

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240124027GZU-008

ISSUE DATE

29 August 2024

REVISION DATE

Modification 1: 01 November 2024

NUMBER OF PAGES

12

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240124027GZU-008
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLOWS30130XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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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: 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 SLOWS30130XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240124027-008.
<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>	02 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

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TEST REPORT

SUMMARY

Model Number:	SLOWS30130XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLOWS30130XX

Criteria	Result
Total Lumen Output	985.0 lm
Total Power	38.8 W
Luminaire Efficacy	25.4 lm/W
S/MH(C0/180)	1.62
S/MH(C90/270)	7.63
Correlated Color Temperature (CCT)	2930 K
Color Rendering Index (CRI)	98
R9	92
Chromaticity Coordinate (x)	0.4410
Chromaticity Coordinate (y)	0.4037
Chromaticity Coordinate (u')	0.2534
Chromaticity Coordinate (v')	0.5219

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240124027GZU-008 issued on 29 August 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on page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.

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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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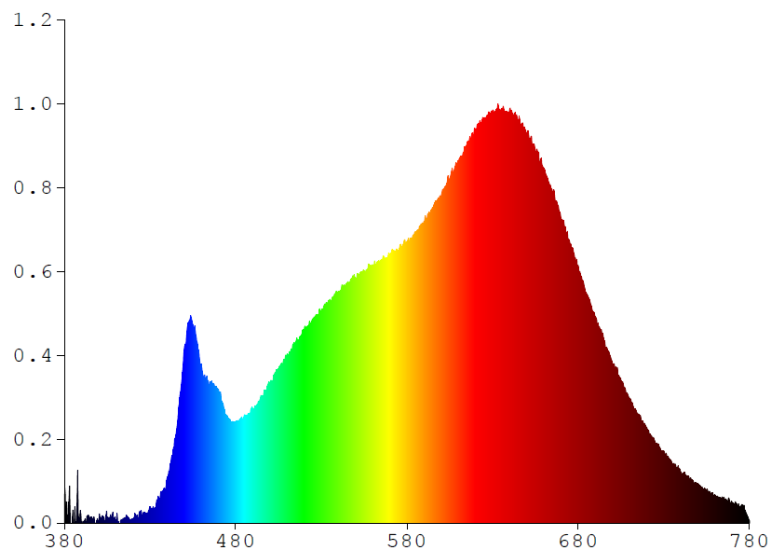
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLOWS30130XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0056	480	0.0258	580	0.0723	680	0.0657	780	0.0003
385	0.0024	485	0.0277	585	0.0746	685	0.0588		
390	0.0000	490	0.0291	590	0.0775	690	0.0528		
395	0.0008	495	0.0322	595	0.0810	695	0.0468		
400	0.0002	500	0.0360	600	0.0841	700	0.0407		
405	0.0000	505	0.0396	605	0.0885	705	0.0364		
410	0.0000	510	0.0433	610	0.0931	710	0.0321		
415	0.0012	515	0.0465	615	0.0974	715	0.0279		
420	0.0006	520	0.0495	620	0.1009	720	0.0245		
425	0.0022	525	0.0525	625	0.1041	725	0.0205		
430	0.0042	530	0.0544	630	0.1061	730	0.0185		
435	0.0063	535	0.0574	635	0.1063	735	0.0153		
440	0.0117	540	0.0594	640	0.1064	740	0.0128		
445	0.0220	545	0.0617	645	0.1032	745	0.0112		
450	0.0446	550	0.0630	650	0.1001	750	0.0100		
455	0.0508	555	0.0644	655	0.0954	755	0.0080		
460	0.0404	560	0.0657	660	0.0911	760	0.0071		
465	0.0362	565	0.0677	665	0.0851	765	0.0066		
470	0.0341	570	0.0688	670	0.0776	770	0.0050		
475	0.0276	575	0.0698	675	0.0705	775	0.0043		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS30130XX

