

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

250227200GZU-014

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None

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Report format for LM-79_G

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Report No.: 250227200GZU-014

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB49527CEXXX

Remark: "XXX" 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: QGZ250224121.
<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-79-24	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
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model KWTB49527CEXXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S250227200-006.
<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>	21 March 2025
<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:	KWTB49527CEXXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Criteria	Result
Total Lumen Output	735.4 lm
Total Power	9.6 W
Luminaire Efficacy	76.8 lm/W
S/MH(C0/180)	1.15
S/MH(C90/270)	1.12
Correlated Color Temperature (CCT)	2617 K
Color Rendering Index (CRI)	91
R9	54
Chromaticity Coordinate (x)	0.4680
Chromaticity Coordinate (y)	0.4142
Chromaticity Coordinate (u')	0.2661
Chromaticity Coordinate (v')	0.5299

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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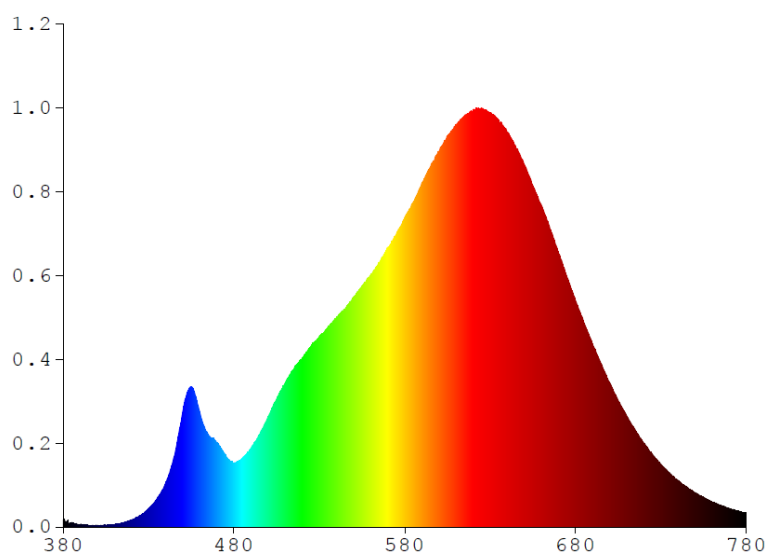
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.8743	480	8.3223	580	40.2820	680	29.3610	780	1.8761
385	0.5767	485	8.9613	585	42.3300	685	26.4480		
390	0.2459	490	10.2810	590	44.7620	690	23.7350		
395	0.2297	495	12.0700	595	46.8750	695	21.1930		
400	0.1769	500	14.3320	600	48.9240	700	18.7140		
405	0.2137	505	16.6560	605	50.9460	705	16.3840		
410	0.3046	510	18.7880	610	52.4210	710	14.3670		
415	0.5412	515	20.5820	615	53.5760	715	12.5350		
420	0.8860	520	22.0560	620	54.2410	720	10.8630		
425	1.4573	525	23.4310	625	54.5160	725	9.3715		
430	2.3894	530	24.8490	630	53.9450	730	8.0864		
435	3.7140	535	26.0430	635	52.9860	735	7.0328		
440	5.7292	540	27.3040	640	51.4030	740	6.0528		
445	9.1651	545	28.3510	645	49.3890	745	5.1848		
450	14.9150	550	29.8810	650	47.1380	750	4.4498		
455	18.2700	555	31.4010	655	44.3390	755	3.8468		
460	14.8410	560	32.8440	660	41.8230	760	3.2510		
465	12.0030	565	34.4400	665	38.7590	765	2.8119		
470	11.0050	570	36.4190	670	35.5660	770	2.4150		
475	9.3559	575	38.1080	675	31.8370	775	2.0787		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

