

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241111186GZU-003

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 241111186GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWLS70827XXXALB

Remark: "XXX" 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: QGZ241106002.
<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 KWLS70827XXXALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241111186-005.
<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>	29 November 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:	KWLS70827XXXALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Criteria	Result
Total Lumen Output	1096.2 lm
Total Power	33.2 W
Luminaire Efficacy	33.0 lm/W
S/MH(C0/180)	1.46
S/MH(C90/270)	1.57
Correlated Color Temperature (CCT)	2476 K
Color Rendering Index (CRI)	92
R9	60
Chromaticity Coordinate (x)	0.4785
Chromaticity Coordinate (y)	0.4129
Chromaticity Coordinate (u')	0.2735
Chromaticity Coordinate (v')	0.5310

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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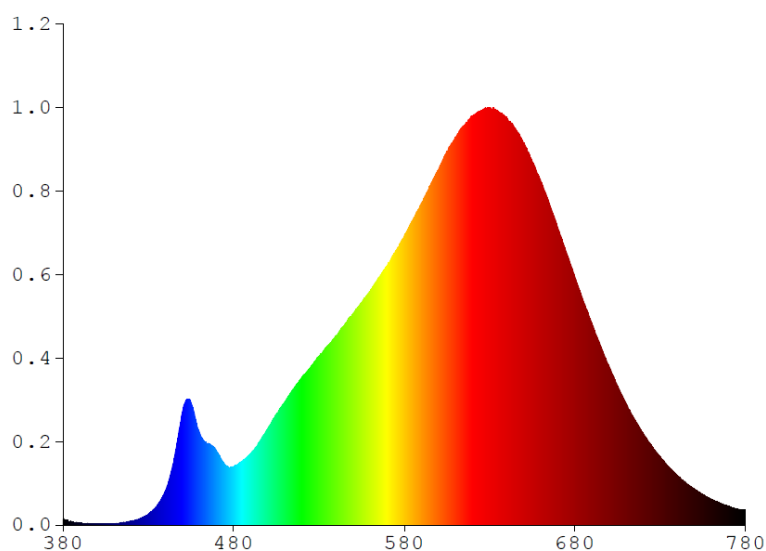
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.4403	480	5.2724	580	26.0130	680	22.2320	780	1.4032
385	0.2828	485	5.7375	585	27.4930	685	20.0520		
390	0.1719	490	6.4460	590	28.9470	690	18.0750		
395	0.1139	495	7.4551	595	30.5210	695	16.0930		
400	0.1093	500	8.6808	600	31.9810	700	14.2270		
405	0.1228	505	9.9666	605	33.6170	705	12.4770		
410	0.1659	510	11.1080	610	34.9100	710	10.8810		
415	0.1972	515	12.2620	615	35.9580	715	9.4698		
420	0.3475	520	13.3030	620	36.7940	720	8.2273		
425	0.5531	525	14.2050	625	37.3080	725	7.0826		
430	0.9921	530	15.1880	630	37.4510	730	6.1125		
435	1.7189	535	16.1430	635	37.2240	735	5.2268		
440	3.0808	540	17.0280	640	36.6430	740	4.4418		
445	5.8441	545	18.0500	645	35.7010	745	3.7878		
450	10.1230	550	19.0240	650	34.3820	750	3.2238		
455	10.9220	555	20.0700	655	32.6690	755	2.7340		
460	8.2583	560	21.0040	660	30.8920	760	2.3073		
465	7.3404	565	22.2880	665	28.9220	765	1.9627		
470	6.6007	570	23.3480	670	26.6560	770	1.6868		
475	5.3963	575	24.6640	675	24.0520	775	1.4537		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

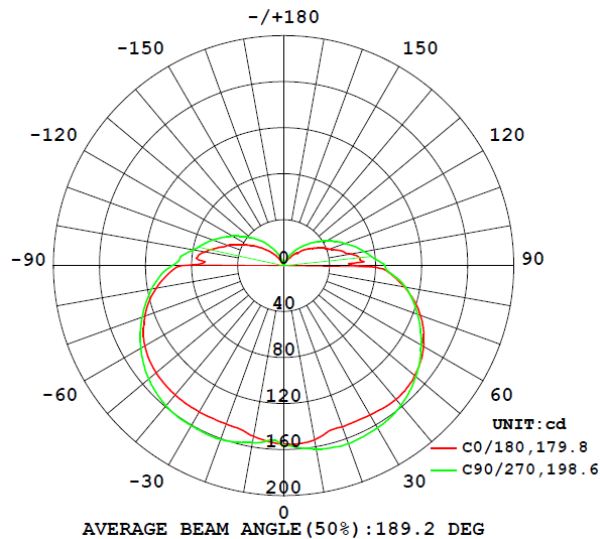
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (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')
KWLS70827XXXALB								
S2411111 86-005	base-up	2476	92	60	0.4785	0.4129	0.2735	0.5310

