

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250623168GZU-033

ISSUE DATE

12 August 2025

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

© 2024 INTERTEK



Report No.: 250623168GZU-033

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWOWS60727XX

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

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

7400 LINDER AVE. SKOKIE, IL, 60077

Email: jrivero@visualcomfort.com

Phone No.: 847-410-4552

TEST: Electrical and Photometric as required to the IES LM-79 test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number: QGZ250619128.

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-79-24 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

DESCRIPTION OF SAMPLE: The client submitted one sample of model KWOWS60727XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250623168-035.

MANUFACTURER /FACTORY & ADDRESS: Guangzhou Xiongyi Precision Metalworking Co., Ltd
Hantang Industrial Zone, Langbian Village, Shiji Town, Panyu District, Guangzhou City, Guangdong Province, China 511450

DATES OF TESTS: 24 July 2025

ISSUED BY: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

TEST LOCATION: Room101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China

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

TEST REPORT

SUMMARY

Model Number:	KWOWS60727XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWOWS60727XX

Criteria	Result
Total Lumen Output	364.2 lm
Total Power	11.3 W
Luminaire Efficacy	32.3 lm/W
S/MH(C0/180)	1.17
S/MH(C90/270)	0.90
Correlated Color Temperature (CCT)	2767 K
Color Rendering Index (CRI)	93
R9	65
Chromaticity Coordinate (x)	0.4518
Chromaticity Coordinate (y)	0.4045
Chromaticity Coordinate (u')	0.2600
Chromaticity Coordinate (v')	0.5238

Remark:

N/A

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

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

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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

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

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

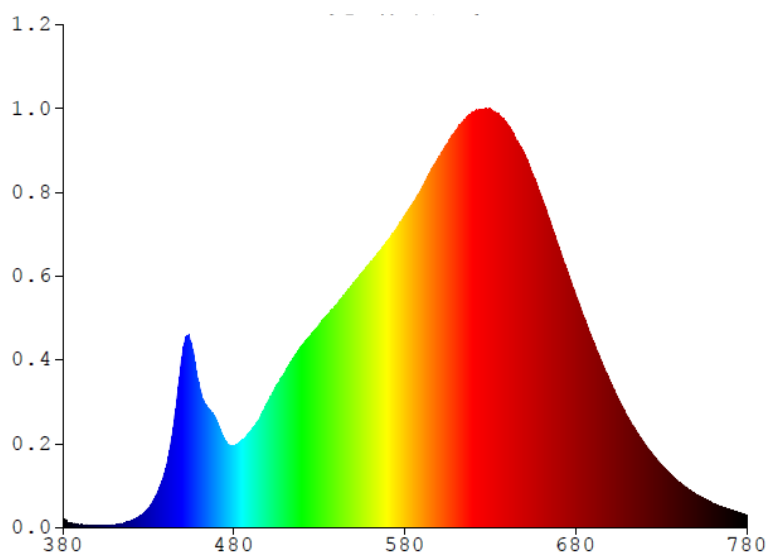
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWOWS60727XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.2408	480	2.8440	580	10.9480	680	8.1436	780	0.4308
385	0.1604	485	3.0796	585	11.4050	685	7.3372		
390	0.0818	490	3.3857	590	11.8990	690	6.5483		
395	0.0789	495	3.8152	595	12.4800	695	5.8317		
400	0.0669	500	4.4179	600	13.0020	700	5.1148		
405	0.0700	505	4.9726	605	13.4690	705	4.4971		
410	0.1033	510	5.4495	610	13.9420	710	3.9015		
415	0.1511	515	5.9530	615	14.3110	715	3.4108		
420	0.2316	520	6.3831	620	14.5600	720	2.9523		
425	0.3973	525	6.7495	625	14.6300	725	2.5565		
430	0.6769	530	7.1061	630	14.6580	730	2.1969		
435	1.1608	535	7.4577	635	14.5210	735	1.8912		
440	2.0180	540	7.8047	640	14.1520	740	1.6188		
445	3.6357	545	8.1780	645	13.5980	745	1.3873		
450	6.0767	550	8.5605	650	13.1050	750	1.1843		
455	6.4501	555	8.9371	655	12.3910	755	1.0063		
460	4.8951	560	9.3201	660	11.5700	760	0.8587		
465	4.1885	565	9.6600	665	10.7560	765	0.7383		
470	3.7060	570	10.0540	670	9.8426	770	0.6303		
475	3.0377	575	10.4690	675	8.8177	775	0.5358		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60727XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