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

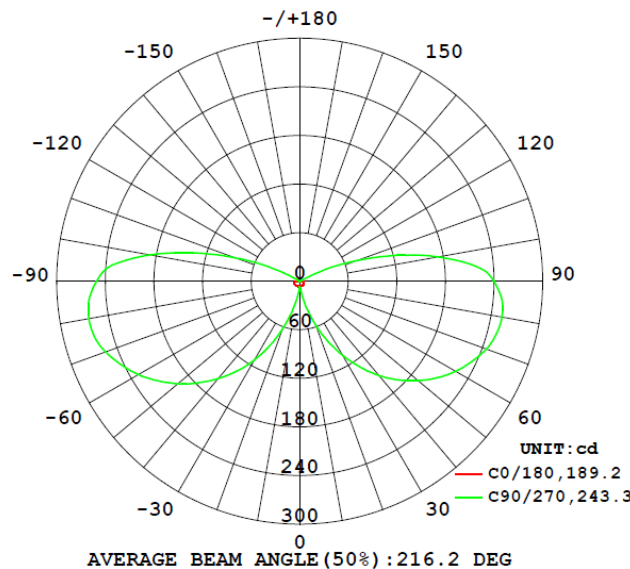
Photometric Measurements at 25°C – Distribution Method

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')
SLOWS30130XX								
S2401240 27-008	base-up	2930	98	92	0.4410	0.4037	0.2534	0.5219

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)
SLOWS30130XX							
S2401240 27-008	base-up	120.1	327.6	38.8	0.987	985.0	25.4

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS30130XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	6.6	6.6	6.6	6.6	6.6
5	6.5	7.2	8.3	9.1	9.5
10	6.4	8.3	11.9	16.7	19.0
15	6.3	9.7	19.6	30.5	35.5
20	6.2	12.3	30.3	48.6	57.1
25	6.1	16.1	43.5	69.4	81.1
30	6.1	20.7	58.1	90.7	105.5
35	6.1	26.0	73.3	112.0	129.1
40	6.1	32.1	88.6	132.3	151.9
45	6.1	38.6	103.6	151.2	172.3
50	6.1	45.2	117.7	167.8	190.8
55	6.1	51.8	130.1	182.9	207.7
60	6.0	58.4	140.8	196.0	222.3
65	5.9	64.2	149.7	206.7	234.5
70	5.8	68.4	156.6	215.6	245.0
75	5.5	71.1	161.2	221.2	251.2
80	5.1	71.5	162.0	222.9	253.5
85	4.5	69.4	159.7	220.0	250.2
90	3.5	64.3	150.9	210.1	239.8
95	3.1	43.2	128.7	188.8	217.5
100	1.4	13.1	89.4	147.6	174.2
105	1.1	1.7	47.8	101.0	124.7
110	0.7	0.9	13.1	56.5	76.2
115	0.3	0.2	0.6	20.4	35.7
120	0.1	0.1	0.2	1.8	5.4
125	0.1	0.1	0.2	0.2	0.4
130	0.1	0.1	0.2	0.2	0.2
135	0.1	0.1	0.2	0.2	0.2
140	0.1	0.1	0.1	0.2	0.2
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

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS30130XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLOWS30130XX		
0-30	29.8	3.0
0-40	77.8	7.9
0-60	273.9	27.8
0-90	766.4	77.8
60-90	492.5	50.0
0-180	985.0	100.0

Beam Angle

Total Beam Angle(°)

