

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

221205125GZU-004

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REVISION DATE

None

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13

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TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700OFMSQGE9275BUNV

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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TEST: Electrical and Photometric as required to the IES LM-79 test standard.

STATEMENT OF LIMITATION: 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.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ221129088.

STANDARDS USED: 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

DESCRIPTION OF SAMPLE: The client submitted one sample of model 700OFMSQGE9275BUNV. The sample was received, in undamaged condition. The sample designation was S221205125-004.

DATES OF TESTS: 05 January 2023

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: 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:	700OFMSQGE9275BUNV
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700OFMSQGE9275BUNV

Criteria	Result
Total Lumen Output	366.1 lm
Total Power	10.5 W
Luminaire Efficacy	34.9 lm/W
S/MH(C0/180)	1.92
S/MH(C90/270)	1.87
Correlated Color Temperature (CCT)	2595 K
Color Rendering Index (CRI)	94
R9	69
Chromaticity Coordinate (x)	0.4698
Chromaticity Coordinate (y)	0.4144
Chromaticity Coordinate (u')	0.2672
Chromaticity Coordinate (v')	0.5303

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, 4π 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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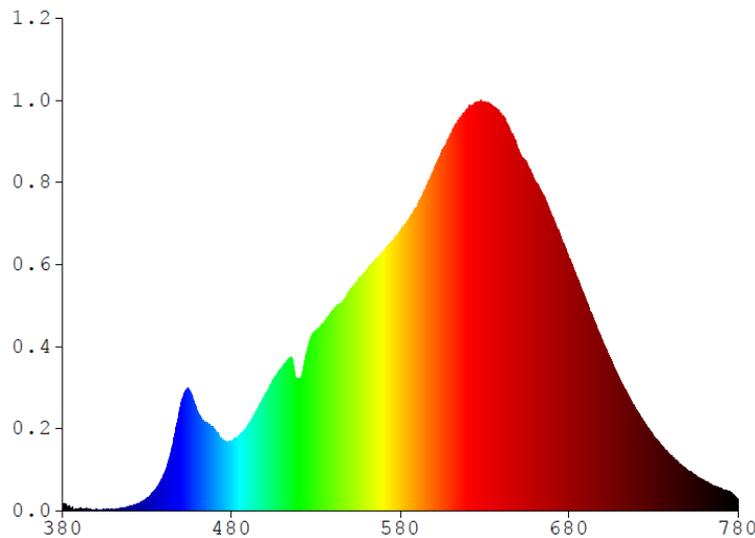
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700FMSQGE9275BUNV

Spectral Distribution over Visible Wavelengths

nm	mW/nm								
380	0.0016	480	0.0145	580	0.0586	680	0.0529	780	0.0025
385	0.0005	485	0.0159	585	0.0610	685	0.0485		
390	0.0005	490	0.0182	590	0.0636	690	0.0442		
395	0.0002	495	0.0210	595	0.0673	695	0.0396		
400	0.0005	500	0.0245	600	0.0715	700	0.0355		
405	0.0002	505	0.0276	605	0.0756	705	0.0314		
410	0.0003	510	0.0302	610	0.0788	710	0.0276		
415	0.0006	515	0.0320	615	0.0821	715	0.0241		
420	0.0009	520	0.0275	620	0.0841	720	0.0210		
425	0.0016	525	0.0338	625	0.0855	725	0.0183		
430	0.0026	530	0.0378	630	0.0853	730	0.0157		
435	0.0044	535	0.0396	635	0.0847	735	0.0136		
440	0.0078	540	0.0419	640	0.0829	740	0.0117		
445	0.0136	545	0.0435	645	0.0797	745	0.0100		
450	0.0223	550	0.0460	650	0.0755	750	0.0086		
455	0.0252	555	0.0483	655	0.0726	755	0.0074		
460	0.0207	560	0.0503	660	0.0689	760	0.0063		
465	0.0185	565	0.0524	665	0.0661	765	0.0054		
470	0.0170	570	0.0543	670	0.0616	770	0.0047		
475	0.0148	575	0.0565	675	0.0565	775	0.0040		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700FMSQGE9275BUNV

