

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250227200GZU-001

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None

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Report No.: 250227200GZU-001

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKOWS620WDHABCG

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: QGZ250224121.

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 AKOWS620WDHABCG. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250227200-001.

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: 11 March 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

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TEST REPORT

SUMMARY

Model Number:	AKOWS620WDHABCG
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

Criteria	Result
Total Lumen Output	606.6 lm
Total Power	11.5 W
Luminaire Efficacy	52.6 lm/W
S/MH(C0/180)	23.81
S/MH(C90/270)	1.42
Correlated Color Temperature (CCT)	2549 K
Color Rendering Index (CRI)	89
R9	63
Chromaticity Coordinate (x)	0.4763
Chromaticity Coordinate (y)	0.4192
Chromaticity Coordinate (u')	0.2692
Chromaticity Coordinate (v')	0.5331

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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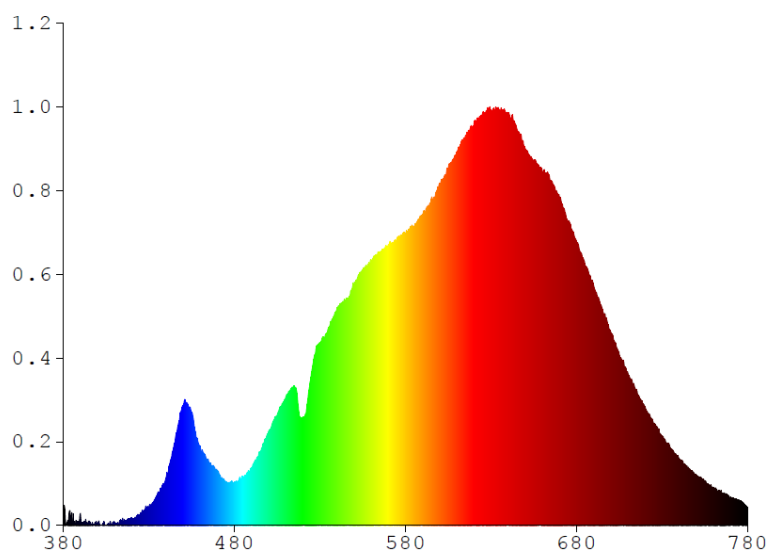
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.4600	580	3.0764	680	2.9815	780	0.1829
385	0.1095	485	0.4870	585	3.1463	685	2.7382		
390	0.1117	490	0.6135	590	3.2822	690	2.5282		
395	0.0481	495	0.7764	595	3.4440	695	2.2786		
400	0.0081	500	0.9864	600	3.6106	700	2.0349		
405	0.0088	505	1.1624	605	3.7692	705	1.7901		
410	0.0274	510	1.3518	610	3.9382	710	1.5977		
415	0.0000	515	1.4715	615	4.1077	715	1.4290		
420	0.0737	520	1.1388	620	4.2351	720	1.2511		
425	0.1250	525	1.6108	625	4.3444	725	1.0686		
430	0.1942	530	1.9273	630	4.3837	730	0.9385		
435	0.3321	535	2.0824	635	4.3853	735	0.8112		
440	0.5014	540	2.2906	640	4.3552	740	0.7042		
445	0.8612	545	2.3621	645	4.1845	745	0.6082		
450	1.2659	550	2.5472	650	3.9738	750	0.5297		
455	1.1903	555	2.6950	655	3.8567	755	0.4723		
460	0.8244	560	2.7775	660	3.7304	760	0.4031		
465	0.6719	565	2.8691	665	3.6411	765	0.3361		
470	0.5588	570	2.9657	670	3.4448	770	0.2991		
475	0.4528	575	3.0257	675	3.1836	775	0.2631		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

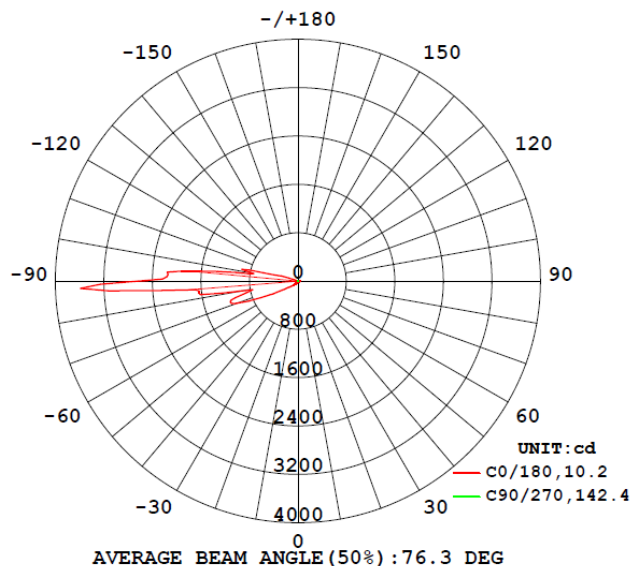
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
AKOWS620WDHABCG								
S2502272 00-001	base-up	2549	89	63	0.4763	0.4192	0.2692	0.5331

