

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240729032GZU-002

ISSUE DATE

09 October 2024

REVISION DATE

Modification 1: 28 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240729032GZU-002
Modification 1: 28 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD17127XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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: QGZ240726006.
<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 AKPD17127XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240729032-002.
<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>	07 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:	AKPD17127XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKPD17127XX

Criteria	Result
Total Lumen Output	207.1 lm
Total Power	19.0 W
Luminaire Efficacy	10.9 lm/W
S/MH(C0/180)	2.00
S/MH(C90/270)	1.81
Correlated Color Temperature (CCT)	2167 K
Color Rendering Index (CRI)	91
R9	56
Chromaticity Coordinate (x)	0.5179
Chromaticity Coordinate (y)	0.4278
Chromaticity Coordinate (u')	0.2918
Chromaticity Coordinate (v')	0.5424

Remark:

Modification 1: Based on and superseded the previous report 240729032GZU-002 issued on 09 October 2024, correct the manufacturer information on page 2 of the report, Correct the applicant information 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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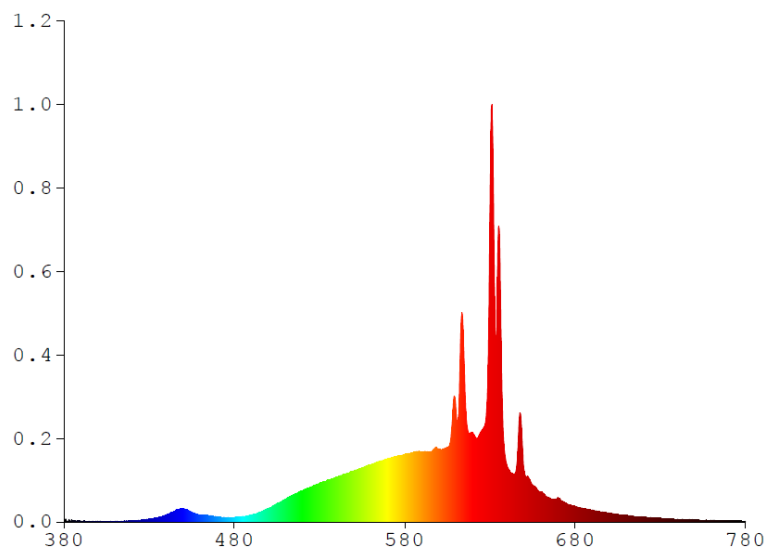
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD17127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0109	480	0.0286	580	0.4173	680	0.0953	780	0.0028
385	0.0018	485	0.0335	585	0.4307	685	0.0823		
390	0.0006	490	0.0428	590	0.4330	690	0.0715		
395	0.0004	495	0.0599	595	0.4322	695	0.0620		
400	0.0031	500	0.0854	600	0.4479	700	0.0530		
405	0.0012	505	0.1122	605	0.4570	705	0.0462		
410	0.0034	510	0.1406	610	0.6745	710	0.0404		
415	0.0042	515	0.1679	615	0.8994	715	0.0344		
420	0.0074	520	0.1940	620	0.5470	720	0.0305		
425	0.0114	525	0.2177	625	0.5616	725	0.0262		
430	0.0192	530	0.2370	630	1.9576	730	0.0229		
435	0.0276	535	0.2580	635	1.8101	735	0.0196		
440	0.0431	540	0.2772	640	0.3432	740	0.0164		
445	0.0679	545	0.2961	645	0.3032	745	0.0147		
450	0.0818	550	0.3144	650	0.3157	750	0.0131		
455	0.0594	555	0.3333	655	0.2279	755	0.0110		
460	0.0436	560	0.3553	660	0.1850	760	0.0094		
465	0.0384	565	0.3715	665	0.1469	765	0.0086		
470	0.0311	570	0.3904	670	0.1485	770	0.0079		
475	0.0273	575	0.4031	675	0.1079	775	0.0070		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD17127XX

