainty (U_{lab})	Expanded uncertainty (U_{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 1.40 dB ± 2.80 dB	± 4.0 dB ± 3.6 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.46 dB	N/A
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.12 dB	N/A
Radiated Emission	Level accuracy (30MHz to 200MHz)	± 4.66 dB	± 5.2 dB
Radiated Emission	Level accuracy (200MHz to 1000MHz)	± 4.64 dB	± 5.0 dB

- (1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.
- (2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

2.5 General Product Information

The EUTs are general luminaires for illumination purpose. detailed differences shown in below.

Model list:

Model	Rating
ABL-02	DC4.2V, 3W, IP66, ta45°C
ABL-03	DC4.2V, 3W, IP66, ta45°C
ABL-01	DC4.2V, 3W, IP66, ta45°C
AWM-01	DC4.2V, 3W, IP66, ta45°C
ALL-01	DC4.2V, 3W, IP66, ta45°C
ABL-02H	DC4.2V, 3W, IP66, ta45°C
ABL-03H	DC4.2V, 3W, IP66, ta45°C
ABL-01H	DC4.2V, 3W, IP66, ta45°C
AWM-01H	DC4.2V, 3W, IP66, ta45°C
ALL-01H	DC4.2V, 3W, IP66, ta45°C

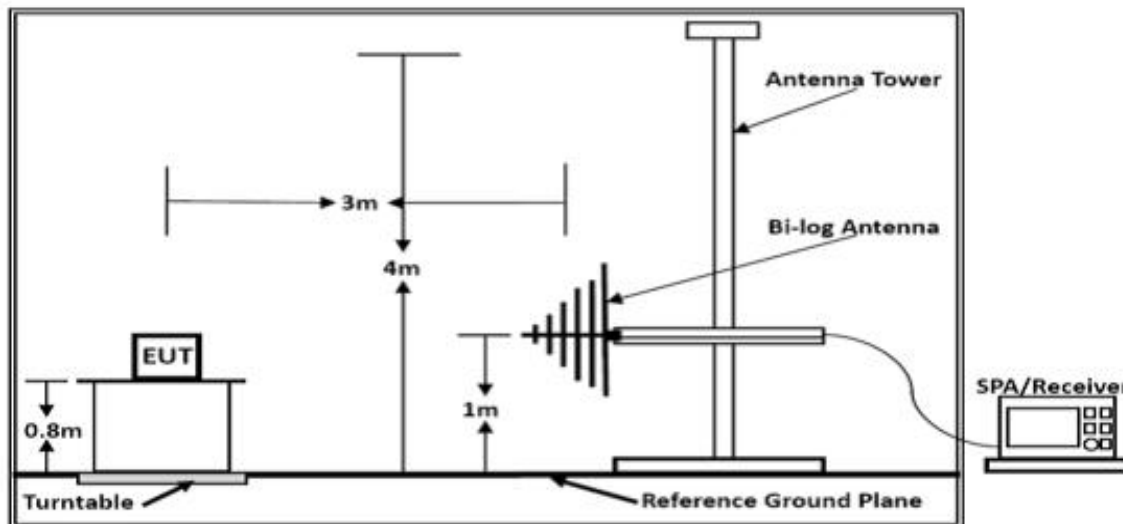
3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Due Date.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2021-08-05
2	EMI Test Receiver	R&S	ESCI	101010	2021-06-17
3	Log per Antenna	SCHWARZBECK	VULB9163	5094	2022-06-23
4	EMI Test Software	AUDIX	E3	N/A	2021-06-17
5	Positioning Controller	MF	BK8807-4A-2T	2016-0808-008	2021-06-17

3.2. Block Diagram of Test Setup



3.3. Radiated Emission Limit

Limits for Radiated Emission Limit (Class B)			
FREQUENCY MHz	DISTANCE Meters	Quasi-peak	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54

Limits for Radiated Emission Limit (Class A)			
FREQUENCY MHz	DISTANCE Meters	Quasi-peak	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	10	90	39
88 ~ 216	10	150	43.5
216 ~ 960	10	210	46.5
960 ~ 1000	10	300	50

