

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124027GZU-003

ISSUE DATE

29 August 2024

REVISION DATE

Modification 1: 01 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124027GZU-003
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD15127XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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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: QGZ240119029.
<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-79-19	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
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model AKPD15127XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124027-003.
<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>	16 August 2024
<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:	AKPD15127XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPD15127XX

Criteria	Result
Total Lumen Output	4174.3 lm
Total Power	52.1 W
Luminaire Efficacy	80.1 lm/W
S/MH(C0/180)	3.99
S/MH(C90/270)	3.27
Correlated Color Temperature (CCT)	2448 K
Color Rendering Index (CRI)	92
R9	58
Chromaticity Coordinate (x)	0.4822
Chromaticity Coordinate (y)	0.4151
Chromaticity Coordinate (u')	0.2749
Chromaticity Coordinate (v')	0.5324

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124027GZU-003 issued on 29 August 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1 and 2 of the report.

***** 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

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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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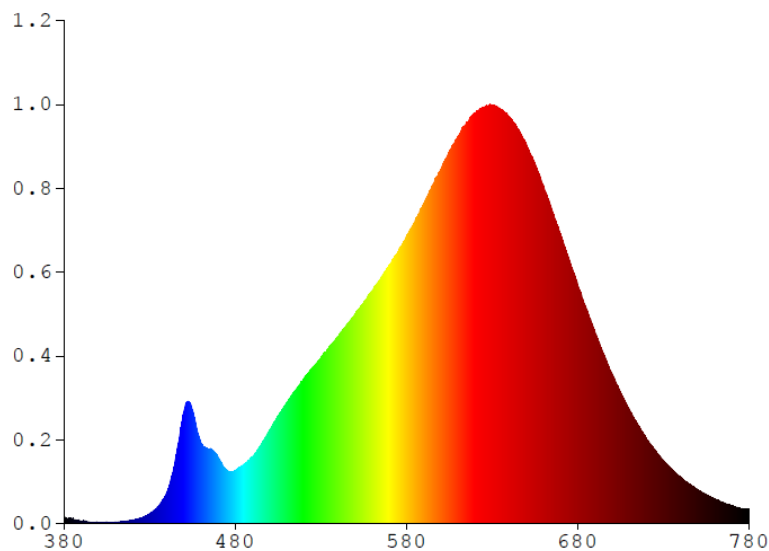
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD15127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0368	480	0.3118	580	1.6797	680	1.3967	780	0.0838
385	0.0267	485	0.3461	585	1.7681	685	1.2579		
390	0.0124	490	0.3882	590	1.8699	690	1.1213		
395	0.0088	495	0.4602	595	1.9757	695	0.9929		
400	0.0082	500	0.5424	600	2.0707	700	0.8767		
405	0.0092	505	0.6273	605	2.1751	705	0.7671		
410	0.0091	510	0.7054	610	2.2635	710	0.6690		
415	0.0140	515	0.7770	615	2.3442	715	0.5811		
420	0.0205	520	0.8431	620	2.4013	720	0.4997		
425	0.0339	525	0.9112	625	2.4306	725	0.4318		
430	0.0566	530	0.9674	630	2.4451	730	0.3677		
435	0.0994	535	1.0345	635	2.4248	735	0.3178		
440	0.1766	540	1.0973	640	2.3829	740	0.2714		
445	0.3644	545	1.1600	645	2.3111	745	0.2317		
450	0.6503	550	1.2254	650	2.2197	750	0.1978		
455	0.6666	555	1.2926	655	2.1017	755	0.1694		
460	0.4749	560	1.3617	660	1.9771	760	0.1435		
465	0.4376	565	1.4319	665	1.8340	765	0.1222		
470	0.3893	570	1.5148	670	1.6932	770	0.1045		
475	0.3149	575	1.5861	675	1.5119	775	0.0896		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD15127XX

