

# Visual Comfort & Co.

## TEST REPORT

**SCOPE OF WORK**

LM-79 testing report

**REPORT NUMBER**

241121131GZU-005

**ISSUE DATE**

03 January 2025

**REVISION DATE**

None

**NUMBER OF PAGES**

14

**DOCUMENT CONTROL NUMBER**

Report format for LM-79\_G

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## TEST REPORT

### TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH66027XXXWVO

Remark: "XXX" are denoted appearance color.

#### RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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Email: jrivero@visualcomfort.com

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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: QGZ241119056.
<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 SLCH66027XXXWVO. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241121131-005.
<u>MANUFACTURER /FACTORY &amp; 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>	06 December 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:	SLCH66027XXXWWO
Description:	LED Luminaries
Brand Name:	--

### Test Condition: 120V, 60Hz For SLCH66027XXXWWO

Criteria	Result
Total Lumen Output	5777.7 lm
Total Power	79.7 W
Luminaire Efficacy	72.5 lm/W
S/MH(C0/180)	1.29
S/MH(C90/270)	1.30
Correlated Color Temperature (CCT)	2878 K
Color Rendering Index (CRI)	94
R9	72
Chromaticity Coordinate (x)	0.4432
Chromaticity Coordinate (y)	0.4017
Chromaticity Coordinate (u')	0.2557
Chromaticity Coordinate (v')	0.5214

### 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

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.

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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 $\pi$  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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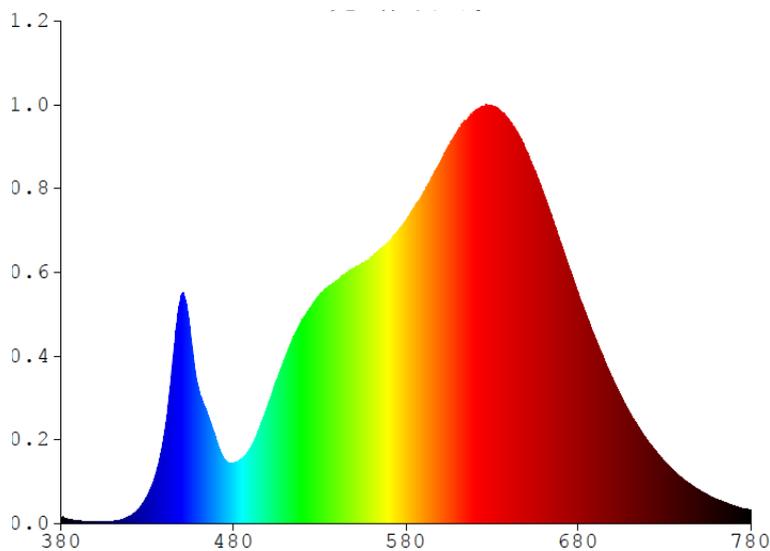
## TEST REPORT

### RESULTS OF TESTS

**Test Condition: 120V, 60Hz For SLCH66027XXXWWO**

#### Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	3.3842	480	33.1910	580	166.320	680	126.7000	780	7.6033
385	2.2512	485	35.7150	585	174.060	685	113.6500		
390	1.7121	490	41.9070	590	181.400	690	101.6700		
395	1.0993	495	52.2160	595	190.350	695	90.2460		
400	1.0490	500	65.2900	600	198.370	700	79.7300		
405	0.9786	505	78.8720	605	207.680	705	69.8010		
410	1.1952	510	91.3010	610	215.790	710	60.7180		
415	2.0931	515	102.9900	615	221.340	715	53.0680		
420	4.4128	520	112.4000	620	226.540	720	46.0560		
425	8.2336	525	119.2300	625	229.050	725	39.8410		
430	15.4150	530	125.8500	630	229.390	730	34.2550		
435	27.3670	535	130.0000	635	226.890	735	29.3790		
440	50.2740	540	133.6400	640	222.000	740	25.3060		
445	91.4500	545	137.1500	645	214.470	745	21.5750		
450	125.900	550	140.3700	650	204.760	750	18.6560		
455	103.780	555	143.0000	655	193.490	755	15.9440		
460	73.1850	560	146.2400	660	181.060	760	13.6140		
465	59.8050	565	150.5900	665	167.610	765	11.6060		
470	46.0810	570	154.6200	670	153.980	770	10.0210		
475	35.1080	575	160.3200	675	137.180	775	8.4655		



