

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

220601200GZU-005

ISSUE DATE

06 July 2022

REVISION DATE

None

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13

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Report No.: 220601200GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700OWINGA9308x120

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: QGZ211208009.

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 700OWINGA9308x120. The sample was received, in undamaged condition. The sample designation was S220601200-005.

DATES OF TESTS: 06 July 2022

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:	700OWINGA9308x120 (Remark: "X" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700OWINGA9308x120

Criteria	Result
Total Lumen Output	81.57 lm
Total Power	14.96 W
Luminaire Efficacy	5.45 lm/W
S/MH(C0/180)	1.42
S/MH(C90/270)	4.54
Correlated Color Temperature (CCT)	3073 K
Color Rendering Index (CRI)	91
R9	51
Chromaticity Coordinate (x)	0.4306
Chromaticity Coordinate (y)	0.3997
Chromaticity Coordinate (u')	0.2484
Chromaticity Coordinate (v')	0.5187

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Two Meter Integrating Sphere System	Sensing – 2M	SA063-12
Integration Sphere	Φ2m	SA063-12-01
Frequency power supply	APW-105N	SA063-12-05
Standard Lamp	110V/200W	SA063-12-24
High Accuracy Plant Spectroradiometer	PMS-2000P	SA063-12-25
DC Power Supply	WY12010	SA063-16-04
Power Meter	WT-310E	SA011-234
Temperature Meter	RS210	SA047-126
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
Everfine - AC power source for Goniophotometer System	DPS1060	SA063-16-03
YOKOGAWA – Digital Power Meter	WT-210	SA011-122
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 π 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 YOKOGAWA - Digital Power Meter., model WT210.

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

Standard lamp used for Goniophotometer method:

Model: D908S

Current: 7.255A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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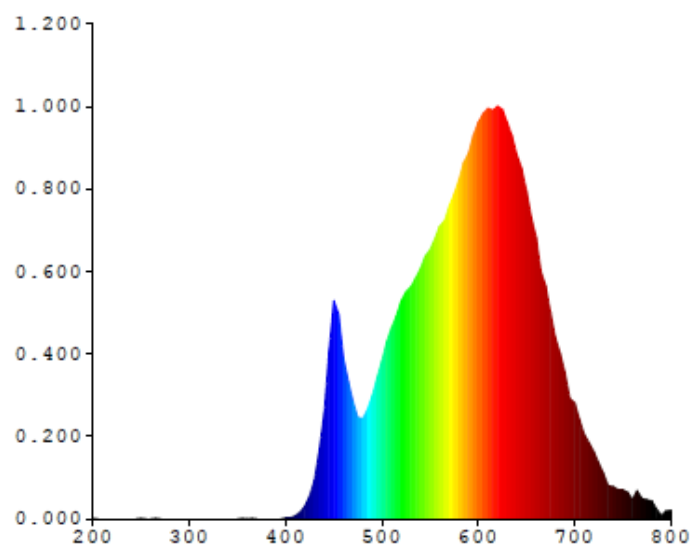
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700OWINGA9308x120

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.3798	580	1.2838	680	0.6872	780	0.0678
385	0.0000	485	0.4159	585	1.3485	685	0.6275		
390	0.0000	490	0.4667	590	1.3837	690	0.5556		
395	0.0000	495	0.5357	595	1.4515	695	0.4549		
400	0.0027	500	0.5988	600	1.4995	700	0.4383		
405	0.0041	505	0.6707	605	1.5332	705	0.3749		
410	0.0118	510	0.7229	610	1.5530	710	0.3202		
415	0.0244	515	0.7659	615	1.5456	715	0.2881		
420	0.0481	520	0.8253	620	1.5611	720	0.2535		
425	0.0873	525	0.8596	625	1.5498	725	0.2119		
430	0.1464	530	0.8782	630	1.5005	730	0.1728		
435	0.2573	535	0.9119	635	1.4505	735	0.1253		
440	0.4059	540	0.9470	640	1.3801	740	0.1221		
445	0.6370	545	0.9944	645	1.3277	745	0.1104		
450	0.8244	550	1.0175	650	1.2404	750	0.1095		
455	0.7746	555	1.0585	655	1.1410	755	0.0992		
460	0.6092	560	1.1064	660	1.0649	760	0.0736		
465	0.5206	565	1.1283	665	0.9379	765	0.1062		
470	0.4444	570	1.1867	670	0.8822	770	0.0759		
475	0.3835	575	1.2297	675	0.7802	775	0.0723		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700OWINGA9308x120

