

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

220401100GZU-017

ISSUE DATE

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REVISION DATE

None

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13

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Report No.: 220401100GZU-017

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. 700WSKISW14WX-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: QGZ220329042.

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 700WSKISW14WX-LED930. The sample was received, in undamaged condition. The sample designation was S220401100-017.

DATES OF TESTS: 02 April 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:	700WSKISW14WX-LED930 (Remark: "XX" denote other appearance colors for the characters that change)
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

Criteria	Result
Total Lumen Output	757.4 lm
Total Power	11.9 W
Luminaire Efficacy	63.70 lm/W
S/MH(C0/180)	1.26
S/MH(C90/270)	1.32
Correlated Color Temperature (CCT)	2831 K
Color Rendering Index (CRI)	92
R9	61
Chromaticity Coordinate (x)	0.4496
Chromaticity Coordinate (y)	0.4082
Chromaticity Coordinate (u')	0.2570
Chromaticity Coordinate (v')	0.5249

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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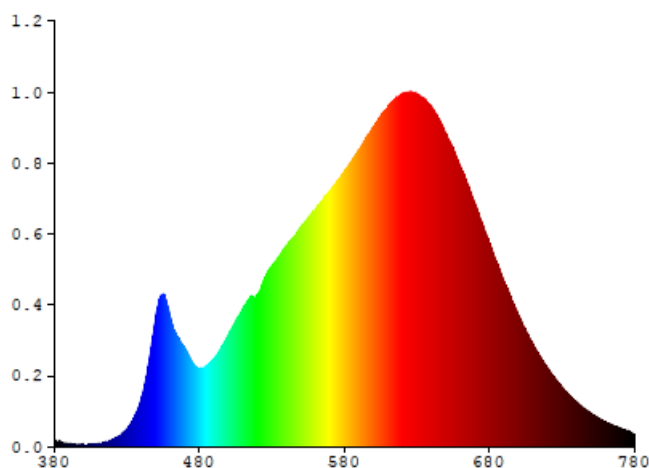
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0643	480	0.6007	580	2.1362	680	1.5690	780	0.0901
385	0.0286	485	0.6224	585	2.2093	685	1.4240		
390	0.0187	490	0.6775	590	2.2976	690	1.2761		
395	0.0128	495	0.7627	595	2.3958	695	1.1441		
400	0.0115	500	0.8650	600	2.4775	700	1.0149		
405	0.0150	505	0.9703	605	2.5605	705	0.8993		
410	0.0207	510	1.0663	610	2.6300	710	0.7897		
415	0.0339	515	1.1551	615	2.6900	715	0.6937		
420	0.0511	520	1.1752	620	2.7317	720	0.6081		
425	0.0832	525	1.3076	625	2.7366	725	0.5265		
430	0.1346	530	1.4000	630	2.7261	730	0.4574		
435	0.2230	535	1.4703	635	2.6944	735	0.3963		
440	0.3740	540	1.5551	640	2.6273	740	0.3438		
445	0.6372	545	1.6220	645	2.5392	745	0.2947		
450	0.9999	550	1.6968	650	2.4226	750	0.2558		
455	1.1751	555	1.7714	655	2.3032	755	0.2191		
460	0.9923	560	1.8371	660	2.1657	760	0.1901		
465	0.8397	565	1.9052	665	2.0299	765	0.1638		
470	0.7566	570	1.9812	670	1.8748	770	0.1405		
475	0.6534	575	2.0537	675	1.6962	775	0.1207		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

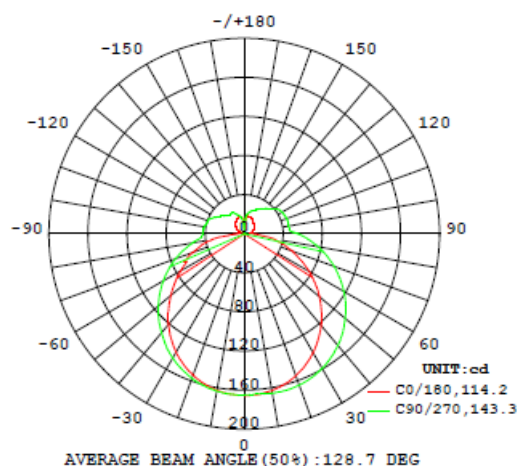
Photometric Measurements at 25°C – Integrating Sphere Method