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	Lumen Efficacy
						(Lumens)	(Lumens Per Watt)
KWLS70827XXXALB							
S2411111 86-005	base-up	120.0	278.7	33.2	0.994	1096.2	33.0

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	155.4	156.2	156.5	156.7	156.2
5	155.4	156.4	157.8	158.8	158.9
10	153.8	155.6	158.8	161.2	161.7
15	149.4	155.5	159.8	161.9	163.8
20	149.2	155.0	160.9	163.6	164.6
25	149.2	154.2	161.5	163.8	164.0
30	150.0	155.9	161.4	162.9	162.9
35	151.0	156.7	160.5	161.3	161.5
40	151.8	157.0	158.4	158.5	158.6
45	151.0	155.7	155.4	155.0	154.7
50	148.8	153.3	150.7	150.5	150.0
55	145.3	149.5	144.7	145.2	144.4
60	140.5	144.4	137.7	139.1	138.1
65	134.2	137.9	129.8	132.3	131.2
70	126.5	130.0	121.0	124.8	123.8
75	117.2	120.8	111.5	116.7	116.1
80	106.5	110.4	101.4	107.8	107.4
85	94.5	94.9	89.2	97.0	95.5
90	63.0	70.4	79.5	86.7	88.1
95	66.4	66.6	70.3	78.6	78.5
100	59.3	60.1	63.8	72.1	71.2
105	51.4	49.6	55.9	64.4	64.3
110	42.3	40.4	47.7	56.3	56.7
115	36.6	36.2	41.4	49.0	50.1
120	30.9	30.4	35.9	42.1	43.4
125	25.5	24.0	29.8	35.7	37.0
130	20.1	18.3	24.9	29.1	30.9
135	15.6	13.4	19.5	23.5	24.7
140	11.6	10.0	14.4	18.1	19.5
145	8.5	7.4	9.8	13.2	14.5
150	6.2	5.2	6.1	8.7	9.8
155	2.3	3.8	3.9	4.7	5.6
160	1.7	2.8	2.7	2.3	2.4
165	0.8	1.4	1.7	1.2	1.1
170	1.1	1.2	0.4	0.6	0.5
175	0.7	0.4	0.3	0.3	0.3
180	0.3	0.3	0.3	0.3	0.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWLS70827XXXALB		
0-30	131.7	12.0
0-40	230.4	21.0
0-60	480.6	43.8
0-90	847.5	77.3
60-90	366.9	33.5
0-180	1096.2	100.0

Beam Angle

Total Beam Angle(°)

