

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250227200GZU-002

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REVISION DATE

None

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Report format for LM-79_G

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Report No.: 250227200GZU-002

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD241WDHABCG

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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 AKPD241WDHABCG. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250227200-002.

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: 10 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:	AKPD241WDHABCG
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Criteria	Result
Total Lumen Output	513.0 lm
Total Power	11.4 W
Luminaire Efficacy	45.1 lm/W
S/MH(C0/180)	0.31
S/MH(C90/270)	0.29
Correlated Color Temperature (CCT)	2900 K
Color Rendering Index (CRI)	94
R9	78
Chromaticity Coordinate (x)	0.4453
Chromaticity Coordinate (y)	0.4087
Chromaticity Coordinate (u')	0.2540
Chromaticity Coordinate (v')	0.5244

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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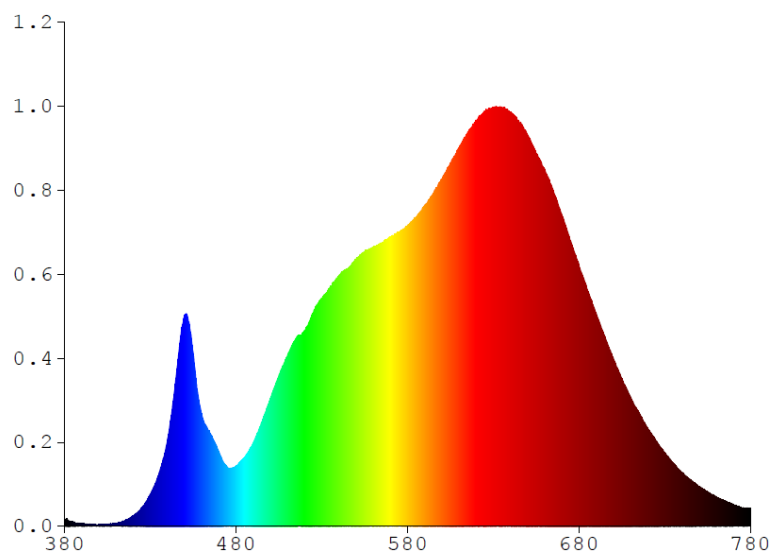
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	3.9728	480	30.3870	580	152.030	680	131.1800	780	9.3115
385	1.9886	485	34.9630	585	156.190	685	118.8800		
390	1.5732	490	42.2350	590	162.170	690	107.3700		
395	1.1009	495	52.7370	595	168.270	695	95.5950		
400	1.0263	500	64.5480	600	175.330	700	84.3790		
405	0.9186	505	76.1720	605	183.350	705	74.3960		
410	1.5641	510	86.3320	610	191.300	710	65.1130		
415	2.9866	515	94.9520	615	198.830	715	57.1720		
420	5.4429	520	99.0820	620	205.170	720	49.6060		
425	9.4660	525	107.7000	625	209.770	725	42.9180		
430	16.4330	530	115.4200	630	211.510	730	37.1040		
435	26.5900	535	121.1500	635	211.640	735	31.8800		
440	43.7580	540	126.7200	640	209.330	740	27.2650		
445	75.2540	545	130.0700	645	204.090	745	23.4740		
450	106.450	550	134.8100	650	197.570	750	20.2320		
455	86.4530	555	138.6700	655	188.070	755	17.4310		
460	56.1360	560	140.4500	660	180.120	760	14.9200		
465	46.7960	565	143.0800	665	169.230	765	13.0070		
470	37.4850	570	146.4300	670	156.830	770	11.0070		
475	29.6570	575	148.6000	675	141.430	775	9.5114		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

