

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250623168GZU-032

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None

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DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 250623168GZU-032

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWOWS60627XX

Remark: "XX" represents the color of the appearance.

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: QGZ250619128.
<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-79-24	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 KWOWS60627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250623168-034.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Guangzhou Xiongyi Precision Metalworking Co., Ltd Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450
<u>DATES OF TESTS:</u>	24 July 2025
<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:	KWOWS60627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWOWS60627XX

Criteria	Result
Total Lumen Output	499.1 lm
Total Power	14.9 W
Luminaire Efficacy	33.6 lm/W
S/MH(C0/180)	1.16
S/MH(C90/270)	0.91
Correlated Color Temperature (CCT)	2768 K
Color Rendering Index (CRI)	94
R9	66
Chromaticity Coordinate (x)	0.4517
Chromaticity Coordinate (y)	0.4044
Chromaticity Coordinate (u')	0.2600
Chromaticity Coordinate (v')	0.5237

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: 3.958A DC

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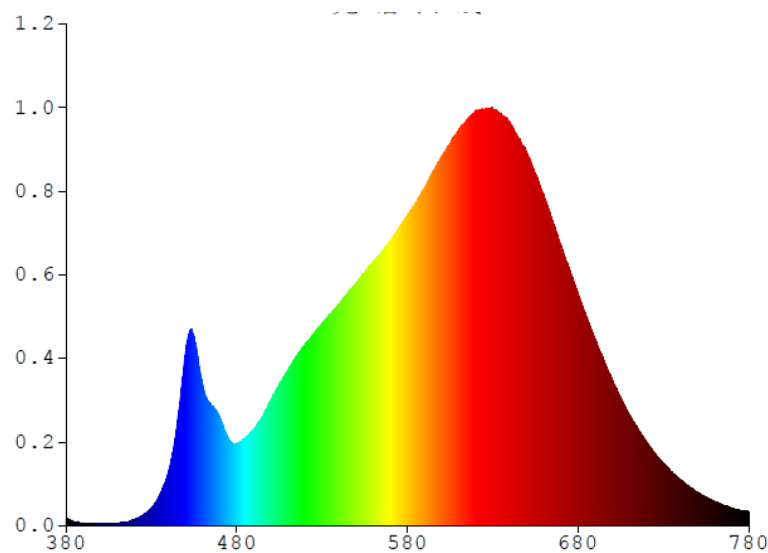
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWOWS60627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.2600	480	4.1187	580	15.6730	680	11.7090	780	0.7239
385	0.2048	485	4.4532	585	16.3180	685	10.5360		
390	0.1288	490	4.9042	590	17.0470	690	9.4316		
395	0.0770	495	5.4979	595	17.8870	695	8.3786		
400	0.0907	500	6.3562	600	18.6390	700	7.3497		
405	0.0968	505	7.1389	605	19.3040	705	6.4590		
410	0.1241	510	7.8652	610	19.9880	710	5.6143		
415	0.1853	515	8.5172	615	20.5240	715	4.9017		
420	0.3147	520	9.1368	620	20.8910	720	4.2412		
425	0.5207	525	9.6979	625	21.0350	725	3.6495		
430	0.8861	530	10.2240	630	21.0720	730	3.1483		
435	1.5684	535	10.7000	635	20.8540	735	2.7059		
440	2.7243	540	11.1810	640	20.3530	740	2.3308		
445	5.0457	545	11.7350	645	19.5840	745	1.9748		
450	8.7428	550	12.2510	650	18.8380	750	1.7000		
455	9.5142	555	12.7690	655	17.7820	755	1.4485		
460	7.1316	560	13.3540	660	16.6640	760	1.2204		
465	6.0903	565	13.8160	665	15.4230	765	1.0488		
470	5.4897	570	14.4030	670	14.1630	770	0.8915		
475	4.4287	575	15.0000	675	12.6790	775	0.7703		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60627XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