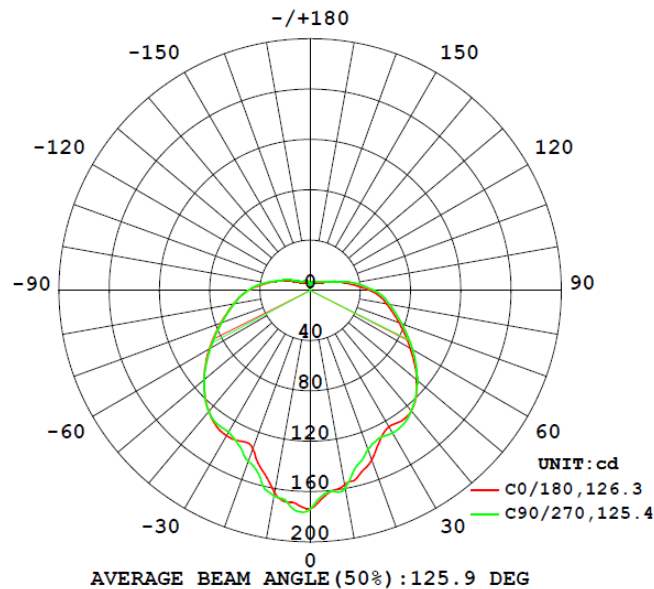
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (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')
KWTB49527CEXXX								
S2502272 00-006	base-up	2617	91	54	0.4680	0.4142	0.2661	0.5299

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)
KWTB49527CEXXX							
S2502272 00-006	base-up	120.1	93.7	9.6	0.852	735.4	76.8

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	173.5	173.6	173.7	173.8	173.9
5	161.9	163.3	164.6	161.8	161.0
10	157.1	165.6	165.8	160.5	160.1
15	151.5	165.2	167.1	151.4	144.1
20	143.6	163.7	167.5	150.0	134.6
25	131.5	156.2	159.9	141.3	129.6
30	125.3	146.2	154.6	136.2	130.9
35	126.6	137.3	153.1	129.1	129.6
40	125.2	128.4	145.9	119.0	125.3
45	119.4	115.3	137.7	110.5	118.9
50	110.9	103.7	123.7	102.2	111.3
55	101.3	94.0	109.0	94.9	103.0
60	92.0	86.1	95.7	87.6	94.2
65	83.4	78.4	89.8	80.2	85.7
70	75.5	71.4	82.8	73.3	77.7
75	68.1	65.4	73.2	67.4	70.4
80	61.7	60.7	64.6	62.8	64.2
85	55.8	56.0	59.6	57.9	58.5
90	47.9	48.3	49.2	50.7	51.0
95	39.0	39.5	41.0	42.2	42.8
100	31.4	32.1	36.2	34.0	35.3
105	25.5	26.3	26.9	27.0	27.9
110	20.3	21.8	22.5	21.4	21.7
115	16.3	18.0	16.7	17.1	17.5
120	13.2	14.8	14.3	14.1	14.5
125	10.9	12.4	12.9	12.2	12.2
130	9.3	10.7	11.7	11.0	10.6
135	8.4	9.6	10.7	10.2	9.7
140	7.9	8.7	9.9	9.6	9.1
145	7.7	8.2	9.1	9.0	8.7
150	7.6	7.8	8.5	8.6	8.4
155	7.5	7.6	7.9	8.1	8.1
160	7.4	7.4	7.5	7.7	7.7
165	7.2	7.1	7.2	7.3	7.1
170	7.0	6.9	6.7	6.4	6.3
175	5.7	5.4	5.0	4.7	4.5
180	0.0	0.0	0.0	0.0	0.3

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB49527CEXXX		
0-30	129.2	17.6
0-40	213.7	29.1
0-60	395.6	53.8
0-90	611.9	83.2
60-90	216.3	29.4
0-180	735.4	100.0