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## TEST REPORT

### RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For SLCH66027XXXWWO**

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

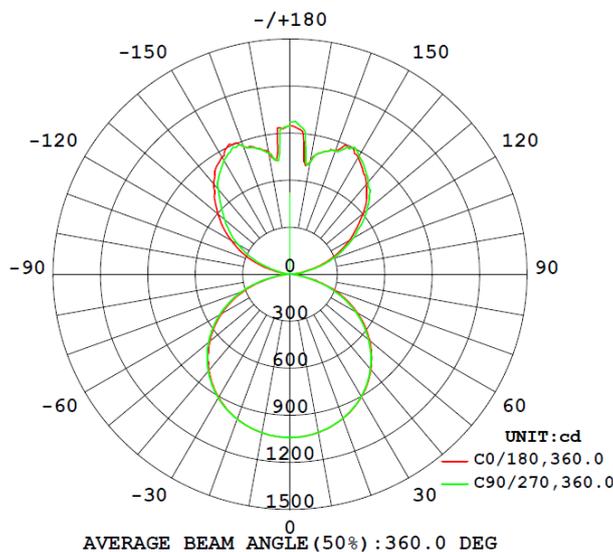
#### Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticity Coordinate (x)	Chromaticity Coordinate (y)	Chromaticity Coordinate (u')	Chromaticity Coordinate (v')
SLCH66027XXXWWO								
S2411211 31-005	base-up	2878	94	72	0.4432	0.4017	0.2557	0.5214

#### 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)
SLCH66027XXXWWO							
S2411211 31-005	base-up	120.1	674.3	79.7	0.984	5777.7	72.5

#### Intensity (Candlepower) Summary at 25°C - Candelas



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# TEST REPORT

## RESULTS OF TESTS (cont'd)

**Test Condition: 120V, 60Hz For SLCH66027XXXWWO**

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1041.6	1041.3	1041.3	1041.1	1041.0
5	1037.2	1035.8	1036.3	1036.4	1036.6
10	1025.0	1022.6	1023.5	1024.0	1024.5
15	1005.6	1002.1	1003.1	1004.1	1004.8
20	979.1	974.3	975.5	976.5	977.4
25	945.2	938.8	940.4	941.4	942.5
30	903.3	895.6	897.3	898.5	900.0
35	853.0	844.0	846.1	847.4	849.0
40	795.1	784.6	787.0	788.5	789.9
45	729.8	717.8	720.2	721.8	723.1
50	657.4	643.6	645.8	647.2	648.4
55	578.2	562.6	564.5	565.4	566.5
60	492.1	475.1	476.2	476.5	477.9
65	399.2	380.2	380.5	380.4	381.7
70	299.6	278.1	277.1	276.9	278.6
75	190.5	167.4	166.5	165.8	166.8
80	83.4	64.9	65.3	65.3	64.4
85	16.6	11.4	13.0	13.3	12.4
90	2.0	4.4	6.9	7.7	6.1
95	12.8	21.0	20.6	23.5	22.9
100	61.2	85.1	86.3	87.3	85.1
105	157.0	180.9	181.5	182.2	184.9
110	255.9	277.6	273.0	273.2	282.0
115	347.1	366.6	358.9	361.9	369.6
120	434.3	454.5	443.6	449.9	458.3
125	512.8	534.7	548.0	552.9	550.4
130	604.7	621.3	622.1	629.7	633.2
135	685.1	695.2	698.8	707.8	711.9
140	752.4	760.2	753.1	765.8	771.7
145	804.7	816.1	819.3	822.6	825.5
150	861.8	854.6	865.9	872.3	875.5
155	890.1	874.8	890.9	887.9	883.1
160	836.0	825.3	822.1	825.2	837.8
165	808.0	791.4	775.9	793.1	808.2
170	728.8	714.1	709.1	713.1	719.6
175	915.7	924.7	950.6	938.6	935.6
180	948.8	981.5	943.1	951.9	968.9

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## TEST REPORT

### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH66027XXXWWO

#### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH66027XXXWWO		
0-30	819.4	14.2
0-40	1354.7	23.5
0-60	2440.3	42.2
0-90	3078.4	53.3
60-90	638.1	11.1
0-180	5777.7	100.0