Total operation burning time: 60 minutes
Stabilization time: 30 minutes

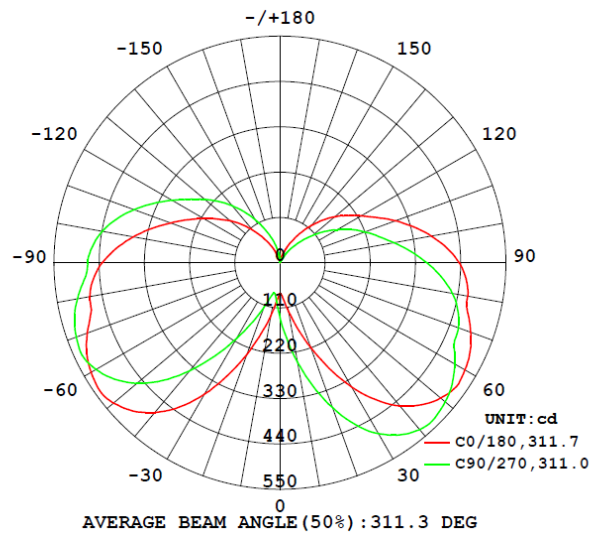
Photometric Measurements at 25°C – Distribution Method

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')
AKPD15127XX								
S2401240 27-003	base-up	2448	92	58	0.4822	0.4151	0.2749	0.5324

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)
AKPD15127XX							
S2401240 27-003	base-up	120.1	440.5	52.1	0.985	4174.3	80.1

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD15127XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	75.0	105.7	122.2	123.8	134.4
5	86.8	145.8	166.8	168.9	182.8
10	119.8	196.3	222.4	225.4	243.5
15	163.6	257.8	284.5	289.3	309.1
20	218.9	322.6	348.1	354.5	374.5
25	282.0	385.3	407.6	414.3	433.4
30	346.9	441.6	457.6	462.2	478.5
35	405.6	480.3	491.8	498.3	509.5
40	453.4	510.0	516.9	521.0	528.2
45	487.7	527.9	530.4	531.5	532.7
50	510.6	529.6	525.4	525.4	525.1
55	523.8	521.9	514.7	513.5	511.3
60	519.8	506.9	497.0	494.1	490.6
65	510.3	486.0	475.2	470.9	467.9
70	494.1	466.7	466.4	461.1	461.9
75	473.2	462.0	456.4	449.7	448.2
80	463.8	446.5	437.3	429.3	425.9
85	454.5	422.8	408.6	399.4	394.0
90	436.1	390.4	373.9	363.8	357.8
95	408.5	354.3	336.3	325.9	319.9
100	374.5	316.5	297.7	287.9	282.3
105	337.0	278.8	261.2	253.5	248.9
110	299.2	246.0	231.2	225.3	220.1
115	260.3	216.3	202.6	197.3	191.7
120	229.2	186.4	173.3	168.4	161.7
125	200.9	155.7	144.4	140.2	132.9
130	174.7	126.0	115.6	112.2	104.9
135	146.8	99.6	89.9	85.2	77.7
140	118.2	74.7	65.0	61.8	55.3
145	90.8	52.8	45.0	41.4	35.0
150	66.1	33.8	28.4	26.0	21.4
155	45.5	20.3	16.2	15.3	13.0
160	28.7	12.2	8.7	7.9	6.7
165	16.9	6.2	4.7	4.6	3.9
170	9.3	3.3	3.4	3.3	3.2
175	4.6	3.0	4.0	4.1	4.6
180	3.3	5.6	7.0	7.2	8.5

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD15127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD15127XX		
0-30	205.5	4.9
0-40	454.6	10.9
0-60	1273.1	30.5
0-90	2759.9	66.1
60-90	1486.8	35.6
0-180	4174.3	100.0