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

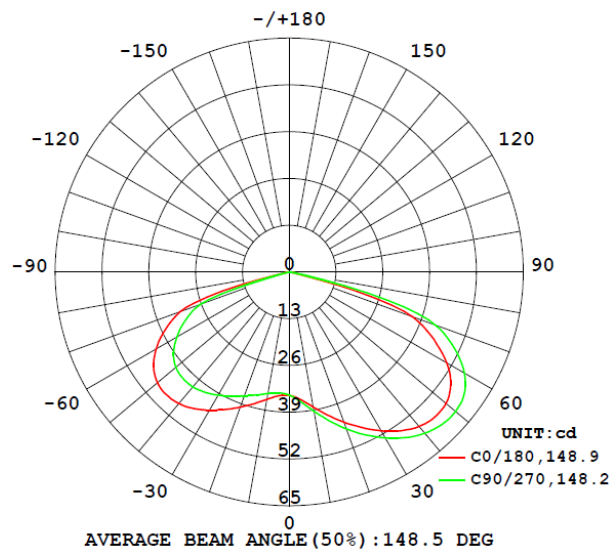
Photometric Measurements at 25°C – Distribution Method

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')
AKPD17127XX								
S2407290 32-002	base-up	2167	91	56	0.5179	0.4278	0.2918	0.5424

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)
AKPD17127XX							
S2407290 32-002	base-up	120.0	159.7	19.0	0.989	207.1	10.9

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD17127XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	34.3	34.3	34.3	34.2	34.2
5	35.6	36.0	36.2	36.3	36.1
10	38.1	38.9	39.3	39.5	39.2
15	41.2	42.4	43.0	43.2	42.8
20	44.4	46.0	46.9	47.0	46.4
25	47.7	49.6	50.6	50.7	49.9
30	50.9	53.1	54.2	54.2	53.2
35	53.9	56.2	57.3	57.3	56.2
40	56.0	58.5	59.6	59.6	58.5
45	57.1	59.7	60.9	61.0	59.9
50	56.8	59.7	61.0	61.2	60.3
55	54.7	57.8	59.4	59.9	59.3
60	50.5	53.7	55.6	56.5	56.1
65	44.3	47.6	49.9	51.1	50.8
70	36.3	39.7	42.1	43.4	43.2
75	13.5	17.0	19.8	21.8	22.3
80	0.1	0.4	1.1	1.8	2.2
85	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0
135	0.1	0.0	0.0	0.0	0.0
140	0.1	0.1	0.1	0.1	0.1
145	0.1	0.1	0.1	0.1	0.1
150	0.1	0.1	0.1	0.1	0.1
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.1
165	0.1	0.1	0.1	0.1	0.1
170	0.1	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
180	0.1	0.1	0.1	0.1	0.1

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD17127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD17127XX		
0-30	35.3	17.0
0-40	66.2	32.0
0-60	150.3	72.6
0-90	206.9	99.9
60-90	56.6	27.3
0-180	207.1	100.0

Beam Angle

Total Beam Angle(°)