#### Beam Angle

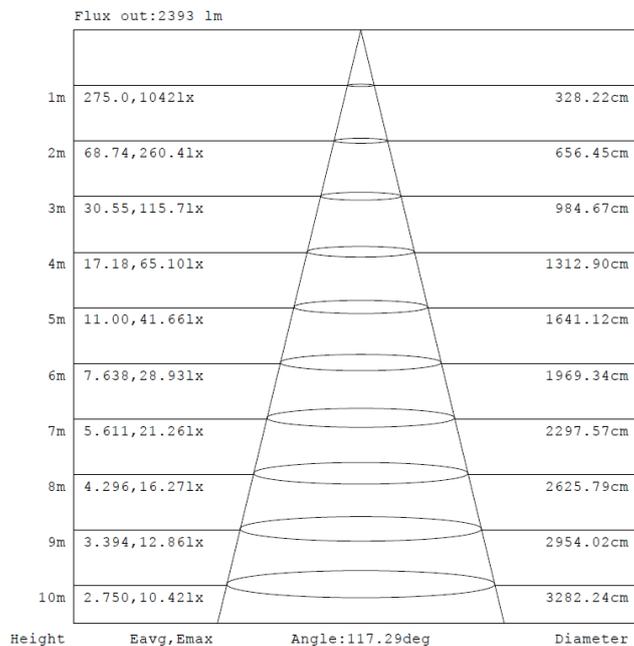
**Total Beam Angle(°)**  
360.0

#### Illumination Plots

Model No.: SLCH66027XXXWWO

Mount Height: 2.5 m

#### Illuminance - Cone of Light



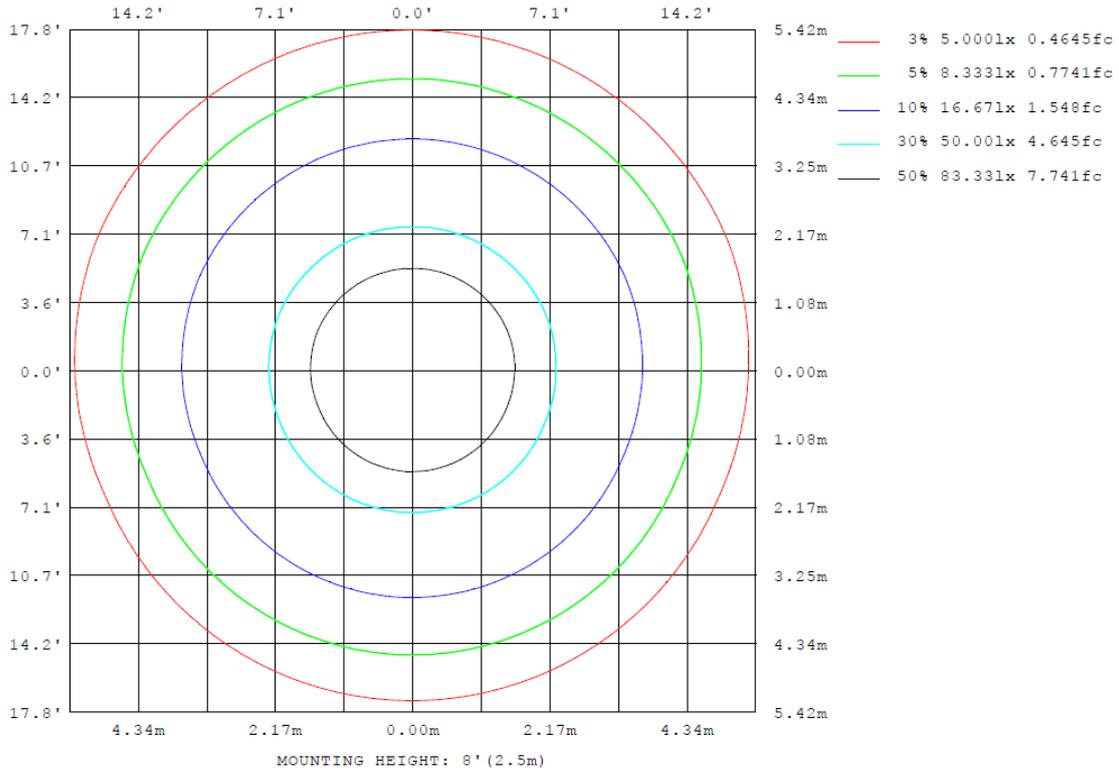
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**TEST REPORT**  
**RESULTS OF TESTS (cont'd)**

