

# Visual Comfort and Company

## TEST REPORT

**SCOPE OF WORK**

LM-79 testing report

**REPORT NUMBER**

221205125GZU-008

**ISSUE DATE**

29 January 2023

**REVISION DATE**

None

**NUMBER OF PAGES**

13

**DOCUMENT CONTROL NUMBER**

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Report No.: 221205125GZU-008

## TEST REPORT

### TEST OF ONE LED LUMINAIRE

MODEL NO. 700OWSQGE92731BUNV

#### RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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Email: Tgallagher@visualcomfortco.com  
Phone No.: 8474104774

<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>STATEMENT OF LIMITATION:</u>	The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ221129088.
<u>STANDARDS USED:</u>	The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:
IES LM-79: 2008	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377:2017	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model 700OWSQGE92731BUNV. The sample was received, in undamaged condition. The sample designation was S221205125-008.
<u>DATES OF TESTS:</u>	14 January 2023
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

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## TEST REPORT

### SUMMARY

Model Number:	700OWSQGE92731BUNV
Description:	LED Luminaries
Brand Name:	--

#### Test Condition: 120V, 60Hz For 700OWSQGE92731BUNV

Criteria	Result
Total Lumen Output	891.7 lm
Total Power	59.2 W
Luminaire Efficacy	15.1 lm/W
S/MH(C0/180)	32.38
S/MH(C90/270)	2.24
Correlated Color Temperature (CCT)	2645 K
Color Rendering Index (CRI)	95
R9	69
Chromaticity Coordinate (x)	0.4659
Chromaticity Coordinate (y)	0.4142
Chromaticity Coordinate (u')	0.2648
Chromaticity Coordinate (v')	0.5296

#### Remark:

Measurement uncertainty for applicable tests has been established.

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## TEST REPORT

### EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Goniophotometer System	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard Lamp	D215S	SA063-16-06
Digital Power Meter	PLM3000	SA063-16-09
AC power source for Goniophotometer	PCR-1000WH	SA063-16-10
Temperature Meter	RC-HT601A	SA047-62

### GENERAL REMARK

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When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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## TEST REPORT

### TEST METHOD

#### Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IES LM-79

#### Light Distribution and Output Measurements

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made.

#### Chromaticity Measurements

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system, 4 $\pi$  geometry, with an interior coating reflectance no less than 95 %. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer attached to the detector port of the integrating sphere. Each lamp was allowed to stabilise before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to National Institute of Metrology P.R. CHINA. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using EVERFINE - Digital Power Meter., model PLM3000.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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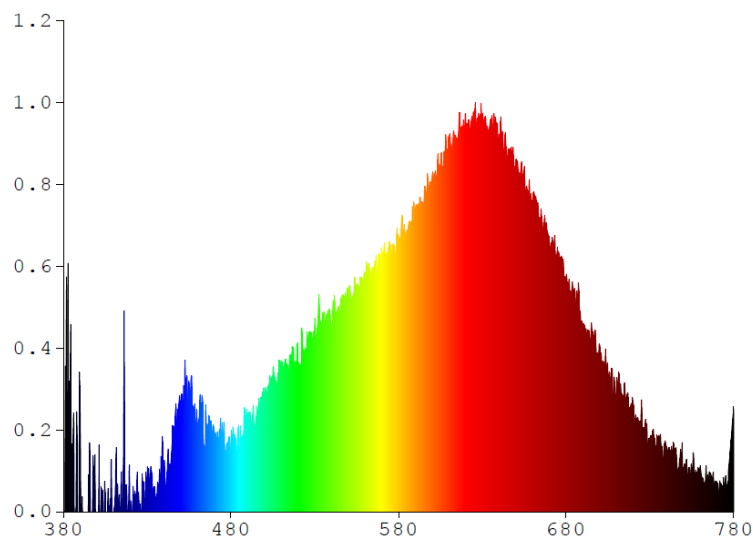
## TEST REPORT