Beam Angle

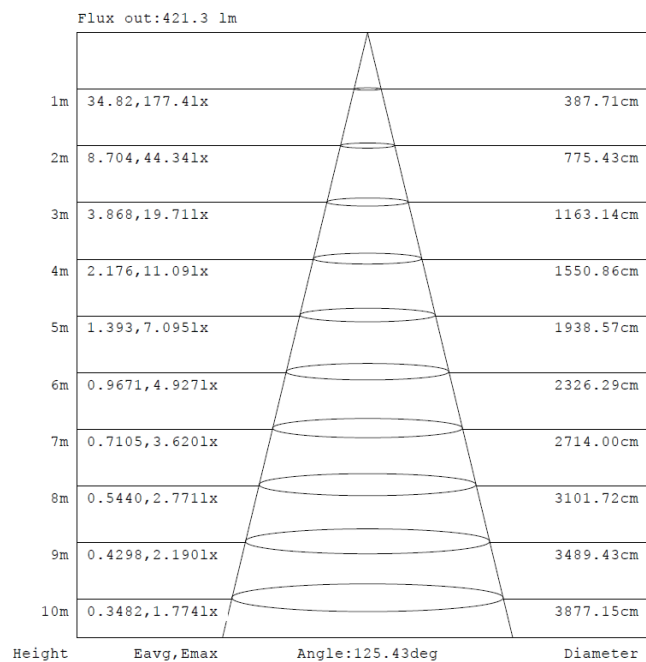
Total Beam Angle(°)
125.9

Illumination Plots

Model No.: KWTB49527CEXXX

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

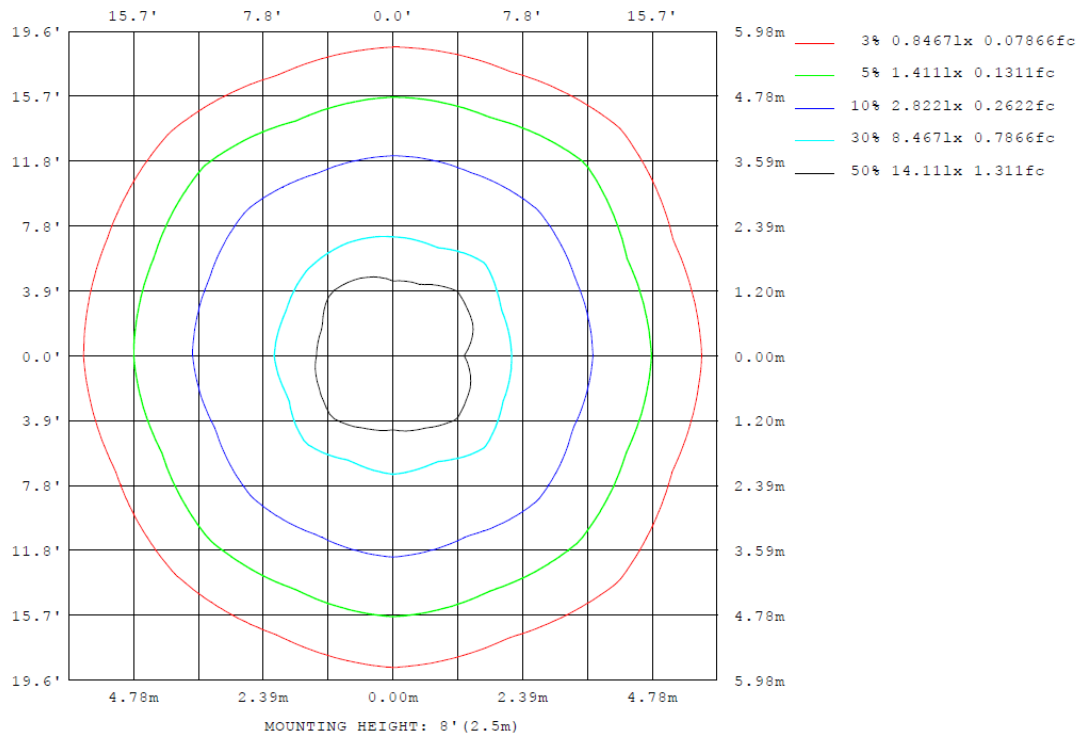
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49527CEXXX

Model No.: KWTB49527CEXXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB49527CEXXX