**Test Condition: 120V, 60Hz For SLCH66027XXXWWO**

Model No.: SLCH66027XXXWWO  
Mount Height: 2.5 m  
Isoillumination Plot



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## TEST REPORT

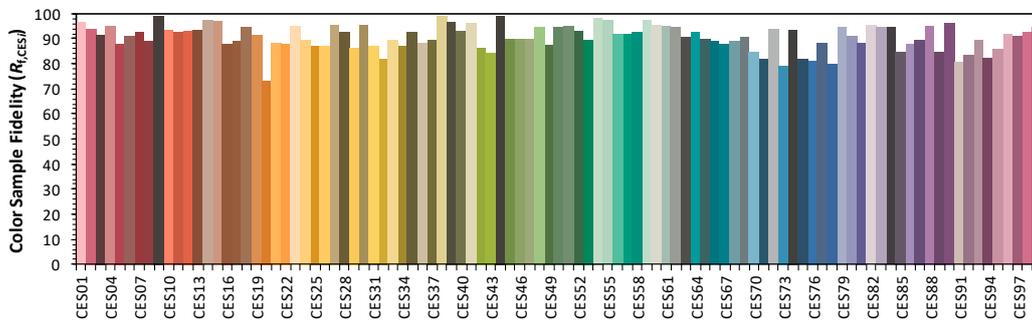
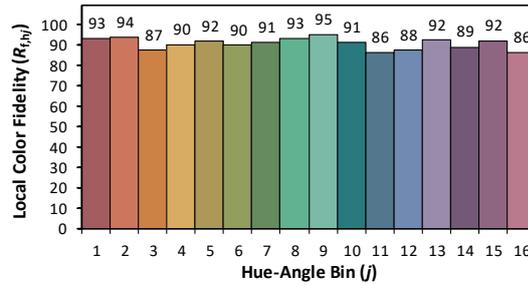
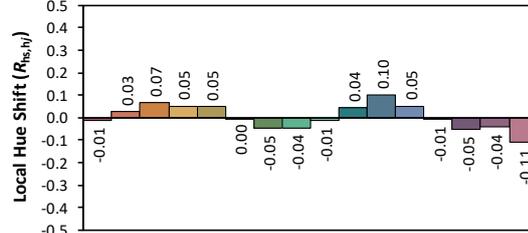
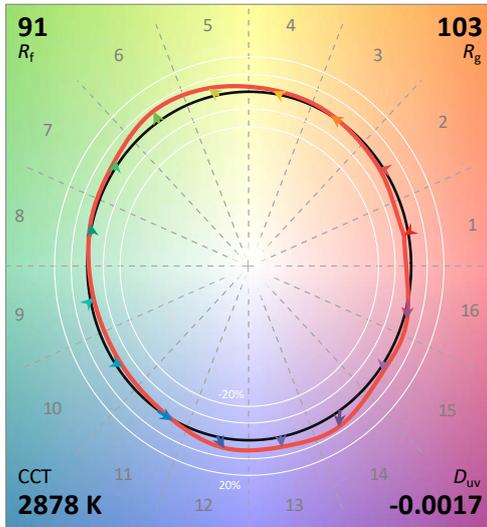
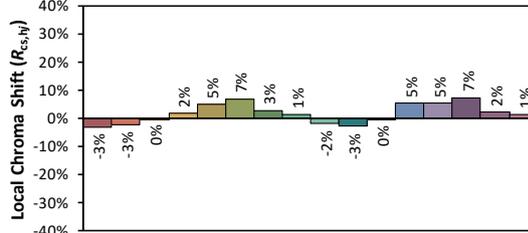
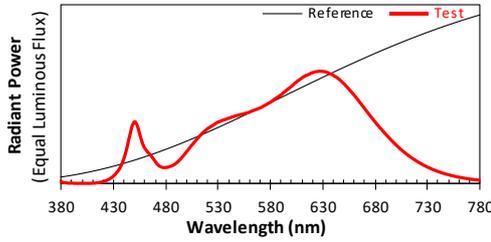
### RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH66027XXXWWO

### ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD  
Date: 2024/12/6

Manufacturer: Visual Comfort & Co.  
Model: SLCH66027XXXWWO



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

$x$  0.4432  
 $y$  0.4017  
 $u'$  0.2557  
 $v'$  0.5214

CIE 13.3-1995 (CRI)	
$R_a$	94
$R_g$	72

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 SLCH66027XXXWWO**

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**TEST REPORT**

**PRODUCT PICTURE (not to scale)**



**External view of SLCH66027XXXWWO**

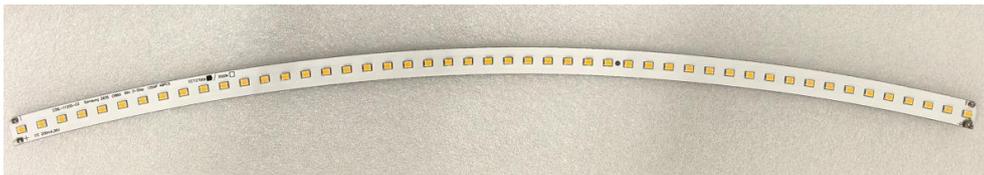
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## TEST REPORT

### PRODUCT PICTURE (not to scale)



**View of LED driver DS45W1200C2036F5UD-0000**



**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 \*\*\*\*\*