

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240428155GZU-008

ISSUE DATE

12 July 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.: 240428155GZU-008
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLOWS29527XX

Remark: "XX" denoted the 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: QGZ240425048
<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 SLOWS29527XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240428155-010.
<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>	12 June 2024 to 13 June 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:	SLOWS29527XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLOWS29527XX

Criteria	Result
Total Lumen Output	639.5 lm
Total Power	10.1 W
Luminaire Efficacy	63.6 lm/W
S/MH(C0/180)	32.38
S/MH(C90/270)	1.36
Correlated Color Temperature (CCT)	2565 K
Color Rendering Index (CRI)	90
R9	63
Chromaticity Coordinate (x)	0.4724
Chromaticity Coordinate (y)	0.4148
Chromaticity Coordinate (u')	0.2687
Chromaticity Coordinate (v')	0.5308

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240428155GZU-008 issued on 12 July 2024, correct the applicant name on page 1 and 2 of the report.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

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 *****

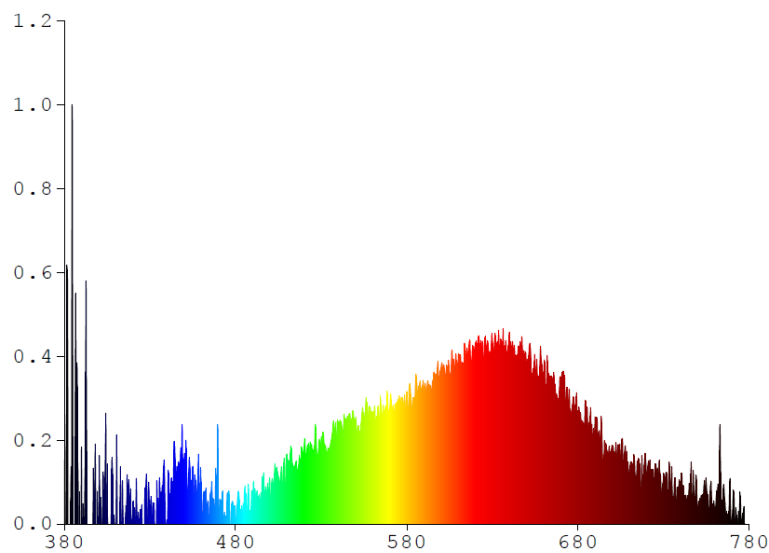
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLOWS29527XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0004	480	0.0001	580	0.0028	680	0.0022	780	0.0000
385	0.0000	485	0.0006	585	0.0029	685	0.0023		
390	0.0011	490	0.0006	590	0.0028	690	0.0022		
395	0.0000	495	0.0004	595	0.0030	695	0.0013		
400	0.0000	500	0.0007	600	0.0033	700	0.0017		
405	0.0013	505	0.0010	605	0.0032	705	0.0013		
410	0.0000	510	0.0014	610	0.0035	710	0.0012		
415	0.0000	515	0.0013	615	0.0037	715	0.0013		
420	0.0005	520	0.0015	620	0.0037	720	0.0010		
425	0.0003	525	0.0015	625	0.0035	725	0.0013		
430	0.0000	530	0.0018	630	0.0038	730	0.0011		
435	0.0003	535	0.0016	635	0.0039	735	0.0006		
440	0.0000	540	0.0020	640	0.0036	740	0.0009		
445	0.0006	545	0.0022	645	0.0037	745	0.0006		
450	0.0013	550	0.0021	650	0.0034	750	0.0003		
455	0.0012	555	0.0023	655	0.0030	755	0.0007		
460	0.0006	560	0.0023	660	0.0032	760	0.0002		
465	0.0005	565	0.0022	665	0.0030	765	0.0008		
470	0.0000	570	0.0024	670	0.0027	770	0.0002		
475	0.0006	575	0.0024	675	0.0020	775	0.0002		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29527XX

