

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124048GZU-003

ISSUE DATE

18 July 2024

REVISION DATE

Modification 1: 07 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124048GZU-003
Modification 1: 07 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKPD33827XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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Email: asame@visualcomfort.com
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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: QGZ240122060.

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 AKPD33827XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124048-006.

MANUFACTURER /FACTORY & ADDRESS: Dongguan Denghuang HomeFurnishing Co., Ltd.
No.5, Central Road, Yayuan IndustrialZone, Nancheng District
Dongguan City, Guangdong Province, 523000

DATES OF TESTS: 12 July 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

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

TEST REPORT

SUMMARY

Model Number:	AKPD33827XX
Description:	LED luminaire
Brand Name:	NA

Test Condition: 120V, 60Hz For AKPD33827XX

Criteria	Result
Total Lumen Output	350.0 lm
Total Power	8.7 W
Luminaire Efficacy	40.0 lm/W
S/MH(C0/180)	0.69
S/MH(C90/270)	0.60
Correlated Color Temperature (CCT)	2689 K
Color Rendering Index (CRI)	92
R9	60
Chromaticity Coordinate (x)	0.4522
Chromaticity Coordinate (y)	0.3954
Chromaticity Coordinate (u')	0.2644
Chromaticity Coordinate (v')	0.5202

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124048GZU-003 issued on 18 July 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page 1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	DS215S	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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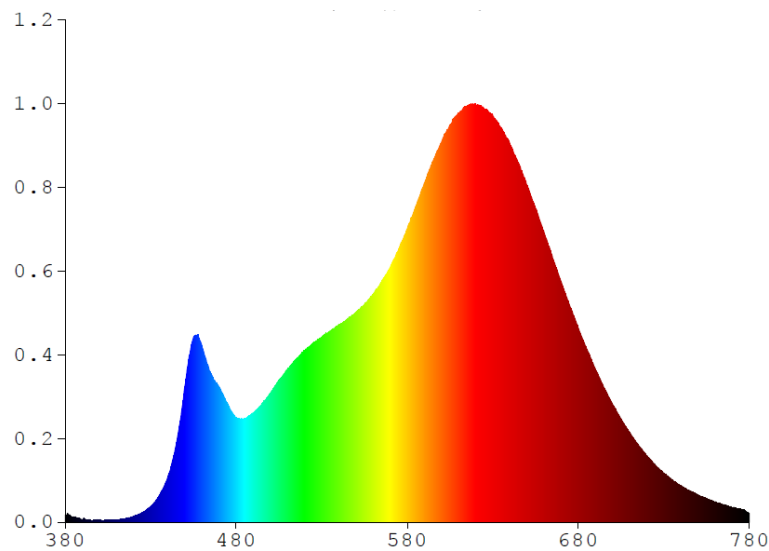
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKPD33827XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.1681	480	2.4464	580	6.8695	680	4.5188	780	0.1987
385	0.1161	485	2.4242	585	7.4023	685	4.0260		
390	0.0661	490	2.5574	590	7.9389	690	3.5558		
395	0.0445	495	2.7635	595	8.4569	695	3.1486		
400	0.0529	500	3.0265	600	8.8924	700	2.7412		
405	0.0516	505	3.3146	605	9.2920	705	2.4016		
410	0.0630	510	3.5785	610	9.5705	710	2.0914		
415	0.0809	515	3.8104	615	9.7370	715	1.8036		
420	0.1390	520	3.9974	620	9.7707	720	1.5540		
425	0.2186	525	4.1950	625	9.6723	725	1.3279		
430	0.3620	530	4.3243	630	9.4939	730	1.1460		
435	0.6239	535	4.4807	635	9.2269	735	0.9866		
440	1.0527	540	4.6229	640	8.8357	740	0.8517		
445	1.8382	545	4.7565	645	8.3950	745	0.7321		
450	3.1685	550	4.9034	650	7.8736	750	0.6355		
455	4.3191	555	5.1013	655	7.3318	755	0.5486		
460	4.1035	560	5.3264	660	6.7553	760	0.4756		
465	3.4725	565	5.6148	665	6.1628	765	0.4099		
470	3.1591	570	5.9622	670	5.6022	770	0.3506		
475	2.7580	575	6.3878	675	4.9540	775	0.3016		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD33827XX