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')
700WSKISW14WX-LED930								
S2204011 00-017	--	2831	92	61	0.4496	0.4082	0.2570	0.5249

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)
700WSKISW14WX-LED930							
S2204011 00-017	--	120.0	100.2	11.9	0.989	757.4	63.70

Intensity (Candlepower) Summary at 25°C – Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	165.4	165.3	165.3	165.0	165.0
5	164.8	164.6	164.6	164.8	164.7
10	162.8	162.7	163.8	165.1	165.6
15	159.4	159.8	162.7	164.9	165.8
20	154.4	155.8	160.3	163.6	164.7
25	148.1	150.7	156.7	160.7	162.5
30	140.6	144.3	151.6	157.1	159.2
35	131.9	136.8	145.6	152.1	154.7
40	122.3	128.3	138.4	146.1	149.1
45	111.7	118.8	130.4	139.2	142.6
50	100.5	108.6	121.3	131.3	135.0
55	88.6	97.7	111.6	122.6	126.7
60	76.5	86.4	101.3	113.3	117.7
65	64.0	74.8	90.7	103.2	108.1
70	53.1	63.1	79.7	93.0	98.0
75	41.1	51.3	68.7	82.3	87.5
80	30.3	41.7	57.5	71.3	76.7
85	14.9	29.6	46.7	60.4	65.8
90	6.2	18.9	36.2	49.6	54.8
95	5.5	16.1	30.1	41.5	46.2
100	6.7	16.5	30.5	41.8	46.3
105	8.9	17.5	31.0	42.1	46.4
110	9.9	17.0	31.4	42.0	46.1
115	10.6	16.9	31.7	41.7	45.5
120	11.3	17.2	30.4	41.2	44.6
125	11.9	17.2	28.7	39.4	43.3
130	12.6	17.4	27.8	36.2	39.8
135	13.7	18.3	26.8	33.8	36.6
140	14.8	19.1	25.7	31.7	34.2
145	15.9	19.3	24.4	29.5	31.6
150	16.8	18.9	23.7	27.4	29.1
155	17.5	18.9	22.6	25.6	26.9
160	18.1	19.3	21.4	24.2	25.6
165	18.4	19.0	20.0	22.3	23.5
170	18.3	18.3	18.9	20.2	21.0
175	10.3	11.7	14.0	15.4	14.4
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 700WSKISW14WX-LED930

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
700WSKISW14WX-LED930		
0-30	131.9	17.4
0-40	219.6	29.0
0-60	407.7	53.8
0-90	597.5	78.9
60-90	189.8	25.1
0-180	757.4	100

Beam Angle

Total Beam Angle (°)