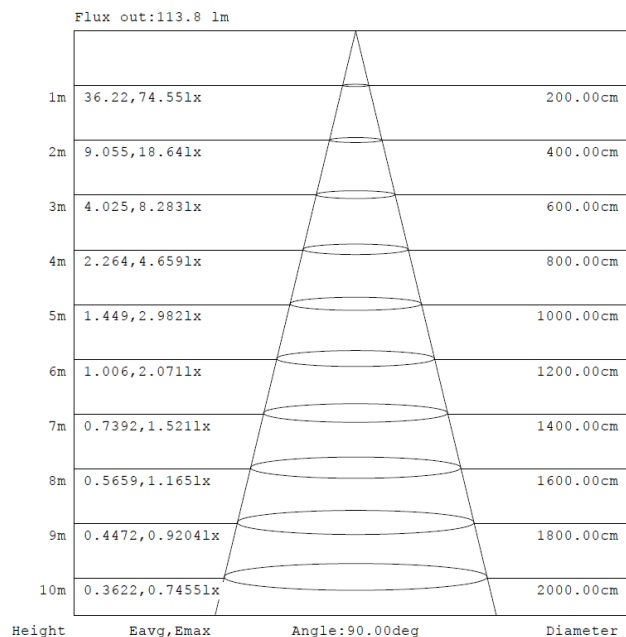
216.2

Illumination Plots

Model No.: SLOWS30130XX

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

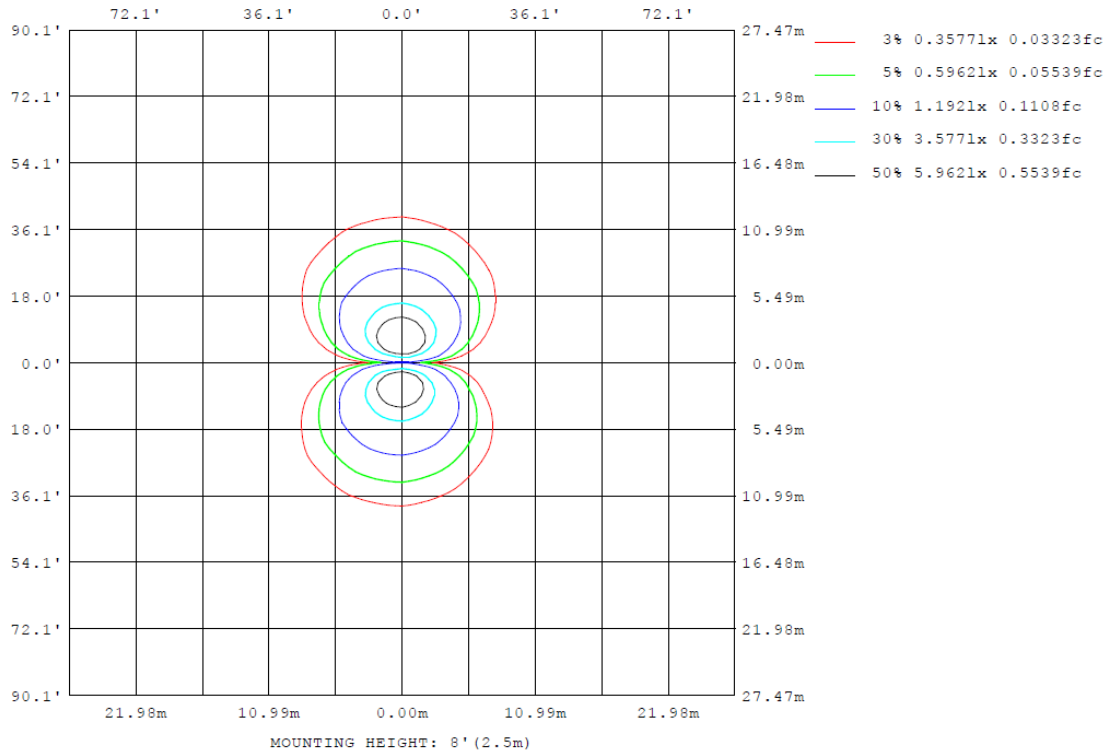
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS30130XX

Model No.: SLOWS30130XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS30130XX

