

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241115139GZU-006

ISSUE DATE

18 December 2024

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

© 2024 INTERTEK



Report No.: 241115139GZU-006

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. KWTB71327XXXALB

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

7400 LINDER AVE. SKOKIE, IL, 60077

Email: jrivero@visualcomfort.com

Phone No.: 847-410-4552

<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: QGZ241114023.
<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 KWTB71327XXXALB. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241115139-008.
<u>MANUFACTURER /FACTORY & ADDRESS:</u>	Union Star Collection-Dongguan Denghuang HomeFurnishing Co., Ltd. No.5, Central Road, Yayuan Industrial Zone, Nancheng District, Dongguan City, Guangdong Province, 523000
<u>DATES OF TESTS:</u>	04 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

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

TEST REPORT

SUMMARY

Model Number:	KWTB71327XXXALB
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Criteria	Result
Total Lumen Output	44.9 lm
Total Power	2.7 W
Luminaire Efficacy	16.7 lm/W
S/MH(C0/180)	0.66
S/MH(C90/270)	1.75
Correlated Color Temperature (CCT)	2389 K
Color Rendering Index (CRI)	92
R9	55
Chromaticity Coordinate (x)	0.4857
Chromaticity Coordinate (y)	0.4125
Chromaticity Coordinate (u')	0.2784
Chromaticity Coordinate (v')	0.5320

Remark:

N/A

***** 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

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 *****

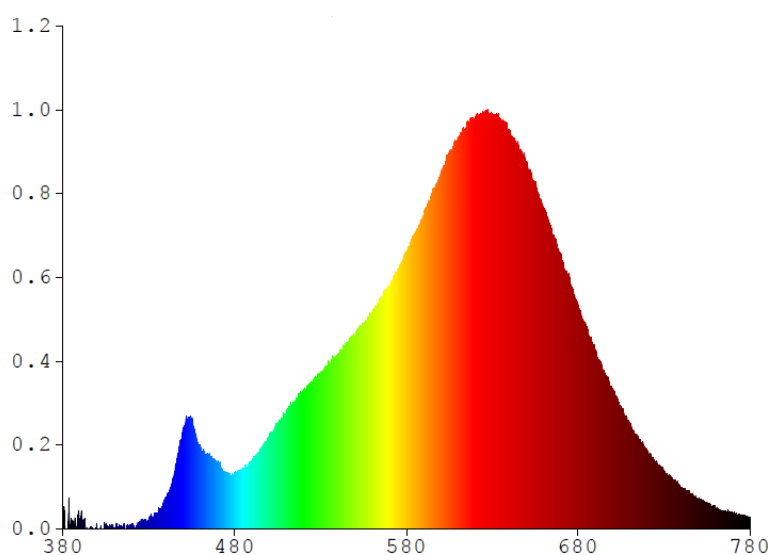
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.2322	580	1.1265	680	0.9105	780	0.0468
385	0.0339	485	0.2488	585	1.2018	685	0.8235		
390	0.0429	490	0.2761	590	1.2784	690	0.7234		
395	0.0000	495	0.3242	595	1.3682	695	0.6425		
400	0.0000	500	0.3783	600	1.4489	700	0.5734		
405	0.0207	505	0.4258	605	1.5262	705	0.4962		
410	0.0000	510	0.4740	610	1.5955	710	0.4288		
415	0.0052	515	0.5201	615	1.6468	715	0.3743		
420	0.0103	520	0.5677	620	1.6737	720	0.3236		
425	0.0221	525	0.5986	625	1.6940	725	0.2733		
430	0.0383	530	0.6370	630	1.6879	730	0.2311		
435	0.0669	535	0.6805	635	1.6683	735	0.1989		
440	0.1279	540	0.7094	640	1.6255	740	0.1702		
445	0.2294	545	0.7589	645	1.5723	745	0.1466		
450	0.4079	550	0.7882	650	1.4926	750	0.1226		
455	0.4475	555	0.8346	655	1.3993	755	0.1088		
460	0.3349	560	0.8833	660	1.3083	760	0.0832		
465	0.2960	565	0.9412	665	1.1943	765	0.0702		
470	0.2735	570	0.9811	670	1.1229	770	0.0639		
475	0.2284	575	1.0580	675	0.9892	775	0.0550		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

