

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240428155GZU-007

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

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Report No.: 240428155GZU-007
Modification 1: 01 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLOWS29127XX

Remark: "XX" denoted the appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Adam Same

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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: 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 SLOWS29127XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240428155-011.
<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
<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:	SLOWS29127XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLOWS29127XX

Criteria	Result
Total Lumen Output	651.3 lm
Total Power	10.2 W
Luminaire Efficacy	63.4 lm/W
S/MH(C0/180)	31.13
S/MH(C90/270)	1.28
Correlated Color Temperature (CCT)	2808 K
Color Rendering Index (CRI)	92
R9	69
Chromaticity Coordinate (x)	0.4514
Chromaticity Coordinate (y)	0.4087
Chromaticity Coordinate (u')	0.2579
Chromaticity Coordinate (v')	0.5253

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240428155GZU-007 issued on 12 July 2024, correct the applicant name on page 1 and 2 of the report.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	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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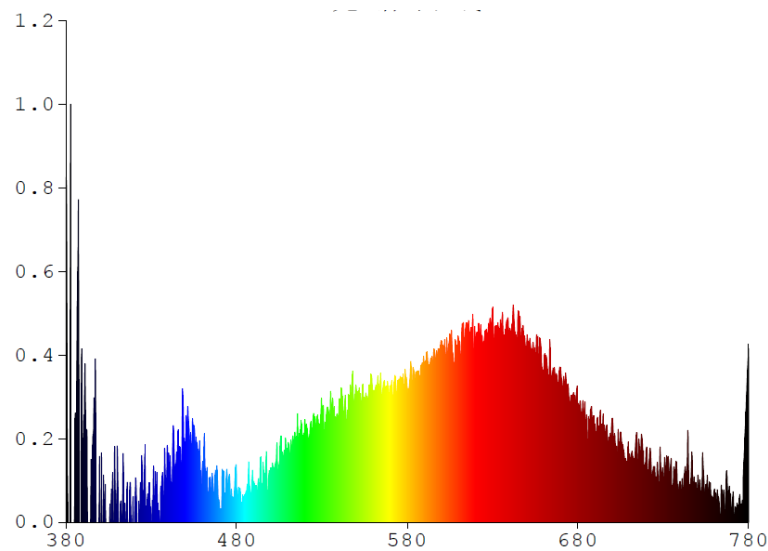
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLOWS29127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0068	480	0.0005	580	0.0026	680	0.0022	780	0.0035
385	0.0004	485	0.0005	585	0.0029	685	0.0019		
390	0.0009	490	0.0007	590	0.0030	690	0.0019		
395	0.0000	495	0.0007	595	0.0029	695	0.0015		
400	0.0000	500	0.0011	600	0.0035	700	0.0020		
405	0.0000	505	0.0011	605	0.0037	705	0.0018		
410	0.0015	510	0.0013	610	0.0035	710	0.0013		
415	0.0000	515	0.0017	615	0.0038	715	0.0011		
420	0.0000	520	0.0020	620	0.0035	720	0.0014		
425	0.0006	525	0.0021	625	0.0035	725	0.0011		
430	0.0000	530	0.0021	630	0.0042	730	0.0006		
435	0.0000	535	0.0024	635	0.0036	735	0.0005		
440	0.0010	540	0.0023	640	0.0037	740	0.0007		
445	0.0012	545	0.0020	645	0.0041	745	0.0006		
450	0.0014	550	0.0026	650	0.0034	750	0.0005		
455	0.0019	555	0.0024	655	0.0032	755	0.0002		
460	0.0011	560	0.0024	660	0.0029	760	0.0006		
465	0.0001	565	0.0024	665	0.0028	765	0.0004		
470	0.0003	570	0.0027	670	0.0029	770	0.0003		
475	0.0001	575	0.0028	675	0.0025	775	0.0004		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29127XX

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

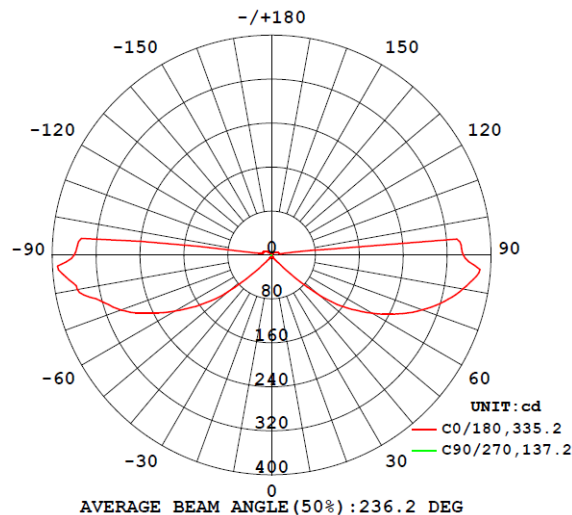
Photometric Measurements at 25°C – Distribution Method

