

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-006

ISSUE DATE

08 October 2024

REVISION DATE

Modification 1: 06 November 2024

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240621176GZU-006
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWLS34927XX

Remark: "XX" are denoted 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: QGZ240620045.
<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 KWLS34927XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-007.
<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>	30 July 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:	KWLS34927XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWLS34927XX

Criteria	Result
Total Lumen Output	3066.5 lm
Total Power	46.9 W
Luminaire Efficacy	65.4 lm/W
S/MH(C0/180)	1.30
S/MH(C90/270)	1.26
Correlated Color Temperature (CCT)	2611 K
Color Rendering Index (CRI)	93
R9	64
Chromaticity Coordinate (x)	0.4666
Chromaticity Coordinate (y)	0.4110
Chromaticity Coordinate (u')	0.2667
Chromaticity Coordinate (v')	0.5285

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-006 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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	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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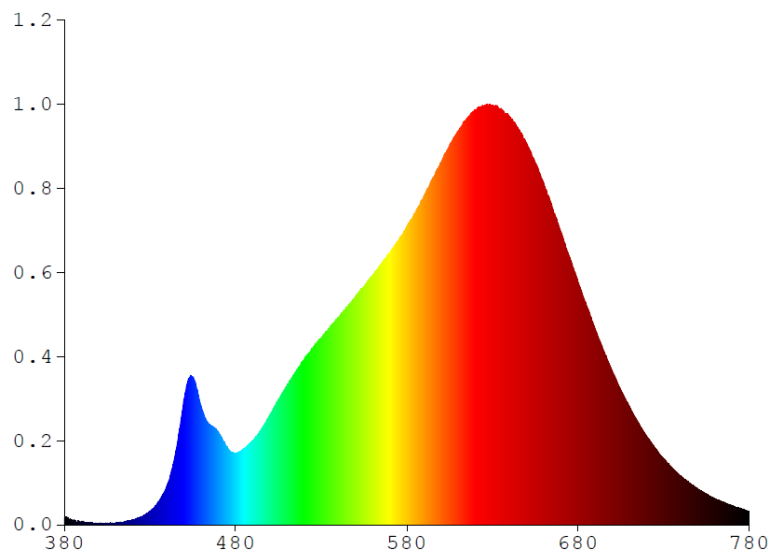
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWLS34927XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.3248	480	3.0724	580	12.8640	680	10.4350	780	0.5645
385	0.1707	485	3.2853	585	13.4640	685	9.4083		
390	0.1562	490	3.6293	590	14.1820	690	8.4129		
395	0.0939	495	4.1142	595	14.9190	695	7.4610		
400	0.0718	500	4.7440	600	15.6200	700	6.5950		
405	0.0732	505	5.3918	605	16.3630	705	5.7865		
410	0.0874	510	6.0051	610	16.9800	710	5.0680		
415	0.1338	515	6.5821	615	17.5070	715	4.4084		
420	0.2133	520	7.1051	620	17.8780	720	3.8217		
425	0.3512	525	7.6066	625	18.0190	725	3.2926		
430	0.5879	530	8.0260	630	18.0520	730	2.8401		
435	0.9836	535	8.5064	635	17.9390	735	2.4331		
440	1.7009	540	8.9445	640	17.5770	740	2.0968		
445	3.1376	545	9.3869	645	17.0750	745	1.7923		
450	5.4222	550	9.8352	650	16.4230	750	1.5384		
455	6.3536	555	10.2640	655	15.5870	755	1.3135		
460	5.0472	560	10.7350	660	14.6850	760	1.1139		
465	4.3155	565	11.2480	665	13.6410	765	0.9556		
470	3.9609	570	11.7150	670	12.5920	770	0.8164		
475	3.3546	575	12.2400	675	11.3240	775	0.6999		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34927XX

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

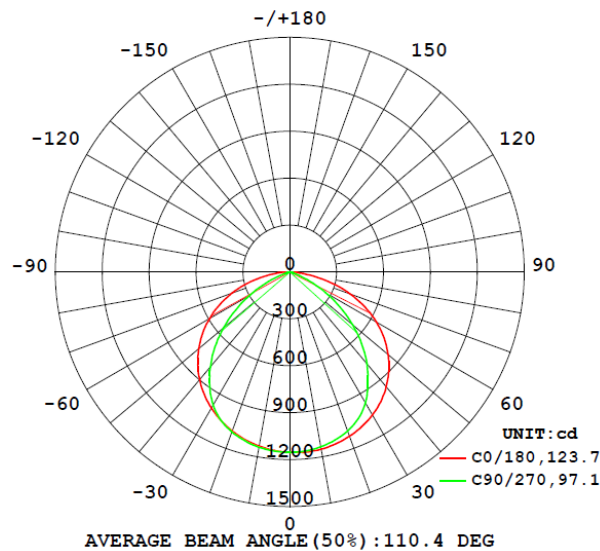
Photometric Measurements at 25°C – Distribution Method