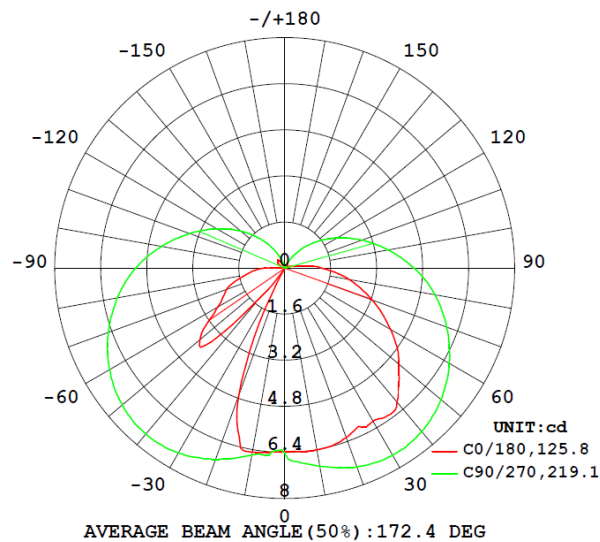
Photometric Measurements at 25°C – Distribution Method

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	R9	CIE 31'	CIE 31'	CIE 76'	CIE 76'
					Chromaticit y	Chromaticit y	Chromaticit y	Chromaticit y
					Coordinate (x)	Coordinate (y)	Coordinate (u')	Coordinate (v')
KWTB71327XXXALB								
S2411151 39-008	base-up	2389	92	55	0.4857	0.4125	0.2784	0.5320

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	Lumen
						Luminous Flux (Lumens)	Efficacy (Lumens Per Watt)
KWTB71327XXXALB							
S2411151 39-008	base-up	120.1	34.5	2.7	0.647	44.9	16.7

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	6.4	6.4	6.3	6.4	6.4
5	6.4	6.4	6.7	6.8	6.8
10	6.4	6.7	6.9	6.9	7.0
15	6.4	6.7	6.9	7.1	7.2
20	6.3	6.6	7.0	7.3	7.3
25	6.1	6.5	7.1	7.4	7.4
30	6.1	6.4	7.1	7.5	7.5
35	6.2	6.3	7.0	7.5	7.5
40	6.1	6.1	6.9	7.4	7.4
45	5.6	5.8	6.8	7.3	7.3
50	5.2	5.5	6.5	7.1	7.1
55	4.8	5.2	6.3	6.9	6.9
60	4.2	4.9	6.0	6.6	6.6
65	3.7	4.5	5.7	6.3	6.3
70	3.2	4.2	5.4	6.0	6.0
75	2.7	3.8	5.0	5.7	5.7
80	2.3	3.4	4.7	5.3	5.3
85	1.8	3.1	4.3	4.9	4.9
90	1.3	2.7	3.9	4.5	4.5
95	0.9	2.4	3.5	4.1	4.1
100	0.4	2.1	3.1	3.7	3.7
105	0.2	1.8	2.7	3.3	3.3
110	0.2	1.5	2.4	2.9	2.9
115	0.1	1.2	2.1	2.5	2.5
120	0.1	0.9	1.7	2.1	2.1
125	0.1	0.7	1.4	1.8	1.8
130	0.1	0.5	1.1	1.4	1.4
135	0.1	0.3	0.8	1.1	1.1
140	0.2	0.2	0.5	0.8	0.8
145	0.2	0.1	0.3	0.5	0.5
150	0.1	0.1	0.1	0.2	0.3
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.0
165	0.1	0.1	0.1	0.1	0.1
170	0.0	0.0	0.1	0.1	0.1
175	0.0	0.0	0.0	0.0	0.0
180	0.1	0.1	0.1	0.1	0.1