Remark:

(1) Emission level $(\text{dB})\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.5. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

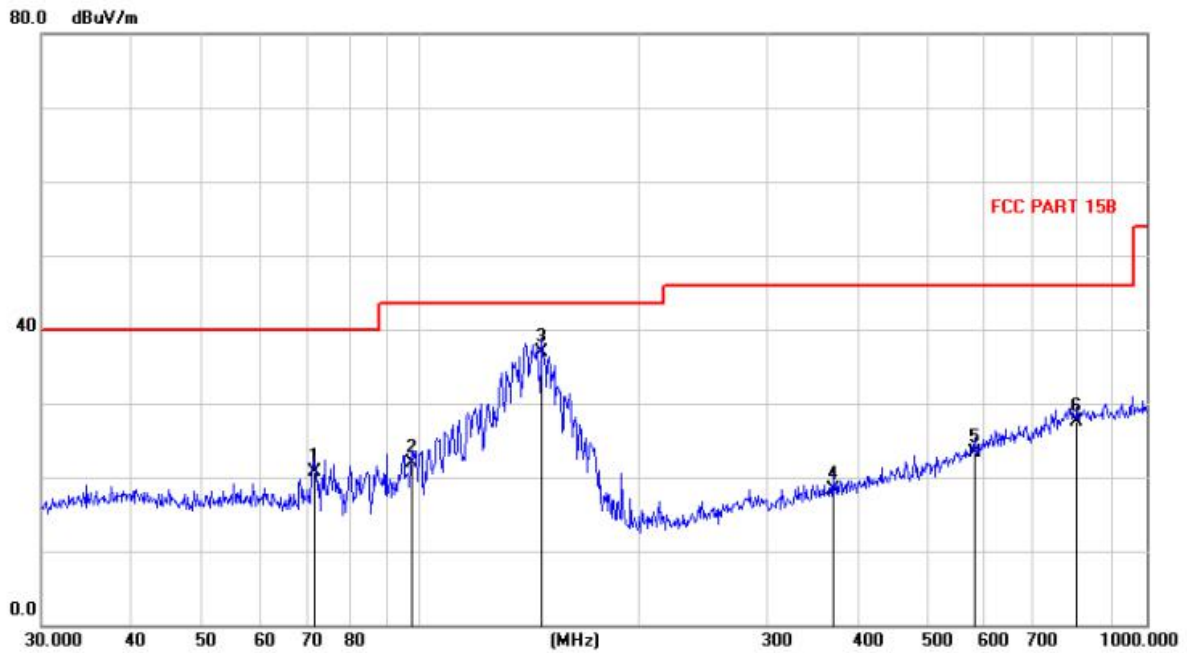
The bandwidth of the Receiver is set at 120kHz; The frequency range from 30MHz to 1000MHz is investigated.