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')
SLOWS29127XX								
S2404281 55-011	base-up	2808	92	69	0.4514	0.4087	0.2579	0.5253

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 Efficacy
						Flux (Lumens)	(Lumens Per Watt)
SLOWS29127XX							
S2404281 55-011	base-up	120.0	86.6	10.3	0.989	651.3	63.4

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29127XX

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	0.0	0.0	0.0	0.0	0.0
15	0.1	0.1	0.1	0.0	0.0
20	0.4	0.3	0.1	0.0	0.0
25	0.8	0.6	0.3	0.0	0.0
30	1.4	1.1	0.5	0.1	0.0
35	2.2	1.7	0.8	0.1	0.0
40	4.2	2.6	1.2	0.1	0.0
45	11.4	4.6	1.6	0.2	0.0
50	27.5	11.3	2.0	0.2	0.0
55	40.0	24.1	2.6	0.3	0.0
60	50.6	35.0	3.5	0.4	0.0
65	60.6	42.8	4.5	0.4	0.0
70	69.8	49.6	6.0	0.5	0.0
75	77.9	55.2	7.9	0.5	0.0
80	84.6	59.5	9.7	0.6	0.0
85	90.5	62.3	10.8	0.6	0.0
90	83.4	63.3	10.9	0.6	0.0
95	80.8	62.5	10.1	0.6	0.0
100	3.4	59.9	8.4	0.5	0.0
105	3.3	55.5	6.5	0.5	0.0
110	3.2	49.6	4.8	0.4	0.0
115	3.0	42.6	3.7	0.4	0.0
120	2.7	34.6	2.8	0.3	0.0
125	2.4	23.9	2.1	0.2	0.0
130	2.0	11.1	1.6	0.2	0.0
135	1.7	4.0	1.2	0.1	0.0
140	1.3	1.9	0.8	0.1	0.0
145	0.9	1.0	0.5	0.0	0.0
150	0.6	0.6	0.2	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	0.0	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 SLOWS29127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLOWS29127XX		
0-30	0.8	0.1
0-40	3.2	0.5
0-60	56.3	8.7
0-90	381.8	58.6
60-90	325.5	49.9
0-180	651.3	100.0