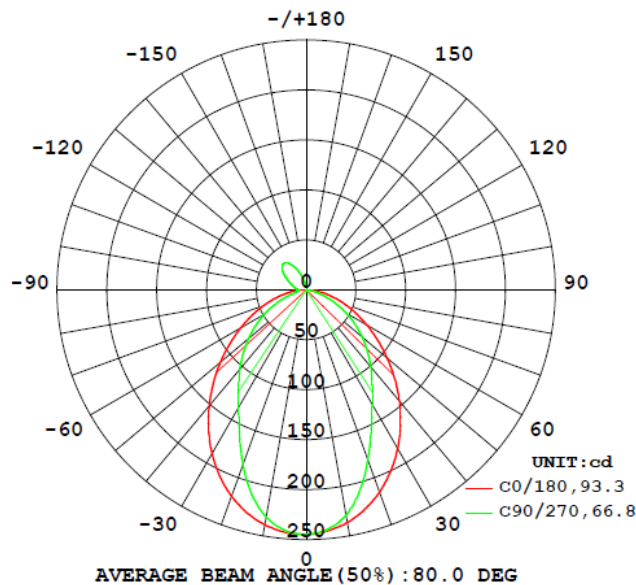
Photometric Measurements at 25°C – Distribution Method

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')
KWOWS60627XX								
S2506231 68-034	base-up	2768	94	66	0.4517	0.4044	0.2600	0.5237

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 (Lumens)	Lumen Efficacy (Lumens Per Watt)
KWOWS60627XX							
S2506231 68-034	base-up	120.1	125.1	14.9	0.989	499.1	33.6

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	244.7	244.7	244.5	244.6	244.5
5	242.1	242.1	241.4	240.7	240.8
10	236.4	235.5	232.9	229.3	229.1
15	227.4	224.8	217.6	209.3	208.0
20	215.3	210.3	196.6	183.0	180.9
25	200.4	192.2	171.5	156.6	154.6
30	183.5	170.9	146.6	134.2	132.9
35	165.1	148.5	124.8	116.2	115.8
40	145.6	126.1	106.2	100.8	100.9
45	125.6	105.1	90.0	86.6	86.8
50	106.0	86.3	75.4	73.0	73.2
55	87.3	69.6	62.0	59.4	59.5
60	70.1	55.0	49.9	46.4	46.2
65	54.5	42.5	37.8	33.5	33.1
70	40.4	31.0	26.3	21.3	20.8
75	27.6	20.7	15.2	11.1	10.9
80	16.2	11.0	6.0	4.7	4.9
85	6.0	2.4	1.9	1.6	1.7
90	0.1	0.4	0.8	0.9	1.0
95	0.1	0.2	0.3	0.4	0.5
100	0.1	0.1	0.1	0.1	0.1
105	0.1	0.1	0.1	0.1	0.1
110	0.1	0.1	0.1	0.1	0.1
115	0.1	0.1	0.1	0.1	0.1
120	0.1	0.1	0.1	0.1	0.1
125	0.2	0.1	0.1	0.1	0.1
130	0.2	0.1	0.1	0.1	0.1
135	0.2	0.2	0.2	0.2	0.2
140	0.3	0.2	0.2	0.2	0.2
145	0.3	0.3	0.3	0.3	0.3
150	0.3	0.3	0.3	0.3	0.3
155	0.3	0.3	0.3	0.3	0.3
160	0.4	0.3	0.4	0.3	0.3
165	0.4	0.4	0.4	0.3	0.4
170	0.4	0.3	0.3	0.3	0.3
175	0.3	0.3	0.3	0.3	0.3
180	0.3	0.3	0.3	0.4	0.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWOWS60627XX		
0-30	166.7	33.4
0-40	252.5	50.6
0-60	393.2	78.8
0-90	461.4	92.5
60-90	68.2	13.7
0-180	499.1	100.0