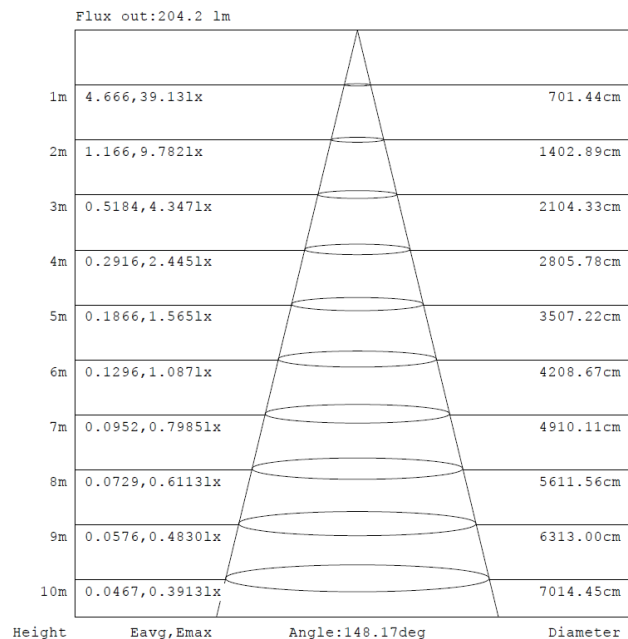
148.5

Illumination Plots

Model No.: AKPD17127XX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

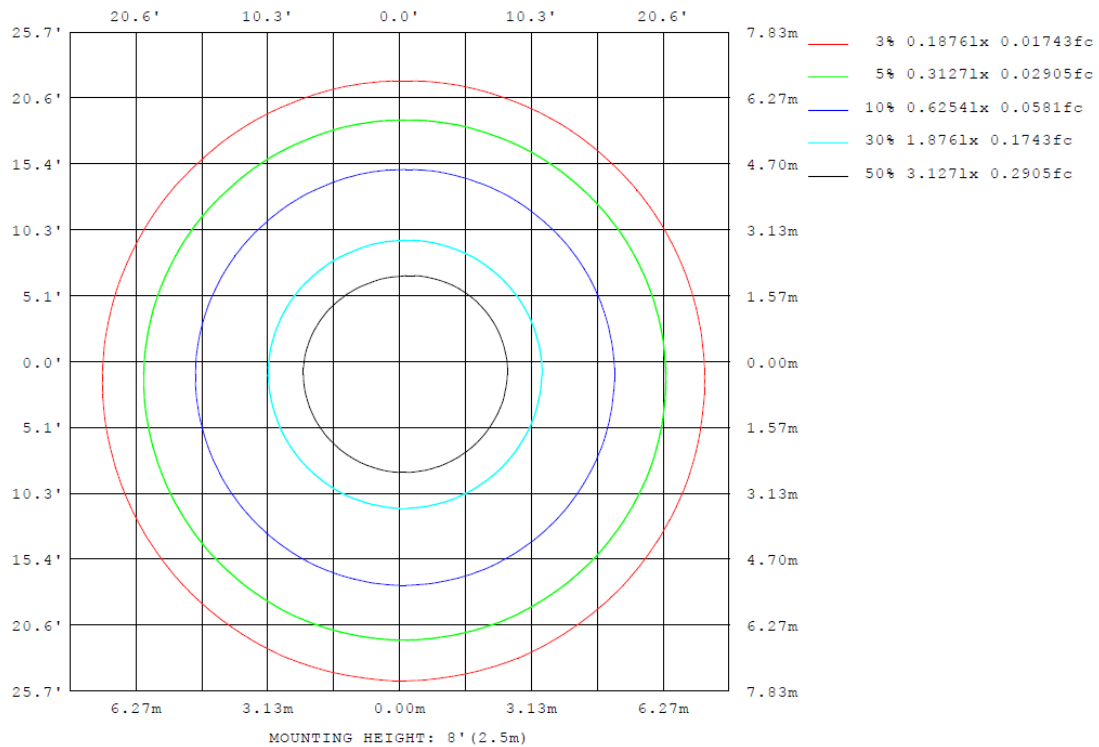
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD17127XX

Model No.: AKPD17127XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD17127XX