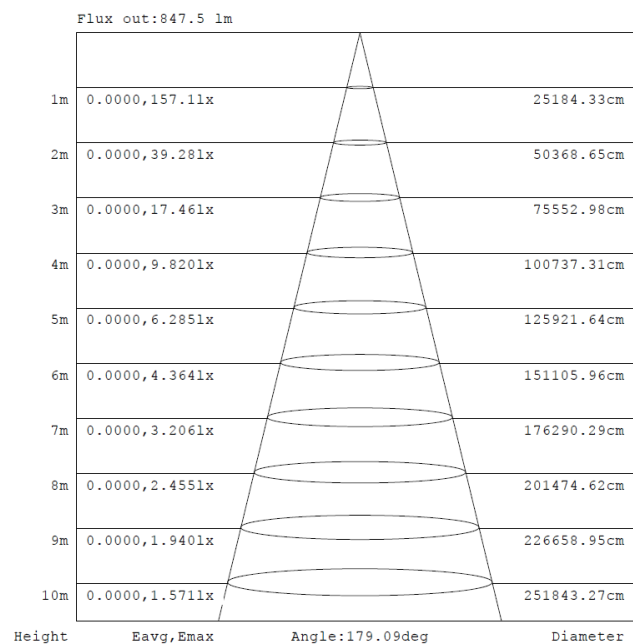
189.2

Illumination Plots

Model No.: KWLS70827XXXALB

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

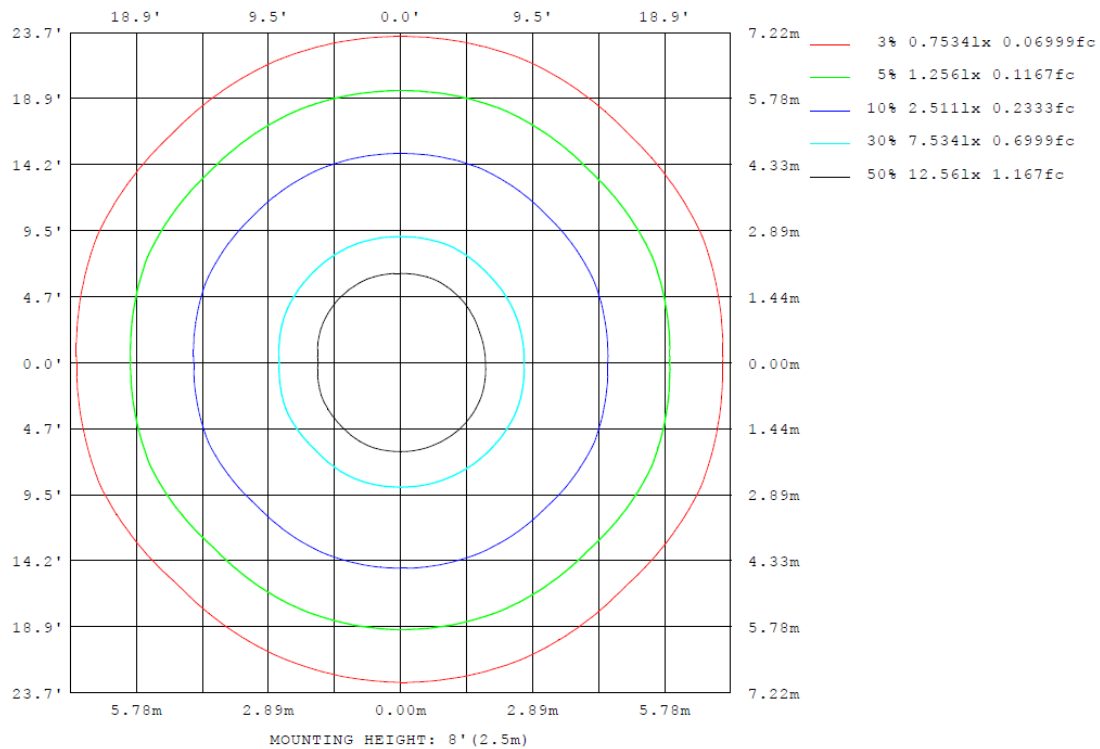
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS70827XXXALB

Model No.: KWLS70827XXXALB

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS70827XXXALB

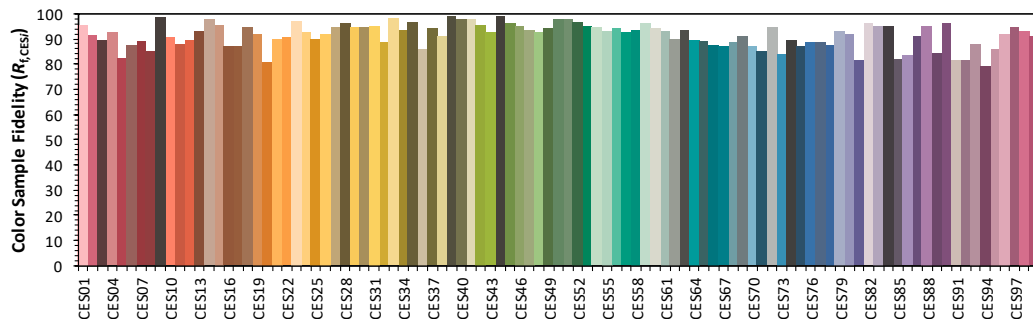
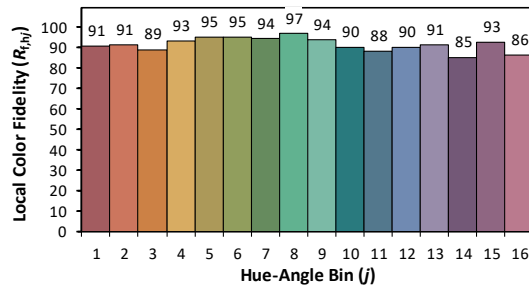
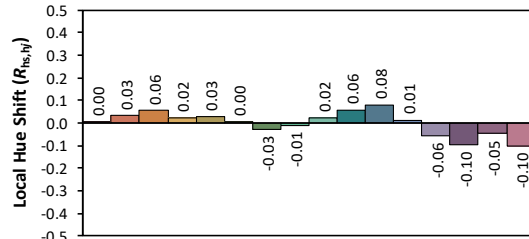
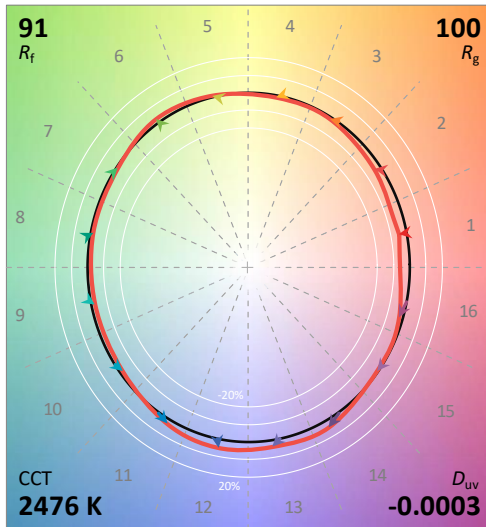
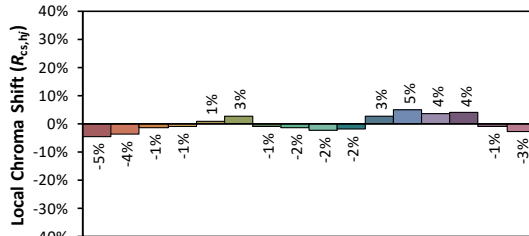
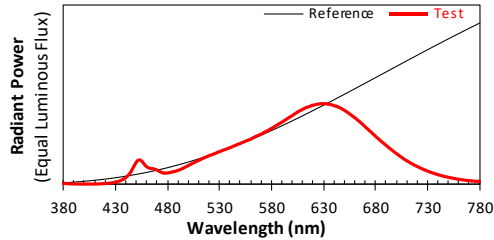
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/11/29

