

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128209GZU-003

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 241128209GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKLS677WDXOP

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ241127042.
<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-79-19	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377-2017 (R2022)	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model AKLS677WDXOP. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128209-003.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	30 December 2024
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	AKLS677WDXOP
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKLS677WDXOP

Criteria	Result
Total Lumen Output	188.3 lm
Total Power	21.1 W
Luminaire Efficacy	8.9 lm/W
S/MH(C0/180)	1.37
S/MH(C90/270)	1.35
Correlated Color Temperature (CCT)	2520 K
Color Rendering Index (CRI)	92
R9	61
Chromaticity Coordinate (x)	0.4753
Chromaticity Coordinate (y)	0.4136
Chromaticity Coordinate (u')	0.2711
Chromaticity Coordinate (v')	0.5308

Remark:

N/A

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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	S500-TH	SA047-182

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 WT310E.

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

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A DC

Standard lamp used for integrating sphere:

Model: D204

Current: 3.948A DC

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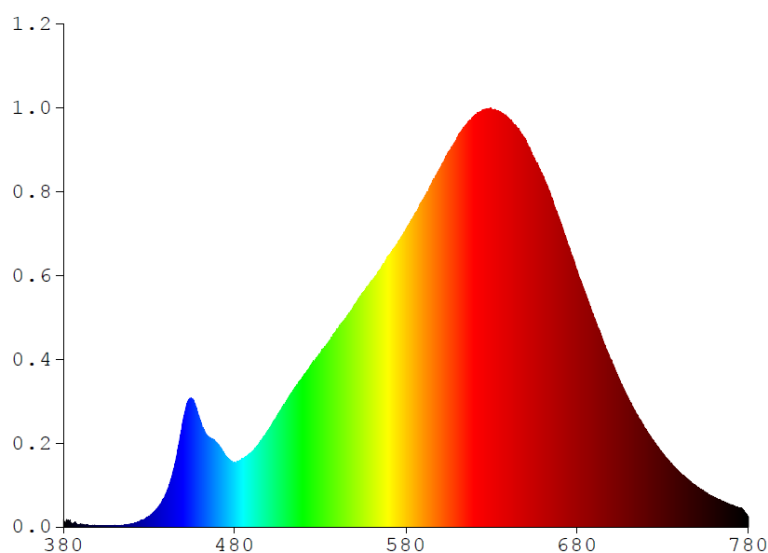
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKLS677WDXXOP

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.6182	480	4.8486	580	22.4210	680	19.2970	780	0.7183
385	0.2565	485	5.1089	585	23.5200	685	17.5220		
390	0.2338	490	5.6537	590	24.6170	690	15.7510		
395	0.1061	495	6.4502	595	25.8970	695	14.0400		
400	0.1045	500	7.3651	600	27.0750	700	12.5530		
405	0.0989	505	8.4341	605	28.2030	705	10.9600		
410	0.1279	510	9.4204	610	29.3430	710	9.6041		
415	0.1245	515	10.4610	615	30.2760	715	8.4546		
420	0.2468	520	11.3410	620	30.9690	720	7.3696		
425	0.4754	525	12.2970	625	31.3780	725	6.3790		
430	0.8153	530	13.0740	630	31.4670	730	5.5469		
435	1.4324	535	13.9630	635	31.2780	735	4.7794		
440	2.5359	540	14.9250	640	30.7730	740	4.1058		
445	4.6620	545	15.7470	645	30.0250	745	3.5372		
450	8.0630	550	16.7530	650	29.1540	750	3.0257		
455	9.6370	555	17.6700	655	27.7160	755	2.6022		
460	7.9558	560	18.5890	660	26.4500	760	2.1963		
465	6.7799	565	19.3310	665	24.8300	765	1.9333		
470	6.2454	570	20.4570	670	23.0450	770	1.6591		
475	5.2865	575	21.3380	675	20.7620	775	1.4225		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS677WDXXOP

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

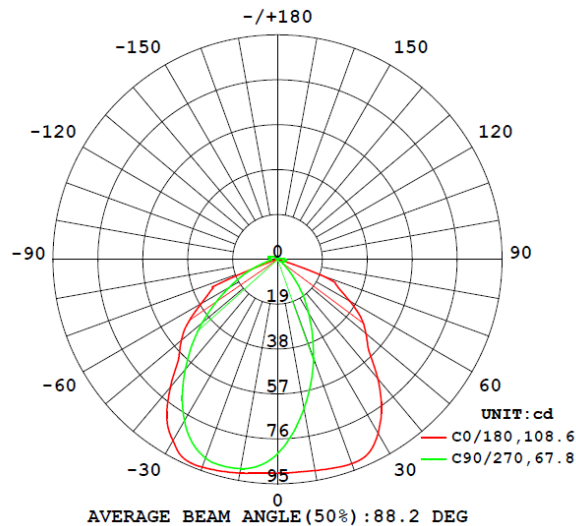
Photometric Measurements at 25°C – Distribution Method