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')
KWLS34927XX								
S2406211 76-007	base-up	2611	93	64	0.4666	0.4110	0.2667	0.5285

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)
KWLS34927XX							
S2406211 76-007	base-up	120.1	394.7	46.9	0.989	3066.5	65.4

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34927XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	1154.2	1153.9	1153.7	1153.5	1153.1
5	1155.7	1154.8	1153.3	1151.0	1148.4
10	1150.3	1148.7	1145.0	1139.9	1135.0
15	1137.3	1134.9	1128.8	1120.4	1112.9
20	1117.0	1113.5	1104.0	1092.1	1081.2
25	1090.0	1085.2	1071.6	1051.9	1035.3
30	1055.9	1050.2	1029.2	992.4	965.1
35	1012.9	1007.0	974.0	909.5	873.1
40	959.2	953.7	898.5	809.4	768.1
45	895.5	889.6	804.0	696.9	650.9
50	821.1	813.6	696.0	573.3	524.3
55	735.7	721.7	573.2	441.4	392.9
60	638.7	610.6	438.4	307.6	263.2
65	530.0	480.8	298.1	178.7	142.4
70	410.5	337.9	161.8	66.1	47.8
75	283.5	189.7	50.9	20.1	17.8
80	156.1	58.5	13.2	9.3	8.4
85	47.3	6.2	4.3	3.1	2.8
90	0.3	0.4	0.3	0.2	0.2
95	0.3	0.3	0.3	0.2	0.2
100	0.3	0.3	0.3	0.2	0.2
105	0.3	0.3	0.3	0.3	0.3
110	0.4	0.4	0.4	0.3	0.3
115	0.4	0.4	0.4	0.4	0.4
120	0.5	0.5	0.5	0.5	0.5
125	0.7	0.7	0.7	0.7	0.7
130	0.8	0.8	0.9	0.9	0.9
135	1.0	1.0	1.1	1.1	1.1
140	1.2	1.2	1.3	1.3	1.3
145	1.3	1.3	1.4	1.5	1.5
150	1.4	1.5	1.6	1.7	1.7
155	1.5	1.6	1.7	1.8	1.8
160	1.6	1.7	1.8	1.9	1.8
165	1.7	1.7	1.8	1.9	1.8
170	1.7	1.7	1.8	1.8	1.7
175	1.7	1.7	1.7	1.8	1.7
180	1.6	1.7	1.7	1.7	1.8

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34927XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWLS34927XX		
0-30	911.8	29.7
0-40	1501.6	49.0
0-60	2606.4	85.0
0-90	3062.5	99.9
60-90	456.1	14.9
0-180	3066.5	100.0

Beam Angle

Total Beam Angle(°)