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

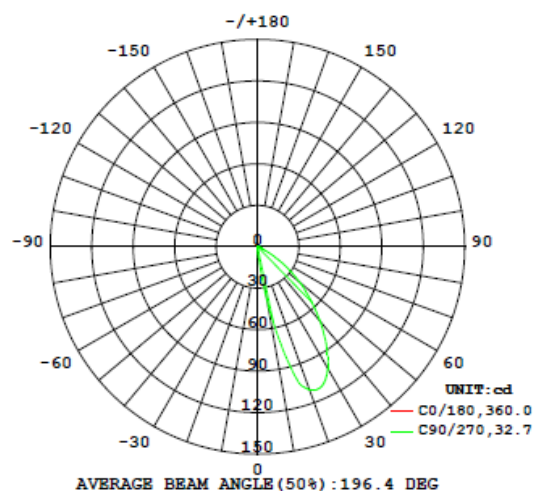
Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
700OWINGA9308x120								
S2206012 00-005	--	3073	91	51	0.4306	0.3997	0.2484	0.5187

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)
700OWINGA9308x120							
S2206012 00-005	--	120.2	135.3	14.96	0.920	81.57	5.45

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WINGA9308x120

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.01	0.05
10	0.00	0.00	12.86	37.00	38.30
15	0.00	3.73	40.89	88.59	87.04
20	0.00	15.08	67.99	121.41	110.24
25	0.00	24.99	81.59	123.81	110.77
30	0.00	31.45	79.97	115.52	101.66
35	0.00	33.68	73.28	100.26	86.86
40	0.00	32.09	63.51	82.38	70.47
45	0.00	28.61	52.44	64.56	54.41
50	0.00	24.41	41.27	47.70	39.42
55	0.00	19.80	30.56	32.13	25.57
60	0.00	15.00	20.45	17.95	13.15
65	0.00	10.21	11.20	6.34	5.02
70	0.00	5.78	3.99	4.08	3.61
75	0.00	2.20	2.06	2.74	2.49
80	0.00	0.52	1.14	1.70	1.60
85	0.00	0.27	0.54	0.94	0.93
90	0.00	0.15	0.24	0.48	0.50
95	0.00	0.08	0.13	0.27	0.28
100	0.01	0.05	0.08	0.17	0.17
105	0.01	0.04	0.06	0.12	0.12
110	0.01	0.03	0.05	0.09	0.09
115	0.01	0.03	0.05	0.07	0.07
120	0.01	0.02	0.04	0.06	0.06
125	0.02	0.02	0.04	0.05	0.05
130	0.02	0.02	0.03	0.05	0.04
135	0.03	0.02	0.03	0.04	0.03
140	0.04	0.02	0.02	0.03	0.03
145	0.05	0.03	0.02	0.03	0.02
150	0.06	0.03	0.03	0.02	0.02
155	0.07	0.04	0.03	0.03	0.02
160	0.08	0.05	0.04	0.03	0.02
165	0.09	0.06	0.05	0.05	0.03
170	0.09	0.07	0.06	0.06	0.05
175	0.09	0.07	0.06	0.07	0.06
180	0.09	0.07	0.07	0.08	0.07

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WINGA9308x120

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
7000WINGA9308x120		
0-30	24.36	29.86
0-40	45.18	55.38
0-60	74.83	91.73
0-90	81.26	99.62
60-90	6.43	7.89
0-180	81.57	100

Beam Angle

Total Beam Angle (°)