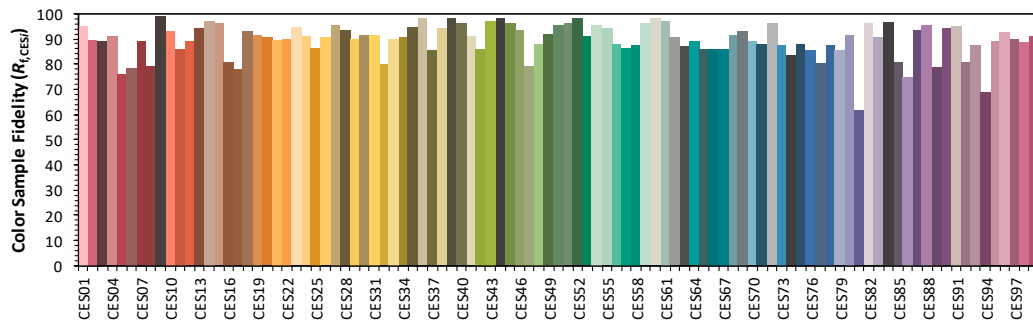
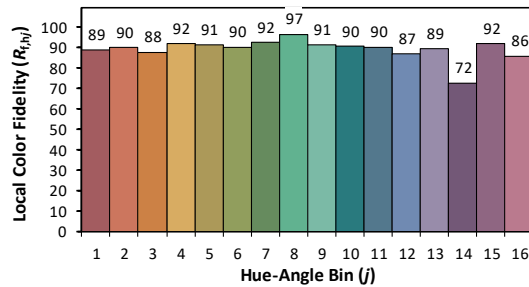
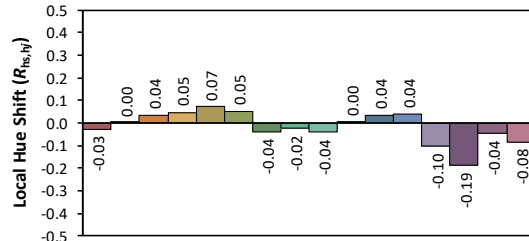
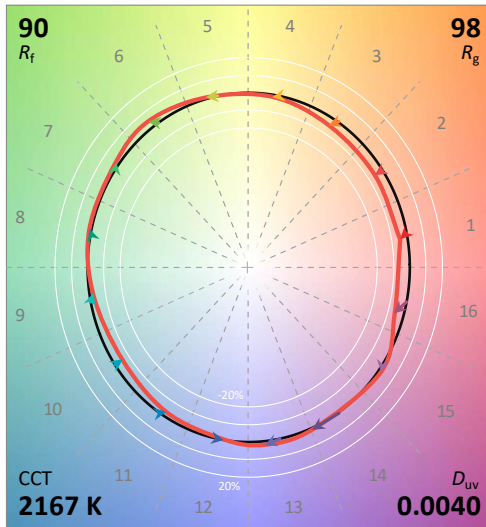
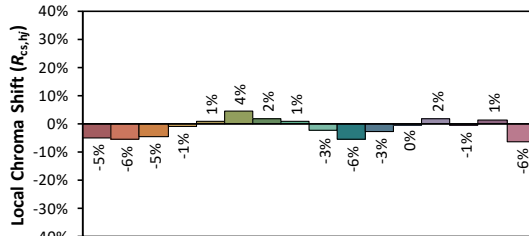
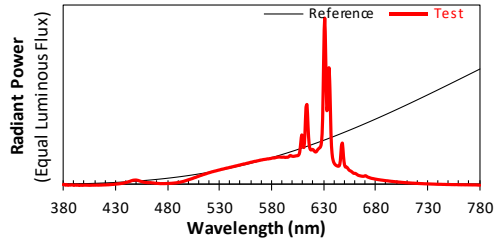
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/8/7

Model: AKPD17127XX



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

x 0.5179
 y 0.4278
 u' 0.2918
 v' 0.5424

CIE 13.3-1995
(CRI)

