

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241128212GZU-007

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None

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Report No.: 241128212GZU-007

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD690WDXX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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: QGZ241127042.

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-79-19 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

DESCRIPTION OF SAMPLE: The client submitted one sample of model AKPD690WDXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241128212-007.

MANUFACTURER /FACTORY & ADDRESS: Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd.
No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000

DATES OF TESTS: 18 December 2024

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:	AKPD690WDXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPD690WDXX

Criteria	Result
Total Lumen Output	350.1 lm
Total Power	30.8 W
Luminaire Efficacy	11.4 lm/W
S/MH(C0/180)	20.22
S/MH(C90/270)	22.47
Correlated Color Temperature (CCT)	1836 K
Color Rendering Index (CRI)	95
R9	72
Chromaticity Coordinate (x)	0.5433
Chromaticity Coordinate (y)	0.4071
Chromaticity Coordinate (u')	0.3196
Chromaticity Coordinate (v')	0.5389

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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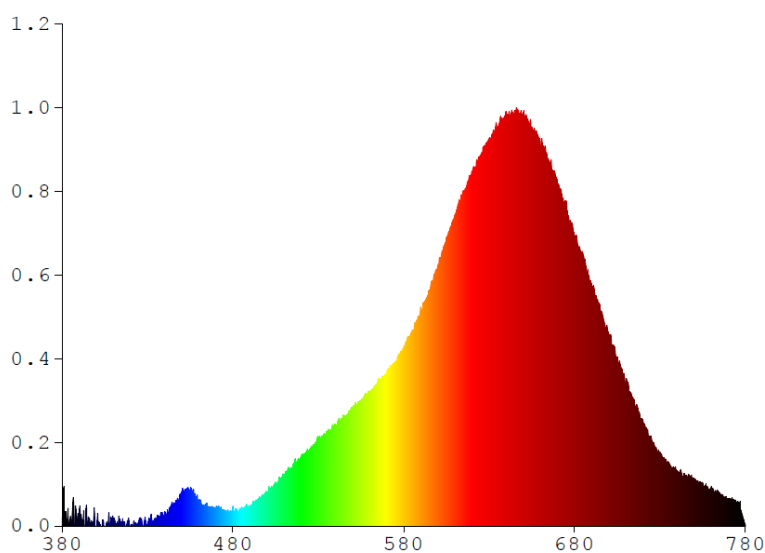
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD690WDXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0523	480	0.0536	580	0.4821	680	0.7781	780	0.0000
385	0.0249	485	0.0520	585	0.5265	685	0.7303		
390	0.0295	490	0.0555	590	0.5886	690	0.6505		
395	0.0079	495	0.0730	595	0.6369	695	0.5813		
400	0.0000	500	0.0905	600	0.7043	700	0.5166		
405	0.0000	505	0.1172	605	0.7756	705	0.4545		
410	0.0004	510	0.1382	610	0.8392	710	0.3891		
415	0.0009	515	0.1597	615	0.8999	715	0.3350		
420	0.0000	520	0.1872	620	0.9549	720	0.2831		
425	0.0132	525	0.2083	625	0.9993	725	0.2324		
430	0.0069	530	0.2368	630	1.0437	730	0.1994		
435	0.0170	535	0.2506	635	1.0759	735	0.1710		
440	0.0343	540	0.2707	640	1.1117	740	0.1497		
445	0.0515	545	0.2963	645	1.1199	745	0.1350		
450	0.0905	550	0.3181	650	1.1140	750	0.1275		
455	0.0984	555	0.3325	655	1.0738	755	0.1152		
460	0.0712	560	0.3626	660	1.0260	760	0.1070		
465	0.0527	565	0.3956	665	0.9808	765	0.0889		
470	0.0491	570	0.4143	670	0.9091	770	0.0740		
475	0.0392	575	0.4412	675	0.8373	775	0.0593		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD690WDXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

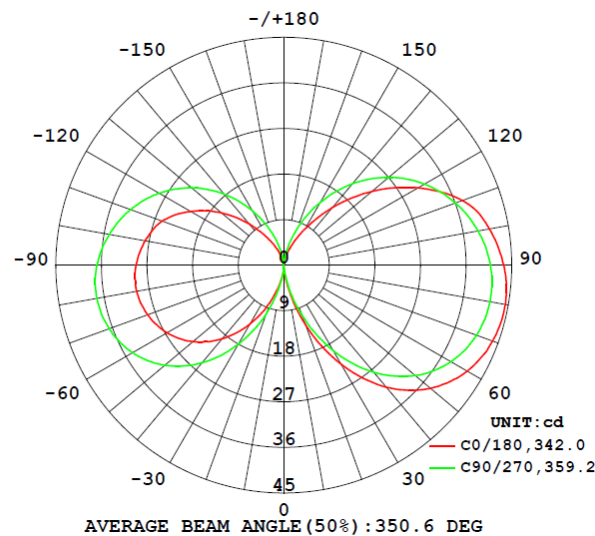
Photometric Measurements at 25°C – Distribution Method