3.6. Test Results

PASS

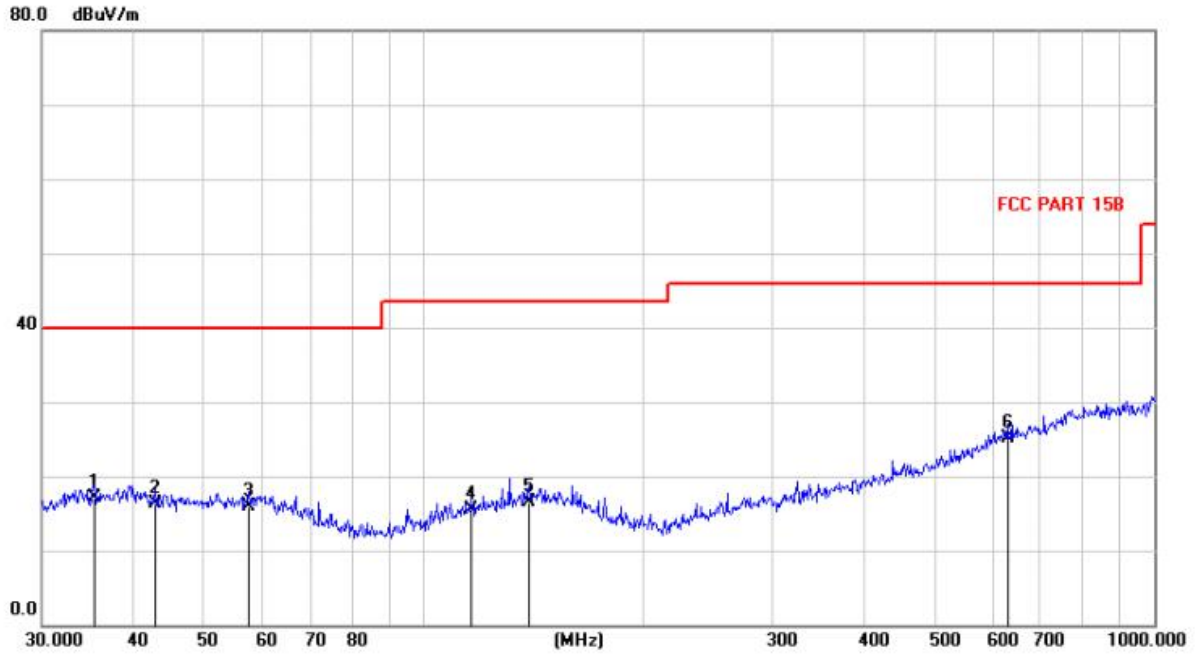
The test result please refer to the next page.

Model No.	ABL-02	Test Mode	Lighting
Environmental Conditions	23.6°C, 51% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Sam Chen	Test Voltage	DC



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		71.3300	9.91	10.89	20.80	40.00	-19.20	QP			
2		97.2426	11.42	10.39	21.81	43.50	-21.69	QP			
3	*	147.2744	23.31	13.50	36.81	43.50	-6.69	QP			
4		370.0529	3.47	14.79	18.26	46.00	-27.74	QP			
5		579.1774	3.76	19.60	23.36	46.00	-22.64	QP			
6		802.4895	3.74	23.67	27.41	46.00	-18.59	QP			

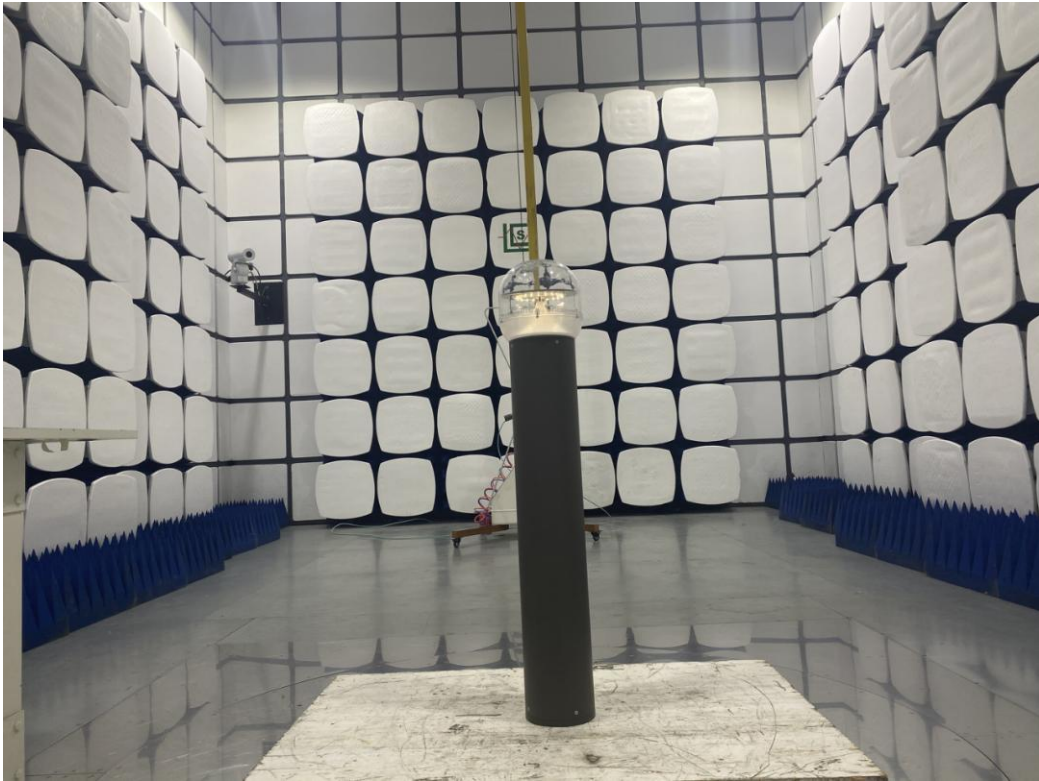
Model No.	ABL-02	Test Mode	Lighting
Environmental Conditions	23.6°C, 51% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Sam Chen	Test Voltage	DC