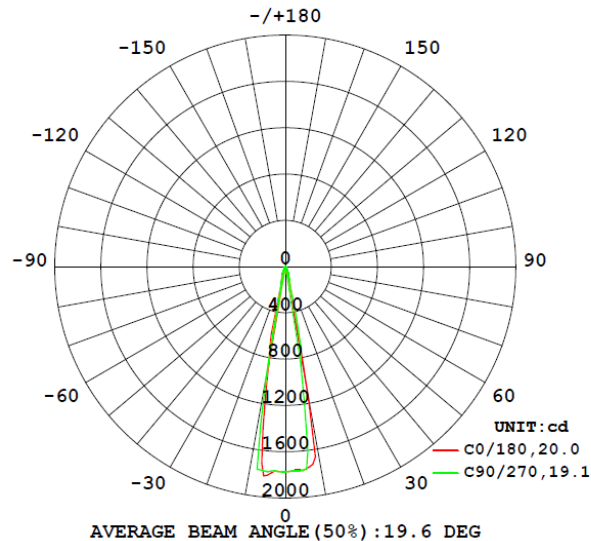
Photometric Measurements at 25°C – Distribution Method

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')
AKPD241WDHABCG								
S2502272 00-002	base-up	2900	94	78	0.4453	0.4087	0.2540	0.5244

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)
AKPD241WDHABCG							
S2502272 00-002	base-up	120.1	95.8	11.4	0.988	513.0	45.1

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1773.3	1771.9	1772.9	1772.5	1772.5
5	1768.1	1744.9	1746.3	1766.8	1763.1
10	1139.6	1494.3	1590.0	1306.3	757.9
15	156.6	535.4	485.3	485.1	140.7
20	70.5	507.4	473.7	235.1	84.1
25	38.5	400.6	324.4	159.6	57.8
30	23.3	215.1	255.8	72.6	27.0
35	16.2	105.9	105.9	33.1	14.9
40	9.6	55.9	79.5	19.2	10.3
45	6.3	33.2	54.2	10.9	6.4
50	4.8	19.9	37.4	6.5	4.4
55	3.8	11.1	24.6	4.6	3.4
60	2.9	8.4	18.0	3.3	2.5
65	2.1	6.3	13.2	2.3	1.9
70	1.6	3.1	8.0	1.6	1.5
75	1.1	1.7	4.2	1.1	1.0
80	0.8	0.8	1.2	0.7	0.7
85	0.6	0.6	0.5	0.6	0.6
90	0.6	0.5	0.5	0.6	0.6
95	0.6	0.5	0.5	0.6	0.6
100	0.7	0.6	0.5	0.7	0.7
105	0.8	0.8	2.4	0.9	0.9
110	0.9	0.9	2.1	1.0	1.0
115	1.0	1.0	2.4	1.1	1.1
120	1.0	1.2	2.3	1.1	1.1
125	1.1	1.4	2.8	1.3	1.3
130	1.3	1.8	3.3	1.6	1.5
135	1.6	2.2	3.8	2.0	1.8
140	2.1	2.8	4.5	2.5	2.3
145	2.7	3.6	5.3	3.3	2.9
150	3.4	4.8	6.3	4.7	3.9
155	4.6	6.4	7.7	6.9	5.3
160	5.9	9.4	10.4	10.1	7.2
165	6.5	9.1	8.0	10.3	7.7
170	5.0	4.8	4.6	5.6	4.7
175	3.9	3.2	3.1	3.1	2.9
180	0.4	0.2	0.2	0.3	0.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD241WDHABCG		
0-30	409.6	79.8
0-40	458.4	89.4
0-60	490.3	95.6
0-90	500.1	97.5
60-90	9.8	1.9
0-180	513.0	100.0

Beam Angle

Total Beam Angle(°)