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

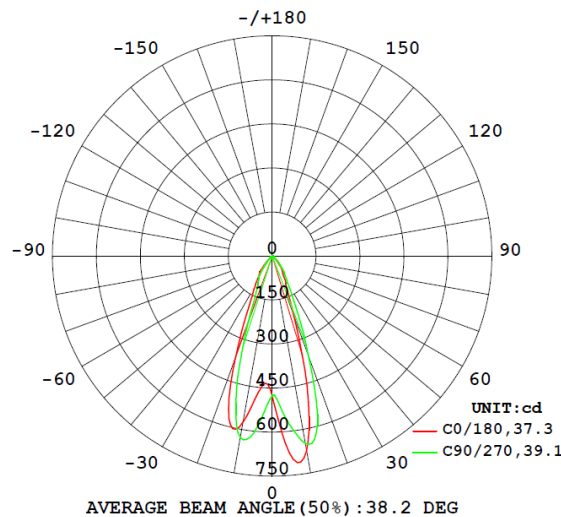
Photometric Measurements at 25°C – Distribution Method

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')
AKPD33827XX								
S2401240 48-006	base-up	2689	92	60	0.4522	0.3954	0.2644	0.5202

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)
AKPD33827XX							
S2401240 48-006	base-up	120.1	74.2	8.7	0.981	350.0	40.0

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD33827XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	478.0	477.0	475.9	475.0	475.2
5	671.4	638.0	603.3	577.4	557.8
10	673.7	651.7	627.6	633.1	647.9
15	460.1	462.0	472.8	544.5	596.2
20	218.6	232.0	271.1	326.8	366.4
25	115.9	121.6	141.9	171.6	192.6
30	78.7	78.4	86.8	90.9	106.5
35	60.3	62.2	68.9	71.4	74.4
40	36.3	38.8	43.5	46.0	47.3
45	19.1	22.4	27.5	29.8	31.9
50	10.5	11.2	12.5	15.9	17.3
55	6.7	7.0	7.3	8.4	8.8
60	6.3	6.3	6.6	7.5	8.3
65	5.9	5.9	6.5	7.7	7.8
70	4.6	5.1	6.1	7.8	6.6
75	1.0	1.3	1.6	2.1	3.0
80	0.6	0.6	0.8	0.9	0.9
85	0.2	0.2	0.3	0.4	0.4
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	0.1	0.1	0.1	0.0	0.0
130	0.1	0.1	0.1	0.1	0.1
135	0.2	0.2	0.2	0.2	0.2
140	0.3	0.3	0.3	0.3	0.3
145	0.4	0.4	0.4	0.4	0.4
150	0.5	0.5	0.5	0.5	0.5
155	0.6	0.6	0.6	0.6	0.6
160	0.6	0.6	0.6	0.6	0.6
165	0.6	0.6	0.6	0.6	0.6
170	0.5	0.5	0.6	0.6	0.6
175	0.4	0.4	0.5	0.5	0.5
180	0.3	0.3	0.4	0.4	0.4

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD33827XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKPD33827XX		
0-30	271.6	77.6
0-40	313.9	89.7
0-60	340.5	97.3
0-90	349.3	99.8
60-90	8.8	2.5
0-180	350.0	100.0