Beam Angle

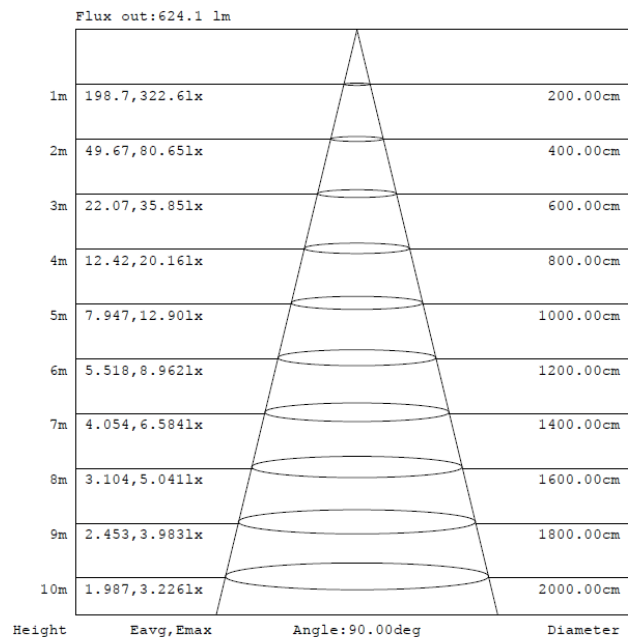
Total Beam Angle(°)
311.3

Illumination Plots

Model No.: AKPD15127XX

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

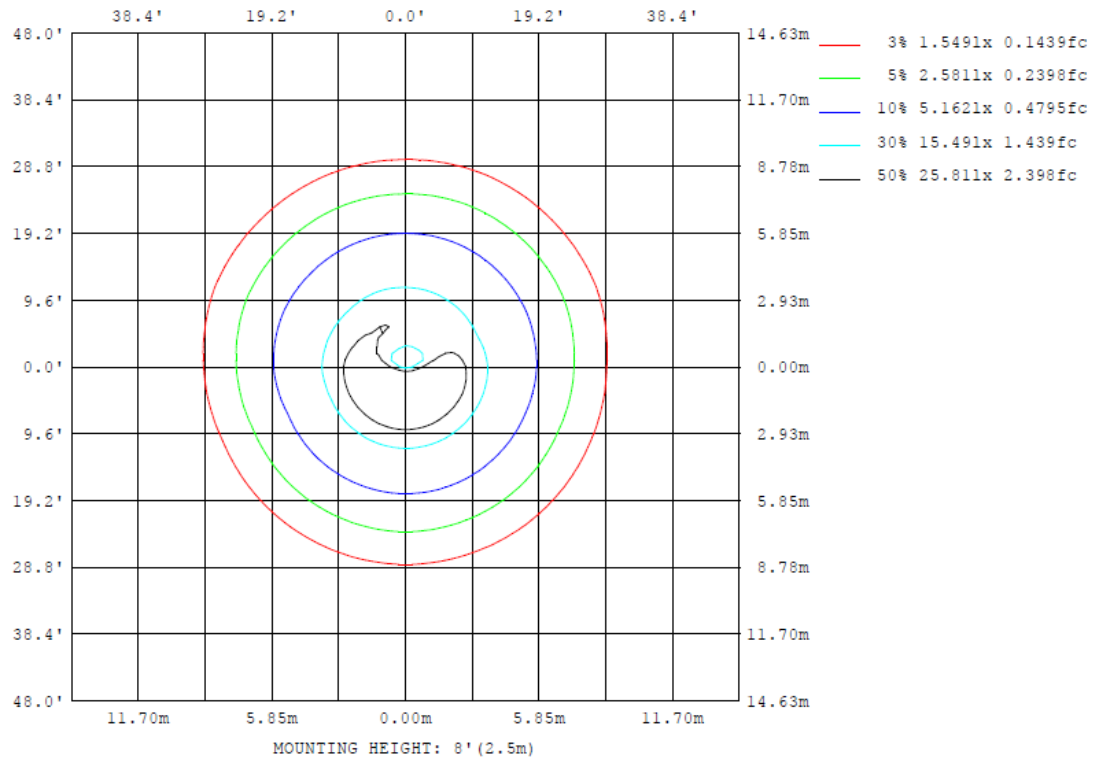
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD15127XX

Model No.: AKPD15127XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD15127XX