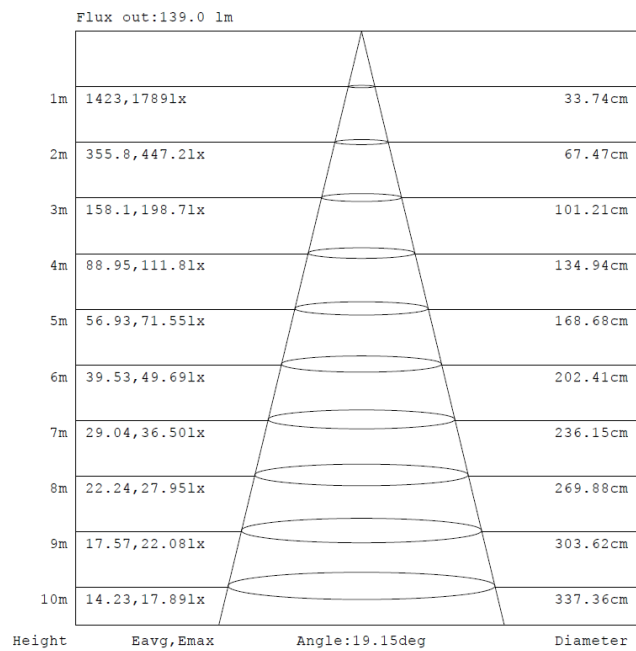
19.6

Illumination Plots

Model No.: AKPD241WDHABCG

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

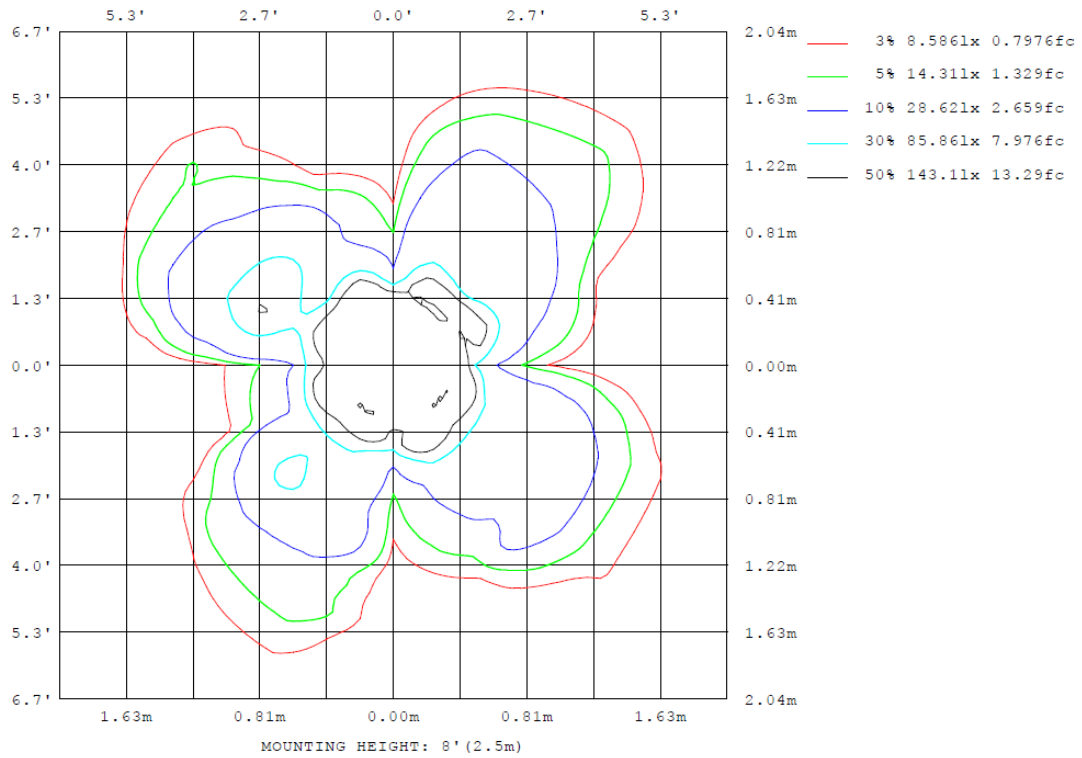
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD241WDHABCG