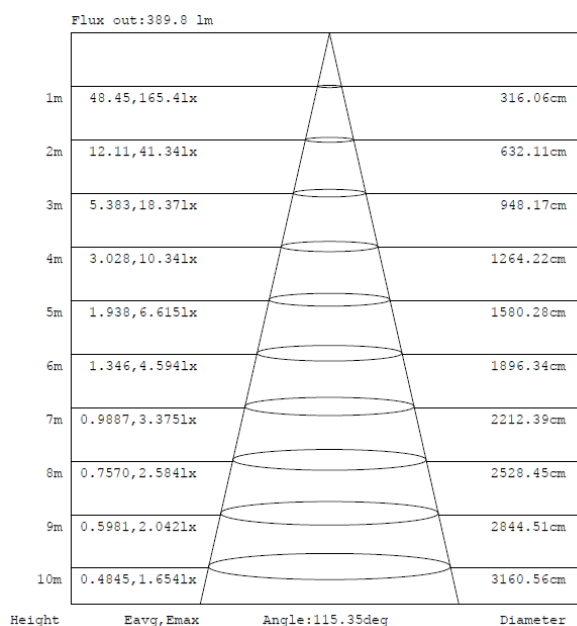
128.7

Illumination Plots

Model No.: 700WSKISW14WX-LED930

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

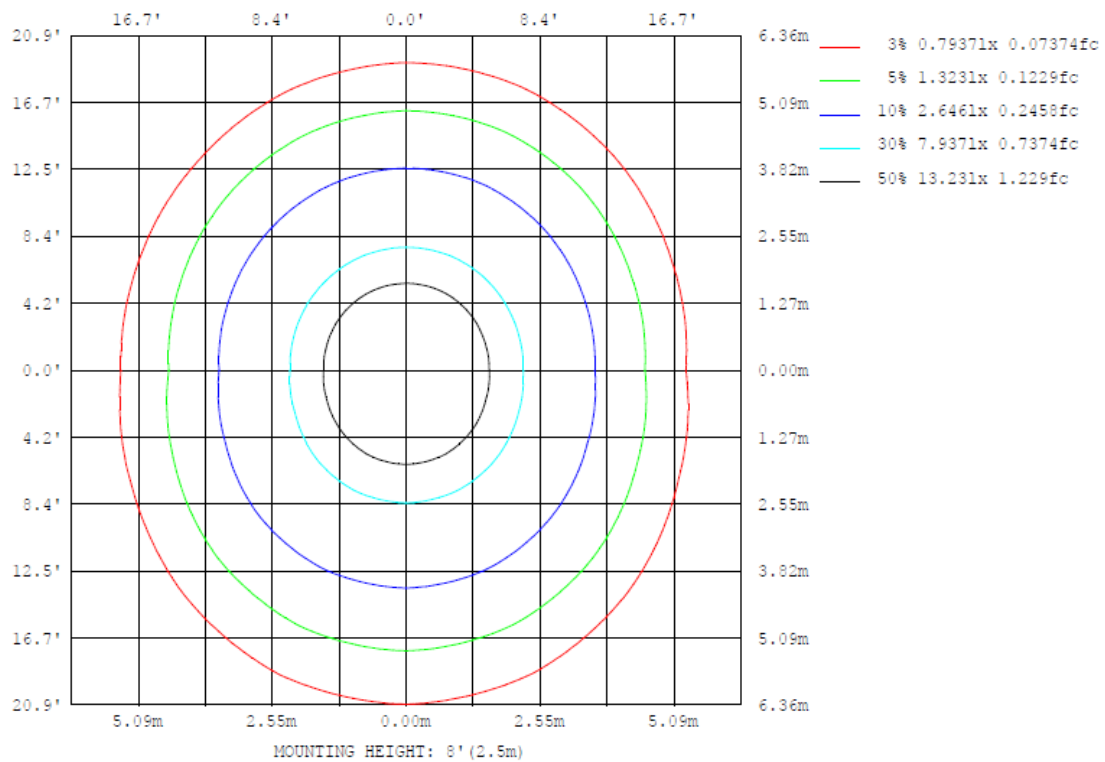
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

