

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

220601200GZU-003

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REVISION DATE

None

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Report No.: 220601200GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700WSBMT17xx-LED930

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 700WSBMT17xx-LED930. The sample was received, in undamaged condition. The sample designation was S220601200-003.

DATES OF TESTS: 10 June 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:	700WSBMT17xx-LED930 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

Criteria	Result
Total Lumen Output	828.23 lm
Total Power	21.10 W
Luminaire Efficacy	39.25 lm/W
S/MH(C0/180)	1.65
S/MH(C90/270)	33.73
Correlated Color Temperature (CCT)	2279 K
Color Rendering Index (CRI)	83
R9	31
Chromaticity Coordinate (x)	0.5157
Chromaticity Coordinate (y)	0.4420
Chromaticity Coordinate (u')	0.2836
Chromaticity Coordinate (v')	0.5470

Remark:

Measurement uncertainty for applicable tests has been established.

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TEST REPORT

EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Temperature Meter	RS210	SA047-126
Sensing - DC Power Supply	IT6122	SA063-12-09
Sensing- AC power source for Integrating Sphere System	APW-105N	SA063-12-05
Everfine - AC power source for Goniophotometer System	DPS1060	SA063-16-03
Two meter integrating sphere unit	Sensing – 2M	SA063-12-01
YOKOGAWA – Digital Power Meter	WT-210	SA011-122
Everfine – Goniophotometer	Go-R5000	SA063-16
KONICA MINOLTA - Illuminance meter	CX-2B_WL	SA063-16-01
Standard lamp	S82134	SA063-12-13
Standard lamp	S1320039	SA063-12-24
Standard lamp	D908S	SA063-16-05
Standard lamp	D215S	SA063-16-06

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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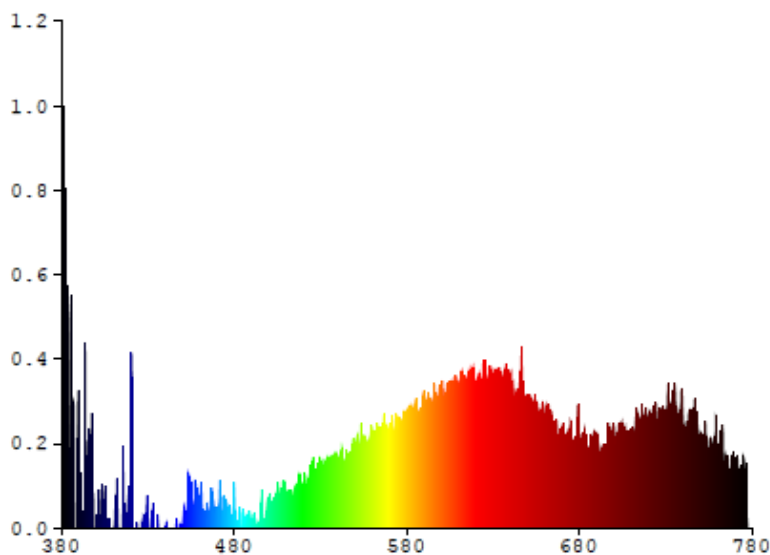
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

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	0.0028	680	0.0020	780	0.0000
385	0.0031	485	0.0000	585	0.0031	685	0.0016		
390	0.0007	490	0.0002	590	0.0030	690	0.0022		
395	0.0022	495	0.0001	595	0.0032	695	0.0020		
400	0.0000	500	0.0006	600	0.0033	700	0.0024		
405	0.0011	505	0.0006	605	0.0032	705	0.0024		
410	0.0000	510	0.0009	610	0.0035	710	0.0024		
415	0.0000	515	0.0009	615	0.0037	715	0.0026		
420	0.0000	520	0.0011	620	0.0031	720	0.0027		
425	0.0000	525	0.0013	625	0.0037	725	0.0026		
430	0.0000	530	0.0016	630	0.0032	730	0.0029		
435	0.0000	535	0.0013	635	0.0033	735	0.0035		
440	0.0000	540	0.0017	640	0.0038	740	0.0025		
445	0.0000	545	0.0018	645	0.0034	745	0.0025		
450	0.0000	550	0.0018	650	0.0033	750	0.0024		
455	0.0009	555	0.0020	655	0.0031	755	0.0017		
460	0.0003	560	0.0020	660	0.0027	760	0.0018		
465	0.0001	565	0.0023	665	0.0027	765	0.0015		
470	0.0004	570	0.0026	670	0.0025	770	0.0014		
475	0.0005	575	0.0024	675	0.0022	775	0.0017		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