Model No.: AKPD241WDHABCG

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD241WDHABCG

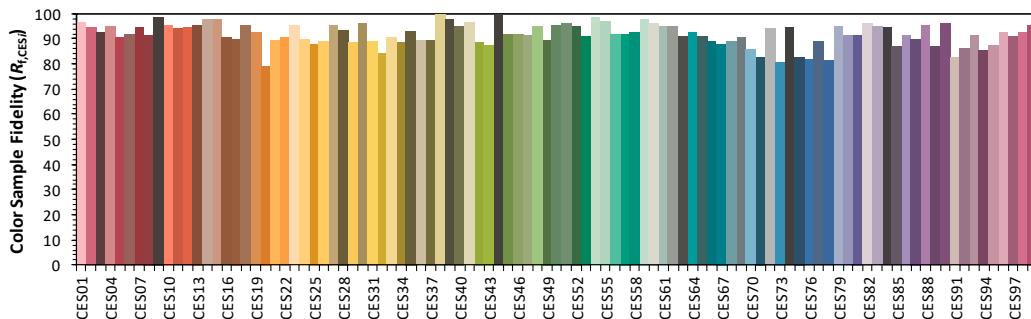
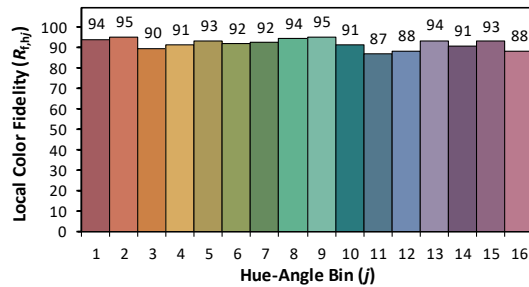
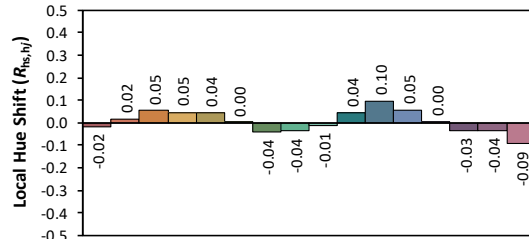
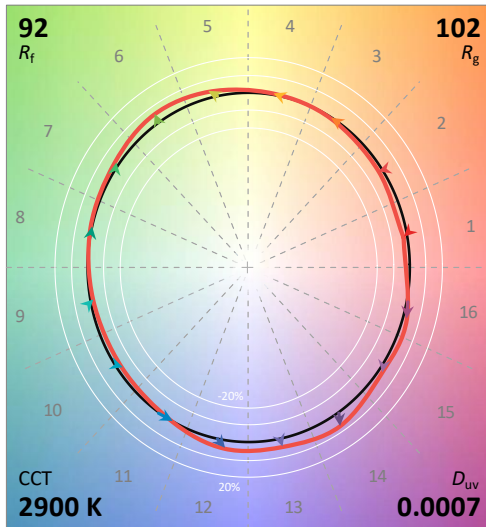
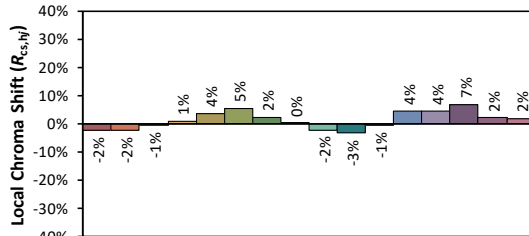
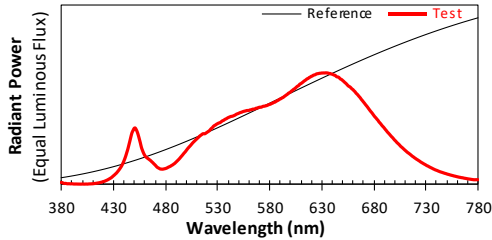
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/3/10

Model: AKPD241WDHABCG



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

x 0.4453
 y 0.4087
 u' 0.2540
 v' 0.5244

CIE 13.3-1995
(CRI)

R_a 94

R_g 78

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 AKPD241WDHABCG

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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 *****