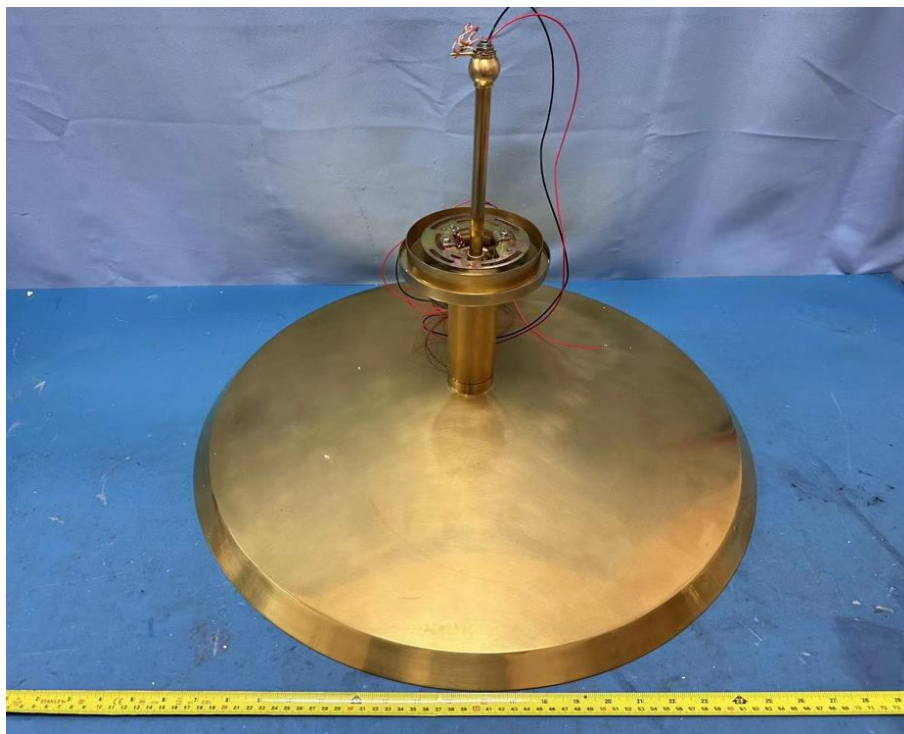
R_a 91
 R_g 56

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

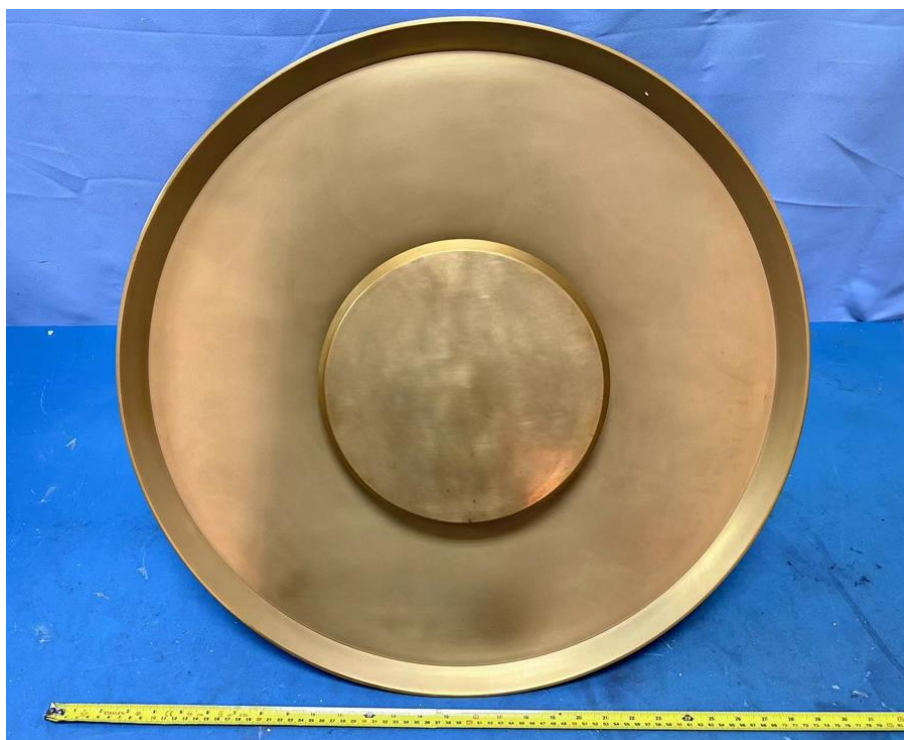
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of AKPD17127XX