Beam Angle

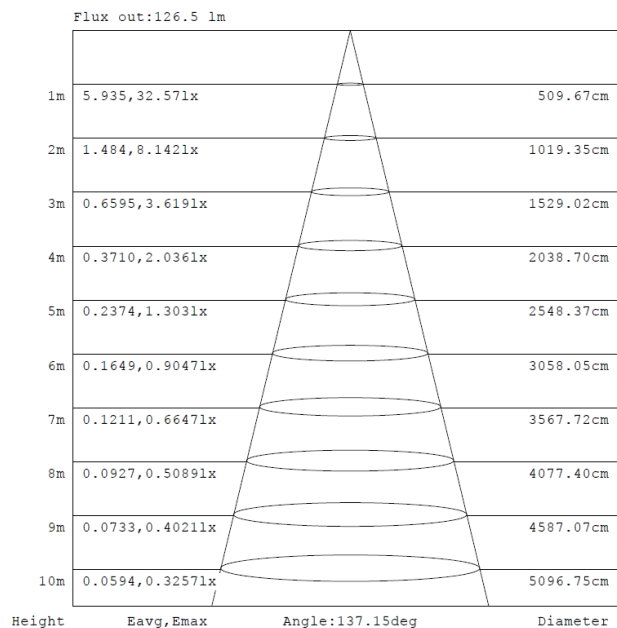
Total Beam Angle(°)
236.2

Illumination Plots

Model No.: SLOWS29127XX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

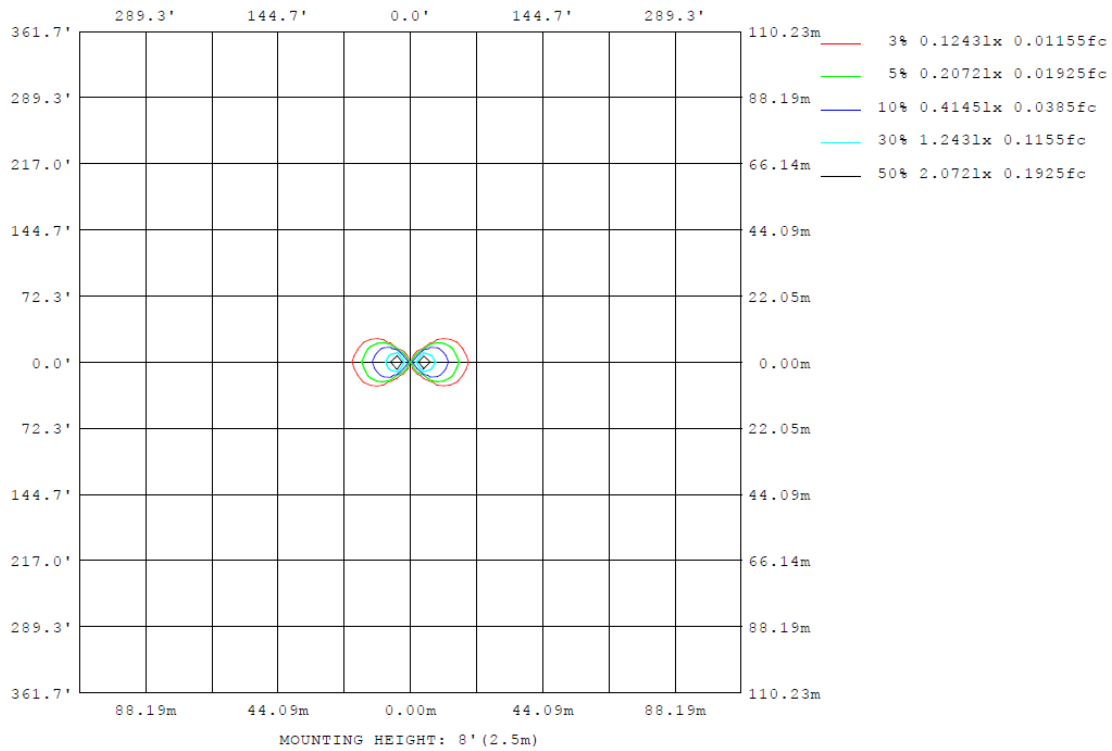
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29127XX

Model No.: SLOWS29127XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLOWS29127XX

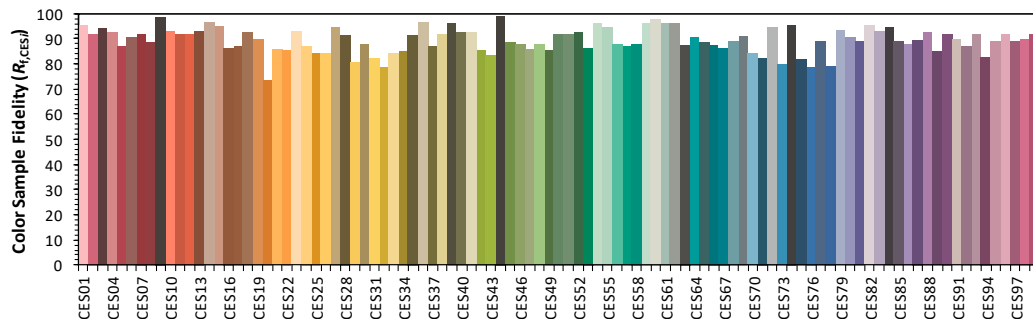
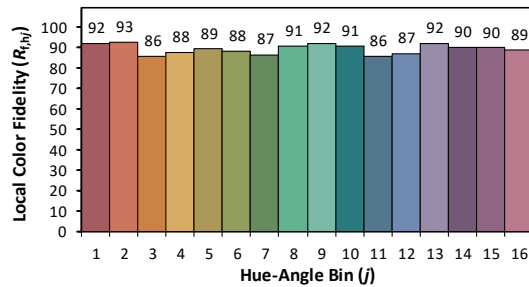
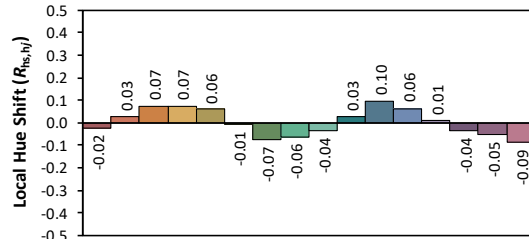
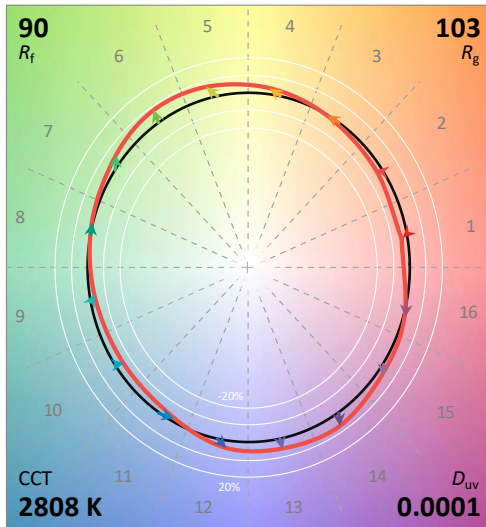
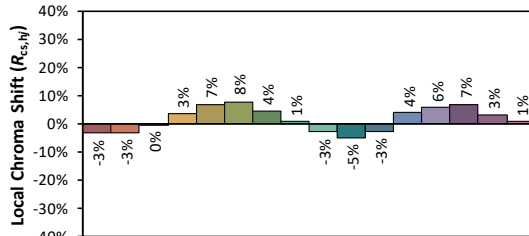
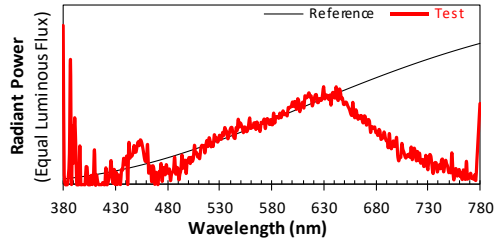
ANSI/IES +B3:X17TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/6/12