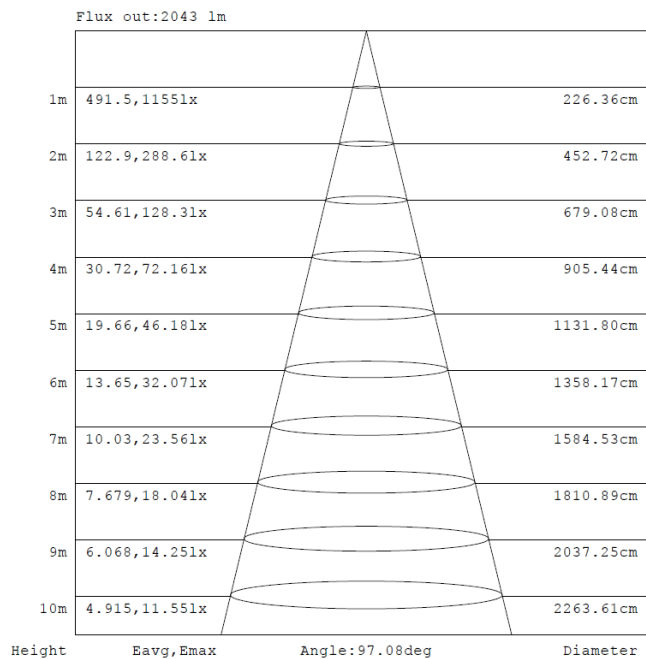
110.4

Illumination Plots

Model No.: KWLS34927XX

Mount Height: 2.5 m

Illuminance - Cone of Light



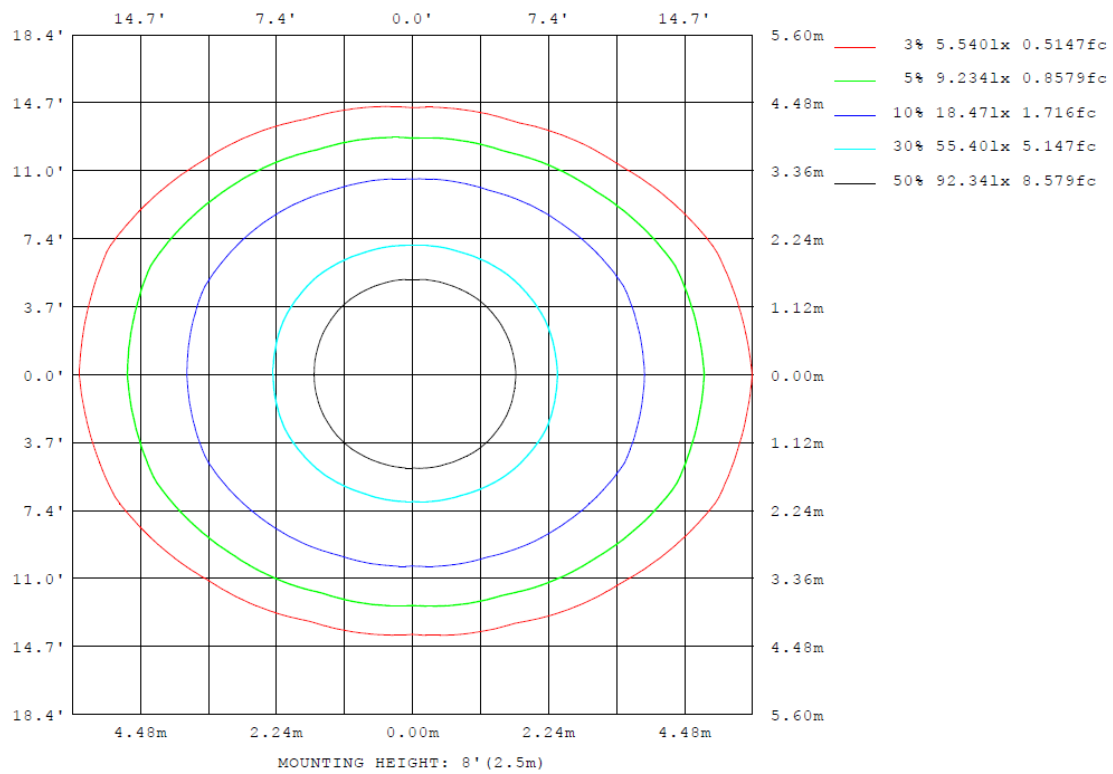
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34927XX

Model No.: KWLS34927XX
Mount Height: 2.5 m
Isoillumination Plot



TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWLS34927XX

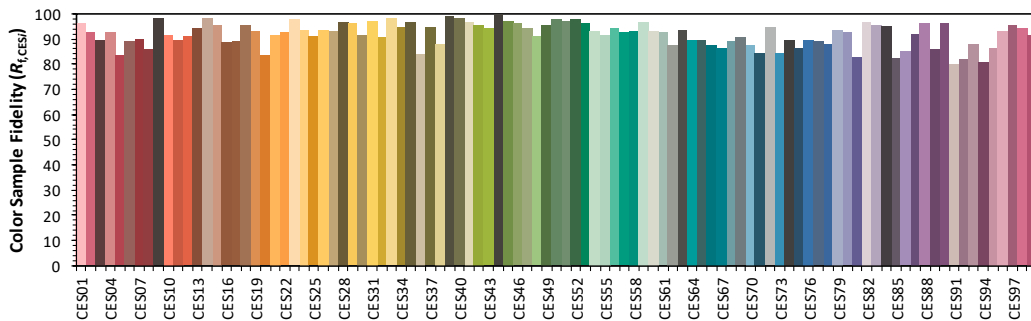
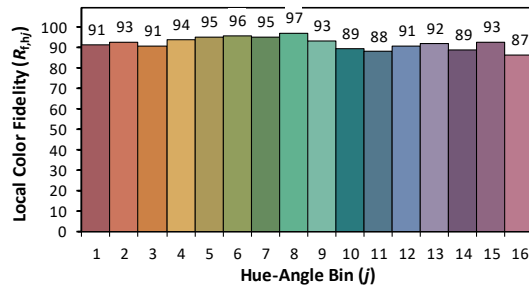
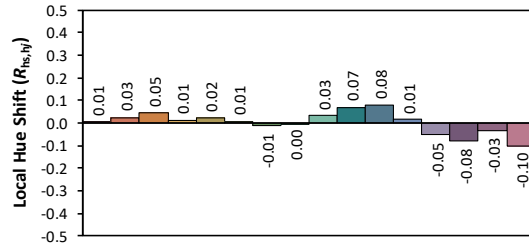
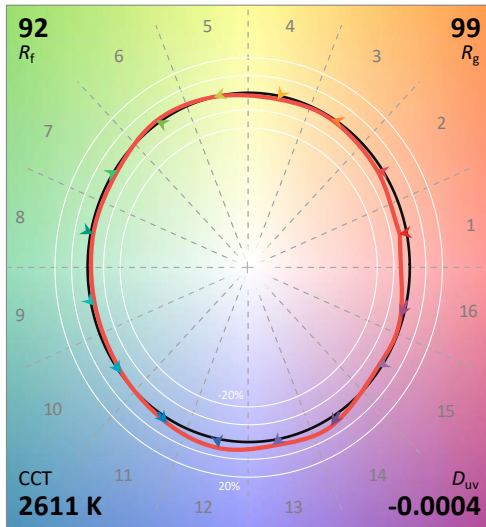
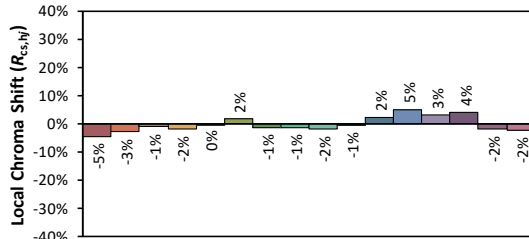
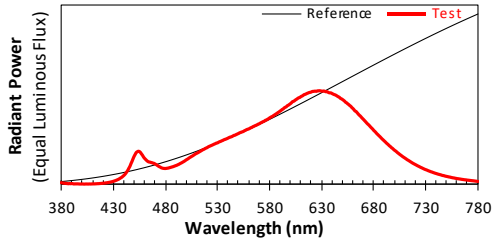
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/30