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		35.3750	4.45	12.74	17.19	40.00	-22.81	QP			
2		43.0504	2.39	13.96	16.35	40.00	-23.65	QP			
3		57.6950	3.14	12.74	15.88	40.00	-24.12	QP			
4		116.1320	3.61	11.99	15.60	43.50	-27.90	QP			
5		139.7894	6.51	9.97	16.48	43.50	-27.02	QP			
6	*	631.4114	5.56	19.49	25.05	46.00	-20.95	QP			

4. PHOTOGRAPH

4.1. Photo of Radiated Measurement



5. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

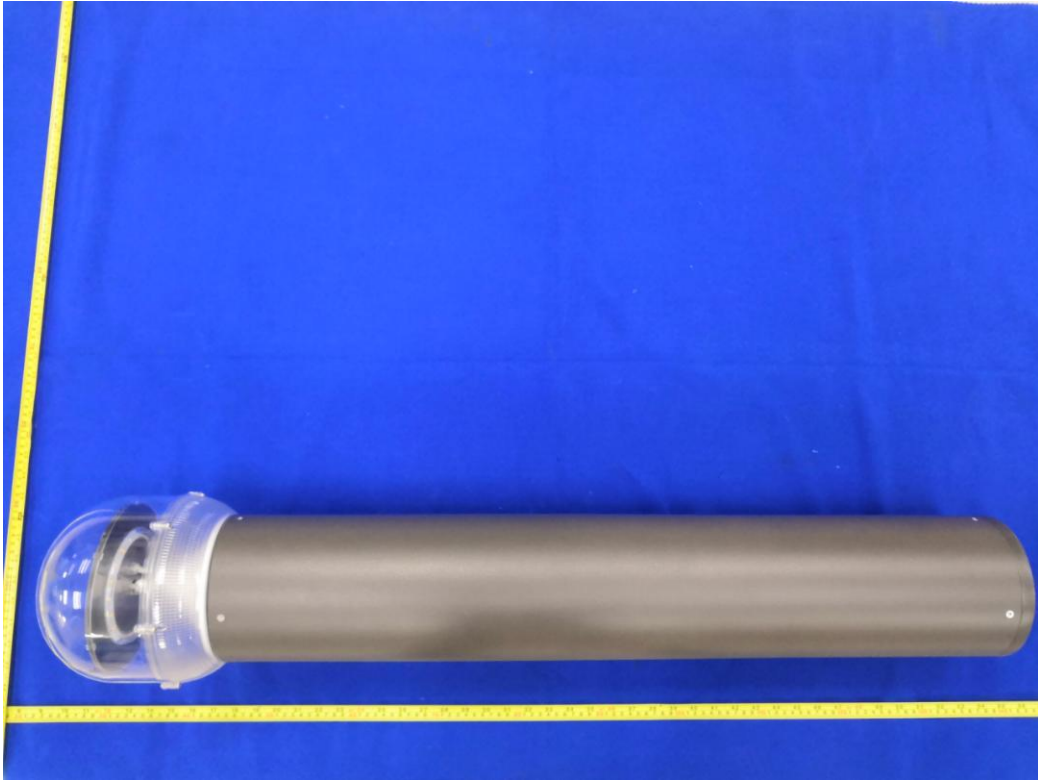


Figure. 1 (ABL-02)