### RESULTS OF TESTS

**Test Condition: 120V, 60Hz For 7000WSQGE92731BUNV**

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.0002	580	0.0007	680	0.0006	780	0.0003
385	0.0001	485	0.0001	585	0.0007	685	0.0006		
390	0.0002	490	0.0002	590	0.0007	690	0.0005		
395	0.0001	495	0.0002	595	0.0008	695	0.0005		
400	0.0000	500	0.0003	600	0.0009	700	0.0004		
405	0.0000	505	0.0003	605	0.0009	705	0.0003		
410	0.0000	510	0.0004	610	0.0010	710	0.0003		
415	0.0000	515	0.0004	615	0.0009	715	0.0003		
420	0.0000	520	0.0004	620	0.0010	720	0.0003		
425	0.0000	525	0.0004	625	0.0010	725	0.0003		
430	0.0001	530	0.0005	630	0.0010	730	0.0002		
435	0.0000	535	0.0005	635	0.0010	735	0.0002		
440	0.0001	540	0.0005	640	0.0009	740	0.0002		
445	0.0002	545	0.0005	645	0.0009	745	0.0001		
450	0.0003	550	0.0005	650	0.0009	750	0.0001		
455	0.0003	555	0.0006	655	0.0009	755	0.0001		
460	0.0002	560	0.0006	660	0.0008	760	0.0001		
465	0.0003	565	0.0006	665	0.0008	765	0.0001		
470	0.0002	570	0.0006	670	0.0007	770	0.0001		
475	0.0001	575	0.0007	675	0.0006	775	0.0001		



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WSQGE92731BUNV**

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

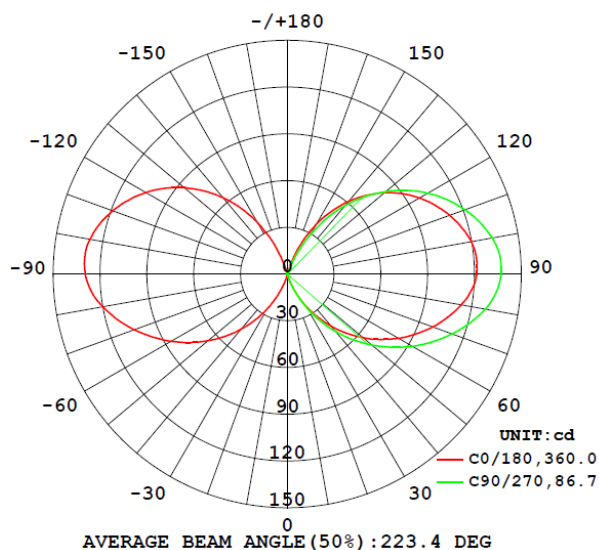
#### Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit	Chromaticit	Chromaticit	Chromaticit
					y	y	y	y
					Coordinate	Coordinate	Coordinate	Coordinate
					(x)	(y)	(u')	(v')
7000WSQGE92731BUNV								
S2212051 25-008	--	2645	95	69	0.4659	0.4142	0.2648	0.5296

#### Photometric and Electrical Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
700OWSQGE92731BUNV							
S2212051 25-008	--	120.3	504.3	59.2	0.976	891.7	15.1

#### Intensity (Candlepower) Summary at 25°C – Candelas



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700OWSQGE92731BUNV**

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.0	0.1	0.1	0.1	0.1
5	0.1	0.1	0.1	0.1	0.1
10	0.2	0.2	0.2	0.3	0.3
15	0.6	0.6	0.6	0.6	0.7
20	4.4	2.3	1.1	3.6	5.0
25	13.3	9.4	4.9	12.1	14.4
30	23.1	18.8	15.7	22.6	25.2
35	33.4	29.7	30.1	33.9	36.6
40	43.6	42.4	45.8	46.0	48.1
45	53.7	56.4	62.3	58.8	59.5
50	63.6	71.2	79.0	72.5	70.9
55	73.2	86.1	95.8	86.9	81.9
60	82.4	101.0	112.4	101.2	92.6
65	91.0	115.5	128.6	115.3	102.8
70	99.2	129.3	143.9	128.8	112.4
75	106.6	142.1	158.4	141.4	121.1
80	113.3	153.9	171.5	153.1	128.9
85	118.5	163.2	181.4	161.7	134.3
90	121.3	168.2	186.5	166.2	137.0
95	121.7	168.1	186.2	166.0	136.6
100	119.7	163.3	181.0	161.3	133.4
105	115.8	155.2	172.1	153.4	127.9
110	110.6	144.9	160.8	143.3	121.1
115	104.6	133.0	147.6	131.5	113.1
120	97.9	119.7	132.6	118.1	104.1
125	90.1	105.1	116.3	103.2	93.8
130	81.3	89.4	98.7	87.0	82.6
135	71.6	73.0	80.0	70.8	70.4
140	61.0	57.7	60.6	55.0	57.6
145	49.4	43.5	39.6	39.9	43.5
150	36.8	30.0	18.8	25.0	28.5
155	23.0	16.8	4.5	10.5	13.6
160	8.9	4.7	0.8	1.7	2.7
165	0.6	0.5	0.4	0.4	0.4
170	0.2	0.2	0.2	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
180	0.0	0.0	0.0	0.0	0.0