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

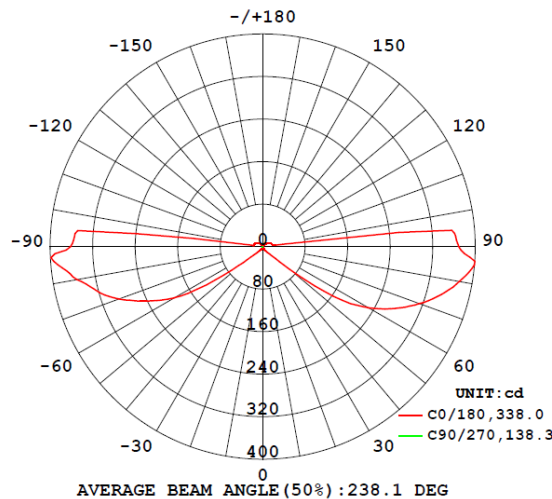
Photometric Measurements at 25°C – Distribution Method

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')
SLOWS29527XX								
S2404281 55-010	base-up	2565	90	63	0.4724	0.4148	0.2687	0.5308

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)
SLOWS29527XX							
S2404281 55-010	base-up	120.0	84.8	10.1	0.988	639.5	63.6

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29527XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0
10	0.1	0.1	0.0	0.0	0.0
15	0.2	0.2	0.1	0.0	0.0
20	0.5	0.5	0.2	0.0	0.0
25	1.0	0.9	0.4	0.1	0.0
30	1.6	1.4	0.7	0.1	0.0
35	2.5	2.1	1.0	0.1	0.0
40	3.6	3.1	1.4	0.2	0.0
45	5.9	4.6	1.9	0.3	0.0
50	16.0	10.5	2.5	0.3	0.0
55	38.8	27.6	3.3	0.4	0.0
60	55.0	42.0	4.2	0.5	0.0
65	65.7	50.3	4.8	0.6	0.0
70	74.9	56.7	5.2	0.6	0.0
75	83.1	61.8	5.5	0.7	0.0
80	89.7	65.3	5.6	0.7	0.0
85	95.4	67.1	5.7	0.7	0.0
90	88.1	67.4	5.6	0.7	0.0
95	85.2	65.6	5.5	0.7	0.0
100	4.4	62.0	5.2	0.6	0.0
105	4.3	56.7	4.9	0.6	0.0
110	4.1	50.1	4.5	0.5	0.0
115	3.8	42.2	3.9	0.4	0.0
120	3.4	31.8	3.1	0.4	0.0
125	3.0	14.6	2.3	0.3	0.0
130	2.5	5.1	1.8	0.2	0.0
135	2.0	2.8	1.3	0.1	0.0
140	1.5	1.8	0.9	0.1	0.0
145	1.1	1.1	0.5	0.0	0.0
150	0.7	0.7	0.3	0.0	0.0
155	0.4	0.3	0.1	0.0	0.0
160	0.2	0.1	0.0	0.0	0.0
165	0.1	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29527XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLOWS29527XX		
0-30	0.9	0.1
0-40	3.4	0.5
0-60	46.9	7.3
0-90	374.7	58.6
60-90	327.8	51.3
0-180	639.5	100.0

Beam Angle

Total Beam Angle(°)

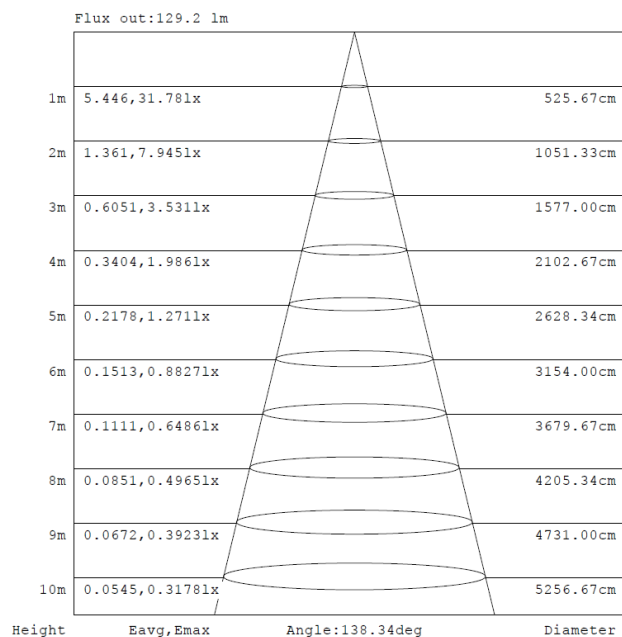
238.1

Illumination Plots

Model No.: SLOWS29527XX

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.

