

# Visual Comfort and Company

## TEST REPORT

**SCOPE OF WORK**

LM-79 testing report

**REPORT NUMBER**

221205125GZU-006

**ISSUE DATE**

29 January 2023

**REVISION DATE**

None

**NUMBER OF PAGES**

13

**DOCUMENT CONTROL NUMBER**

Report format for LM-79:2008\_F  
© 2021 INTERTEK



Report No.: 221205125GZU-006

## TEST REPORT

### TEST OF ONE LED LUMINAIRE

MODEL NO. 700OWSQGE92717BUNV

#### RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

7400 LINDER AVE. SKOKIE, IL, 60077

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 700OWSQGE92717BUNV. The sample was received, in undamaged condition. The sample designation was S221205125-006.
<u>DATES OF TESTS:</u>	11 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

\*\*\*\*\* End of Page \*\*\*\*\*

## TEST REPORT

### SUMMARY

Model Number:	700OWSQGE92717BUNV
Description:	LED Luminaries
Brand Name:	--

#### Test Condition: 120V, 60Hz For 700OWSQGE92717BUNV

Criteria	Result
Total Lumen Output	430.3 lm
Total Power	29.6 W
Luminaire Efficacy	14.5 lm/W
S/MH(C0/180)	20.74
S/MH(C90/270)	1.28
Correlated Color Temperature (CCT)	2621 K
Color Rendering Index (CRI)	95
R9	71
Chromaticity Coordinate (x)	0.4603
Chromaticity Coordinate (y)	0.4013
Chromaticity Coordinate (u')	0.2670
Chromaticity Coordinate (v')	0.5238

#### Remark:

Measurement uncertainty for applicable tests has been established.