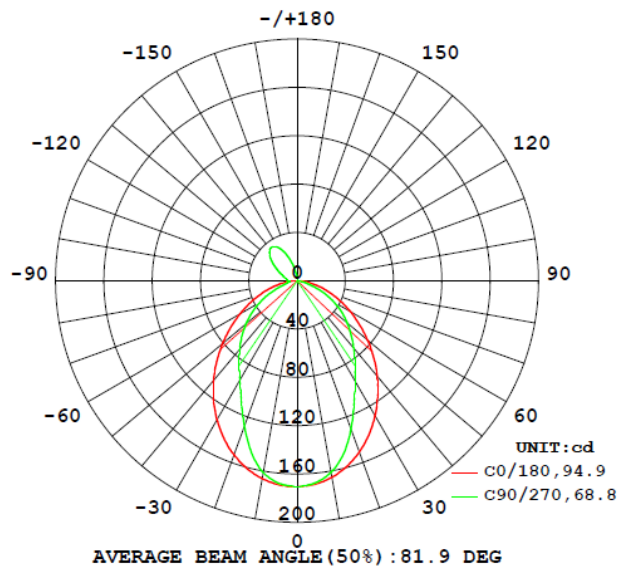
Photometric Measurements at 25°C – Distribution Method

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')
KWOWS60727XX								
S2506231 68-035	base-up	2767	93	65	0.4518	0.4045	0.2600	0.5238

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)
KWOWS60727XX							
S2506231 68-035	base-up	120.1	94.8	11.3	0.991	364.2	32.3

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60727XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	170.5	170.4	170.0	170.3	170.1
5	169.0	168.7	168.4	168.0	168.1
10	165.2	164.4	162.8	161.4	161.0
15	159.0	157.3	153.3	149.4	148.4
20	150.8	147.4	139.8	132.6	130.6
25	140.7	135.3	123.4	114.2	111.8
30	129.0	121.2	106.0	97.8	95.9
35	116.5	106.1	90.3	84.8	83.5
40	103.3	90.8	76.9	73.8	73.0
45	89.7	76.1	65.5	63.8	63.4
50	76.1	62.6	55.6	54.6	54.3
55	63.0	50.9	46.1	45.1	44.8
60	51.0	40.2	37.0	35.5	35.0
65	39.4	30.8	28.1	25.7	25.0
70	28.8	22.3	19.4	15.8	15.0
75	19.3	14.6	10.6	7.7	7.4
80	10.8	7.4	3.8	3.1	3.1
85	3.6	1.4	1.0	0.8	0.9
90	0.1	0.1	0.3	0.4	0.5
95	0.1	0.1	0.1	0.2	0.2
100	0.1	0.0	0.0	0.1	0.1
105	0.1	0.0	0.0	0.0	0.0
110	0.1	0.0	0.0	0.0	0.0
115	0.1	0.0	0.0	0.0	0.0
120	0.1	0.1	0.1	0.1	0.1
125	0.1	0.1	0.1	0.1	0.1
130	0.1	0.1	0.1	0.1	0.1
135	0.2	0.1	0.1	0.1	0.1
140	0.2	0.2	0.2	0.1	0.1
145	0.2	0.2	0.2	0.2	0.2
150	0.2	0.2	0.2	0.2	0.2
155	0.2	0.2	0.2	0.2	0.2
160	0.2	0.2	0.2	0.2	0.2
165	0.3	0.2	0.2	0.2	0.2
170	0.3	0.2	0.2	0.2	0.2
175	0.2	0.2	0.2	0.2	0.2
180	0.2	0.2	0.2	0.2	0.2

