

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124027GZU-002

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

© 2024 INTERTEK



Report No.: 240124027GZU-002
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. AKLS28627XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

7400 LINDER AVE. SKOKIE, IL, 60077

Email: asame@visualcomfort.com
Phone No.: 8474104402

<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 AKLS28627XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124027-002.
<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>	13 March 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

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

TEST REPORT

SUMMARY

Model Number:	AKLS28627XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For AKLS28627XX

Criteria	Result
Total Lumen Output	1727.6 lm
Total Power	24.9 W
Luminaire Efficacy	69.3 lm/W
S/MH(C0/180)	1.98
S/MH(C90/270)	1.47
Correlated Color Temperature (CCT)	2680 K
Color Rendering Index (CRI)	93
R9	59
Chromaticity Coordinate (x)	0.4618
Chromaticity Coordinate (y)	0.4115
Chromaticity Coordinate (u')	0.2634
Chromaticity Coordinate (v')	0.5280

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124027GZU-002 issued on 29 August 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page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

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

When determining for test conclusion, measurement uncertainty of tests has been considered.

Throughout this report a ☐ comma ☒ point is used as the decimal separator.

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

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

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

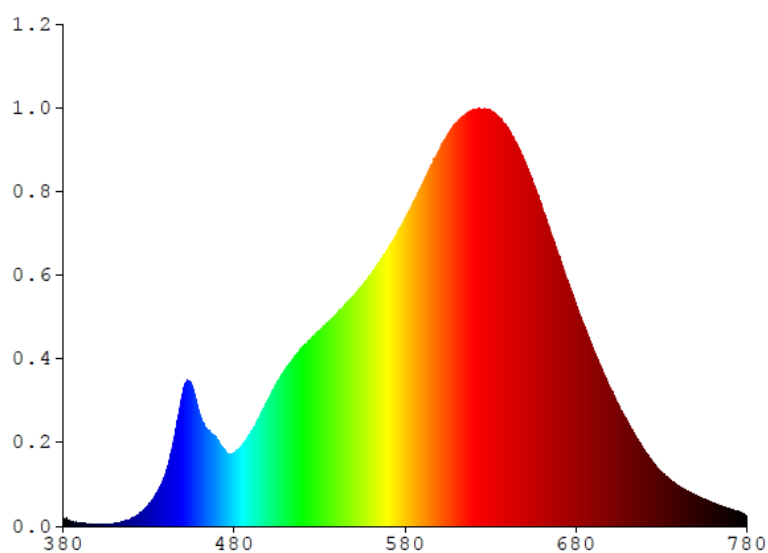
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For AKLS28627XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0415	480	0.4123	580	1.7339	680	1.2479	780	0.0535
385	0.0203	485	0.4622	585	1.8266	685	1.1241		
390	0.0152	490	0.5345	590	1.9287	690	0.9989		
395	0.0123	495	0.6200	595	2.0308	695	0.8861		
400	0.0105	500	0.7155	600	2.1110	700	0.7764		
405	0.0119	505	0.8086	605	2.2067	705	0.6785		
410	0.0150	510	0.8833	610	2.2740	710	0.5888		
415	0.0253	515	0.9469	615	2.3197	715	0.5031		
420	0.0449	520	1.0039	620	2.3400	720	0.4262		
425	0.0759	525	1.0527	625	2.3486	725	0.3618		
430	0.1227	530	1.0994	630	2.3385	730	0.3051		
435	0.1919	535	1.1510	635	2.3063	735	0.2626		
440	0.3014	540	1.1979	640	2.2444	740	0.2276		
445	0.4987	545	1.2493	645	2.1602	745	0.2000		
450	0.7502	550	1.3008	650	2.0563	750	0.1757		
455	0.7987	555	1.3558	655	1.9294	755	0.1529		
460	0.6252	560	1.4181	660	1.8031	760	0.1320		
465	0.5388	565	1.4867	665	1.6574	765	0.1136		
470	0.4873	570	1.5651	670	1.5226	770	0.0976		
475	0.4220	575	1.6436	675	1.3571	775	0.0830		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS28627XX