Beam Angle

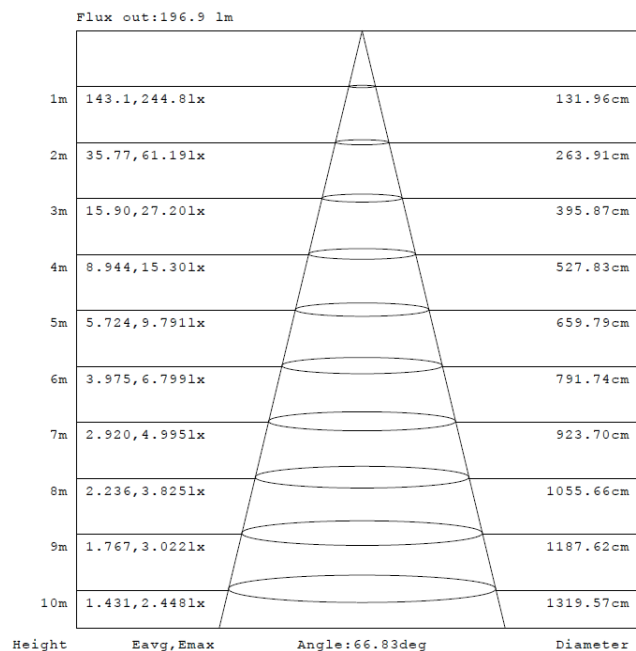
Total Beam Angle(°)
80.0

Illumination Plots

Model No.: KWOWS60627XX

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

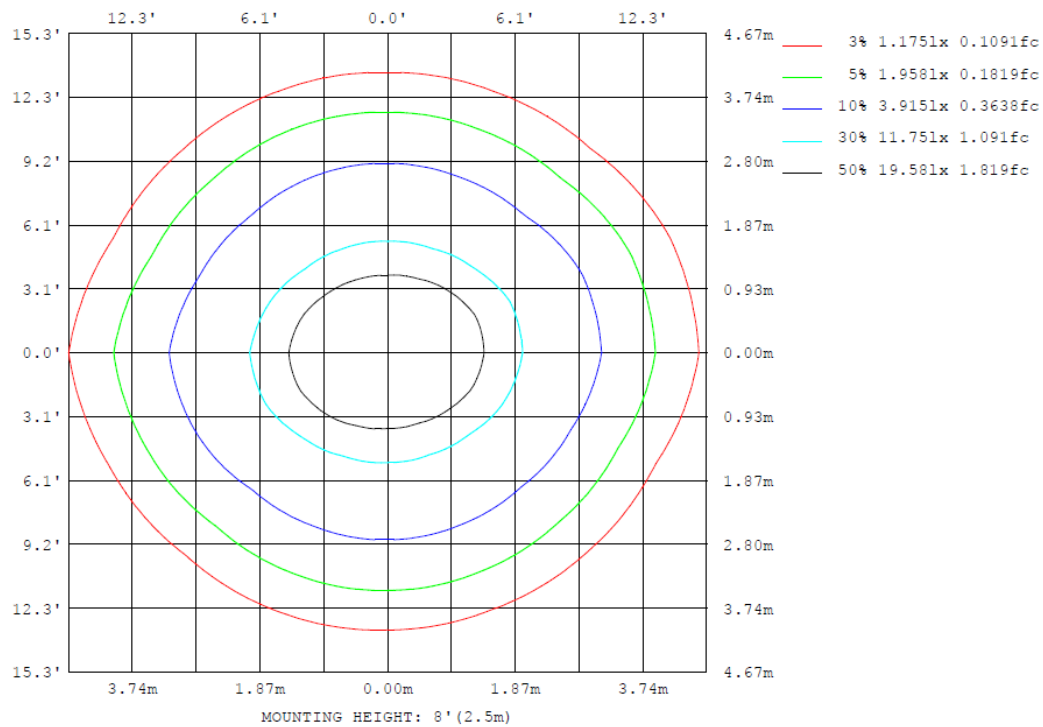
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60627XX

Model No.: KWOWS60627XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60627XX