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')
AKLS677WDXXOP								
S2411282 09-003	base-up	2520	92	61	0.4753	0.4136	0.2711	0.5308

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	Lumen
						Flux (Lumens)	Efficacy (Lumens Per Watt)
AKLS677WDXXOP							
S2411282 09-003	base-up	120.1	178.0	21.1	0.988	188.3	8.9

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS677WDXXOP

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	90.5	89.6	85.7	82.5	82.2
5	90.4	88.4	80.7	74.9	74.0
10	90.7	86.1	74.1	65.8	64.2
15	91.4	82.4	65.9	56.1	54.4
20	91.9	76.4	56.7	46.2	44.4
25	90.7	67.7	47.2	36.5	34.7
30	85.0	57.3	37.5	27.9	26.3
35	76.6	47.1	28.0	20.3	19.0
40	65.9	37.6	19.3	13.5	12.2
45	54.5	26.9	11.5	7.6	6.8
50	48.8	14.8	5.5	4.0	3.7
55	43.1	4.9	2.6	2.3	2.3
60	35.2	1.8	1.8	1.8	1.8
65	28.4	2.3	2.3	2.1	2.1
70	20.1	2.0	3.3	2.8	2.7
75	0.5	1.5	3.8	3.5	3.3
80	0.0	0.9	3.5	3.7	3.8
85	0.0	0.6	2.7	3.8	3.7
90	0.0	0.3	2.1	3.5	3.4
95	0.0	0.1	1.6	3.0	3.0
100	0.0	0.1	1.0	2.3	2.4
105	0.0	0.1	0.5	1.7	1.8
110	0.0	0.1	0.2	1.1	1.2
115	0.0	0.1	0.1	0.5	0.6
120	0.0	0.1	0.1	0.2	0.2
125	0.0	0.1	0.1	0.1	0.1
130	0.1	0.1	0.1	0.2	0.2
135	0.1	0.1	0.1	0.2	0.2
140	0.1	0.1	0.1	0.2	0.2
145	0.1	0.1	0.2	0.2	0.2
150	0.1	0.2	0.2	0.2	0.2
155	0.1	0.2	0.2	0.2	0.2
160	0.1	0.2	0.2	0.2	0.2
165	0.2	0.2	0.2	0.2	0.1
170	0.2	0.2	0.2	0.1	0.2
175	0.2	0.2	0.2	0.2	0.1
180	0.2	0.2	0.1	0.1	0.1

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS677WDXXOP

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKLS677WDXXOP		
0-30	64.4	34.2
0-40	101.1	53.7
0-60	158.2	84.1
0-90	183.2	97.3
60-90	25.0	13.2
0-180	188.3	100.0

Beam Angle

Total Beam Angle(°)

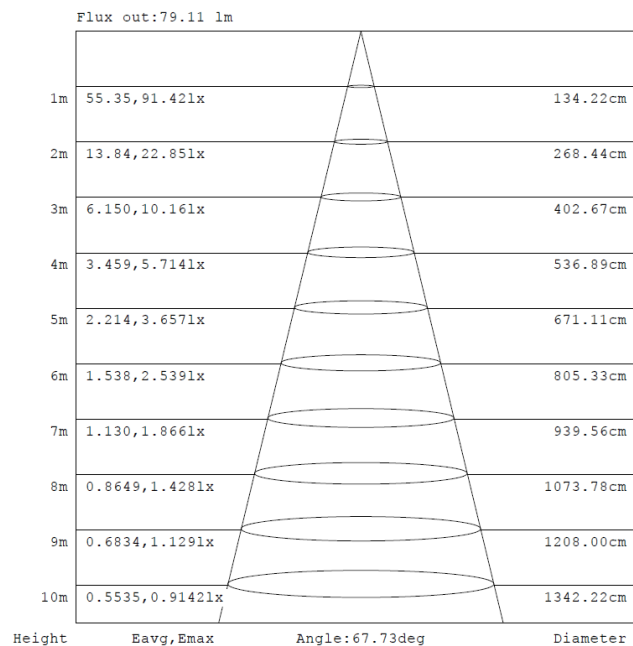
88.2

Illumination Plots

Model No.: AKLS677WDXXOP

Mount Height: 2.5 m

Illuminance - Cone of Light



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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TEST REPORT