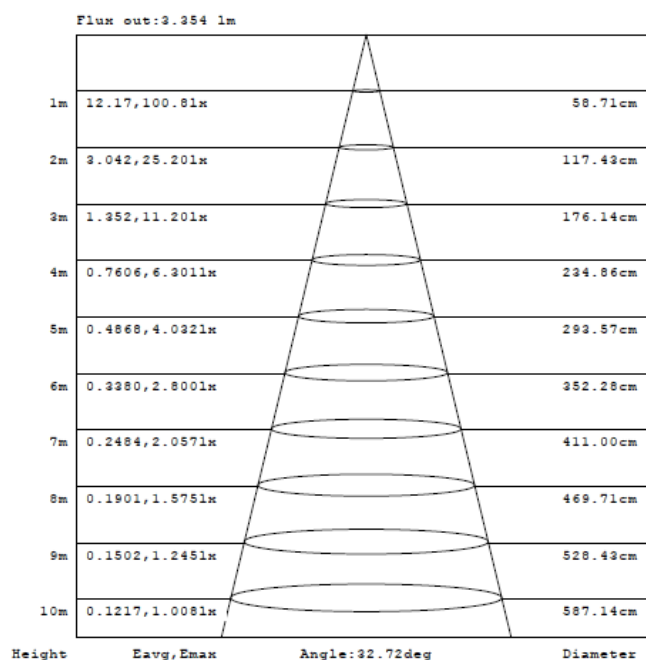
196.4

Illumination Plots

Model No.: 7000WINGA9308x120

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

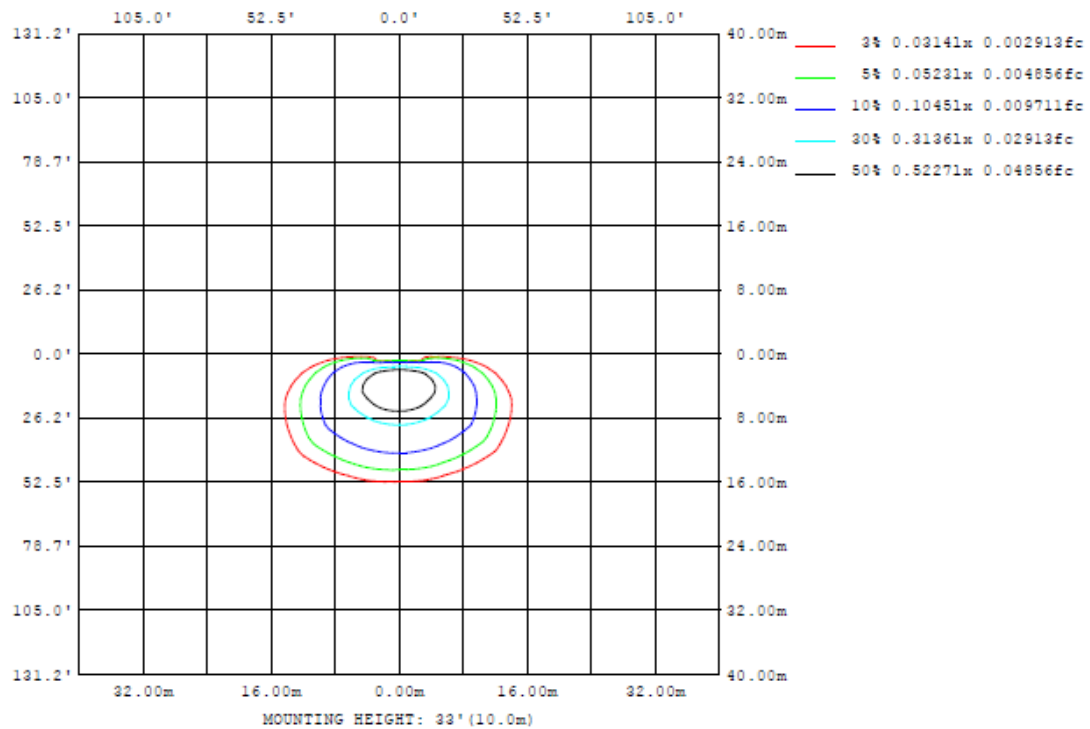
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WINGA9308x120