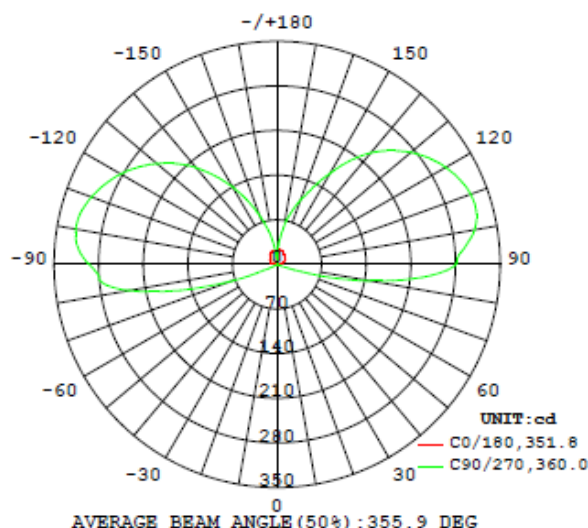
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700WSBMT17xx-LED930								
S2206012 00-003	--	2279	83	31	0.5157	0.4420	0.2836	0.5470

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)
700WSBMT17xx-LED930							
S2206012 00-003	--	120.0	177.2	21.10	0.992	828.23	39.25

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.25	0.21	0.15	0.10	0.09
5	0.25	0.22	0.15	0.10	0.09
10	0.26	0.22	0.15	0.10	0.09
15	0.25	0.21	0.15	0.11	0.10
20	0.24	0.21	0.17	0.13	0.11
25	0.23	0.21	0.19	0.15	0.13
30	0.23	0.23	0.23	0.19	0.16
35	0.22	0.24	0.27	0.25	0.20
40	0.21	0.26	0.35	0.34	0.25
45	0.21	0.29	0.46	0.47	0.32
50	0.20	0.33	0.63	0.68	0.43
55	0.19	0.39	0.89	1.06	0.56
60	0.19	0.50	1.35	1.70	0.76
65	0.18	0.67	2.18	2.90	0.93
70	0.18	0.93	3.86	5.66	13.58
75	0.19	1.28	7.20	28.59	67.73
80	0.24	1.74	14.31	76.07	149.61
85	0.28	2.29	24.41	125.59	229.69
90	0.35	2.79	34.16	161.29	280.11
95	0.81	3.28	40.31	172.09	294.59
100	3.09	6.40	45.01	185.21	314.64
105	6.35	14.23	56.44	196.55	323.41
110	9.85	25.16	75.47	208.23	322.90
115	12.96	36.99	96.01	218.25	316.17
120	15.19	47.11	112.10	223.78	305.16
125	15.97	54.14	121.59	223.17	291.10
130	16.16	58.09	126.45	217.73	273.51
135	16.81	60.09	126.60	207.70	252.64
140	17.81	60.71	122.32	192.88	228.39
145	19.21	59.16	114.75	173.02	198.81
150	20.97	56.45	104.49	150.25	165.30
155	22.55	52.27	91.54	126.31	133.05
160	23.39	46.72	77.73	102.42	107.51
165	23.68	40.59	63.06	79.83	84.03
170	23.69	34.24	46.81	56.55	59.61
175	15.59	20.74	28.39	33.03	34.66
180	0.00	0.28	0.00	0.00	14.24

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700WSBMT17xx-LED930		
0-30	0.17	0.02
0-40	0.35	0.04
0-60	1.56	0.19
0-90	126.30	15.25
60-90	124.74	15.06
0-180	828.23	100

Beam Angle

Total Beam Angle (°)