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60727XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWOWS60727XX		
0-30	117.2	32.2
0-40	178.3	49.0
0-60	279.9	76.8
0-90	328.9	90.3
60-90	49.0	13.5
0-180	364.2	100.0

Beam Angle

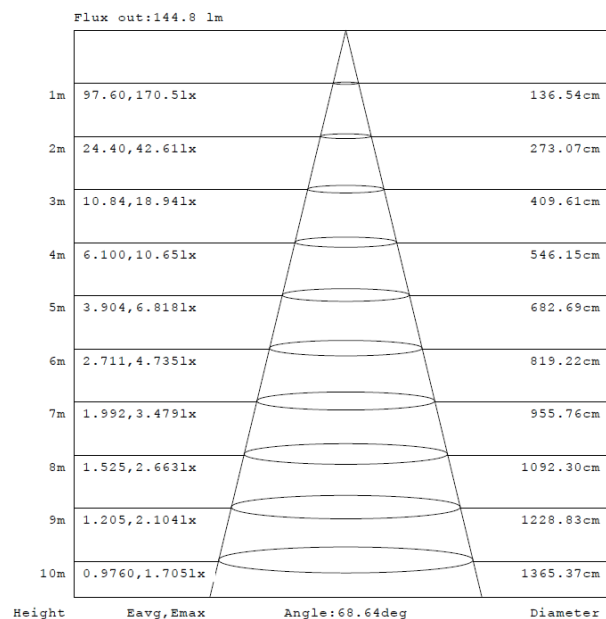
Total Beam Angle(°)
81.9

Illumination Plots

Model No.: KWOWS60727XX

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.

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

TEST REPORT

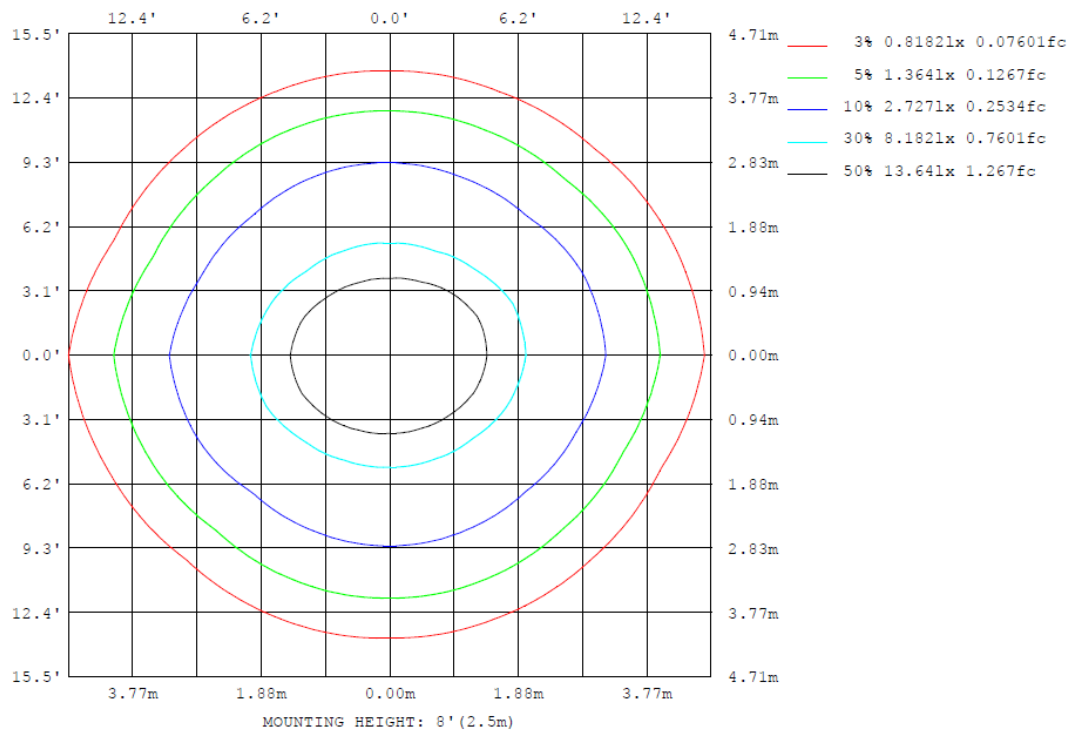
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60727XX