Beam Angle

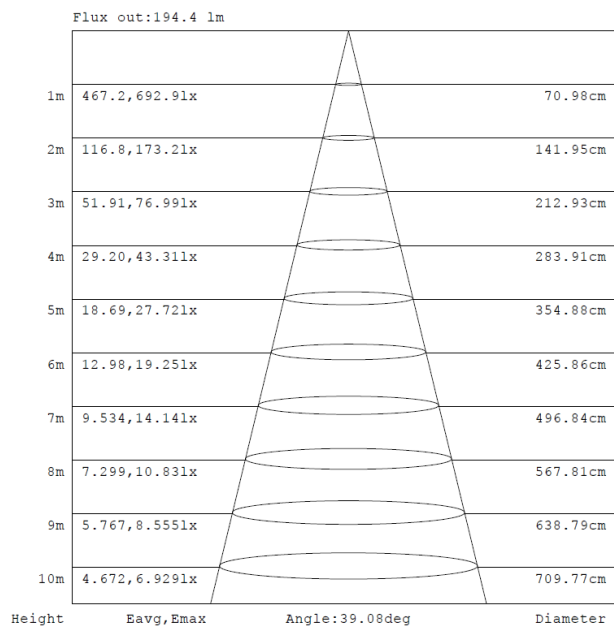
Total Beam Angle(°)
38.2

Illumination Plots

Model No.: AKPD33827XX

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

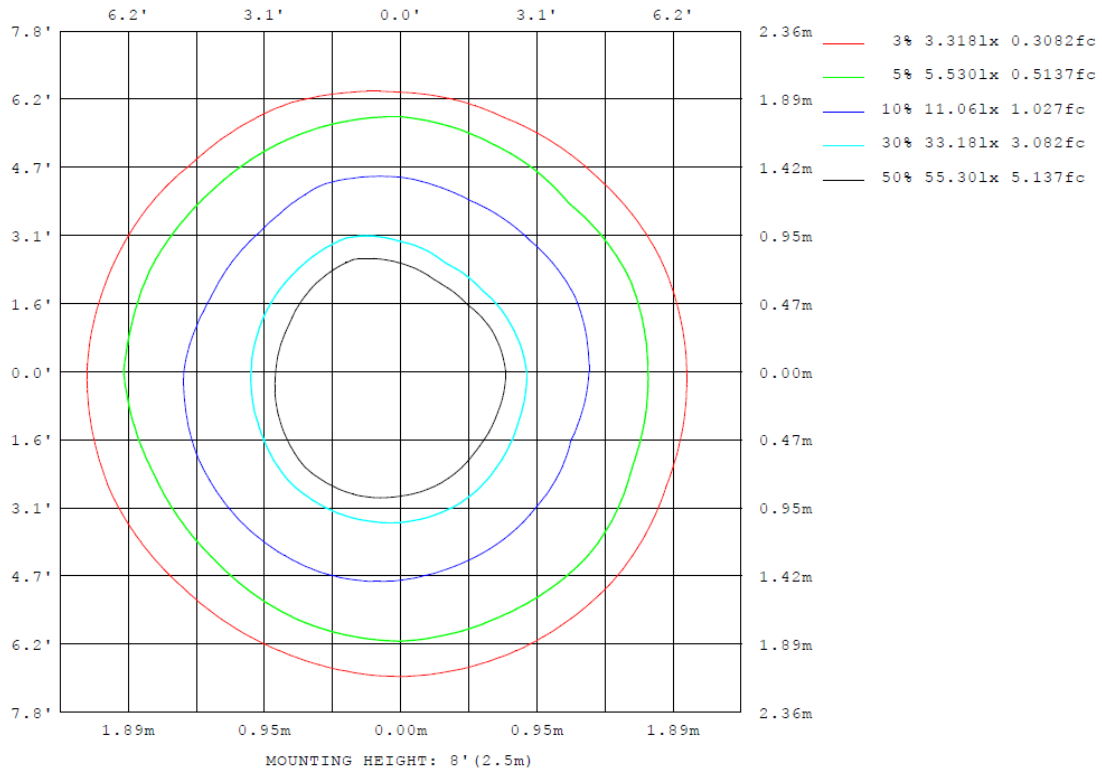
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD33827XX

Model No.: AKPD33827XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKPD33827XX