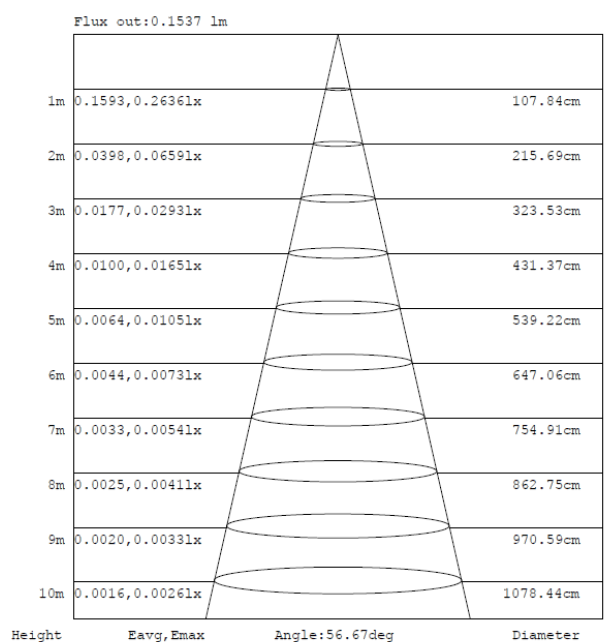
355.9

Illumination Plots

Model No.: 700WSBMT17xx-LED930

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

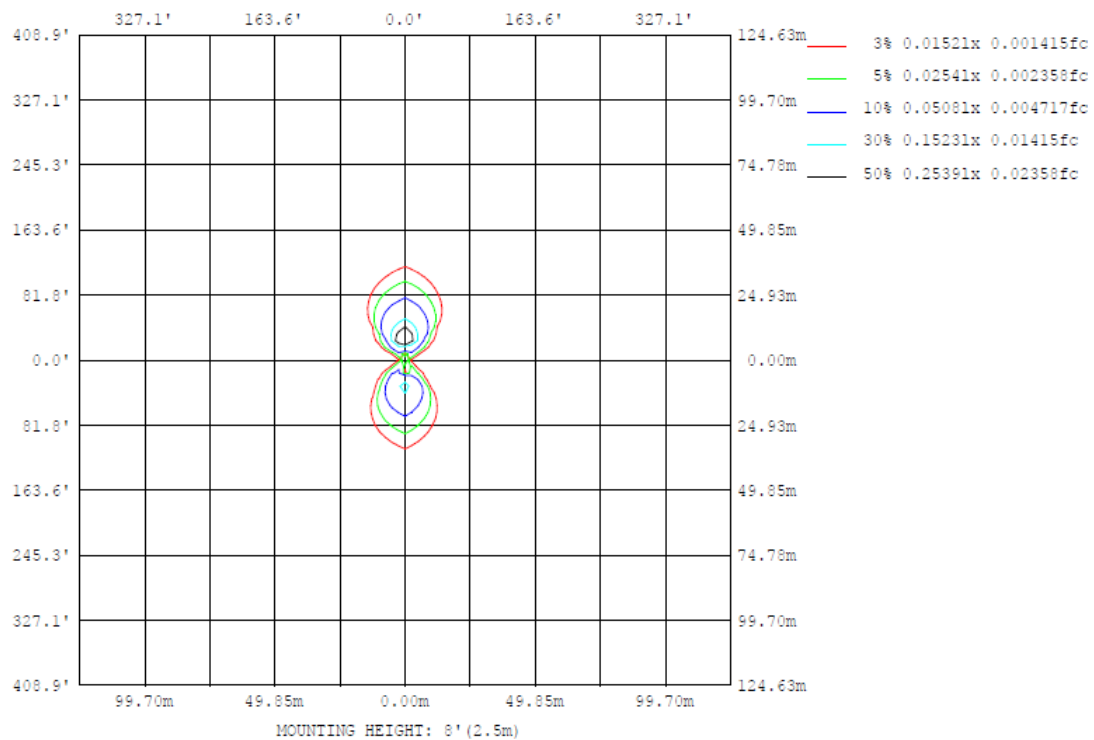
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED930