\*\*\*\*\* End of Page \*\*\*\*\*

## 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

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

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

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

\*\*\*\*\* End of Page \*\*\*\*\*

## 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

\*\*\*\*\* End of Page \*\*\*\*\*

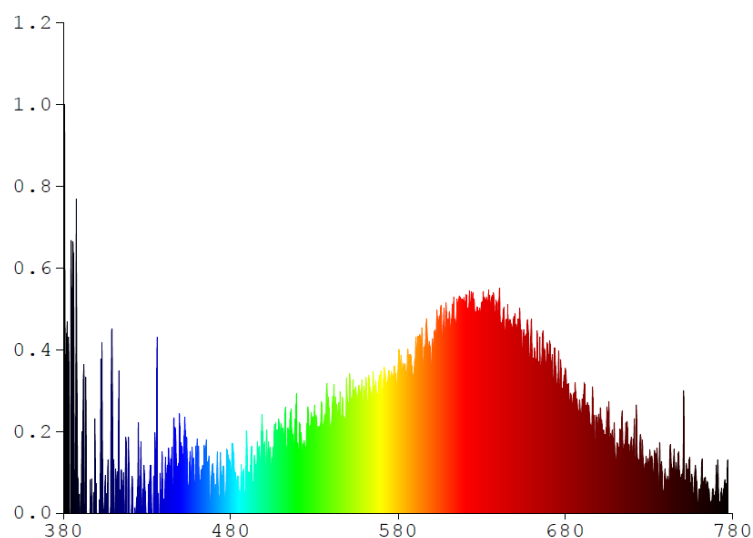
## TEST REPORT

### RESULTS OF TESTS

**Test Condition: 120V, 60Hz For 7000WSQGE92717BUNV**

Spectral Distribution over Visible Wavelengths

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



\*\*\*\*\* End of Page \*\*\*\*\*

## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WSQGE92717BUNV**

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

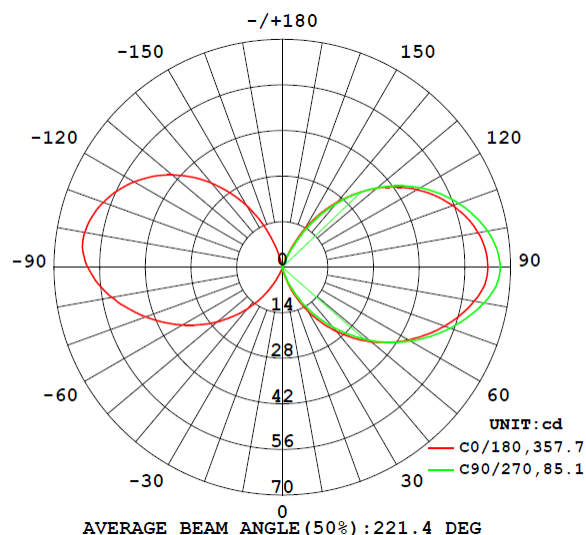
#### Photometric Measurements at 25°C – Integrating Sphere Method

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')
7000WSQGE92717BUNV								
S2212051 25-006	--	2621	95	71	0.4603	0.4013	0.2670	0.5238

#### 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)
700OWSQGE92717BUNV							
S2212051 25-006	--	120.2	252.4	29.6	0.976	430.3	14.5

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



\*\*\*\*\* End of Page \*\*\*\*\*

## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WSQGE92717BUNV**

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.1	0.1	0.1	0.1	0.1
5	0.1	0.2	0.2	0.2	0.1
10	0.3	0.3	0.3	0.3	0.3
15	1.3	0.7	0.6	0.6	0.5
20	5.7	4.7	1.3	2.7	3.6
25	10.5	9.4	6.3	6.9	8.1
30	15.5	14.6	12.9	11.9	13.2
35	20.5	20.1	20.2	17.8	18.5
40	25.6	26.5	28.0	25.0	23.9
45	30.7	33.4	36.1	32.4	29.4
50	35.7	40.4	44.4	40.2	34.9
55	40.2	47.4	52.7	48.0	40.2
60	44.7	54.4	60.9	55.6	45.4
65	48.9	61.2	68.9	63.1	50.2
70	52.9	67.6	76.4	70.3	54.7
75	56.6	73.4	83.4	76.8	59.0
80	59.8	78.5	89.4	82.6	62.8
85	62.3	82.2	93.7	86.7	65.8
90	63.0	82.7	94.3	87.4	66.8
95	62.5	80.5	91.7	85.0	66.0
100	61.0	76.8	87.5	81.1	63.9
105	58.6	72.1	82.0	76.0	61.0
110	55.6	66.4	75.5	69.9	57.5
115	51.9	60.0	68.1	63.0	53.5
120	47.7	52.9	60.0	55.5	48.9
125	43.1	45.0	51.2	47.4	43.7
130	37.8	36.6	41.4	38.7	38.0
135	32.1	29.6	31.7	30.0	31.9
140	26.1	23.4	21.8	22.5	25.4
145	19.9	17.2	11.7	15.2	18.5
150	13.4	10.8	2.8	8.1	11.3
155	6.3	4.4	0.6	1.5	3.9
160	0.5	0.4	0.3	0.3	0.3
165	0.2	0.2	0.1	0.1	0.1
170	0.1	0.1	0.1	0.0	0.1
175	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0

\*\*\*\*\* End of Page \*\*\*\*\*



# TEST REPORT

## RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSQGE92717BUNV

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

Zone	Lumens (lm)	% Luminaire (%)
700WSQGE92717BUNV		
0-30	2.3	0.5
0-40	9.8	2.3
0-60	52.1	12.1
0-90	202.7	47.1
60-90	150.6	35.0
0-180	430.3	100

### Beam Angle

Total Beam Angle (°)