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 Efficacy
						Flux (Lumens)	(Lumens Per Watt)
AKOWS620WDHABCG							
S2502272 00-001	base-up	120.0	97	11.5	0.990	606.6	52.6

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	2.1	2.2	2.2	2.1	2.1
5	1.8	1.9	2.0	2.1	2.2
10	2.3	1.9	2.0	2.2	2.3
15	3.3	3.0	2.0	2.1	2.5
20	3.0	2.9	2.7	2.2	2.7
25	3.4	2.9	2.6	2.2	2.7
30	4.3	2.8	2.4	2.1	2.5
35	4.9	2.9	2.3	2.1	2.4
40	5.5	3.1	2.2	2.0	2.2
45	6.2	3.3	2.1	1.9	2.1
50	8.2	3.6	2.0	1.8	2.0
55	11.8	4.2	2.0	1.8	2.0
60	18.9	5.1	1.9	1.6	1.9
65	27.0	5.7	1.9	1.5	1.6
70	31.9	5.9	1.8	1.3	1.3
75	36.3	6.0	1.7	1.1	1.0
80	24.9	5.3	1.4	0.9	0.6
85	10.7	3.1	1.0	0.6	0.2
90	1.0	1.3	0.5	0.3	0.1
95	1.0	1.0	0.5	0.2	0.0
100	0.9	1.0	0.5	0.2	0.0
105	1.4	0.9	0.5	0.2	0.0
110	0.9	0.9	0.5	0.2	0.0
115	0.9	0.9	0.4	0.2	0.0
120	1.1	0.8	0.4	0.1	0.0
125	1.1	0.7	0.4	0.1	0.0
130	1.0	0.6	0.4	0.1	0.0
135	1.0	0.5	0.3	0.1	0.0
140	1.0	0.4	0.3	0.1	0.0
145	1.0	0.4	0.2	0.1	0.0
150	0.8	0.3	0.2	0.0	0.0
155	0.6	0.3	0.1	0.0	0.0
160	0.4	0.2	0.1	0.0	0.0
165	0.2	0.1	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0
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 AKOWS620WDHABCG

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKOWS620WDHABCG		
0-30	6.4	1.1
0-40	13.6	2.2
0-60	50.3	8.3
0-90	396.4	65.4
60-90	346.1	57.1
0-180	606.6	100.0