Model No.: 700WSBMT17xx-LED930

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSBMT17xx-LED93

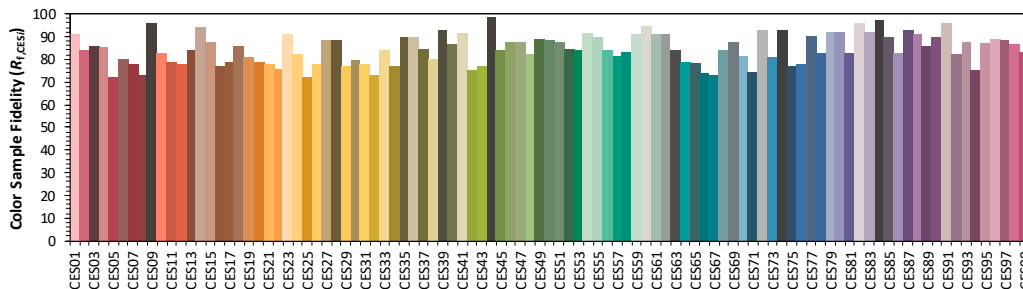
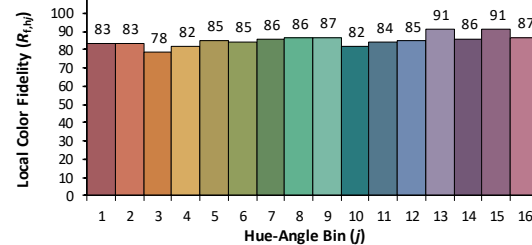
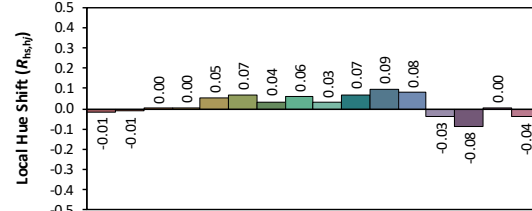
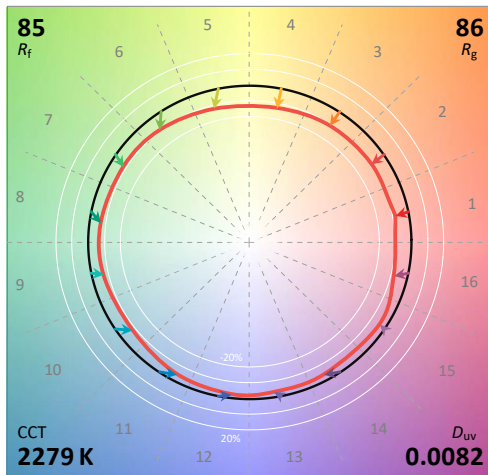
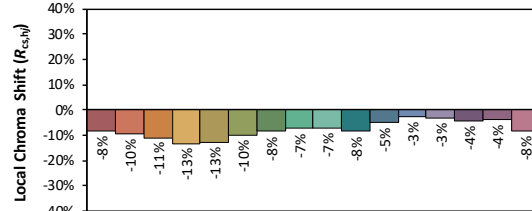
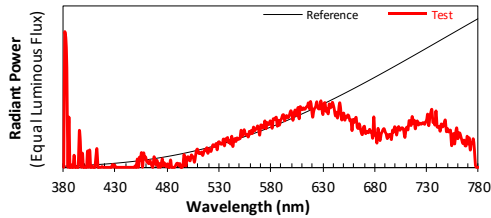
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/6/10