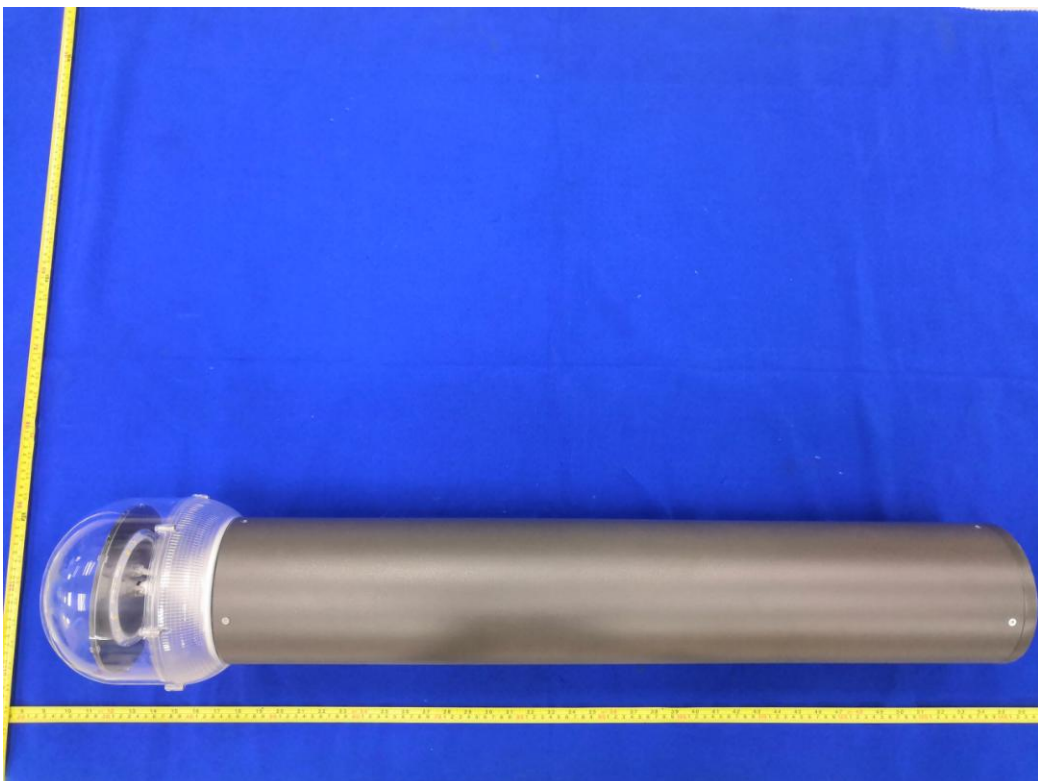


Figure. 2 (ABL-02)