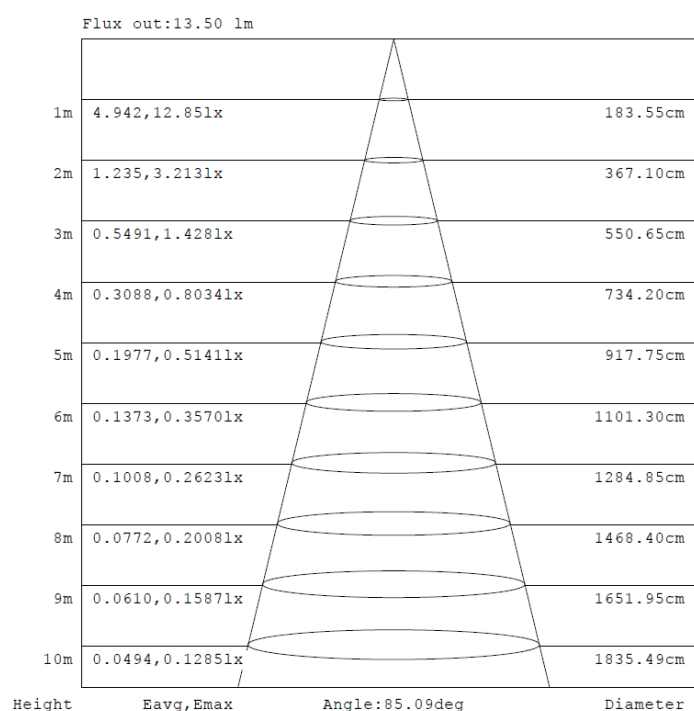
221.4

### Illumination Plots

Model No.: 700WSQGE92717BUNV

Mount Height: 2.5 m

#### Illuminance - Cone of Light



\*\*\*\*\* End of Page \*\*\*\*\*

# TEST REPORT

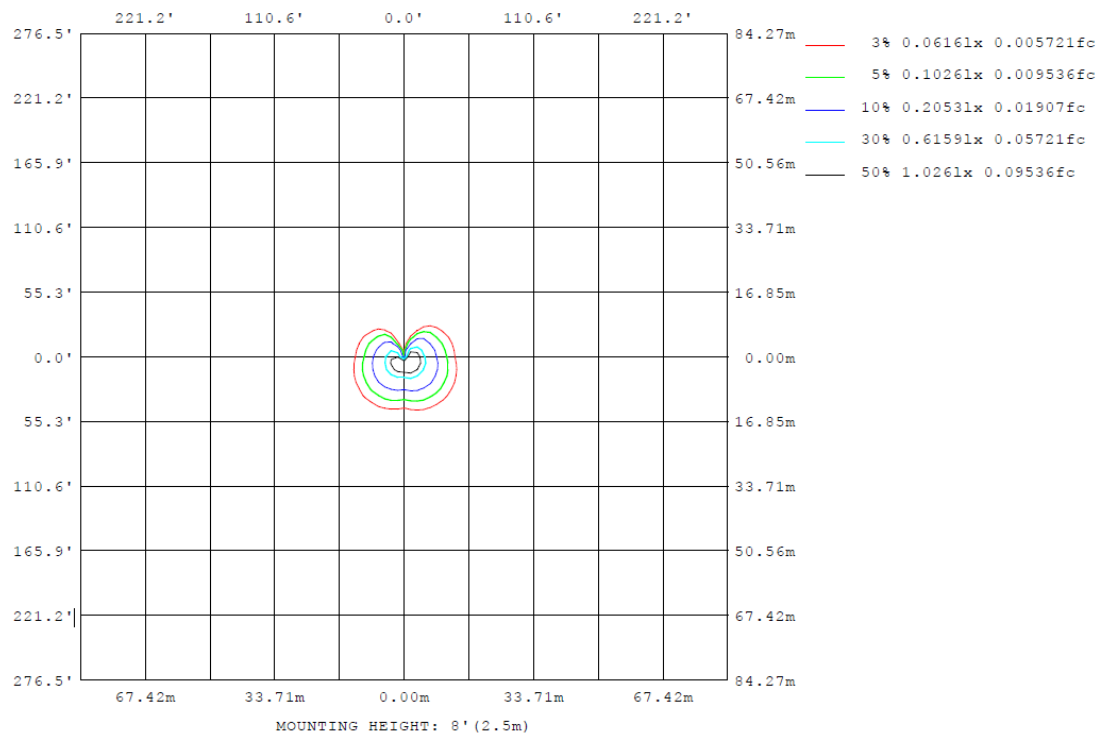
## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For 7000WSQGE92717BUNV**