Model: 700WSBMT17xx-LED930



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

x 0.5157
 y 0.4420
 u' 0.2836
 v' 0.5470

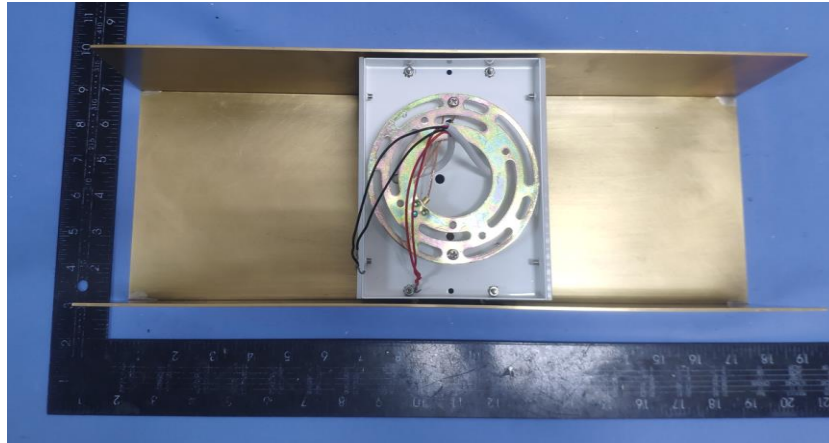
CIE 13.3-1995
(CRI)
 R_a 83
 R_g 31

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

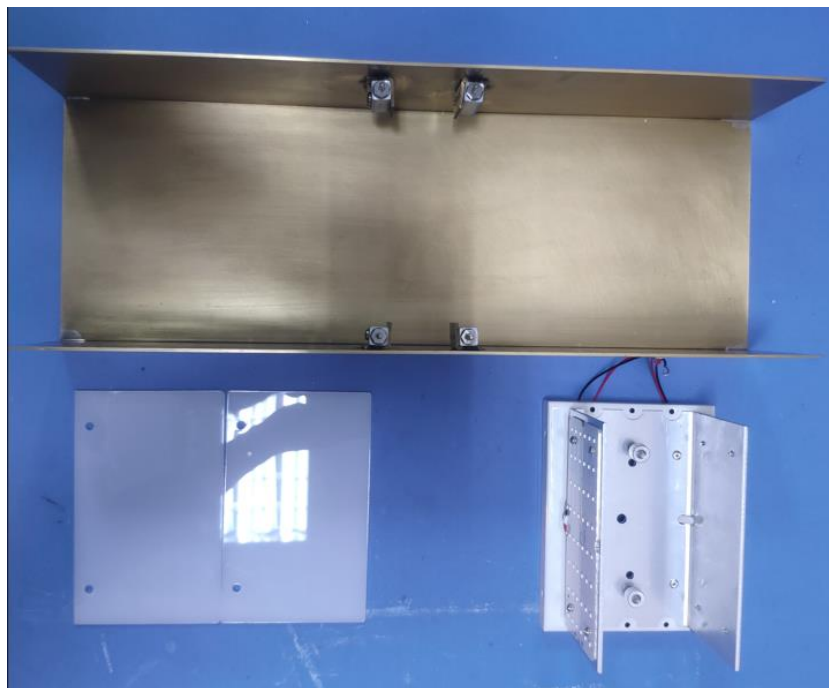
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700WSBMT17xx-LED930

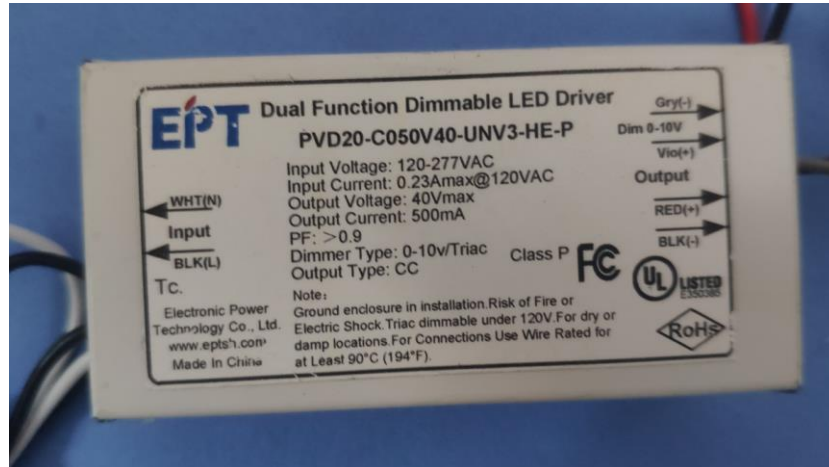


External view of 700WSBMT17xx-LED930

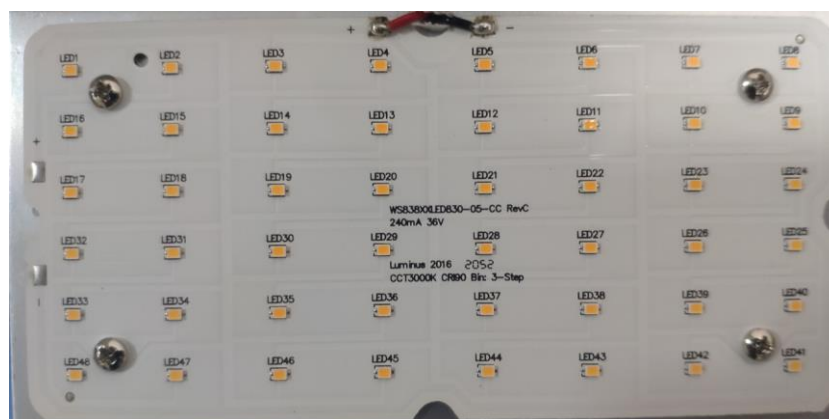
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TEST REPORT

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 *****