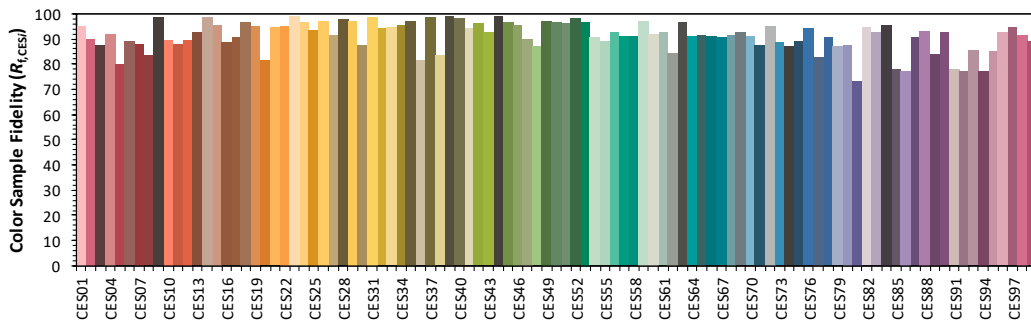
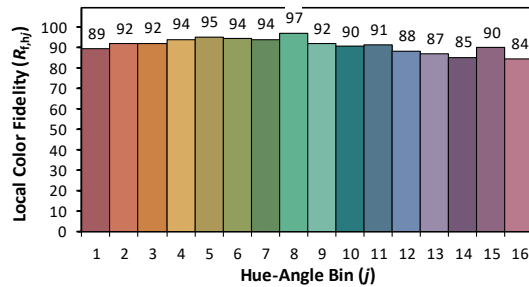
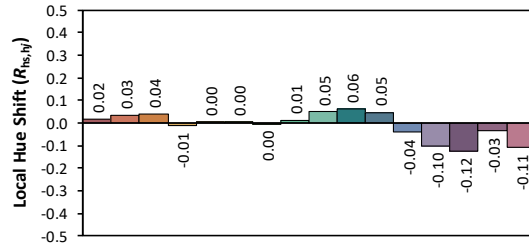
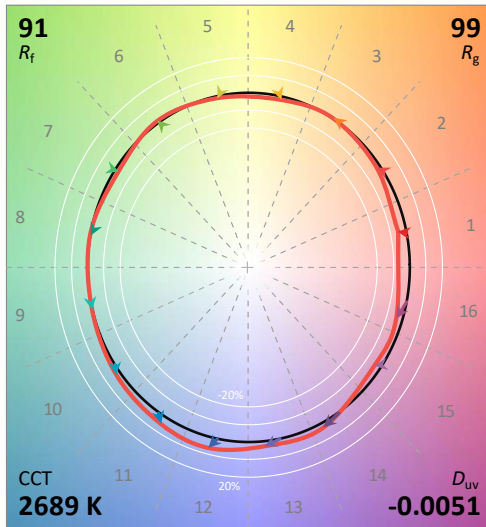
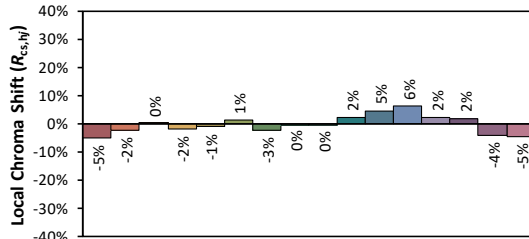
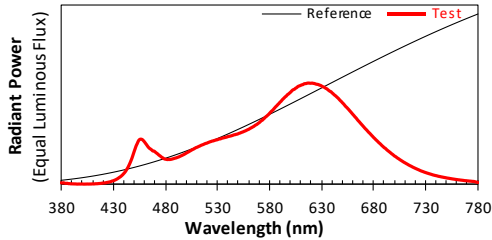
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/12

Model: AKPD33827XX



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

x 0.4522
 y 0.3954
 u' 0.2644
 v' 0.5202

CIE 13.3-1995
(CRI)