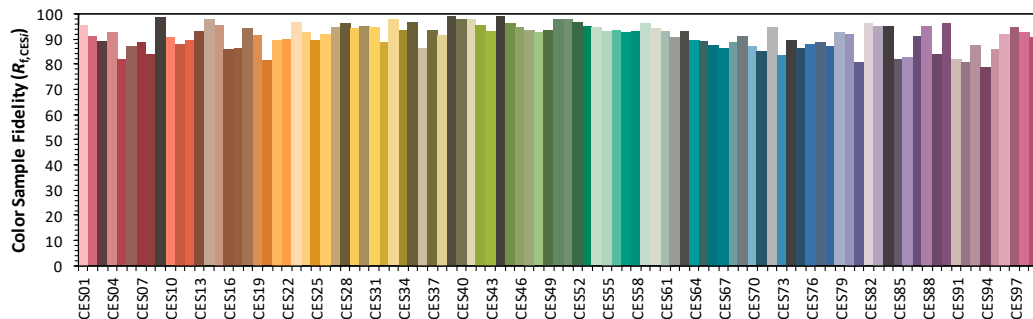
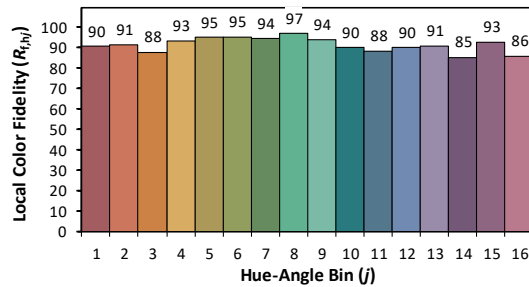
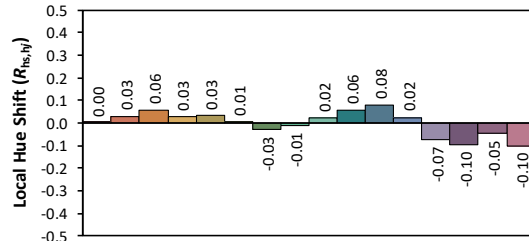
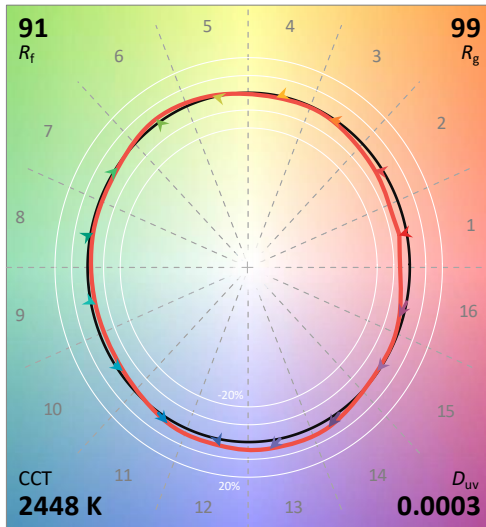
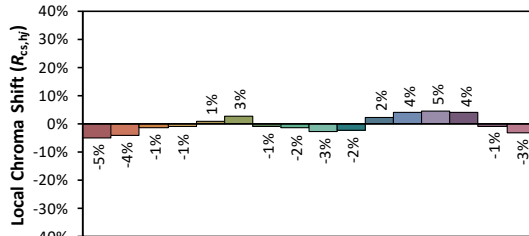
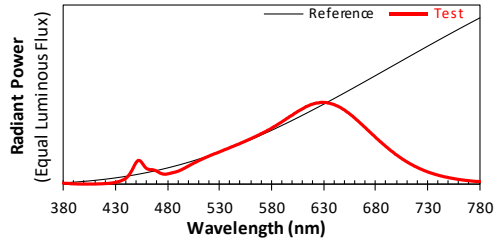
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/8/16

Model: AKPD15127xx



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

x 0.4822
 y 0.4151
 u' 0.2749
 v' 0.5324

CIE 13.3-1995
(CRI)

R_a 92
 R_g 58

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 AKPD15127XX



External view of AKPD15127XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PSS30W-0700-38-VCC1 (AB2613)



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****