Model No.: 7000WINGA9308x120

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 7000WINGA9308x120

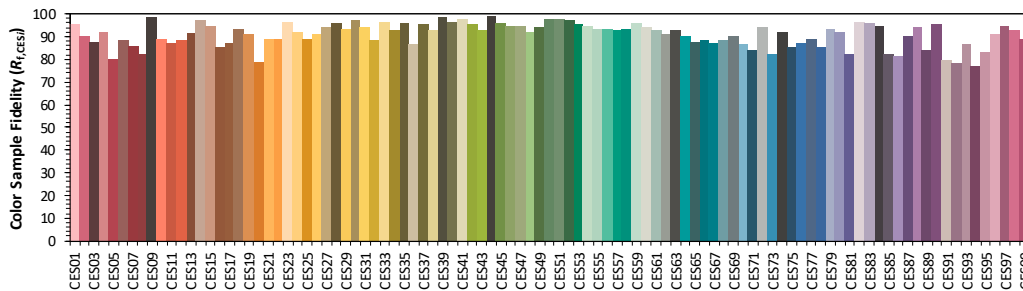
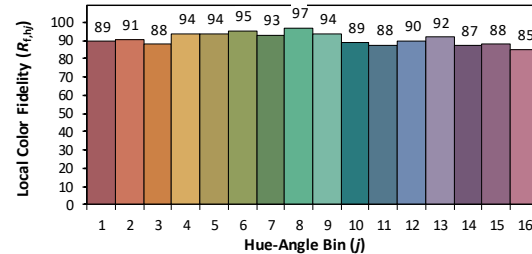
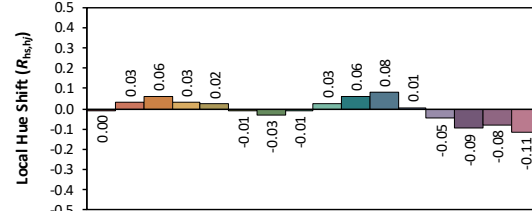
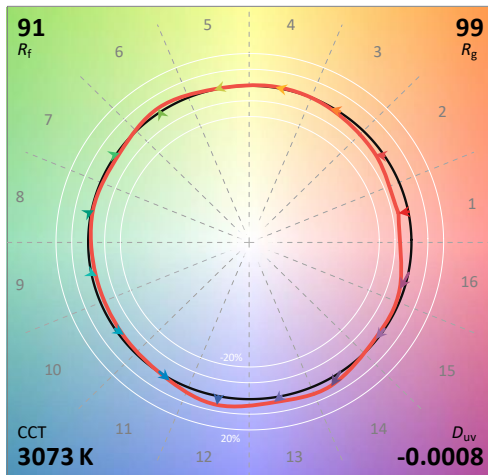
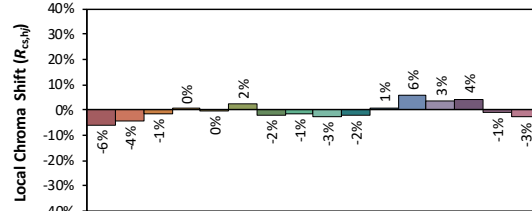
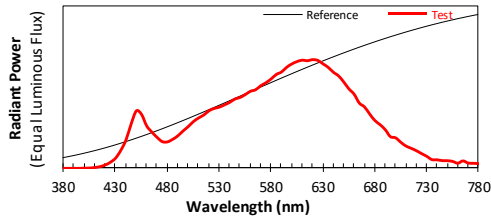
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/7/1

Model: 7000WINGA9308x120



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

x 0.4306
 y 0.3997
 u' 0.2484
 v' 0.5187

CIE 13.3-1995
(CRI)