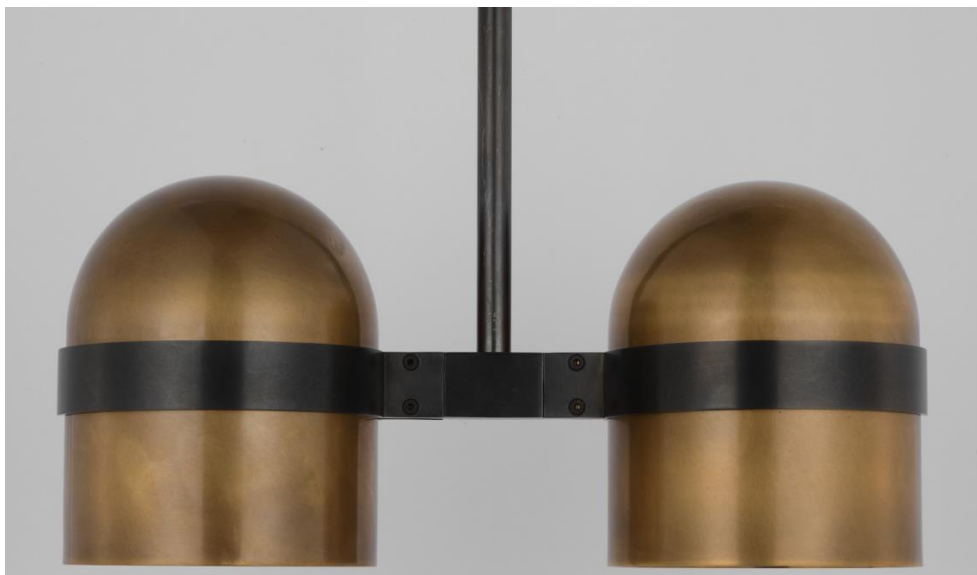
R_a 92
 R_g 60

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

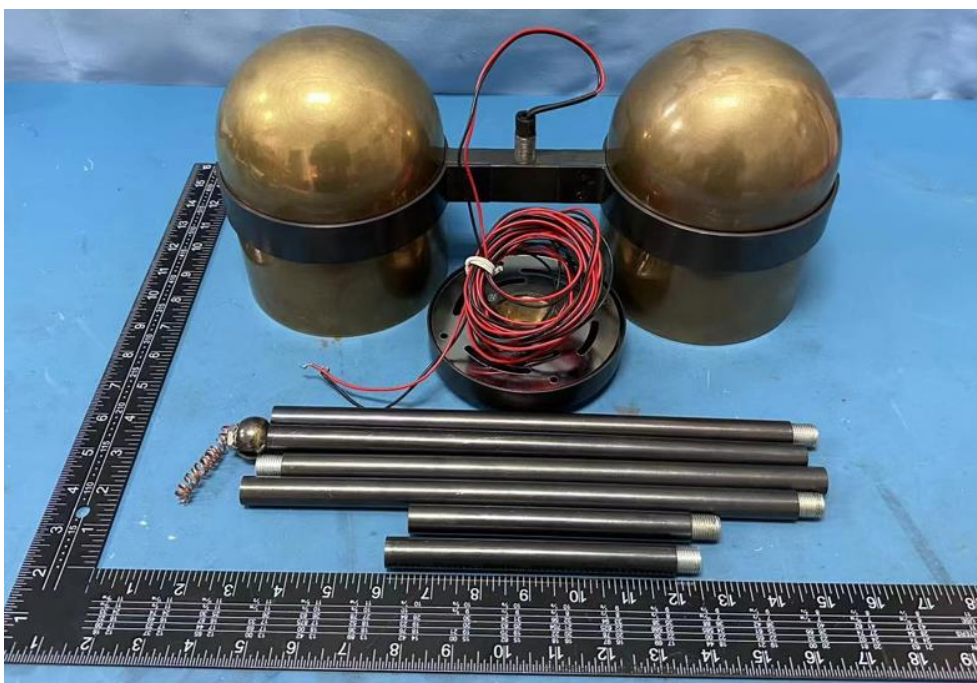
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of AKPD33827XX

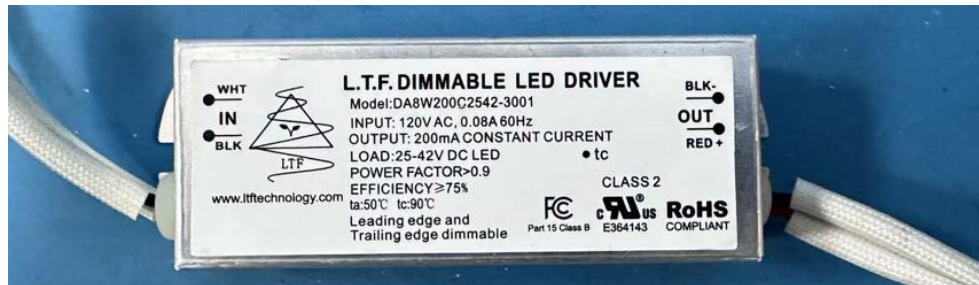


External view of AKPD33827XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver DA8W200C2542-3001



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 *****