Model No.: KWOWS60727XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWOWS60727XX

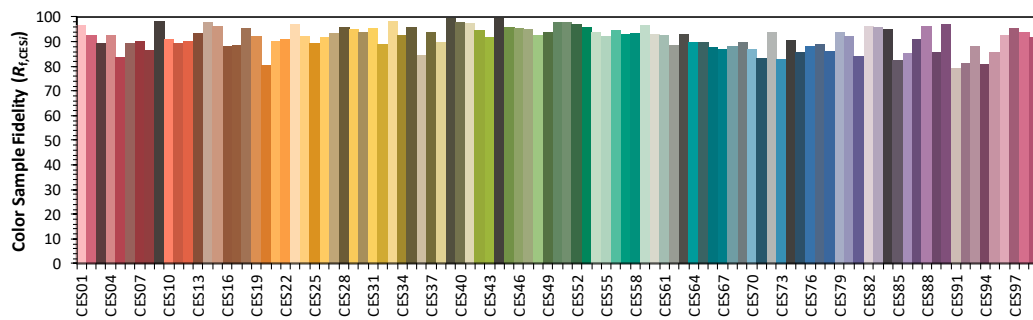
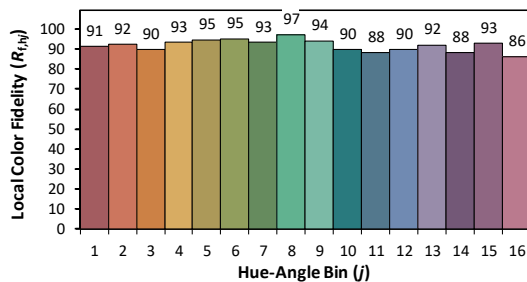
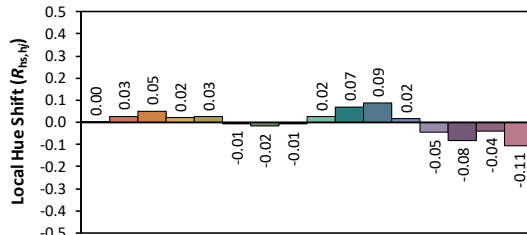
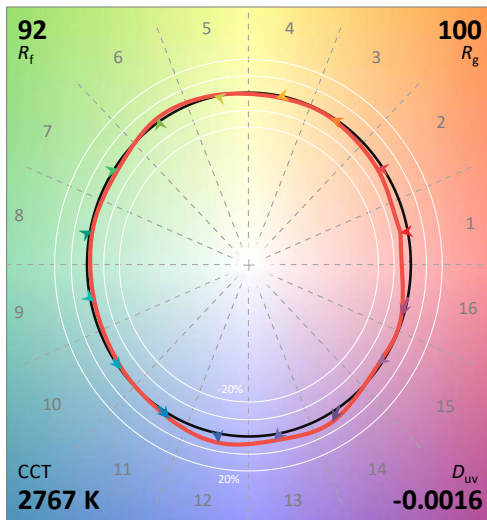
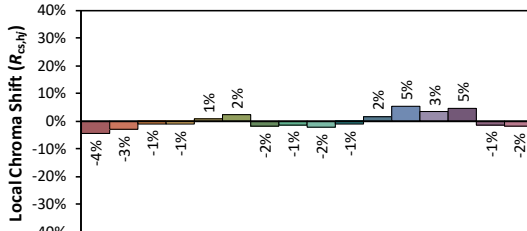
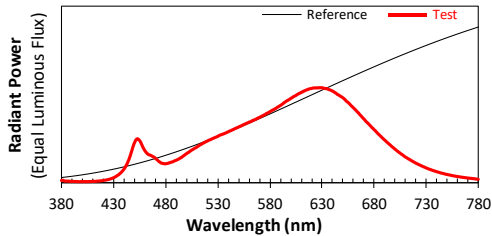
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/7/24