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

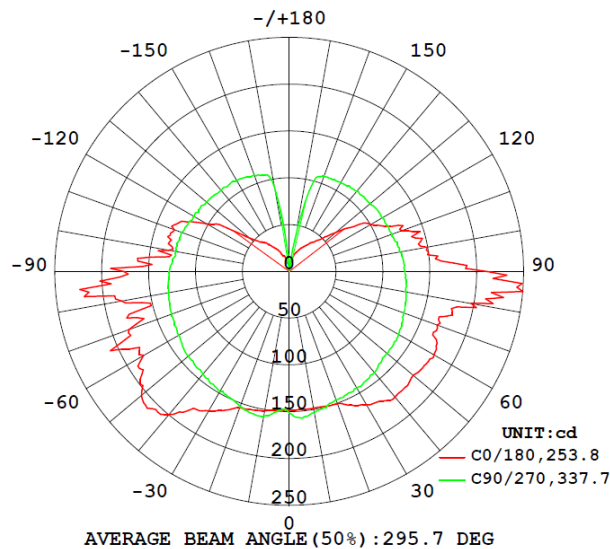
Photometric Measurements at 25°C – Distribution Method

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')
AKLS28627XX								
S2401240 27-002	base-up	2680	93	59	0.4618	0.4115	0.2634	0.5280

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	Lumen
						Flux (Lumens)	Efficacy (Lumens Per Watt)
AKLS28627XX							
S2401240 27-002	base-up	120.1	209.0	24.9	0.993	1727.6	69.3

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS28627XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	148.4	148.5	150.1	151.1	151.3
5	148.1	152.9	156.4	157.4	157.4
10	148.5	156.9	156.3	153.4	153.1
15	149.2	159.4	153.5	150.6	150.9
20	150.6	157.9	151.9	147.6	146.2
25	157.7	164.0	150.6	146.1	145.2
30	164.5	167.5	150.0	145.2	144.2
35	169.1	166.9	154.2	144.4	142.8
40	175.5	171.5	157.0	142.9	141.5
45	175.0	170.3	159.0	140.8	138.1
50	172.6	163.1	158.9	137.7	136.2
55	175.6	164.0	155.1	137.7	135.8
60	178.3	166.2	155.3	137.0	134.6
65	173.0	163.5	155.3	134.7	132.1
70	167.8	176.4	147.7	131.1	129.5
75	180.4	171.8	149.2	130.1	128.3
80	196.7	161.3	146.5	126.1	126.8
85	249.9	158.7	137.5	124.3	124.9
90	210.5	155.8	137.4	122.6	123.3
95	156.6	150.7	135.1	122.3	122.6
100	149.8	144.7	128.3	118.6	120.4
105	139.3	135.9	127.6	116.2	119.7
110	127.8	139.3	122.8	115.0	117.0
115	113.3	128.0	119.0	113.5	115.8
120	100.3	121.8	117.7	114.2	114.6
125	83.9	123.2	118.8	113.4	115.0
130	65.3	117.0	118.2	112.2	113.6
135	50.5	112.5	114.8	111.8	113.0
140	41.5	111.7	109.4	111.3	112.1
145	35.7	108.7	109.7	110.1	111.5
150	30.6	94.1	103.2	108.8	109.4
155	26.4	67.1	106.1	108.2	108.5
160	21.7	45.1	100.9	106.6	108.4
165	16.0	19.1	53.0	89.6	99.4
170	9.6	10.0	16.2	25.8	35.2
175	8.4	7.8	8.4	8.5	9.0
180	7.5	7.7	8.3	8.7	6.6

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS28627XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
AKLS28627XX		
0-30	130.5	7.6
0-40	230.6	13.4
0-60	502.1	29.1
0-90	991.0	57.4
60-90	488.9	28.3
0-180	1727.6	100.0

Beam Angle

Total Beam Angle(°)