Model: SLOWS29127xx



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

x 0.4514
 y 0.4087
 u' 0.2579
 v' 0.5253

CIE 13.3-1995
(CRI)

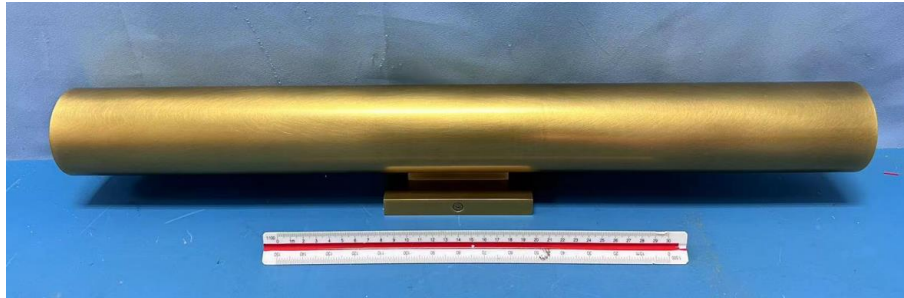
R_a 92
 R_g 69

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

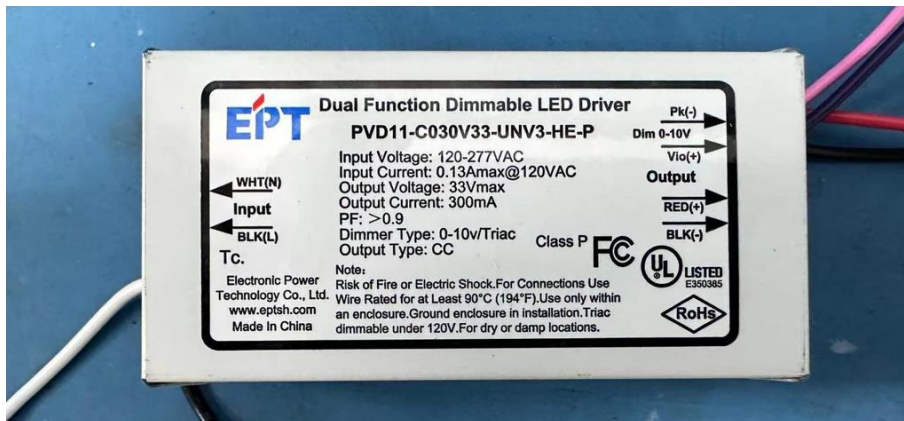
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLOWS29127XX

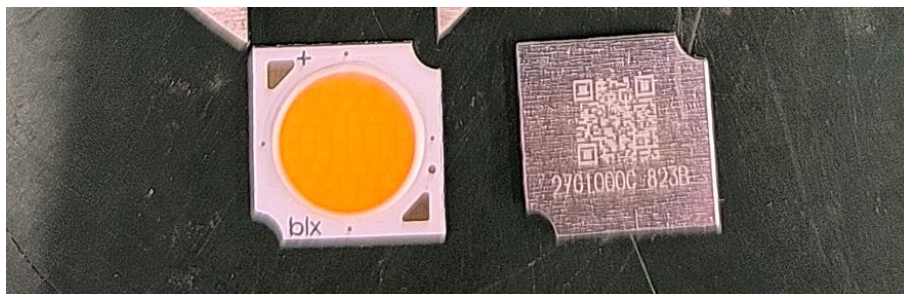


View of LED driver PVD11-C030V33-UNV3-HE-P

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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 *****