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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 700WSQGE92731BUNV**

#### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700WSQGE92731BUNV		
0-30	4.2	0.5
0-40	19.5	2.2
0-60	109.2	12.3
0-90	417.7	46.9
60-90	308.5	34.6
0-180	891.7	100.0

#### Beam Angle

**Total Beam Angle (°)**

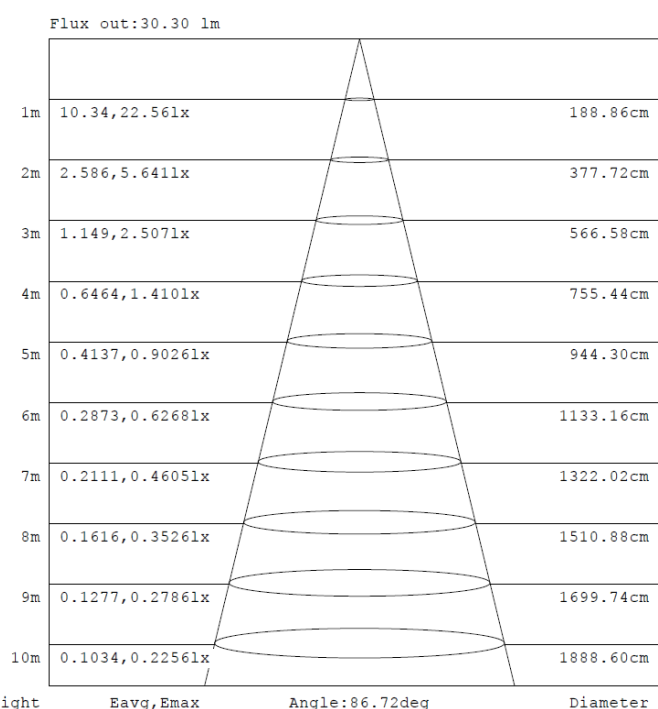
223.4

#### Illumination Plots

Model No.: 700WSQGE92731BUNV

Mount Height: 2.5 m

#### Illuminance - Cone of Light



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# TEST REPORT

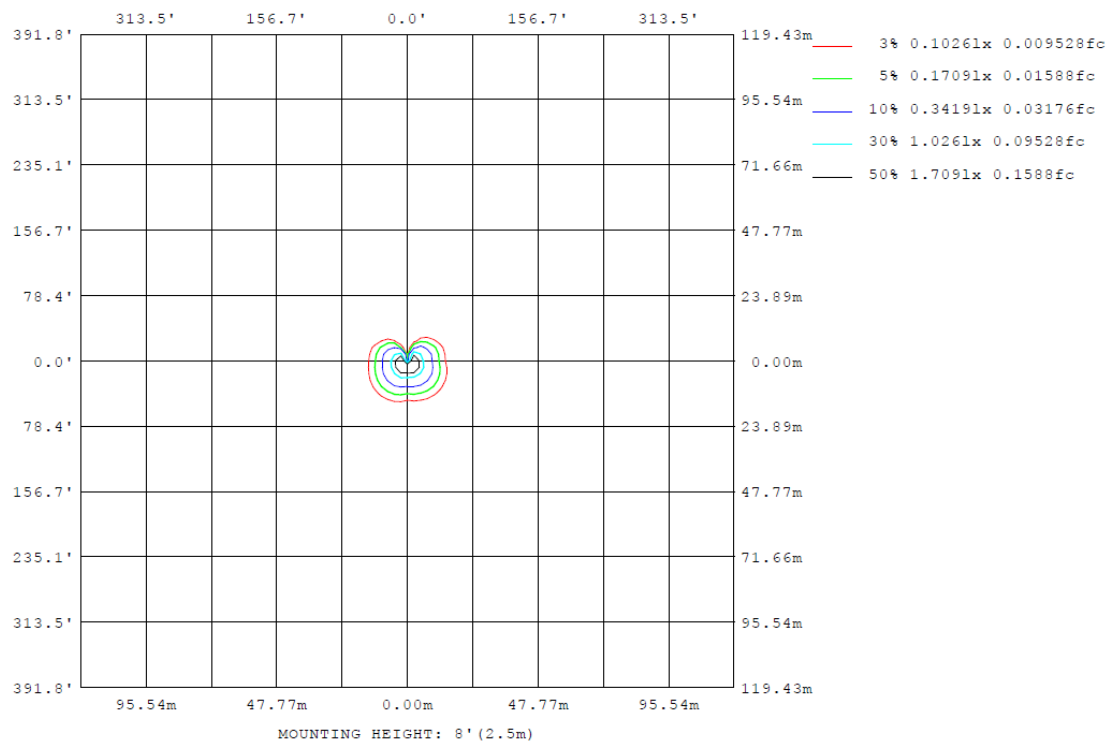
## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WSQGE92731BUNV**