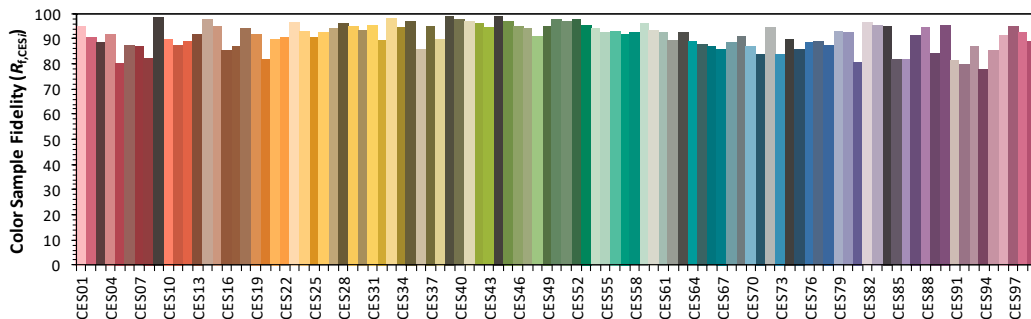
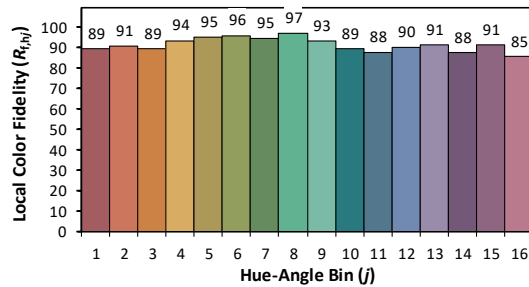
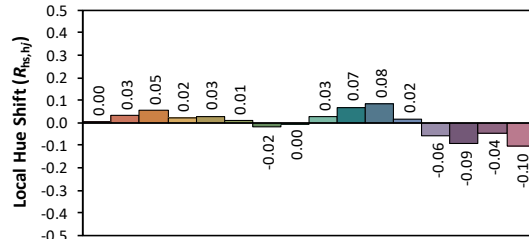
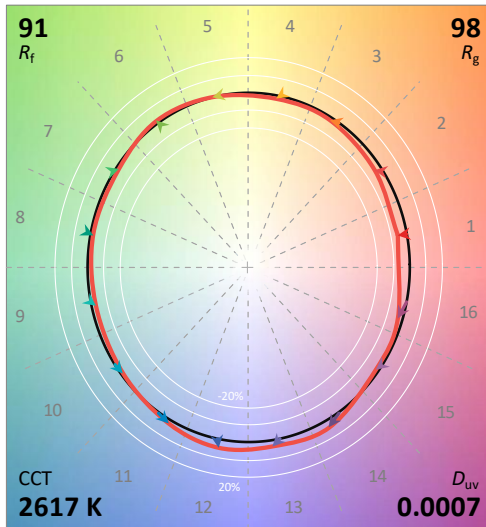
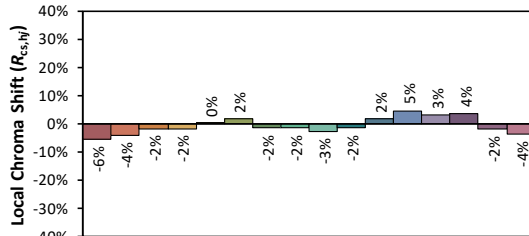
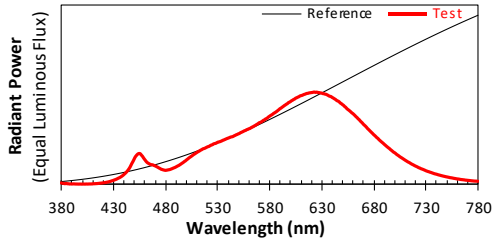
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2025/3/21

Model: KWTB49527CEXXX



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

x 0.4680
 y 0.4142
 u' 0.2661
 v' 0.5299

CIE 13.3-1995
(CRI)

R_a 91

R_g 54

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 KWTB49527CEXXX



View of LED driver A122-1201000ID

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

TEST REPORT

PRODUCT PICTURE (not to scale)



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 *****