Beam Angle

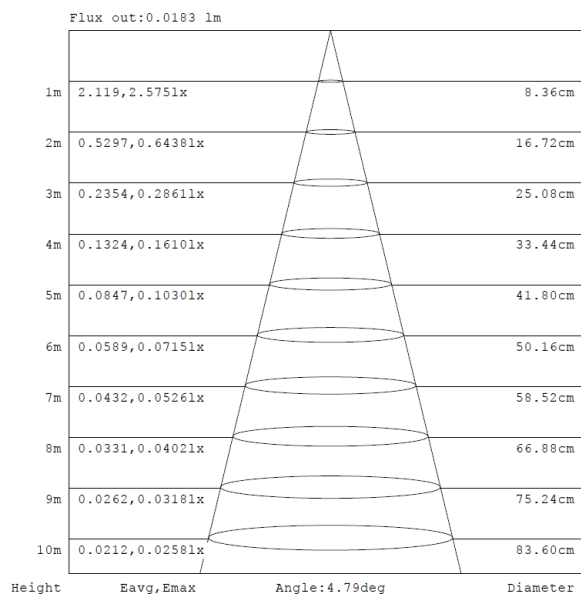
Total Beam Angle(°)
76.3

Illumination Plots

Model No.: AKOWS620WDHABCG

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

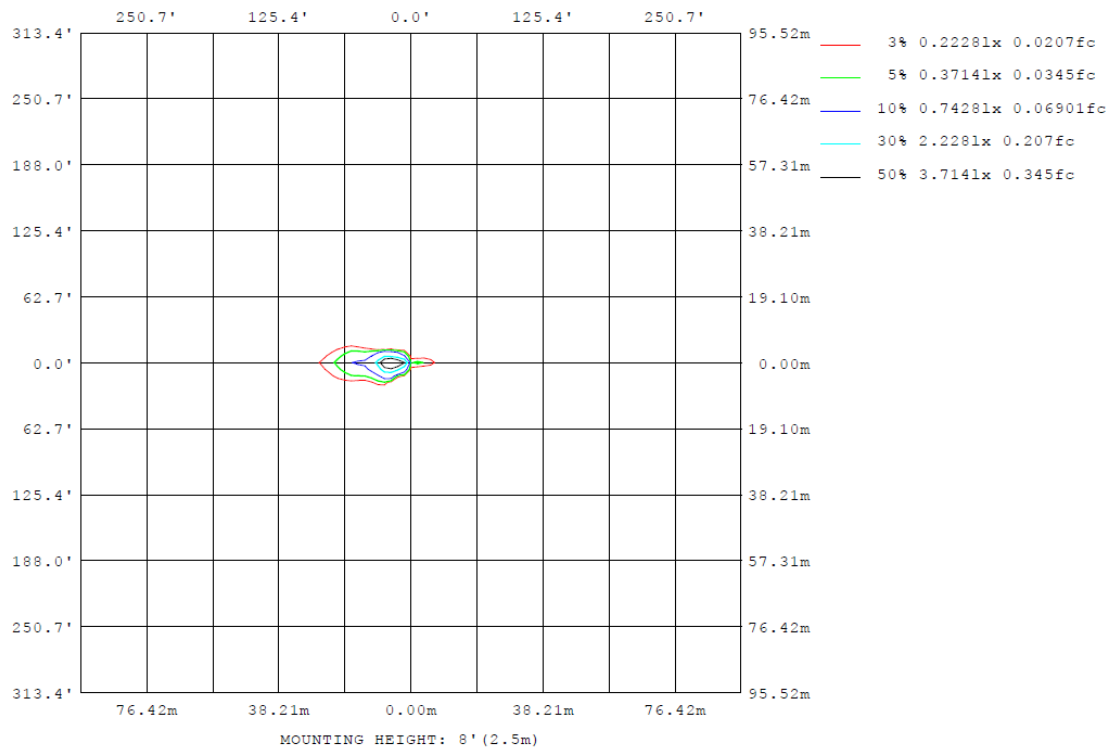
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

Model No.: AKOWS620WDHABCG

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKOWS620WDHABCG

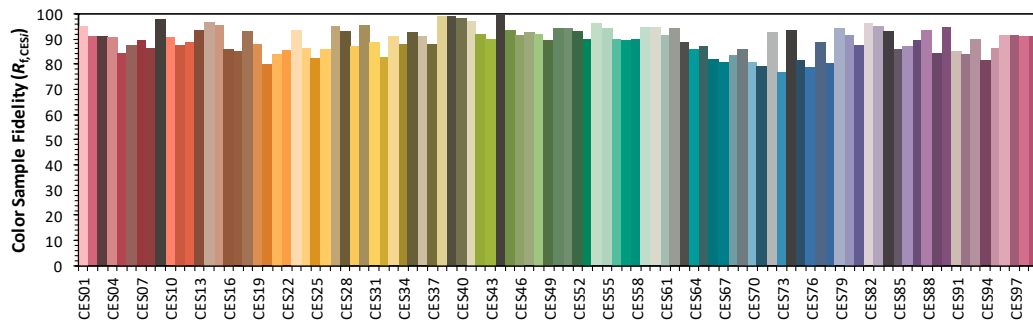
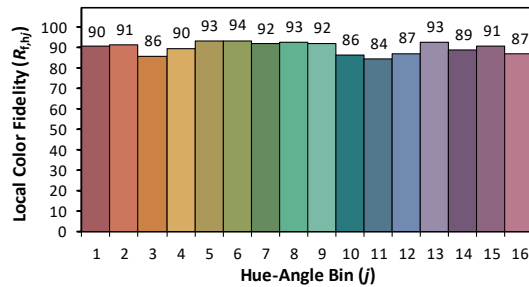
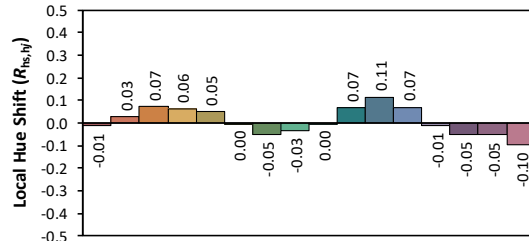
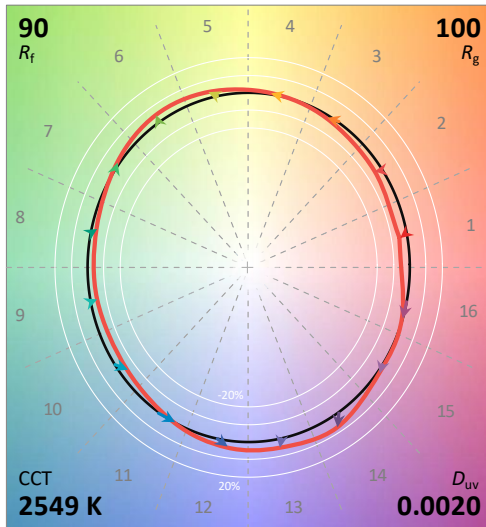
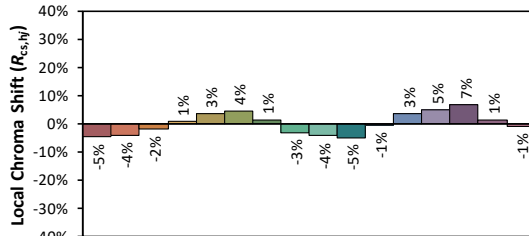
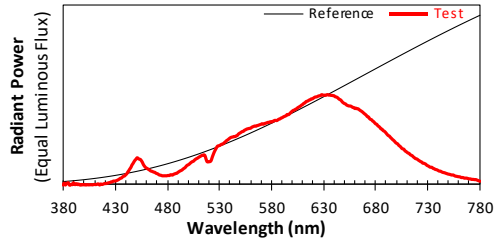
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/3/11