Model No.: 7000WSQGE92717BUNV

Mount Height: 2.5 m

Isoillumination Plot



\*\*\*\*\* End of Page \*\*\*\*\*

## TEST REPORT

### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WSQGE92717BUNV

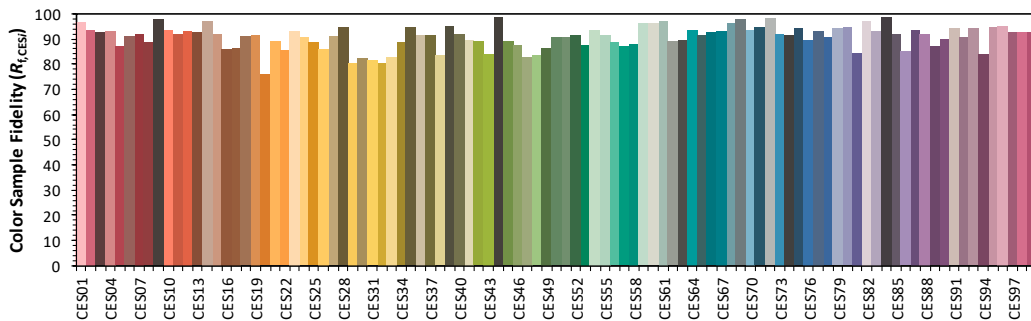
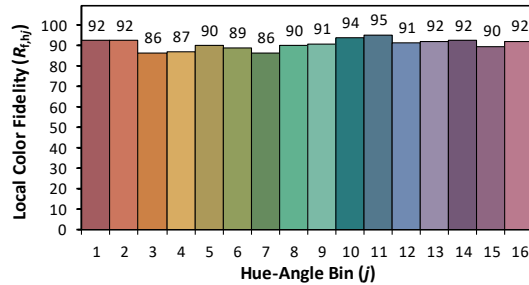
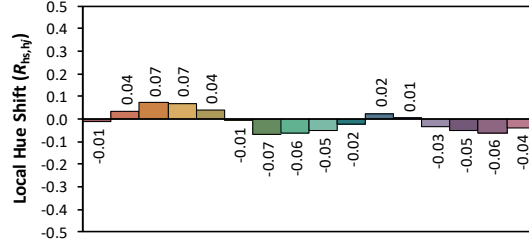
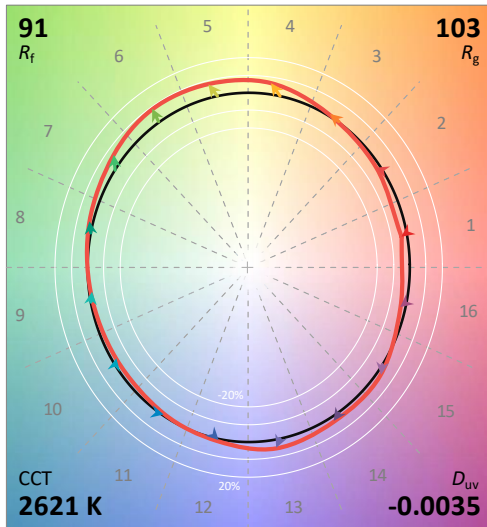
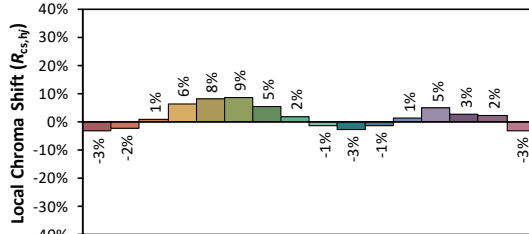
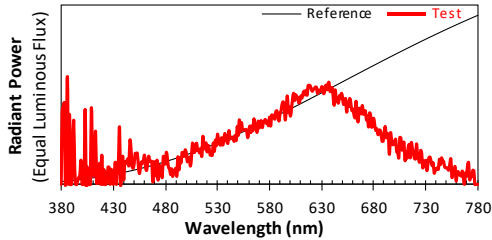
#### ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/1/11