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')
AKPD690WDXX								
S2411282 12-007	base-up	1836	95	72	0.5433	0.4071	0.3196	0.5389

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)
AKPD690WDXX							
S2411282 12-007	base-up	120.1	258.1	30.8	0.993	350.1	11.4

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD690WDXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.0	0.0	0.0	0.0	0.0
5	0.7	0.5	0.1	0.2	0.2
10	3.6	3.0	2.2	2.4	2.7
15	7.7	6.7	5.6	6.0	6.3
20	12.5	11.1	9.8	10.1	10.4
25	17.6	15.9	14.4	14.7	14.9
30	22.6	20.8	19.1	19.2	19.4
35	27.2	25.4	23.4	23.5	23.7
40	31.4	29.5	27.4	27.4	27.6
45	34.9	33.1	30.8	30.9	31.0
50	37.8	36.0	33.7	33.9	33.9
55	40.1	38.3	36.1	36.2	36.3
60	41.8	40.1	37.9	38.1	38.1
65	43.0	41.4	39.3	39.5	39.5
70	43.8	42.2	40.2	40.4	40.5
75	44.3	42.7	40.8	41.0	41.1
80	44.4	42.8	41.0	41.3	41.3
85	44.1	42.6	40.9	41.1	41.2
90	43.4	42.1	40.4	40.7	40.8
95	42.4	41.2	39.6	39.9	40.0
100	41.3	40.0	38.5	38.9	39.0
105	39.8	38.6	37.2	37.6	37.6
110	37.5	37.0	35.6	36.0	36.0
115	34.3	35.1	33.7	34.2	34.2
120	30.6	32.8	31.6	32.1	32.1
125	26.8	30.3	29.2	29.7	29.7
130	22.8	27.6	26.5	27.0	27.1
135	18.7	24.5	23.6	24.1	24.1
140	14.9	21.2	20.4	20.9	21.0
145	11.2	17.6	17.0	17.6	17.7
150	8.2	14.0	13.5	14.1	14.3
155	5.7	10.4	10.1	10.7	11.0
160	3.8	7.0	6.8	7.4	7.7
165	2.2	4.0	3.9	4.5	4.8
170	0.7	1.4	1.5	2.0	2.3
175	0.1	0.1	0.1	0.4	0.4
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 AKPD690WDXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD690WDXX		
0-30	8.3	2.4
0-40	21.9	6.3
0-60	73.3	21.0
0-90	189.5	54.1
60-90	116.2	33.1
0-180	350.1	100.0