Model No.: 7000WSQGE92731BUNV

Mount Height: 2.5 m

Isoillumination Plot



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WSQGE92731BUNV

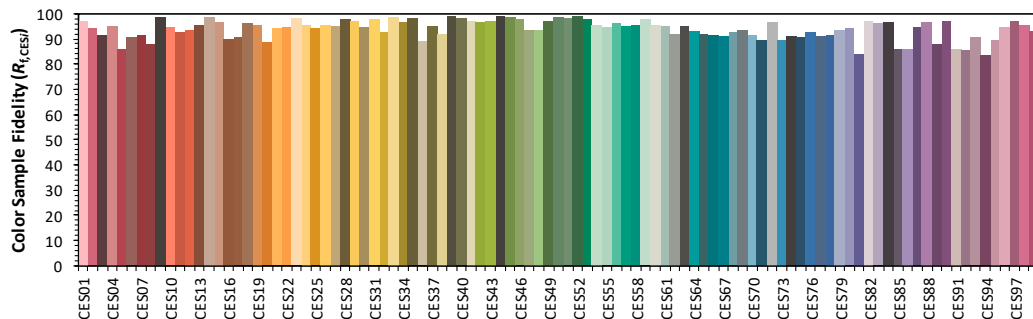
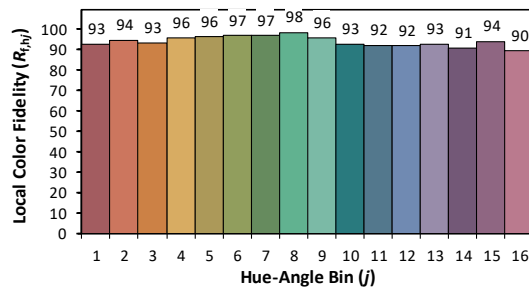
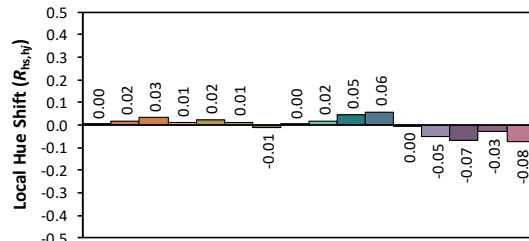
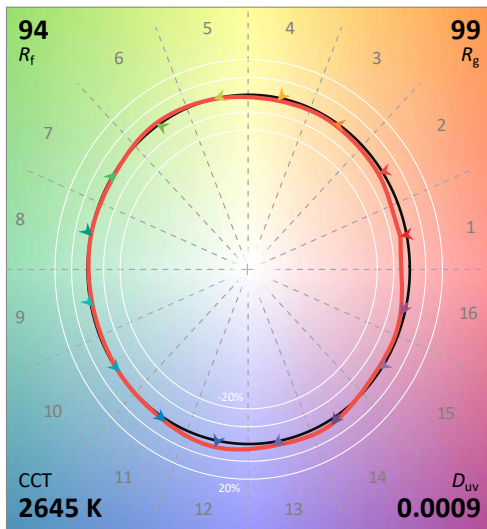
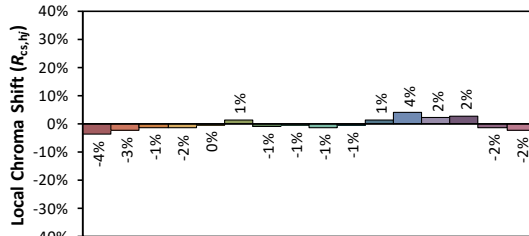
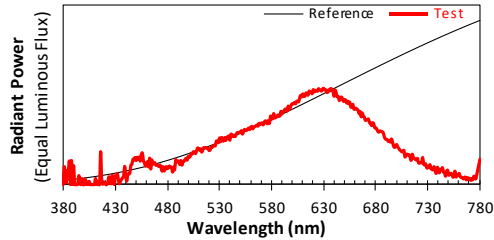
#### ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/1/14