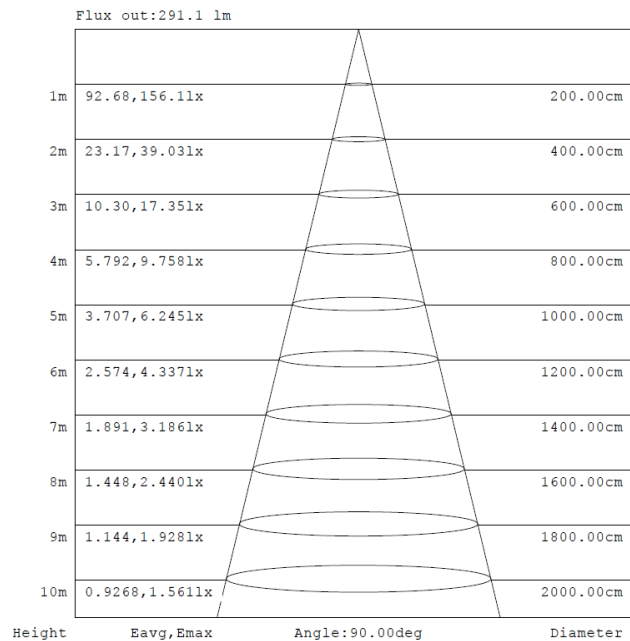
295.7

Illumination Plots

Model No.: AKLS28627XX

Mount Height: 2.5 m

Illuminance - Cone of Light



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

TEST REPORT

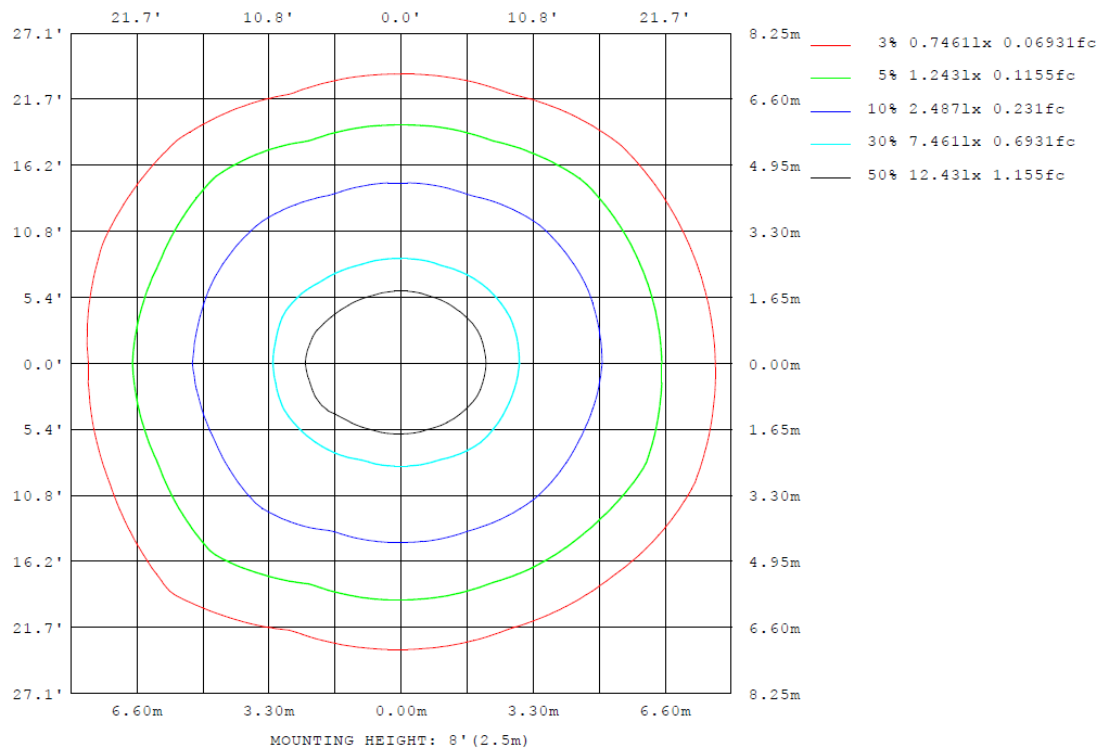
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS28627XX

Model No.: AKLS28627XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For AKLS28627XX