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

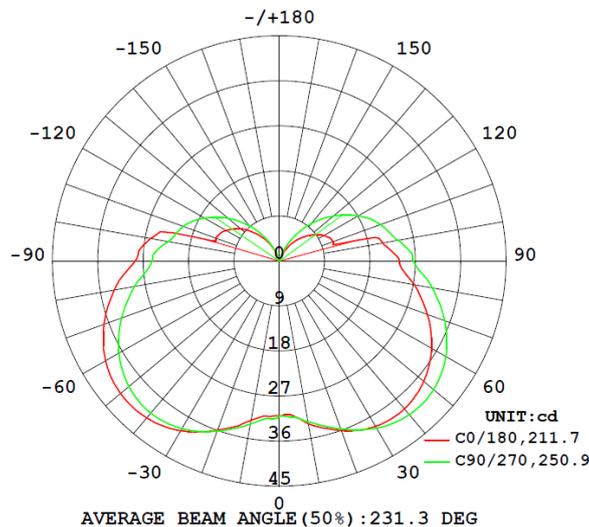
Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31' Chromaticity Coordinate		CIE 76' Chromaticity Coordinate	
					(x)	(y)	(u')	(v')
700FMSQGE9275BUNV								
S2212051 25-004	--	2595	94	69	0.4698	0.4144	0.2672	0.5303

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 Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
700FMSQGE9275BUNV							
S2212051 25-004	--	120.1	89.1	10.5	0.980	366.1	34.9

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700FMSQGE9275BUNV

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	31.0	31.0	31.0	31.0	31.0
5	31.0	31.0	30.9	31.0	31.3
10	33.0	32.9	32.4	32.1	32.6
15	34.5	34.6	34.9	34.0	34.1
20	36.0	36.5	37.1	36.0	35.7
25	37.3	38.3	39.2	38.3	37.2
30	38.1	39.8	41.2	40.2	38.6
35	38.6	41.0	43.0	41.9	39.5
40	38.6	41.8	44.5	43.1	40.1
45	38.2	42.4	45.6	44.1	40.2
50	37.4	42.6	46.3	44.6	40.0
55	36.3	42.5	46.6	44.7	39.2
60	34.9	42.0	46.4	44.4	38.1
65	33.2	41.2	45.9	43.7	36.7
70	31.2	40.0	44.9	42.6	34.9
75	29.2	38.5	43.5	41.1	32.9
80	27.2	36.6	41.7	39.2	30.8
85	24.9	34.0	38.9	36.5	28.3
90	23.8	32.6	37.3	34.6	26.6
95	22.5	30.3	34.9	32.7	25.8
100	20.9	27.8	32.0	29.9	23.9
105	16.2	25.9	29.9	27.8	22.6
110	11.3	23.9	27.8	25.7	21.4
115	11.0	21.6	25.1	23.3	19.9
120	10.2	19.0	22.2	20.6	18.1
125	9.2	16.3	19.0	17.7	16.1
130	8.1	13.5	15.7	14.8	14.0
135	6.9	10.7	12.5	11.9	11.9
140	5.6	8.0	9.2	9.1	9.7
145	4.2	5.6	6.1	6.8	7.5
150	3.0	3.6	3.2	4.7	5.4
155	1.7	1.7	1.0	2.7	3.4
160	0.5	0.3	0.1	1.0	1.5
165	0.1	0.1	0.1	0.1	0.1
170	0.1	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
180	0.0	0.1	0.1	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700FMSQGE9275BUNV

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700FMSQGE9275BUNV		
0-30	30.7	8.4
0-40	56.8	15.5
0-60	129.4	35.3
0-90	251.7	68.8
60-90	122.3	33.5
0-180	366.1	100

Beam Angle

Total Beam Angle (°)