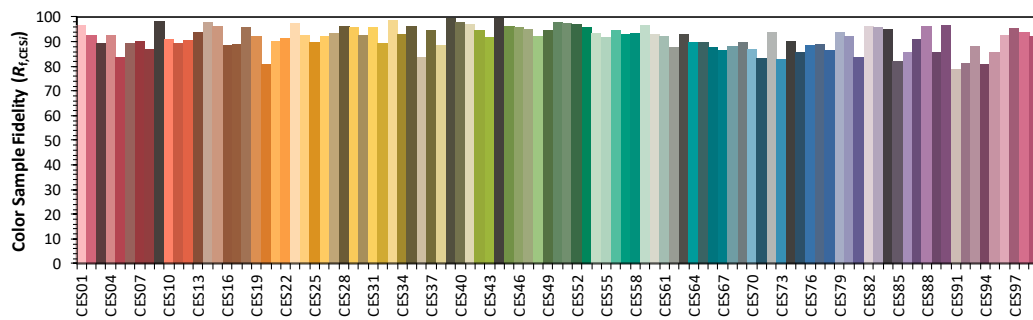
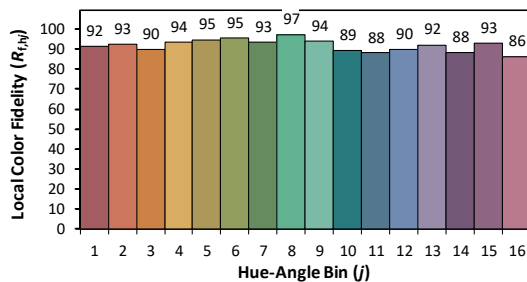
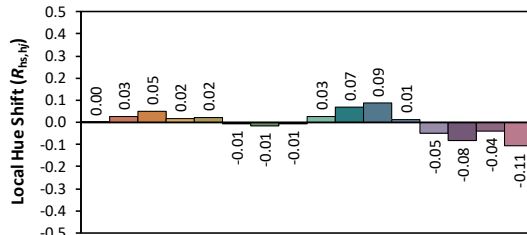
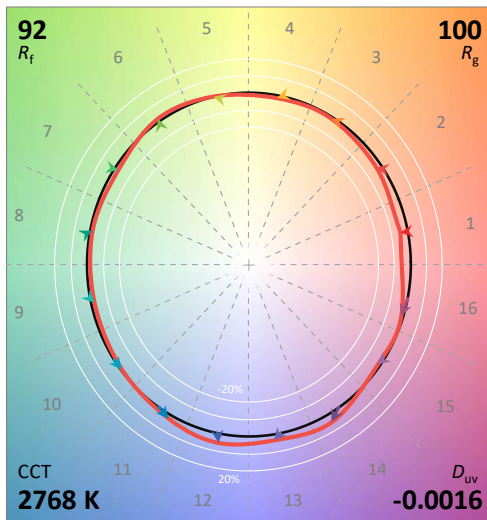
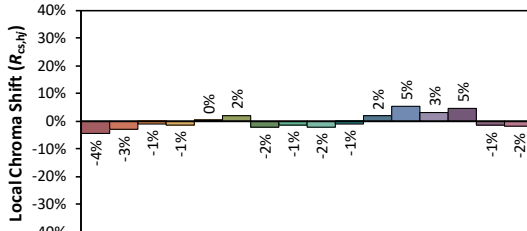
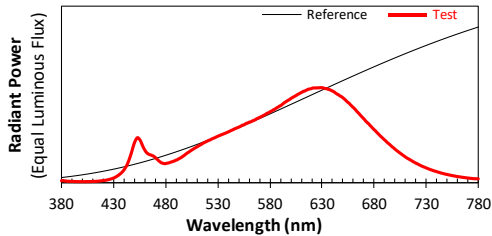
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/7/24