Beam Angle

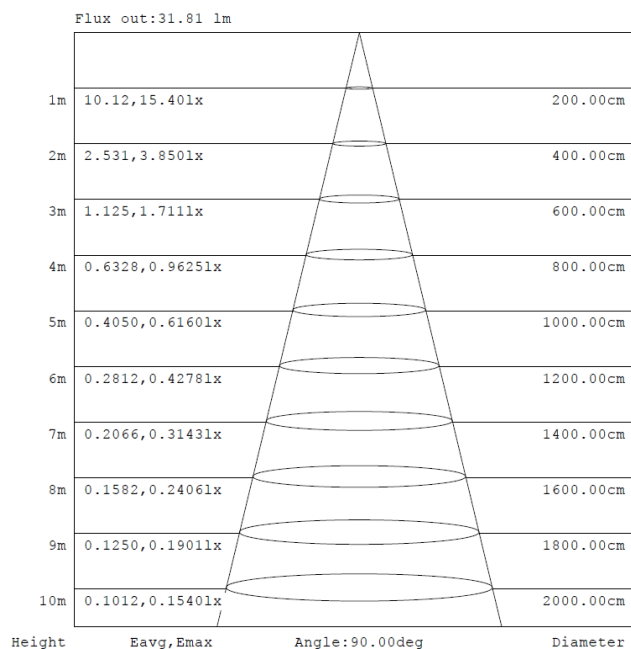
Total Beam Angle(°)
350.6

Illumination Plots

Model No.: AKPD690WDXX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

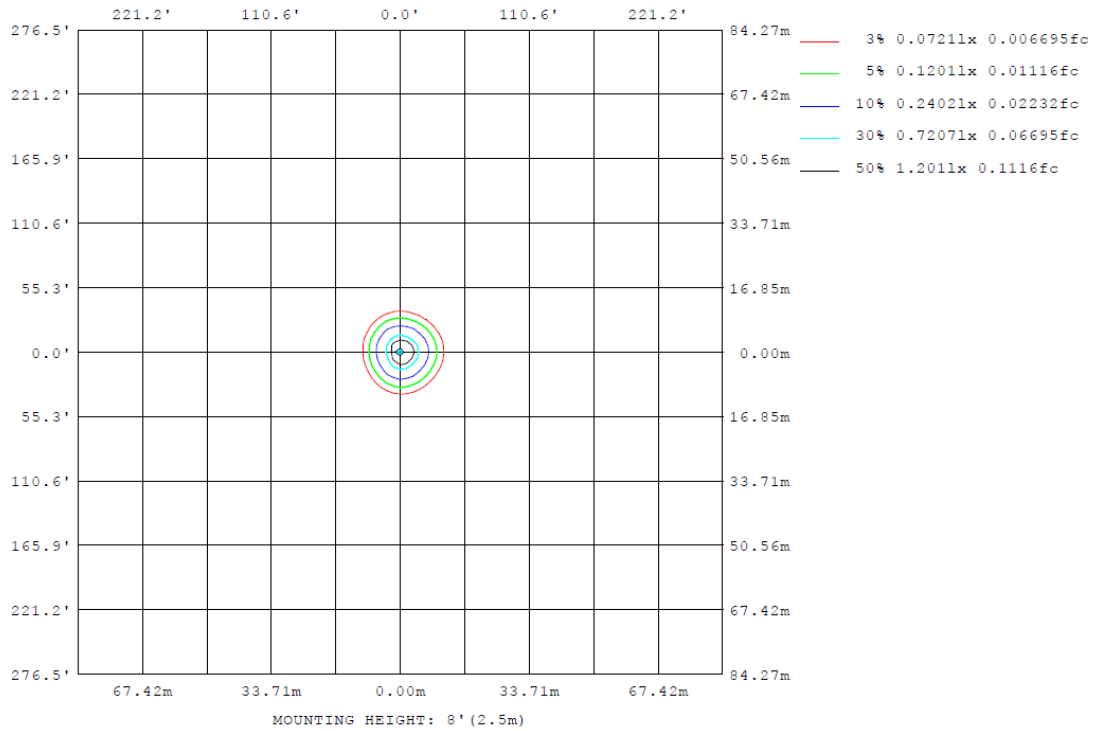
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD690WDXX

Model No.: AKPD690WDXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD690WDXX

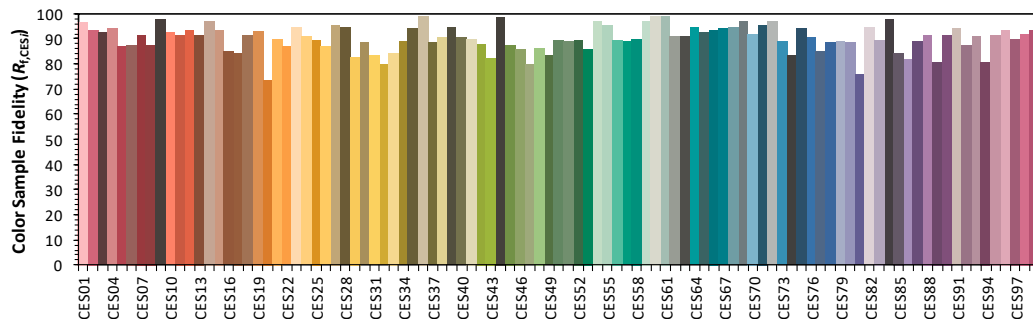
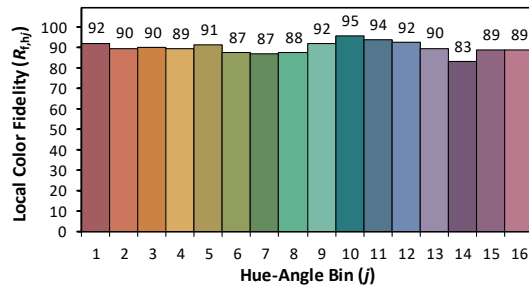
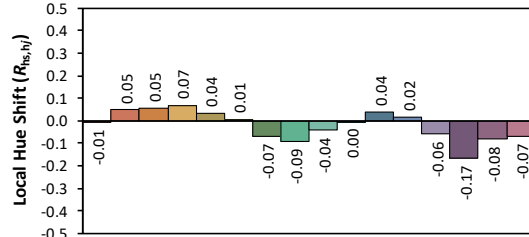
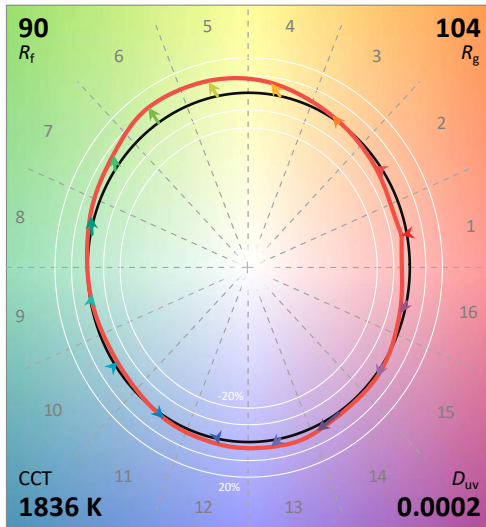
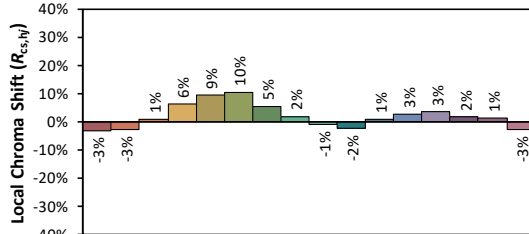
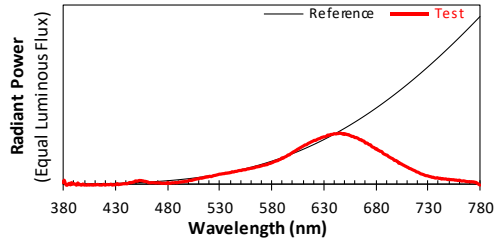
ANSI/IES T+B3:X7+B3:X17M-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/18