Model: KWOWS60727XX



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

x 0.4518
 y 0.4045
 u' 0.2600
 v' 0.5238

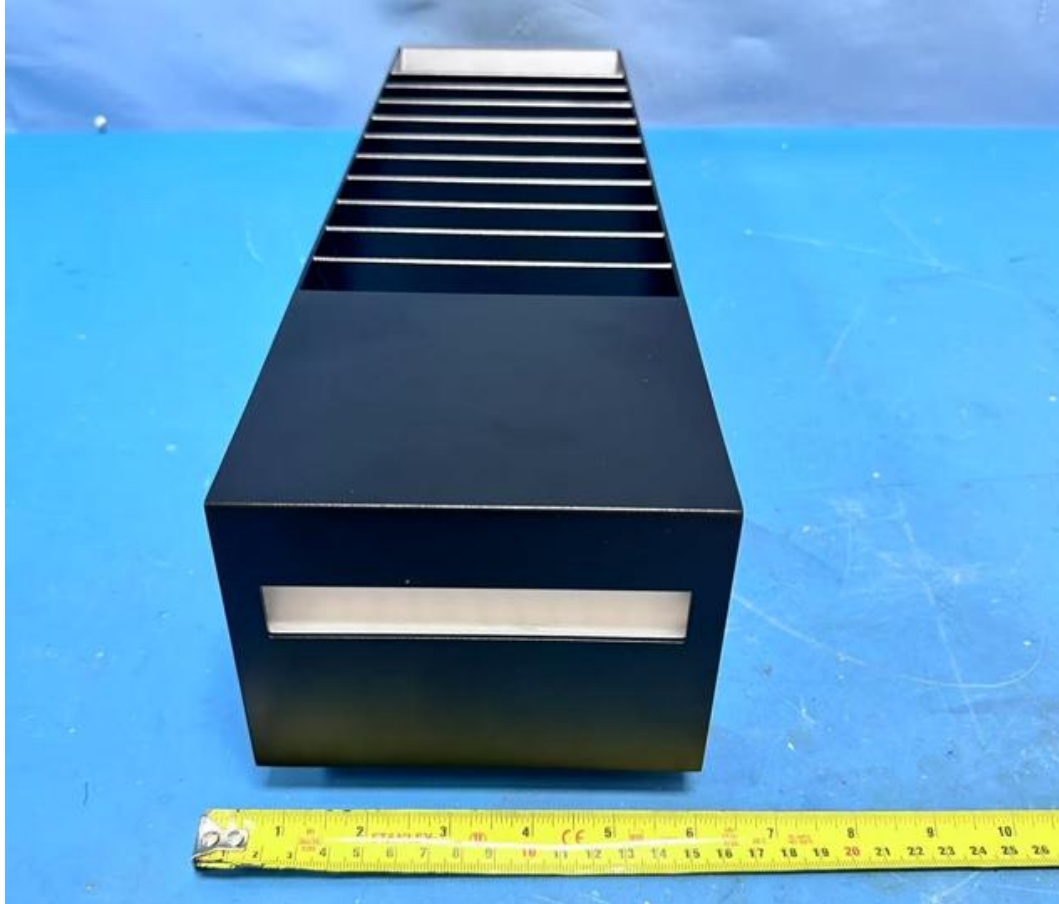
CIE 13.3-1995
(CRI)
 R_a 93
 R_g 65

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

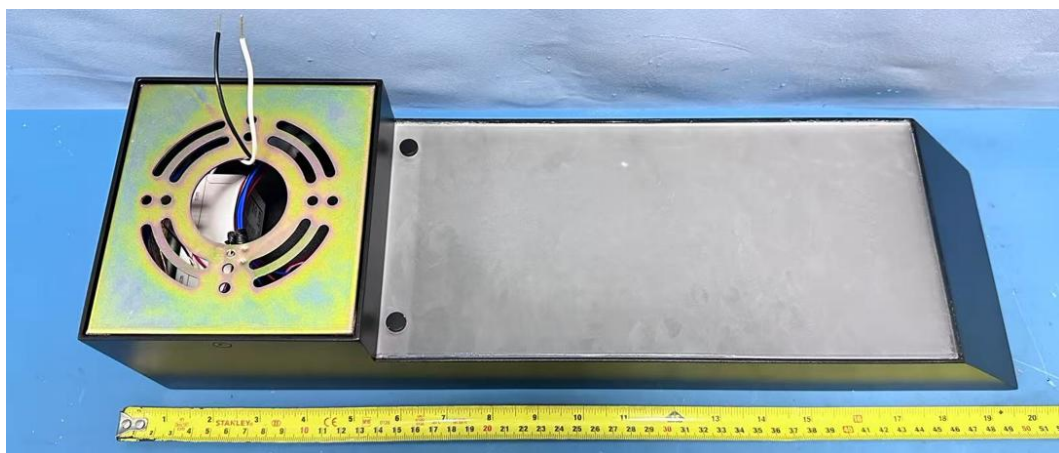