Model: KWOWS60627XX



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

x 0.4517
 y 0.4044
 u' 0.2600
 v' 0.5237

CIE 13.3-1995
(CRI)
 R_a 94
 R_g 66

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

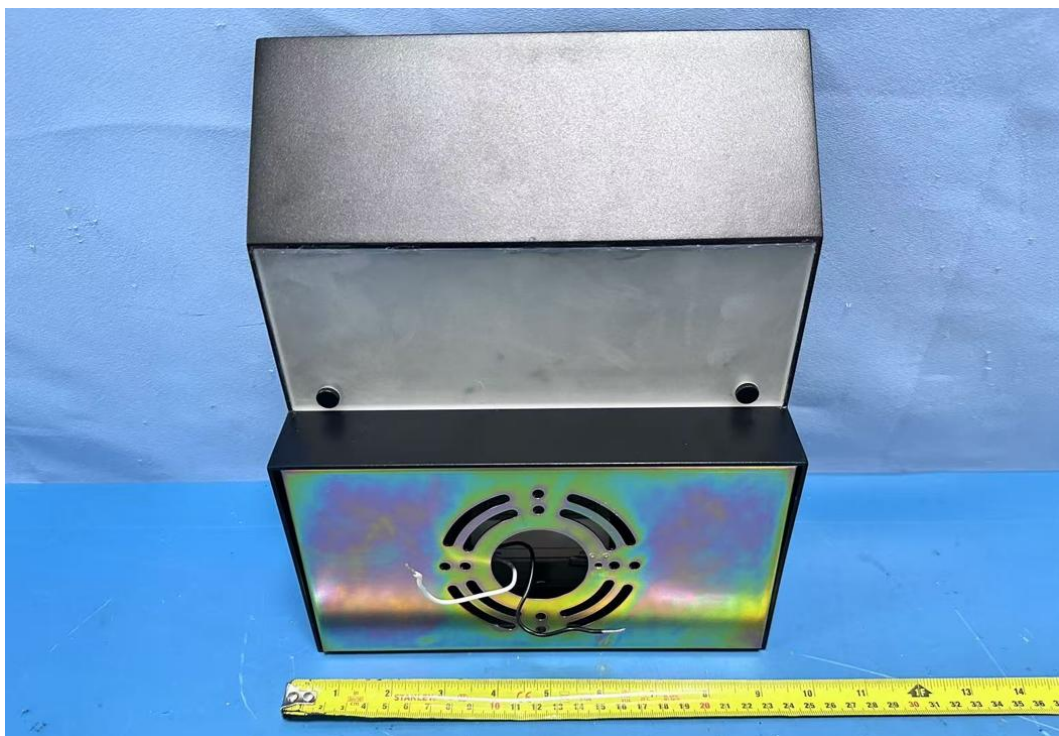
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWOWS60627XX

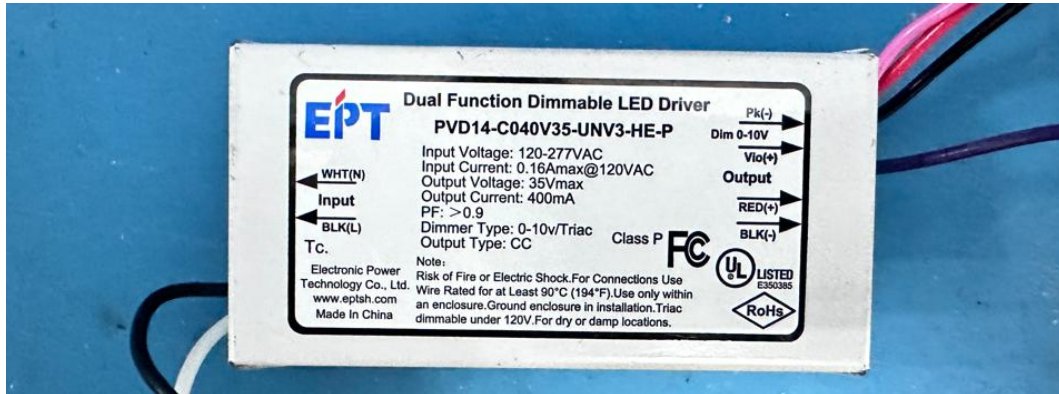


External view of KWOWS60627XX

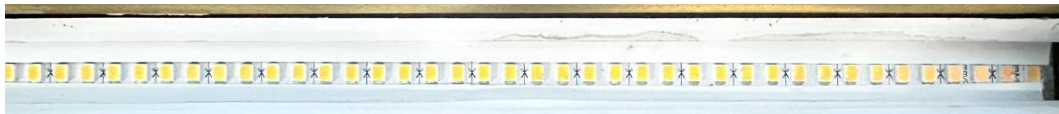
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD14-C040V35-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 *****