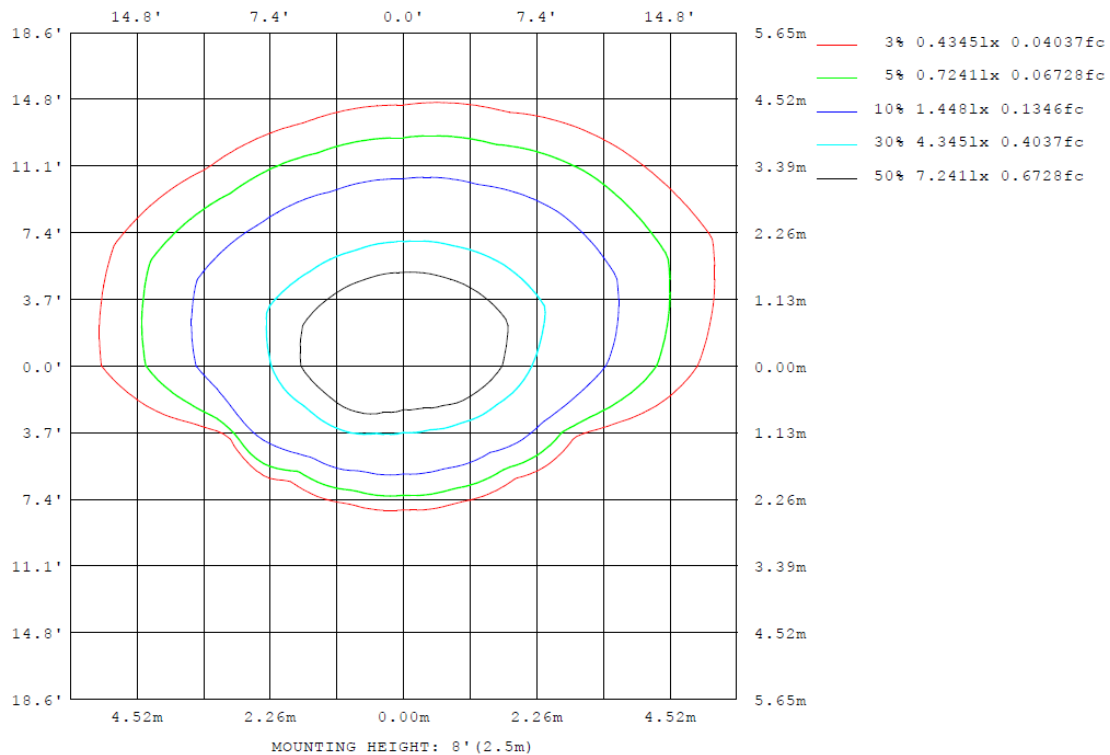
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS677WDXXOP