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
KWTB71327XXXALB		
0-30	5.5	12.2
0-40	9.6	21.4
0-60	20.0	44.6
0-90	34.8	77.6
60-90	14.8	33.0
0-180	44.9	100.0

Beam Angle

Total Beam Angle(°)

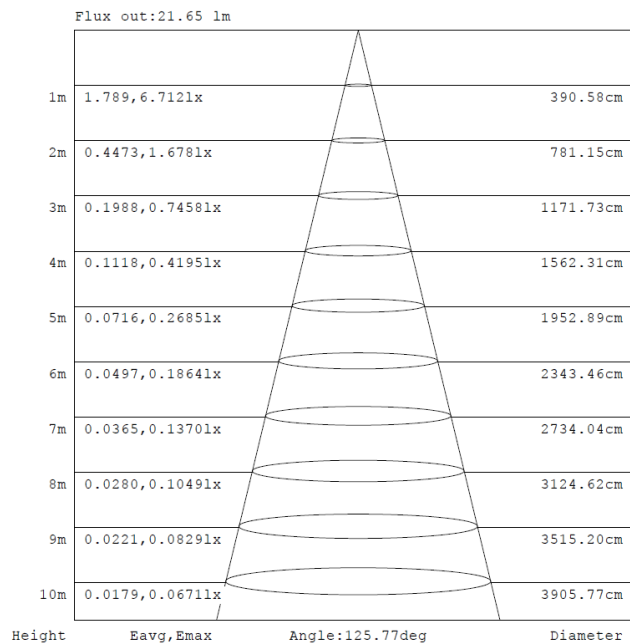
172.4

Illumination Plots

Model No.: KWTB71327XXXALB

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

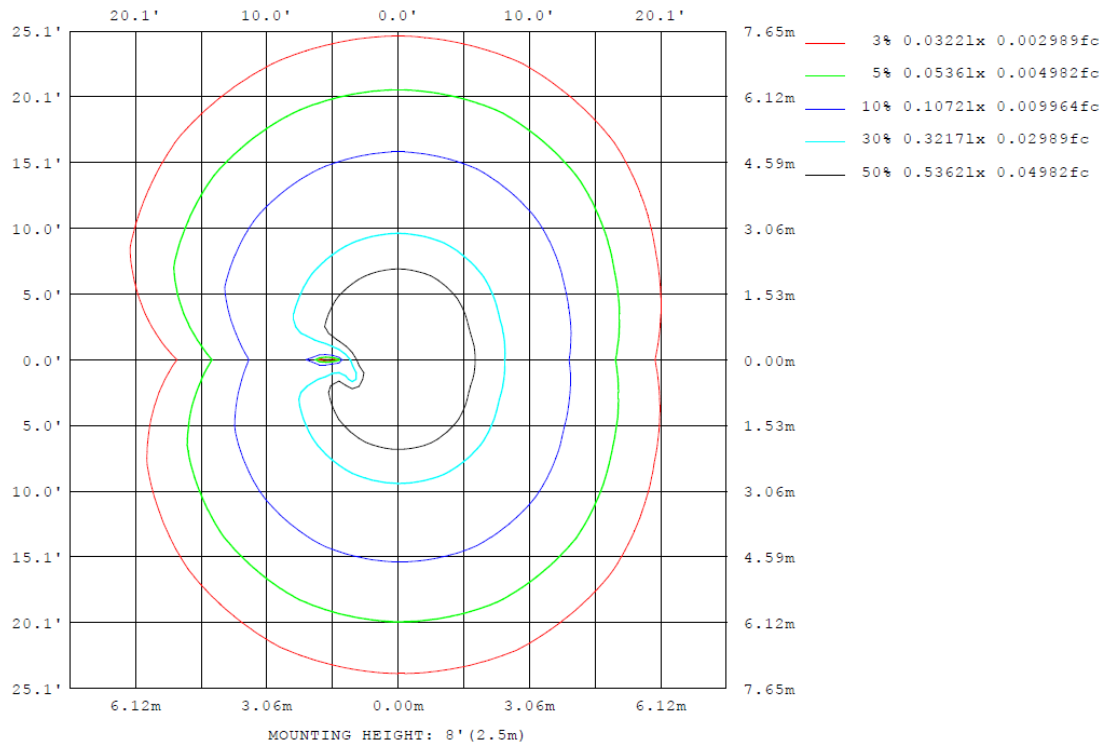
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB71327XXXALB