Model: AKOWS620WDHABCG



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

x 0.4763
 y 0.4192
 u' 0.2692
 v' 0.5331

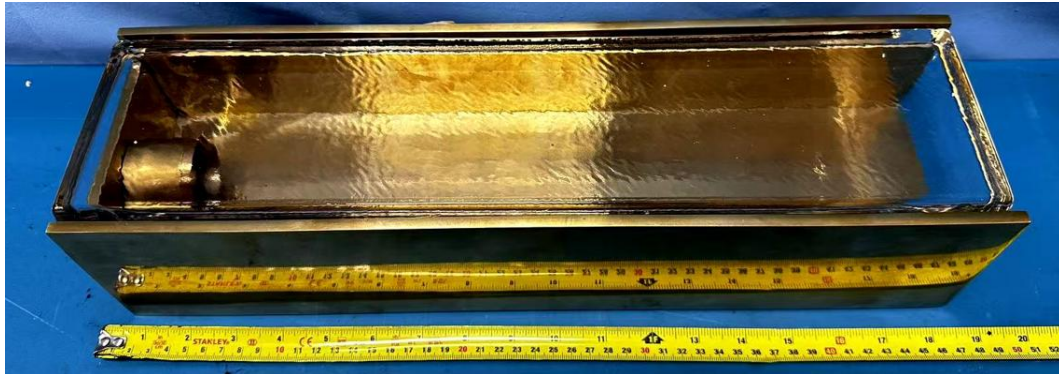
CIE 13.3-1995
(CRI)
 R_a 89
 R_g 63

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

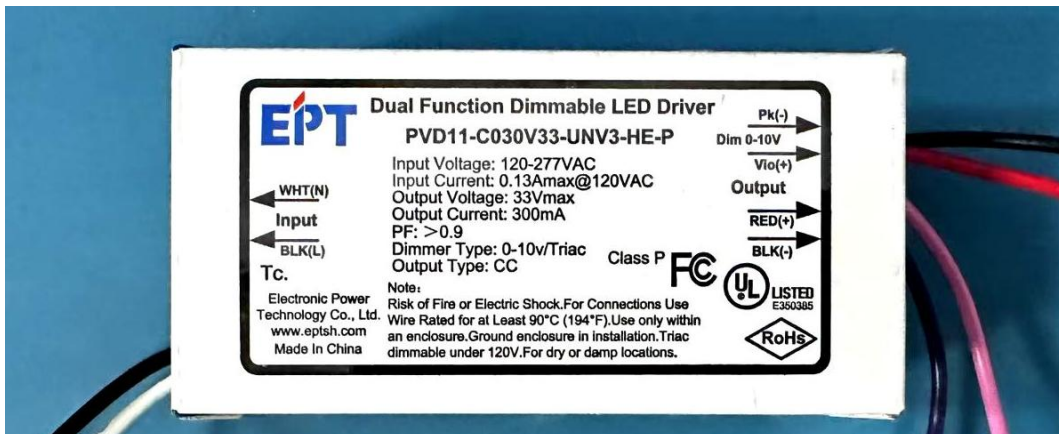
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of AKOWS620WDHABCG



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

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TEST REPORT

PRODUCT PICTURE (not to scale)



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 *****