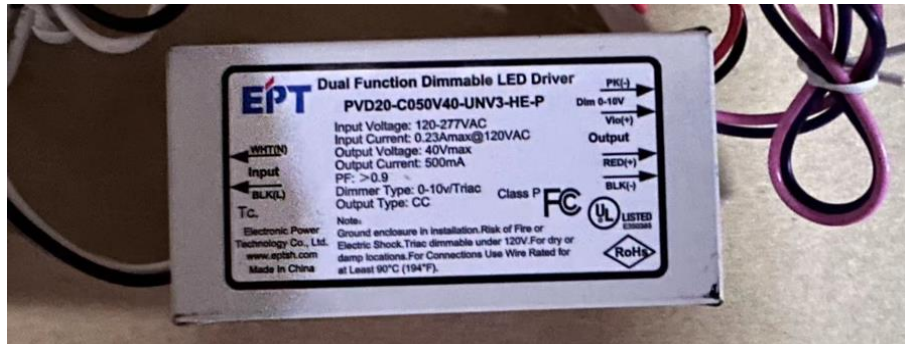


External view of AKPD17127XX

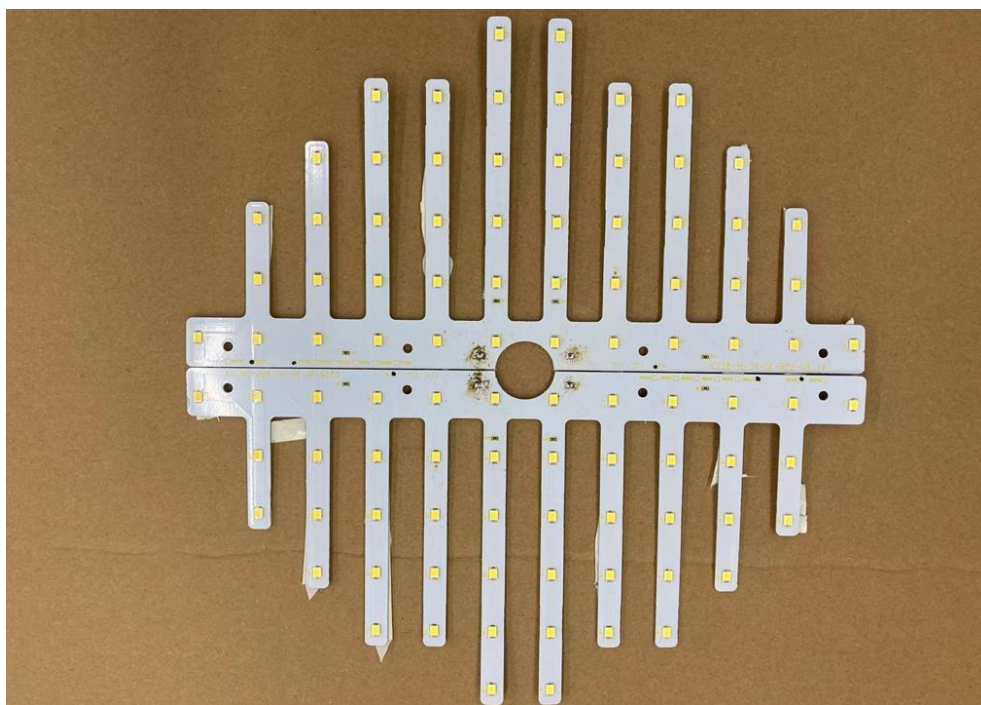
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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD20-C050V40-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 *****