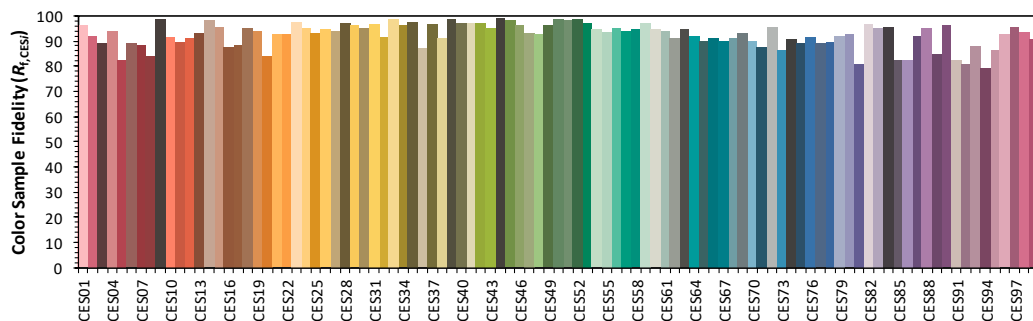
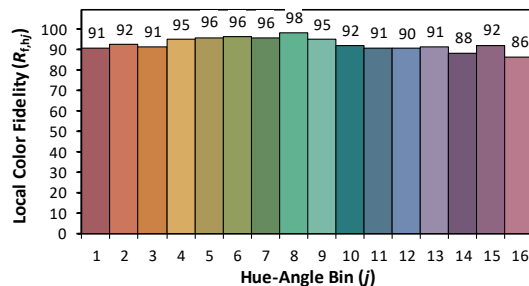
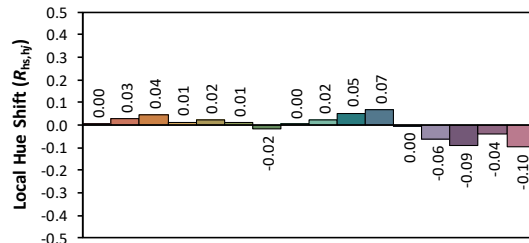
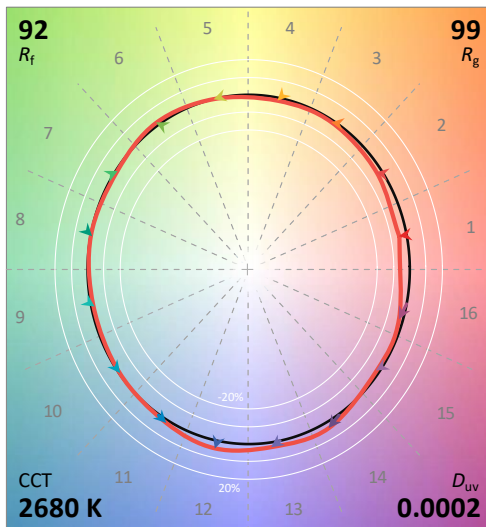
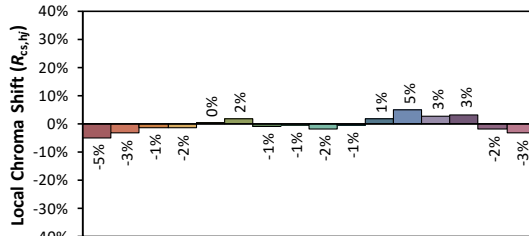
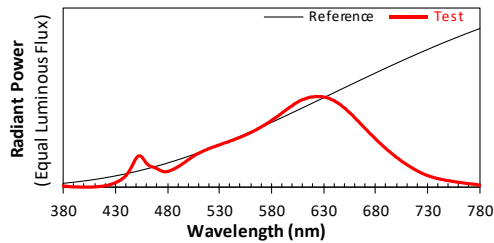
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/3/13

Model: AKLS28627xx



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

x 0.4618
 y 0.4115
 u' 0.2634
 v' 0.5280

CIE 13.3-1995
(CRI)

R_a 93
 R_g 59

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 AKLS28627XX

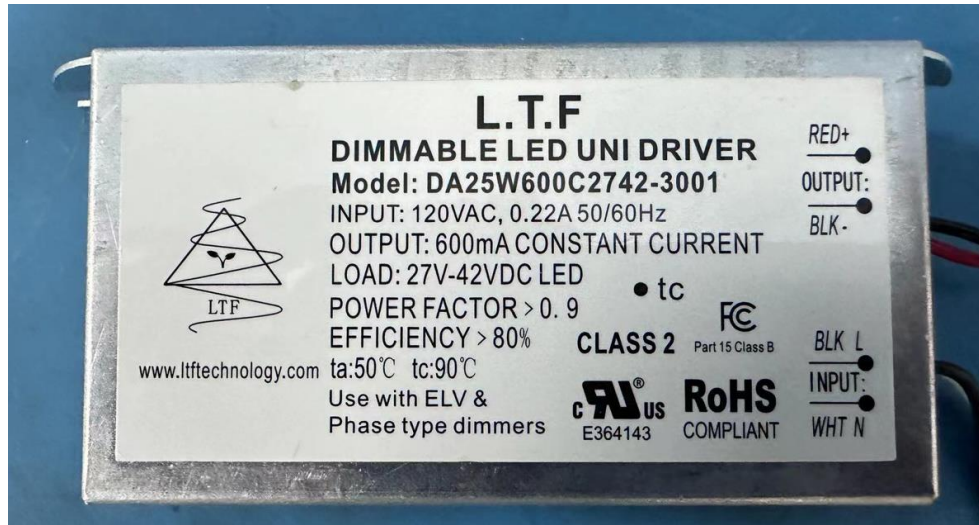


External view of AKLS28627XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver DA25W600C2742-3001



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 *****