Model: 7000WSQGE92731BUNV



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.4659  
 $y$  0.4142  
 $u'$  0.2648  
 $v'$  0.5296

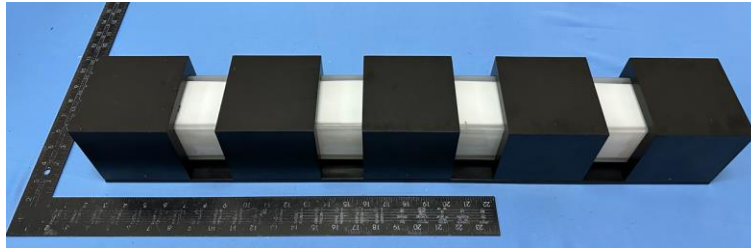
CIE 13.3-1995  
(CRI)  
 $R_a$  95  
 $R_g$  69

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

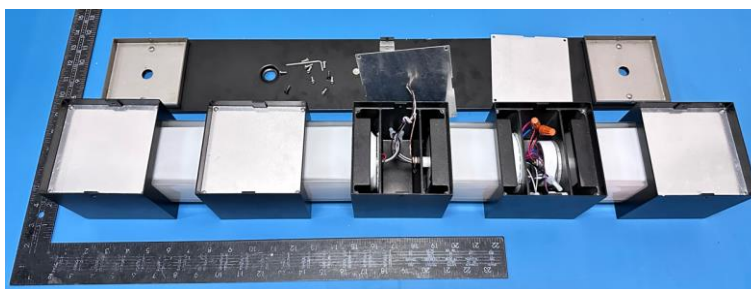
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## TEST REPORT

### PRODUCT PICTURE (not to scale)



External view of 700WSQGE92731BUNV



Internal view of 700WSQGE92731BUNV

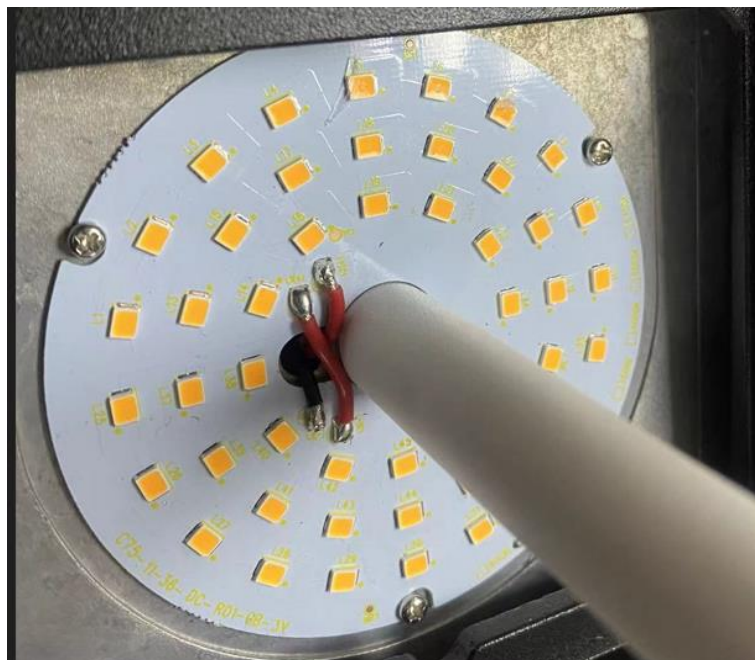


View of LED Driver ISDU-D56-30W

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## TEST REPORT

### PRODUCT PICTURE (not to scale)



View of LED

In Charge Of Tests:

*Done Ye*

Done Ye  
Engineer

Report Reviewed By

*Shelley Ying*

Shelley Ying  
Reviewer

Attachment: None

\*\*\*\*\* End of Report \*\*\*\*\*