Model No.: AKLS677WDXXOP

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS677WDXOP

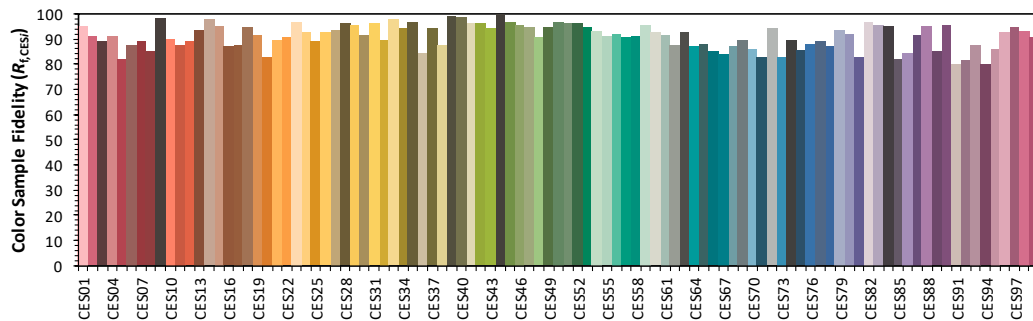
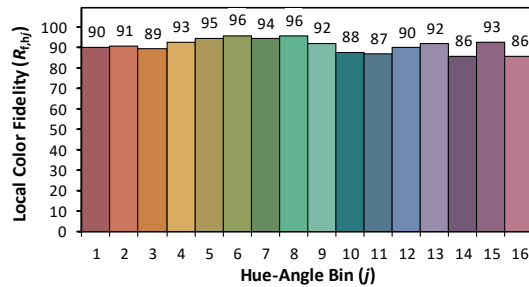
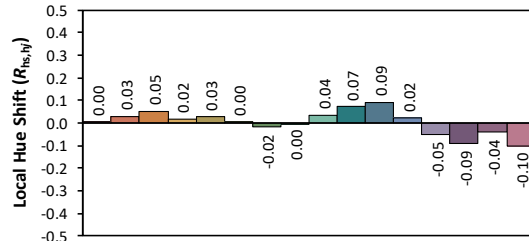
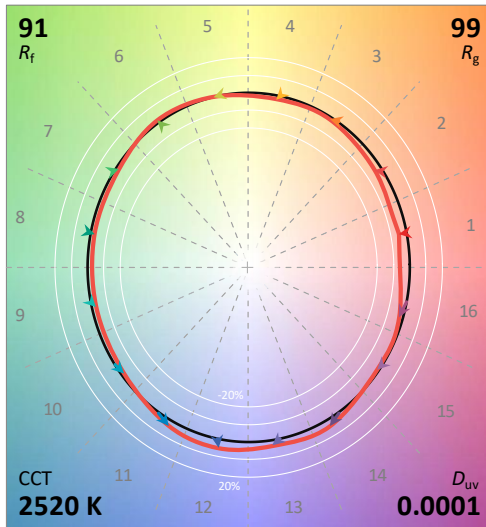
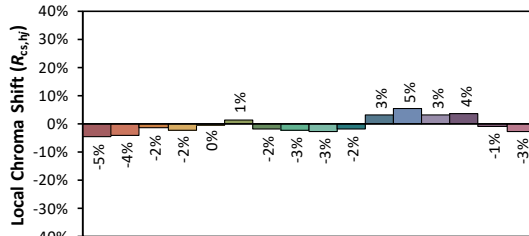
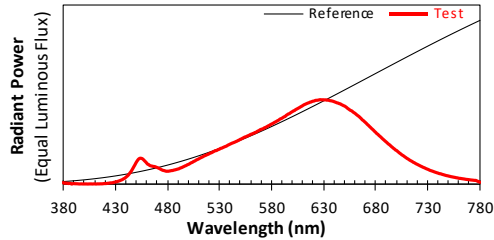
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/30

Model: AKLS677WDXOP



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

x 0.4753
 y 0.4136
 u' 0.2711
 v' 0.5308

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.

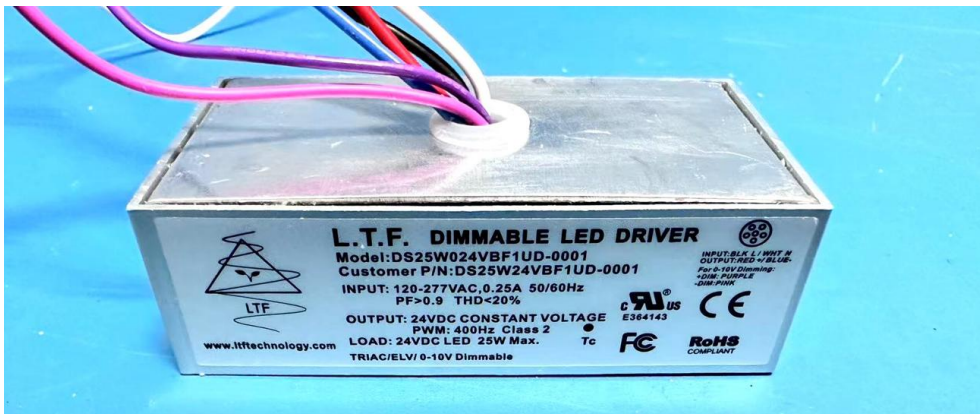
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TEST REPORT

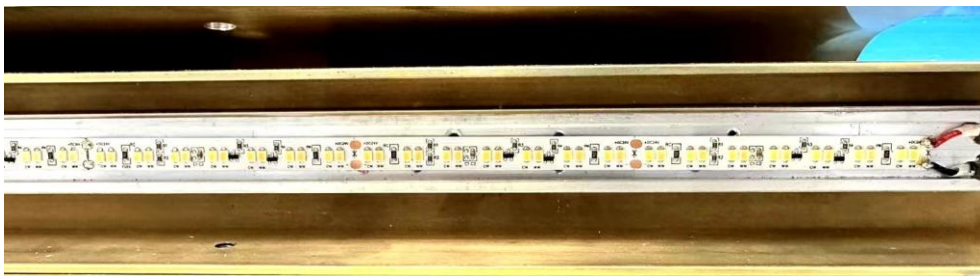
PRODUCT PICTURE (not to scale)



External view of AKLS677WDXXP



View of LED driver DS25W024VBF1UD-0001



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 *****