Model No.: KWTB71327XXXALB

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For KWTB71327XXXALB

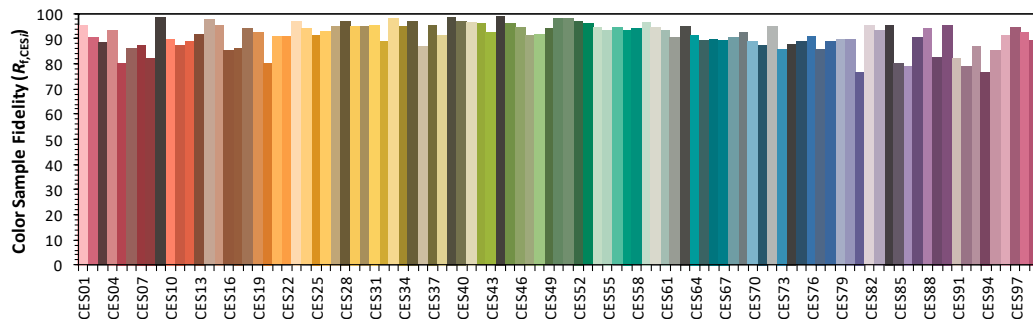
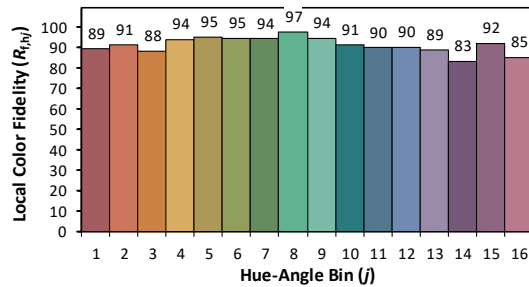
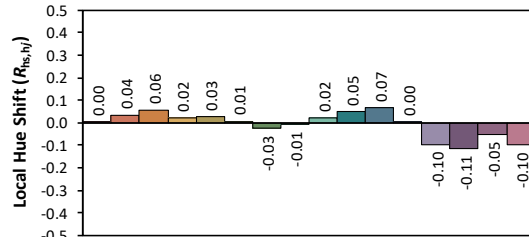
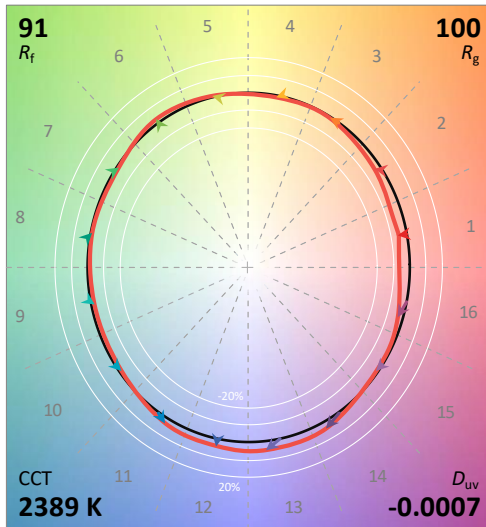
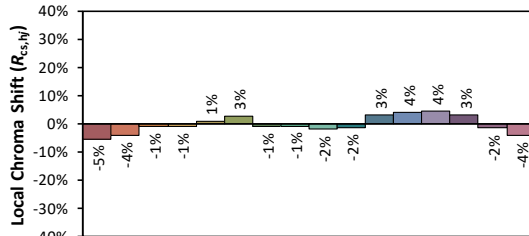
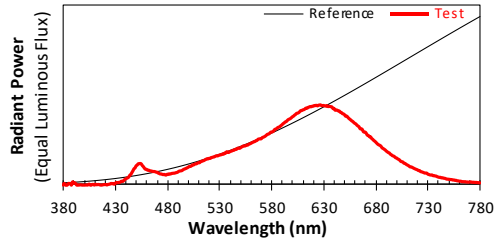
ANSI/IES TM-30-+B3:X2418 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/4