***** End of Page *****

TEST REPORT

PRODUCT PICTURE (not to scale)



External view of KWOWS60727XX

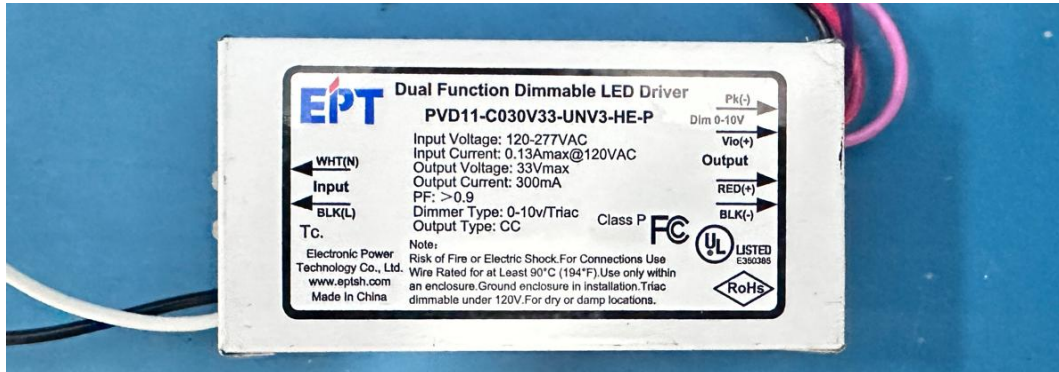


External view of KWOWS60727XX

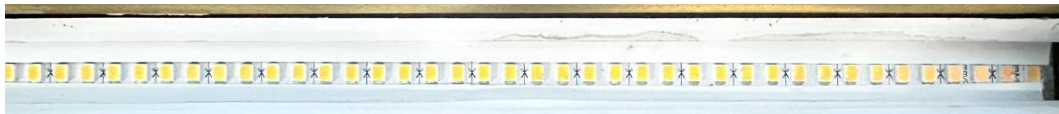
***** End of Page *****

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 *****