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

TEST REPORT

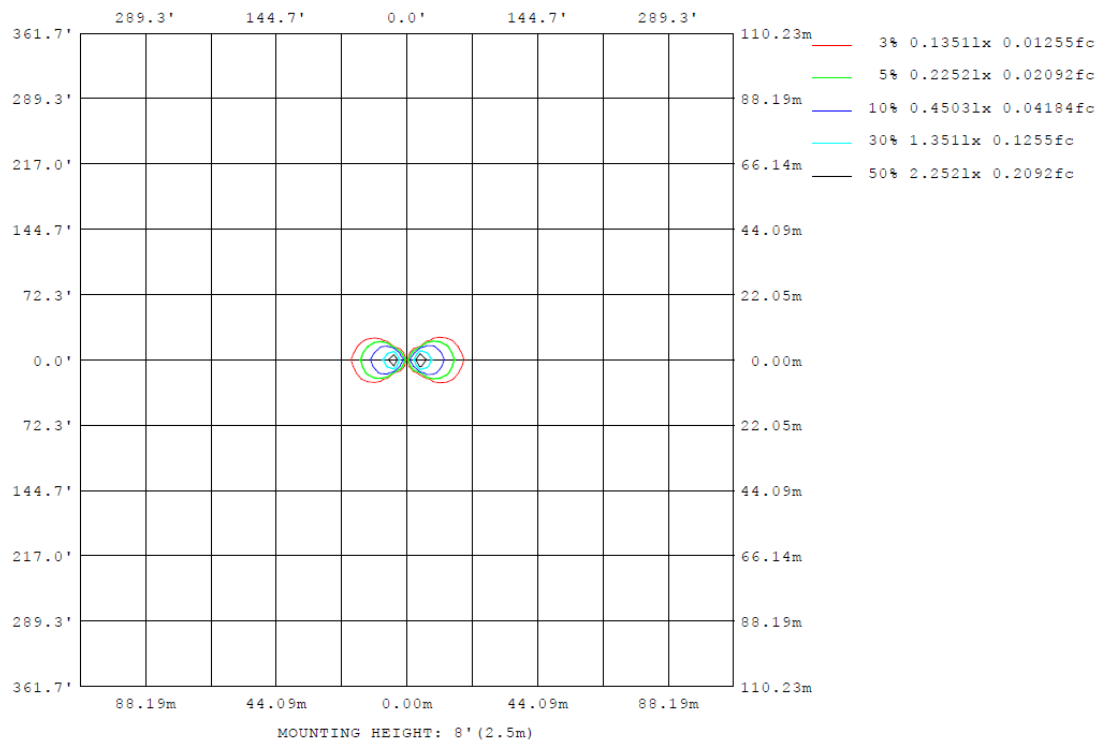
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29527XX

Model No.: SLOWS29527XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29527XX