Model: 7000WSQGE92717BUNV



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

$x$  0.4603  
 $y$  0.4013  
 $u'$  0.2670  
 $v'$  0.5238

CIE 13.3-1995  
(CRI)

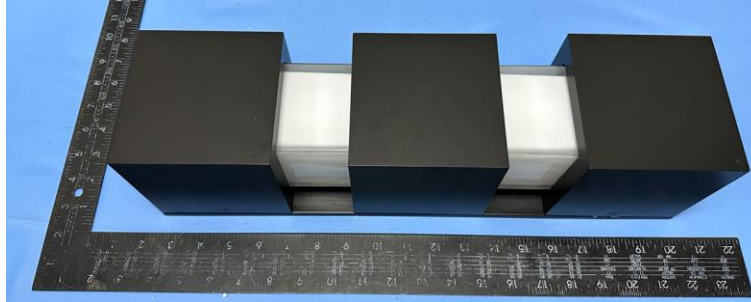
$R_a$  95  
 $R_g$  71

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

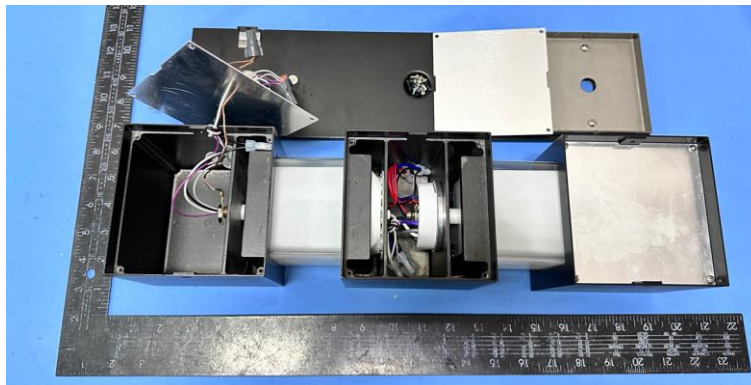
\*\*\*\*\* End of Page \*\*\*\*\*

## TEST REPORT

### PRODUCT PICTURE (not to scale)



External view of 700WSQGE92717BUNV



Internal view of 700WSQGE92717BUNV

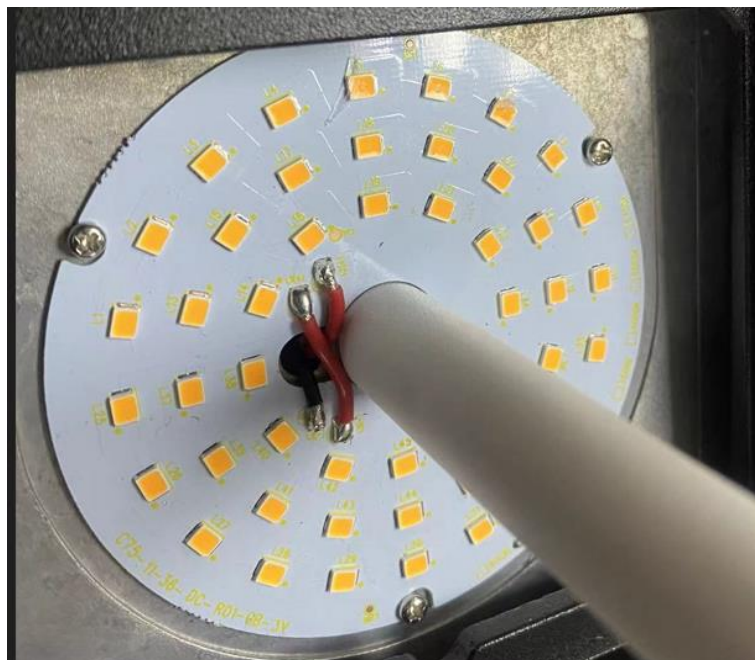


View of LED Driver ISDU-D56-30W

\*\*\*\*\* End of Page \*\*\*\*\*

## 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 \*\*\*\*\*