Model No.: 700WSKISW14WX-LED930

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For 700WSKISW14WX-LED930

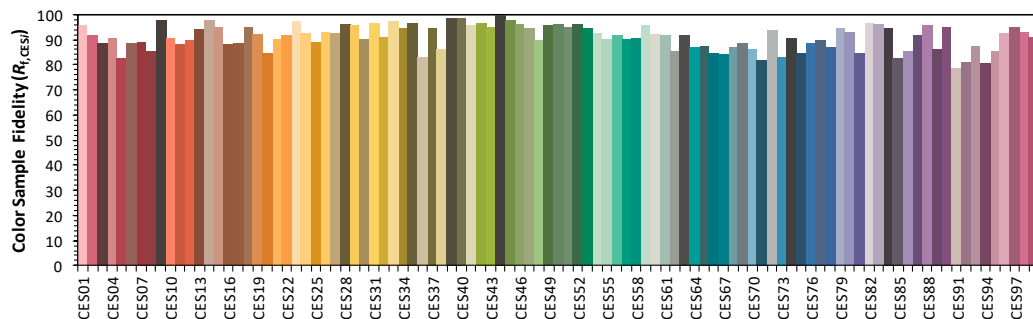
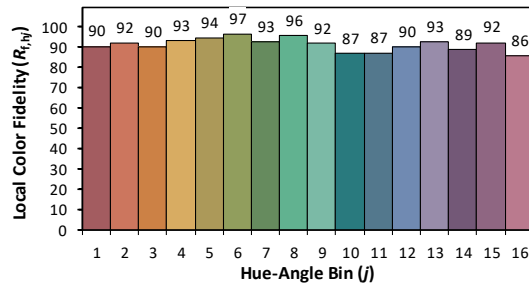
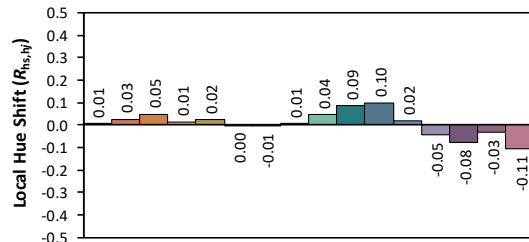
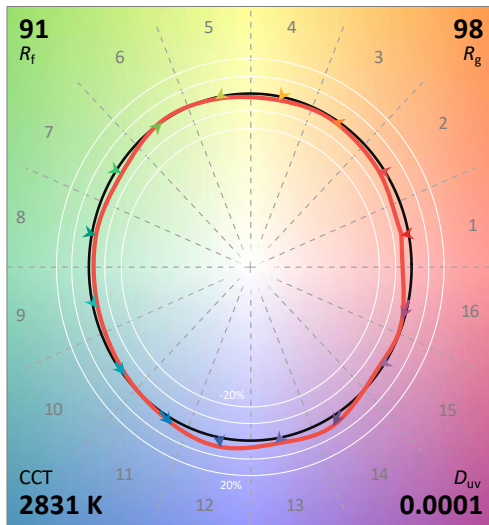
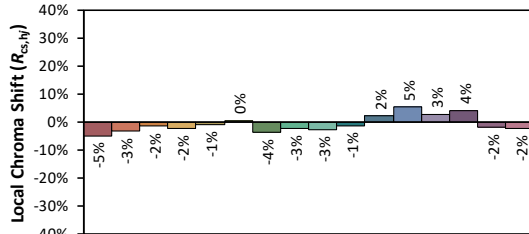
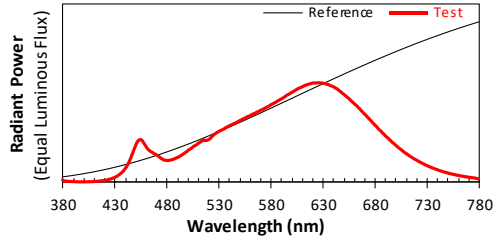
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2022/4/2