Model: KWLS70827XXXALB



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

x 0.4785
 y 0.4129
 u' 0.2735
 v' 0.5310

CIE 13.3-1995
(CRI)

R_a 92

R_g 60

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

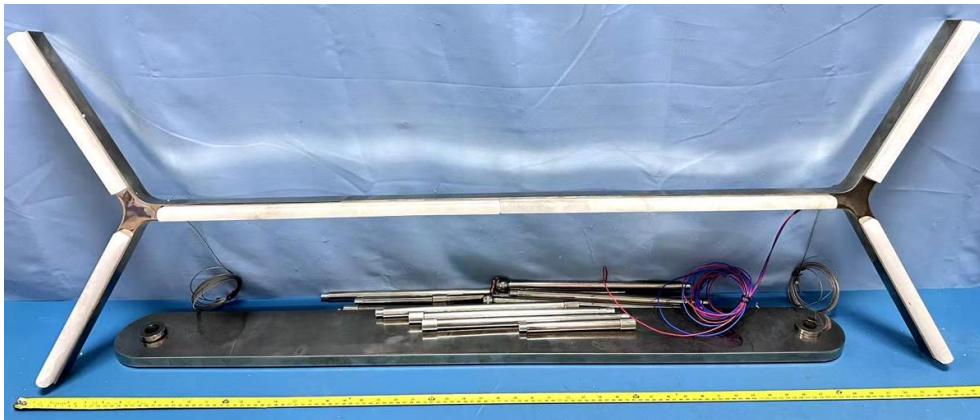
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWLS70827XXXALB

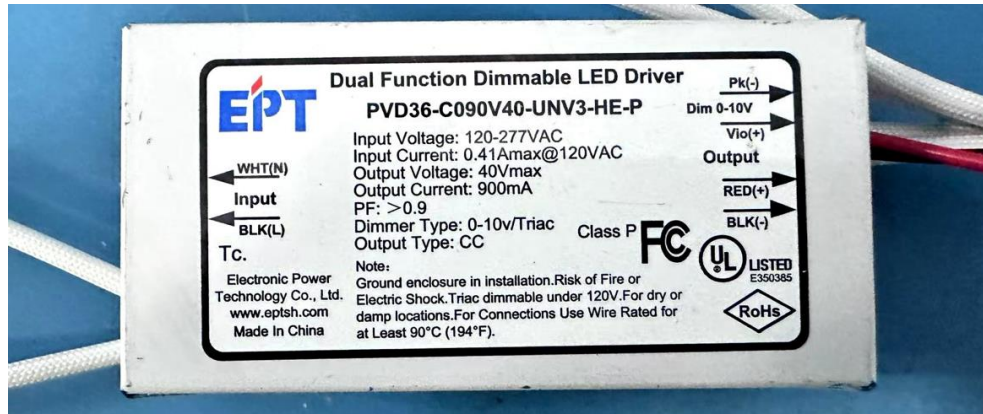


External view of KWLS70827XXXALB

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD36-C090V40-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 *****