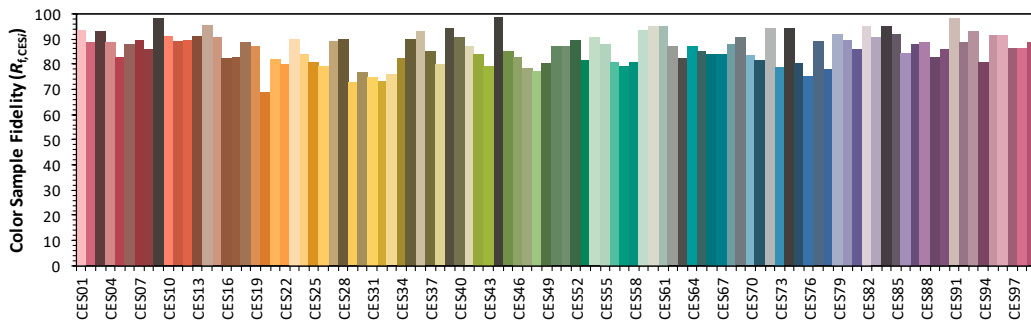
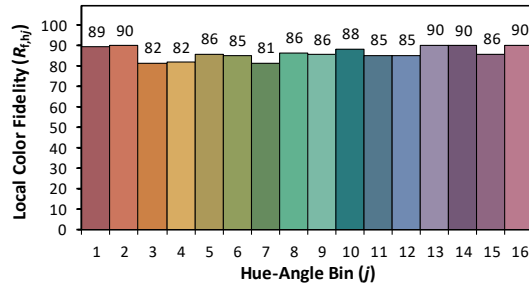
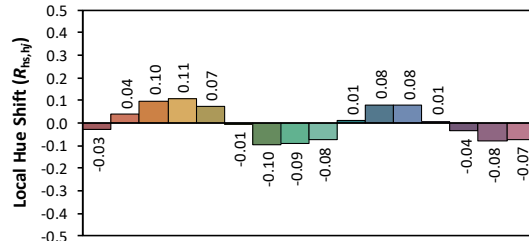
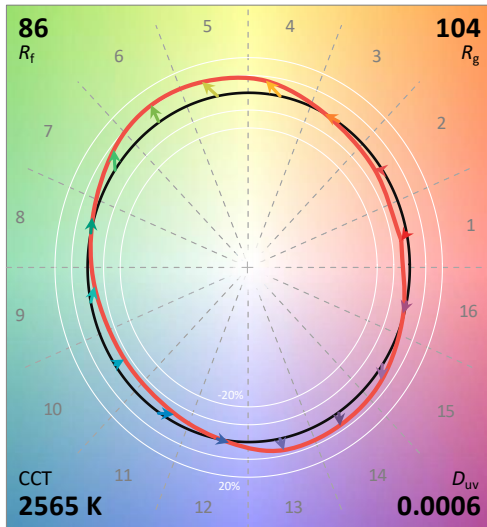
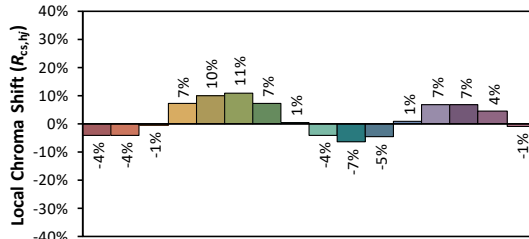
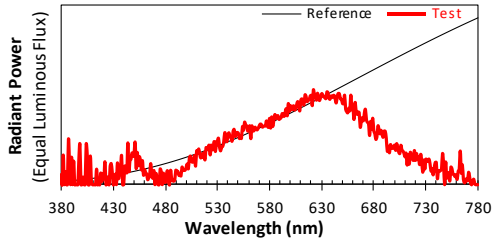
ANSI/IES +B3:X17TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/6/13

Model: SLOWS29527xx



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

x 0.4724
 y 0.4148
 u' 0.2687
 v' 0.5308

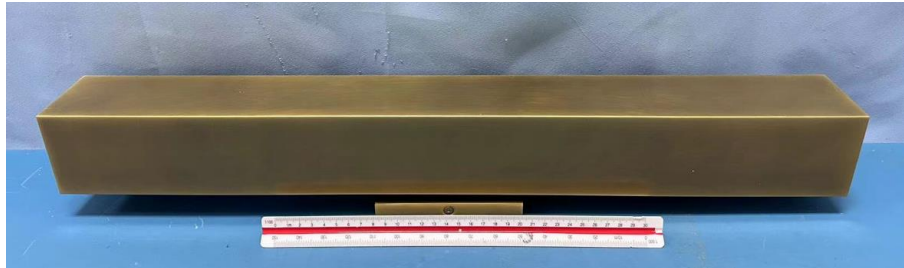
CIE 13.3-1995
(CRI)
 R_a 90
 R_g 63

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 SLOWS29527XX

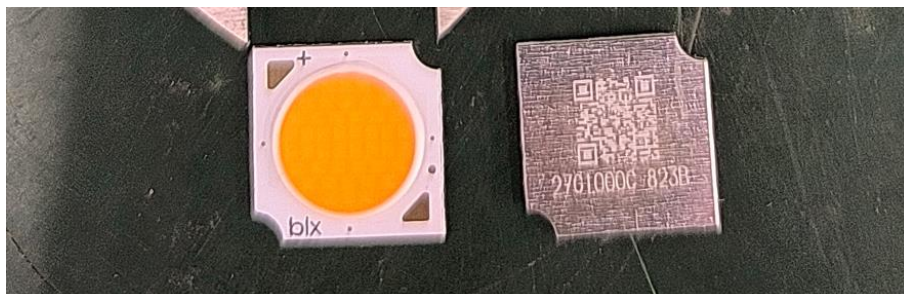


View of LED driver PVD11-C030V33-UNV3-HE-P

***** 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 *****