Model: KWTB71327XXXALB



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

x 0.4857
 y 0.4125
 u' 0.2784
 v' 0.5320

CIE 13.3-1995
(CRI)

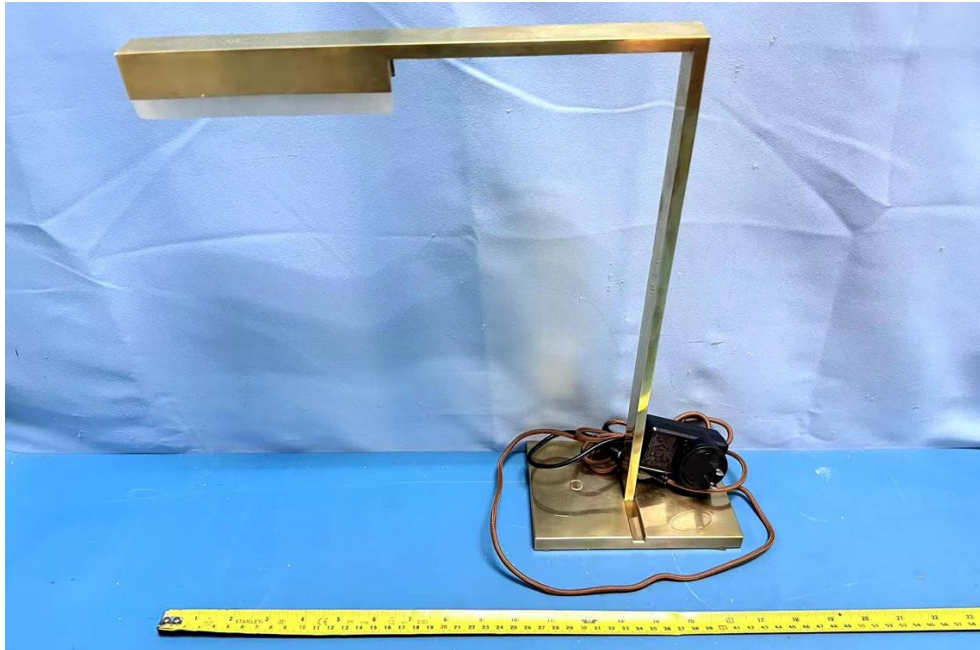
R_a 92
 R_g 55

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 KWTB71327XXXALB

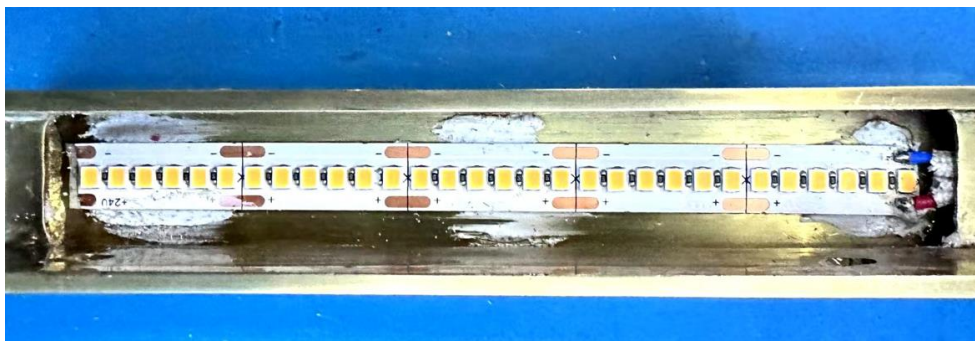


View of LED driver JY24-240-100-SPS

***** 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 *****