Figure. 3

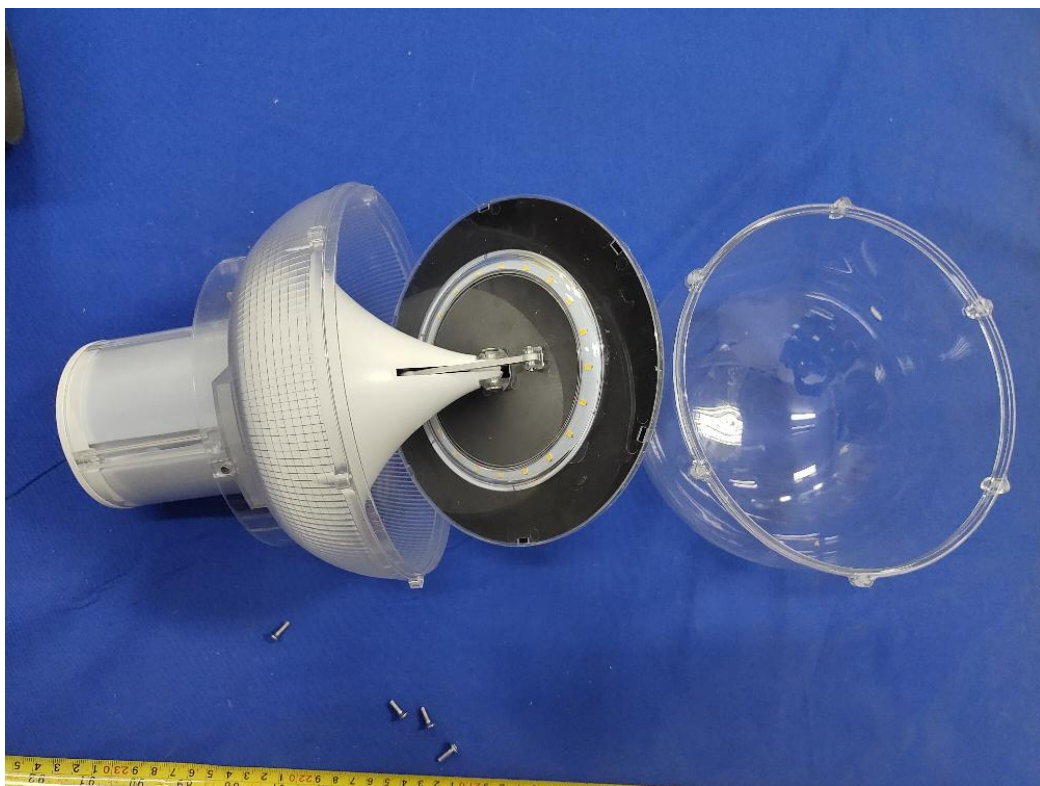


Figure. 4

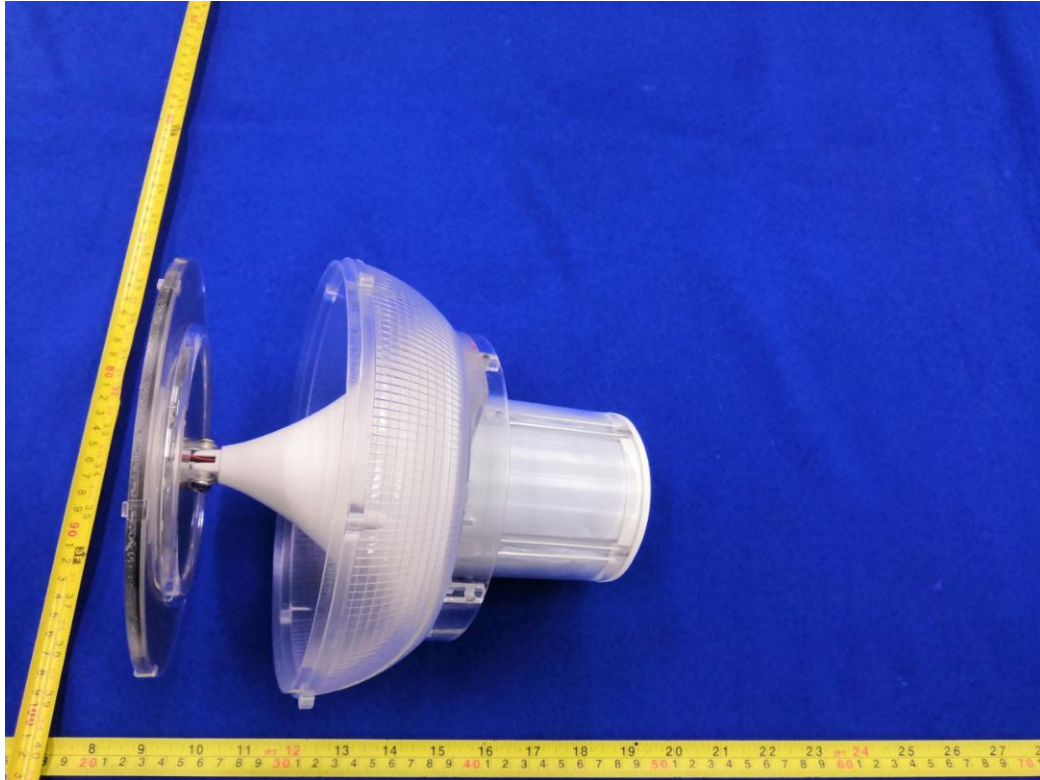