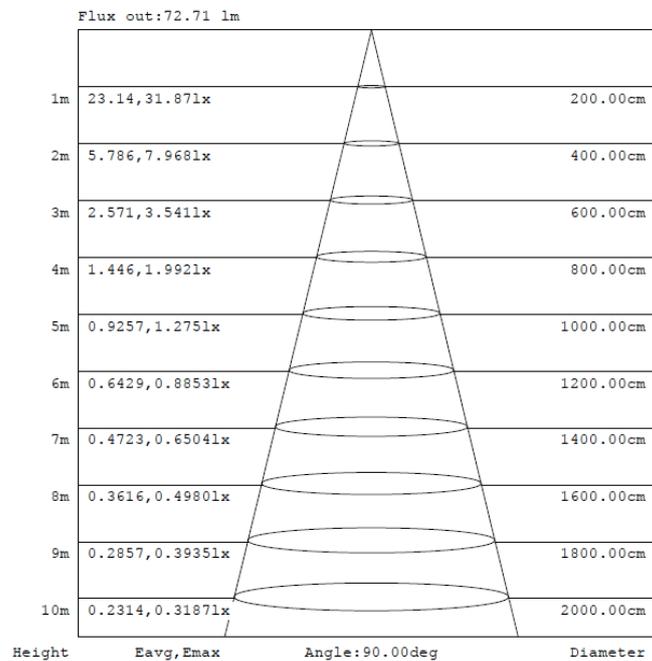
231.3

Illumination Plots

Model No.: 700FMSQGE9275BUNV

Mount Height: 2.5 m

Illuminance - Cone of Light

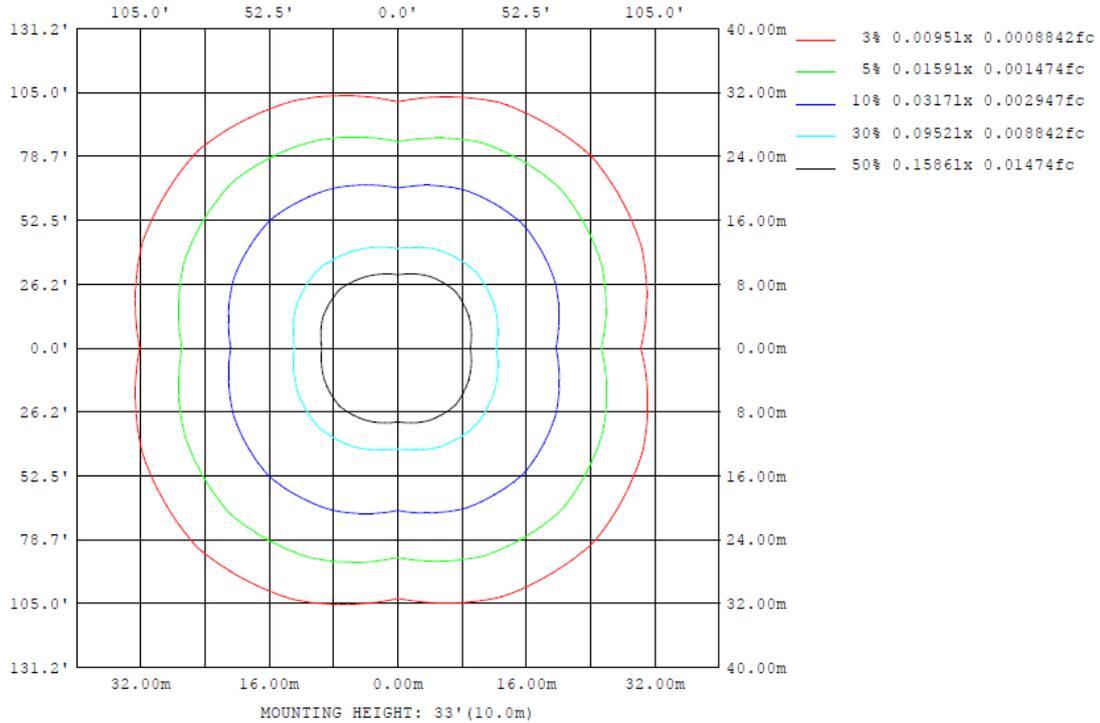


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TEST REPORT
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700FMSQGE9275BUNV