Model: 700WSKISW14WX-LED930



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

x 0.4496
 y 0.4082
 u' 0.2570
 v' 0.5249

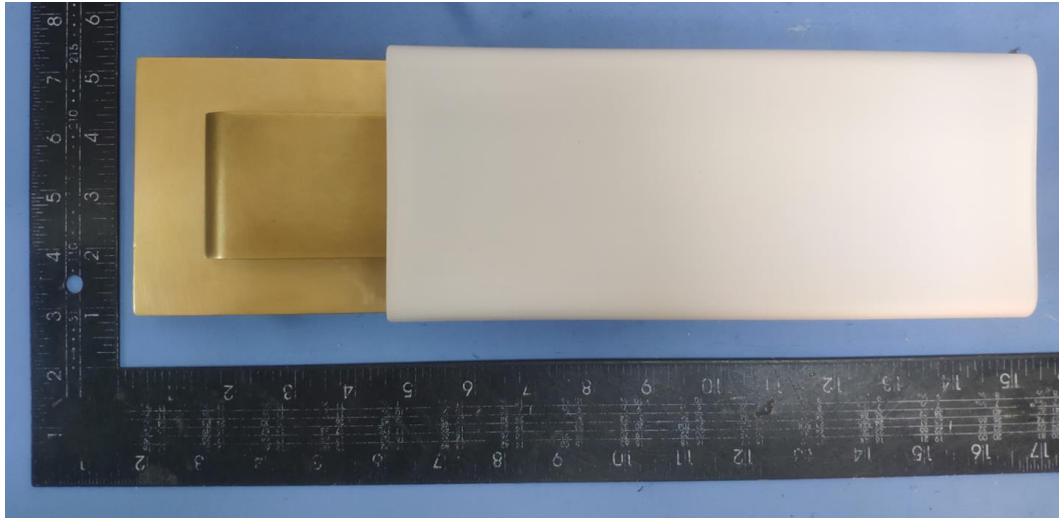
CIE 13.3-1995
(CRI)
 R_a 92
 R_g 61

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

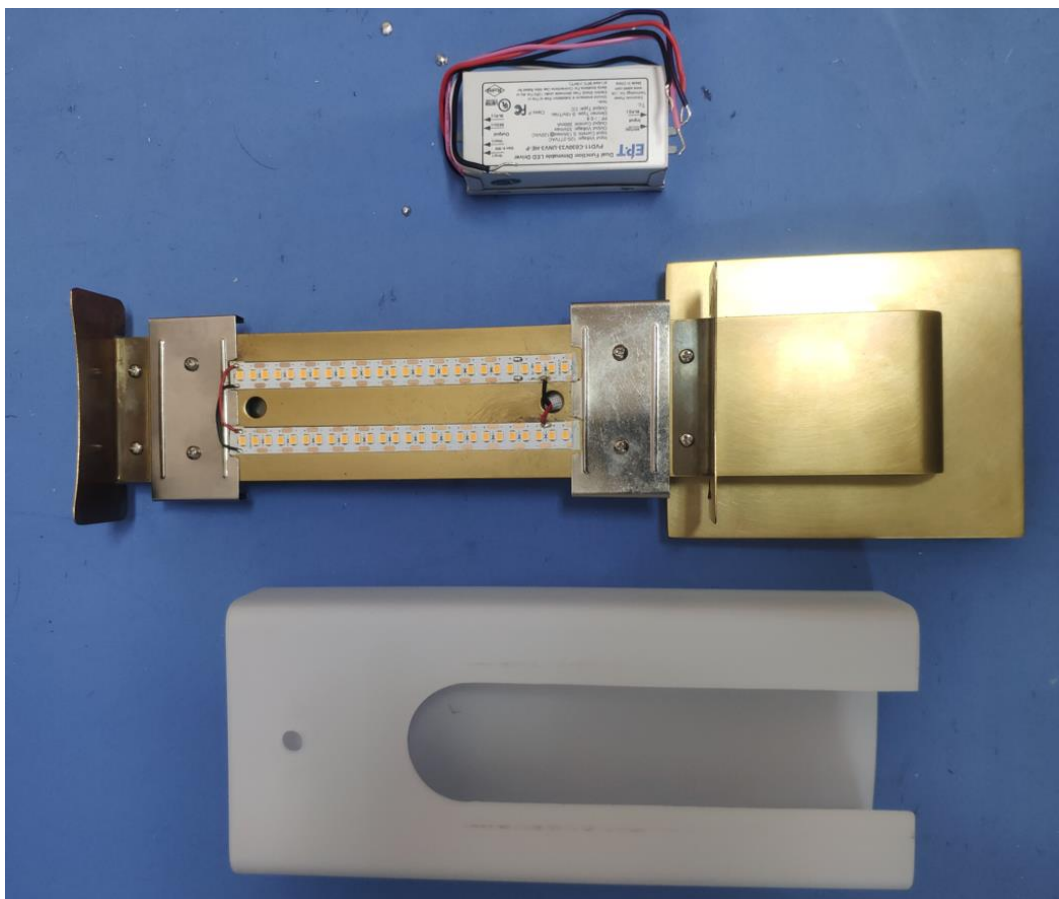
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of 700WSKISW14WX-LED930



External view of 700WSKISW14WX-LED930

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED Driver PVD11-C030V33-UNV3-HE-P



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 *****