Figure. 5

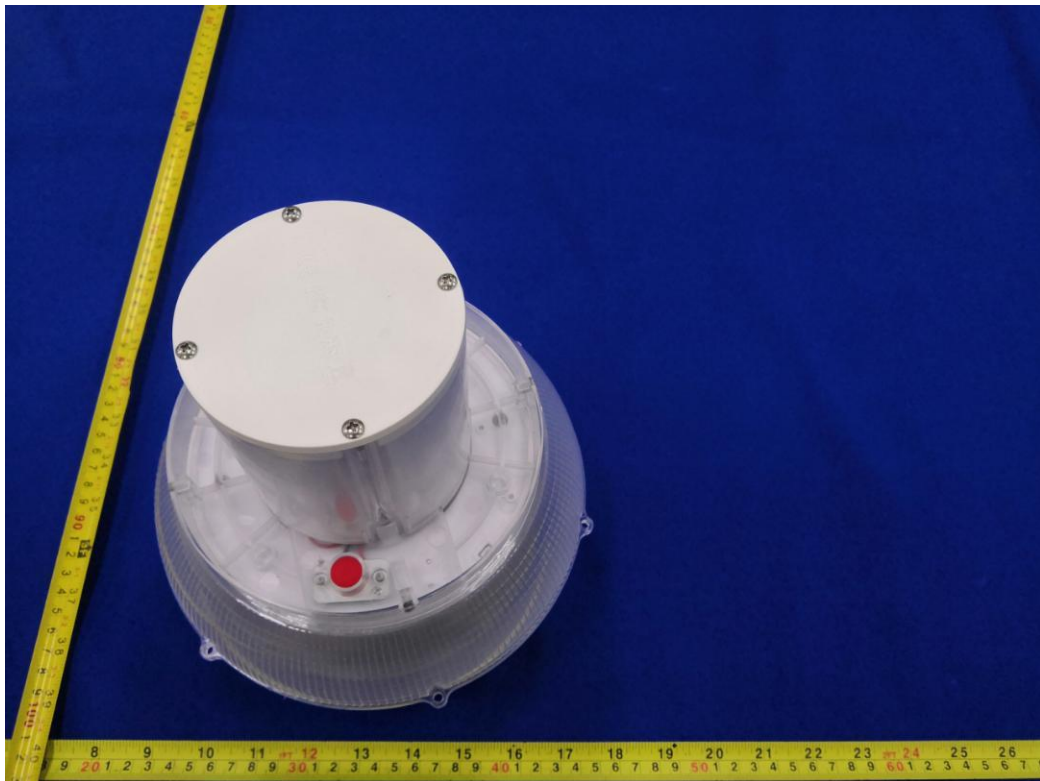


Figure. 6

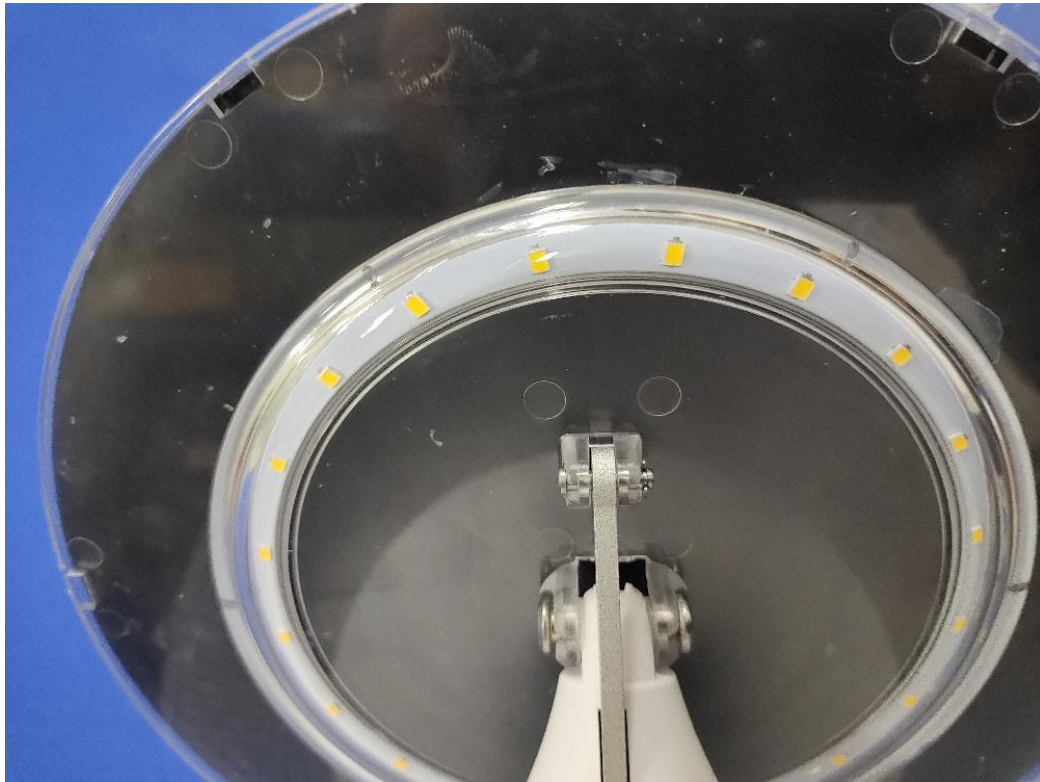