Model No.: 700FMSQGE9275BUNV
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

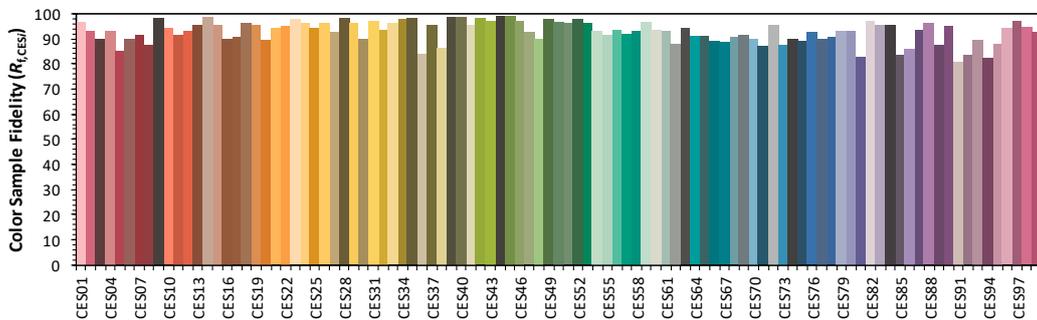
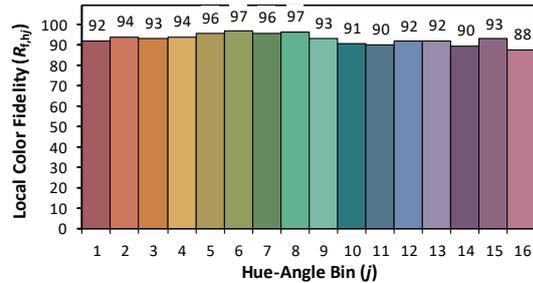
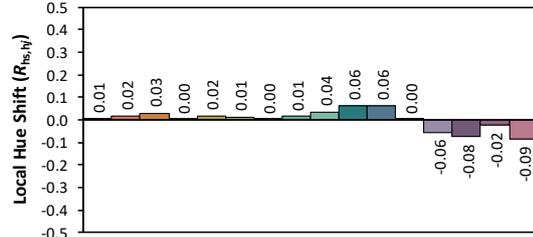
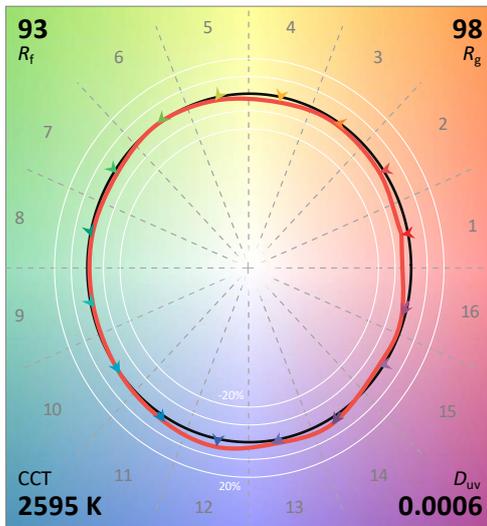
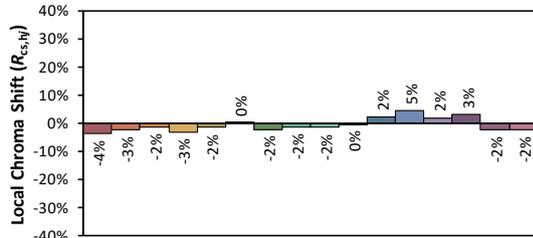
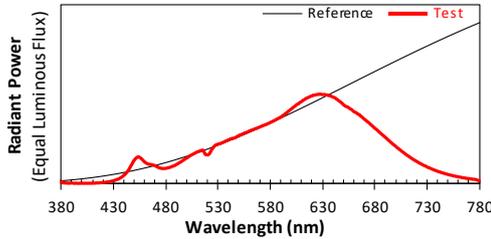
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000FMSQGE9275BUNV

ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
Date: 2023/1/5

Manufacturer: Visual Comfort and Company
Model: 7000FMSQGE9275BUNV



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

x 0.4698
 y 0.4144
 u' 0.2672
 v' 0.5303

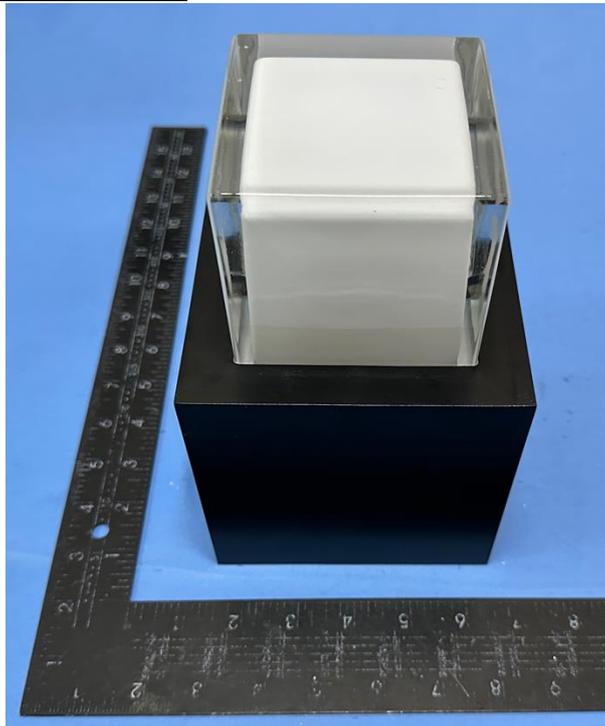
CIE 13.3-1995 (CRI)	
R_a	94
R_g	69

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

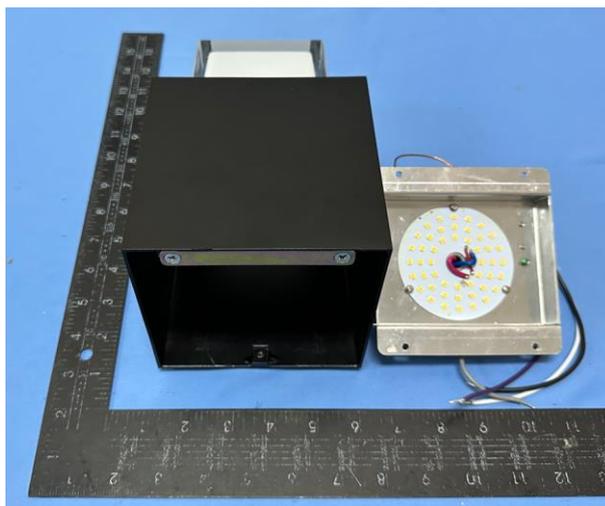
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700FMSQGE9275BUNV



External view of 700FMSQGE9275BUNV

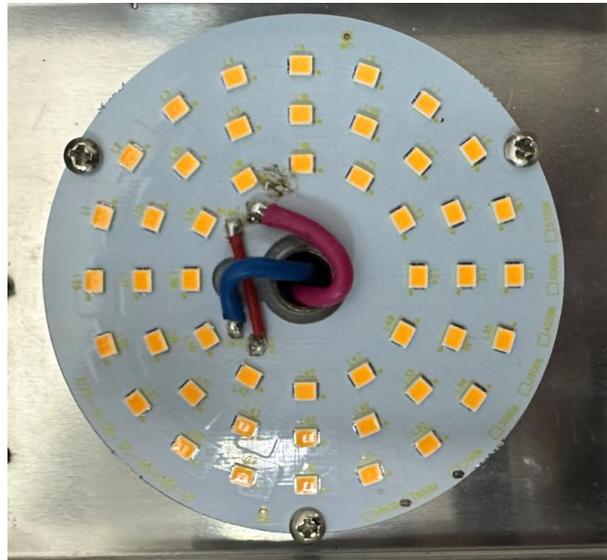
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver ISDU-D56-10W



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 *****