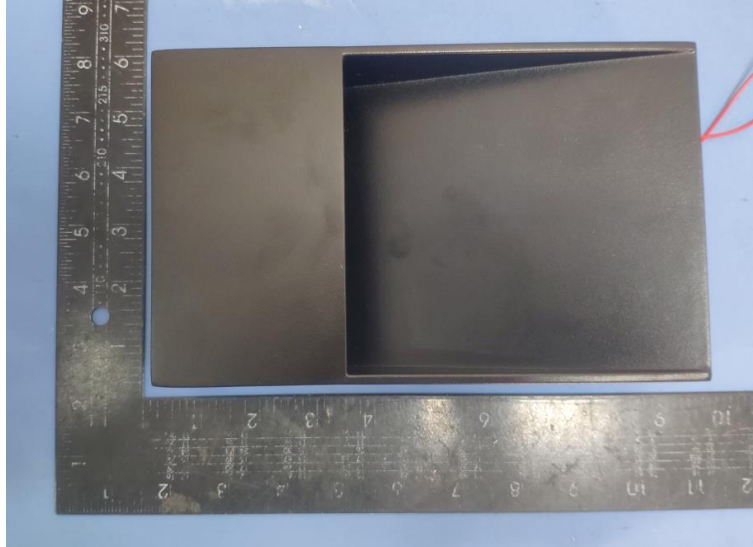
R_a 91
 R_g 51

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

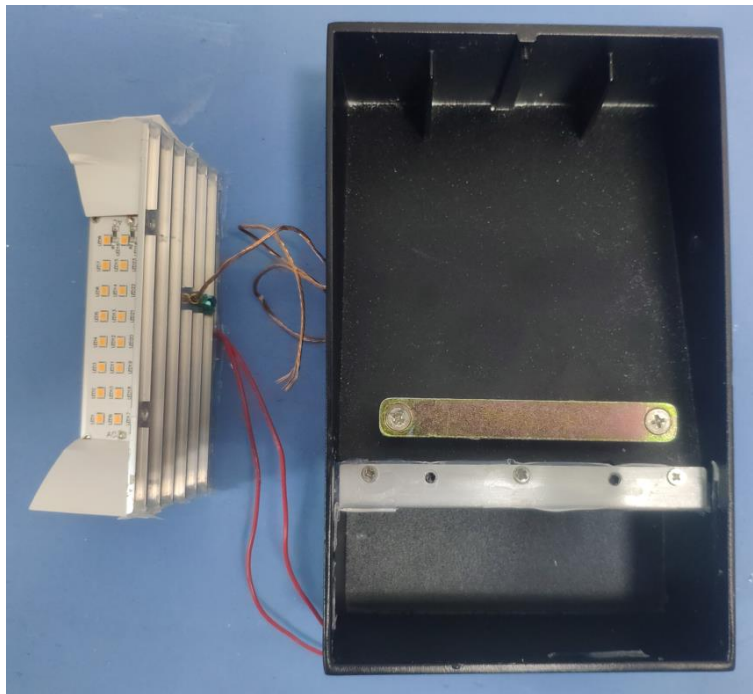
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700WINGA9308x120



External view of 700WINGA9308x120

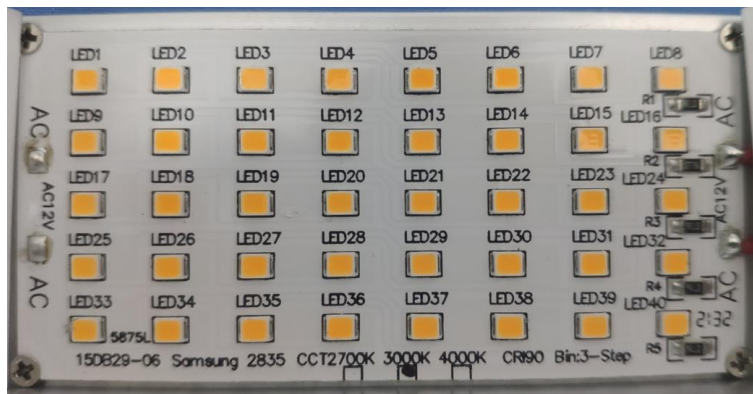
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver DA25W600C2742BF1-3001



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 *****