Figure. 7

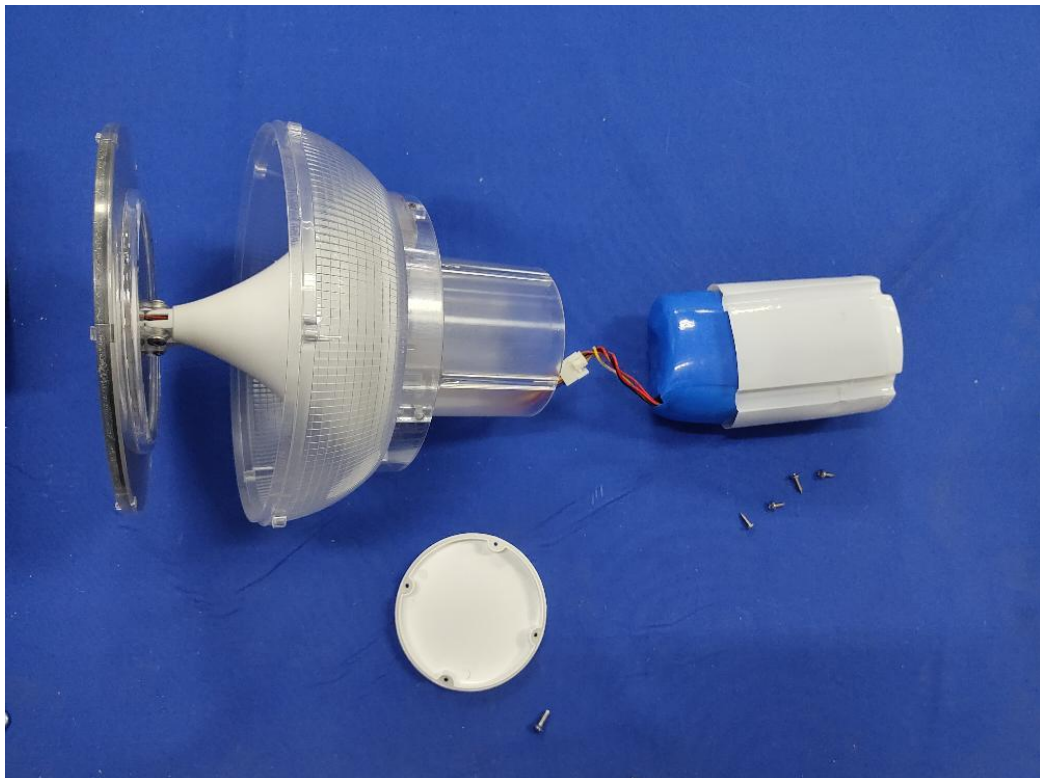


Figure. 8

-----THE END OF TEST REPORT-----