Model: AKPD690WDXX



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

x 0.5433
 y 0.4071
 u' 0.3196
 v' 0.5389

CIE 13.3-1995
(CRI)

R_a 95

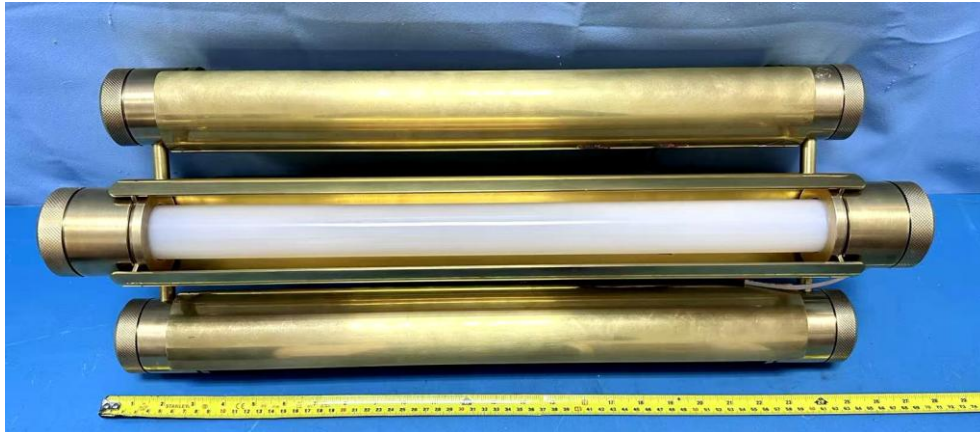
R_g 72

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

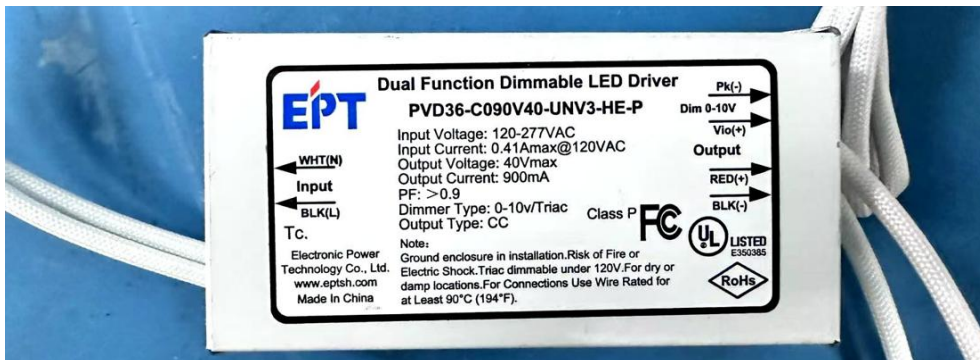
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of AKPD690WDXX



View of LED driver PVD36-C090V40-UNV3-HE-P(AA8512)

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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 *****