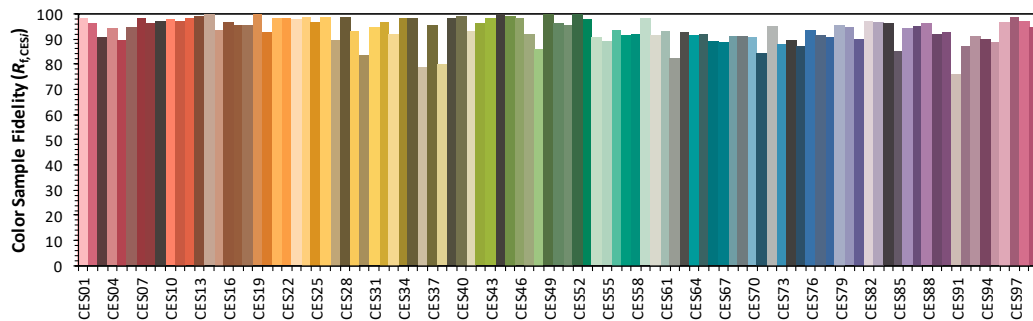
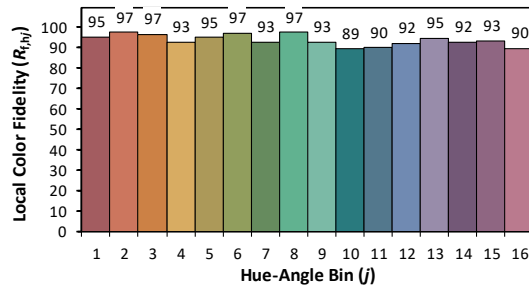
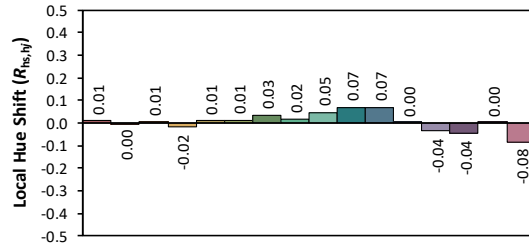
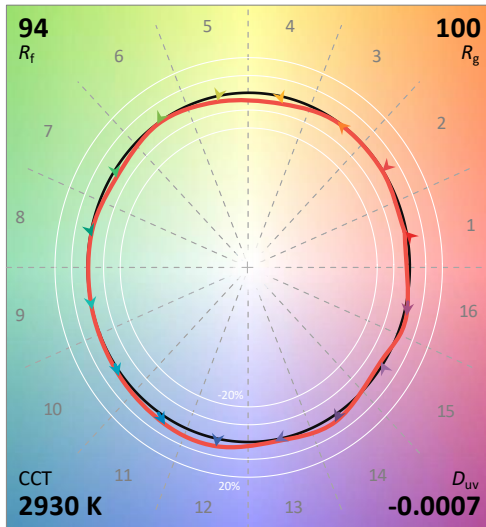
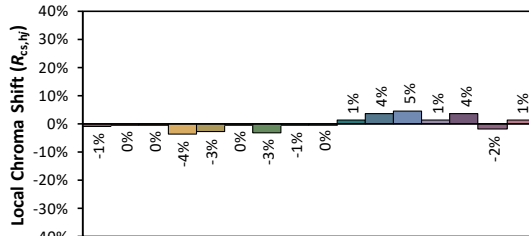
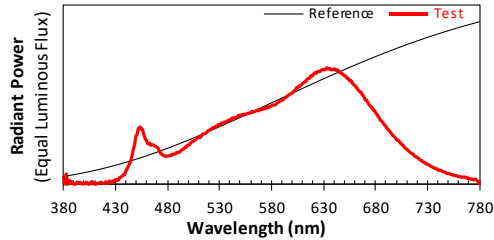
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/3/2

Model: SLOWS30130xx



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

x 0.4410
 y 0.4037
 u' 0.2534
 v' 0.5219

CIE 13.3-1995
(CRI)

R_a 98

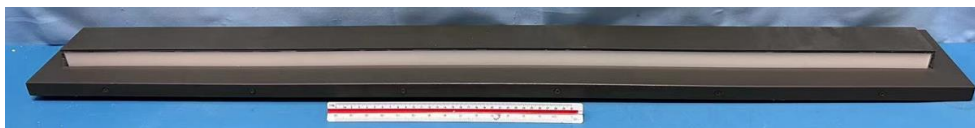
R_g 92

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 SLOWS30130XX



View of LED driver ESST040W-1400-27



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 *****