Model: KWLS34927XX



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

x 0.4666
 y 0.4110
 u' 0.2667
 v' 0.5285

CIE 13.3-1995
(CRI)
 R_a 93
 R_g 64

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

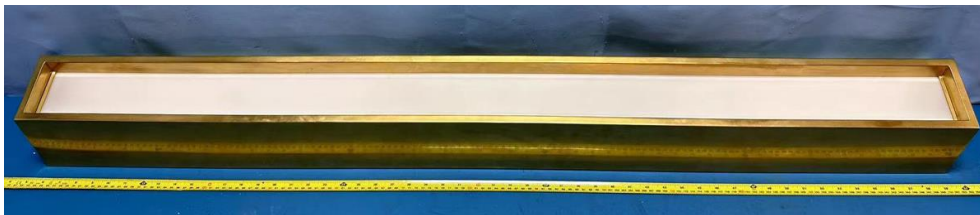
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TEST REPORT

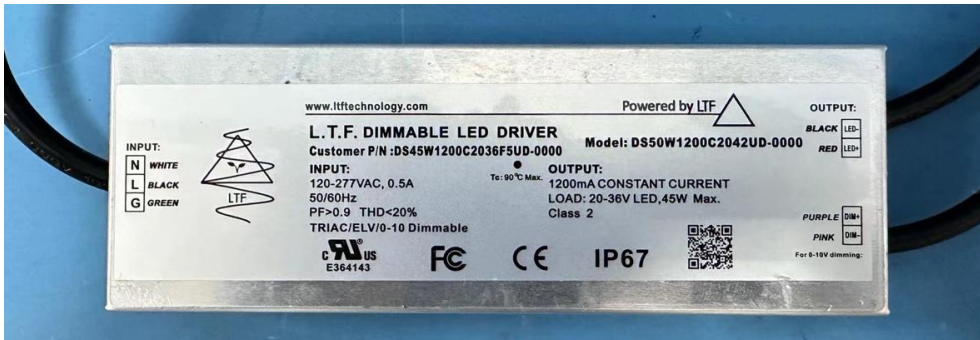
PRODUCT PICTURE (not to scale)



External view of KWLS34927XX



External view of KWLS34927XX

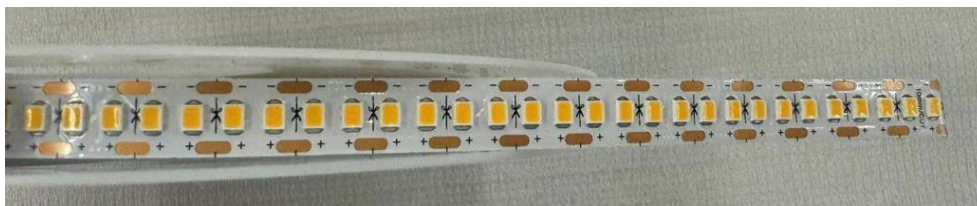


View of LED driver DS50W1200C2042UD-0000

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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 *****