

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241101145GZU-003

ISSUE DATE

03 December 2024

REVISION DATE

None

NUMBER OF PAGES

14

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 241101145GZU-003

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. PBTB50327XXX

Remark: "XXX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

Contact Name: Javan Rivero

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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: QGZ241031016.
<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 PBTB50327XXX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241101145-002.
<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>	19 November 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:	PBTB50327XXX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For PBTB50327XXX

Criteria	Result
Total Lumen Output	116.4 lm
Total Power	12.5 W
Luminaire Efficacy	9.4 lm/W
S/MH(C0/180)	1.84
S/MH(C90/270)	1.83
Correlated Color Temperature (CCT)	2016 K
Color Rendering Index (CRI)	86
R9	35
Chromaticity Coordinate (x)	0.5301
Chromaticity Coordinate (y)	0.4205
Chromaticity Coordinate (u')	0.3035
Chromaticity Coordinate (v')	0.5417

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

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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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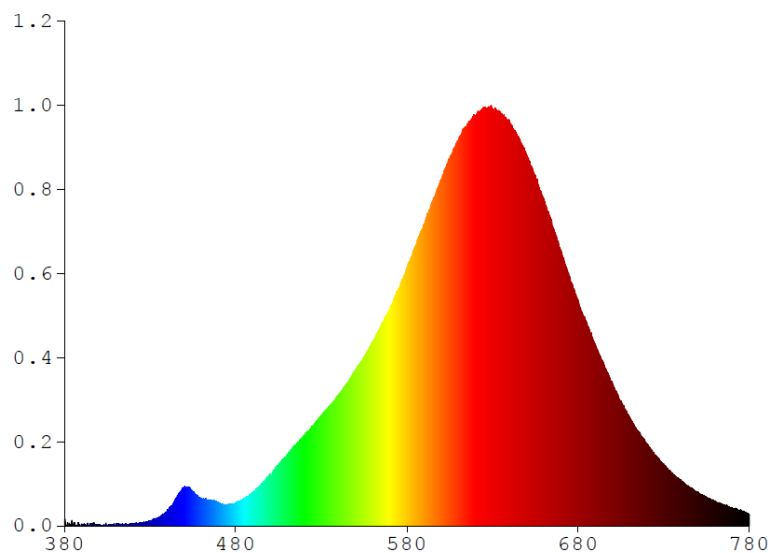
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For PBTB50327XXX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0858	480	0.3892	580	4.4510	680	3.8832	780	0.1938
385	0.0091	485	0.4761	585	4.8284	685	3.4982		
390	0.0298	490	0.5831	590	5.2088	690	3.1327		
395	0.0338	495	0.7243	595	5.6168	695	2.7977		
400	0.0177	500	0.8901	600	5.9747	700	2.4593		
405	0.0072	505	1.0567	605	6.3285	705	2.1505		
410	0.0275	510	1.2290	610	6.6580	710	1.8801		
415	0.0284	515	1.3983	615	6.9115	715	1.6307		
420	0.0326	520	1.5650	620	7.0778	720	1.4246		
425	0.0537	525	1.7214	625	7.2120	725	1.2270		
430	0.0815	530	1.9091	630	7.1928	730	1.0685		
435	0.1514	535	2.0719	635	7.1111	735	0.9080		
440	0.2649	540	2.2650	640	6.9571	740	0.7903		
445	0.4704	545	2.4662	645	6.7228	745	0.6595		
450	0.6705	550	2.6966	650	6.3970	750	0.5861		
455	0.5896	555	2.9188	655	6.0301	755	0.4865		
460	0.4722	560	3.1789	660	5.6372	760	0.4295		
465	0.4446	565	3.4705	665	5.1705	765	0.3489		
470	0.4013	570	3.7391	670	4.7508	770	0.3086		
475	0.3660	575	4.0897	675	4.1947	775	0.2736		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBTB50327XXX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

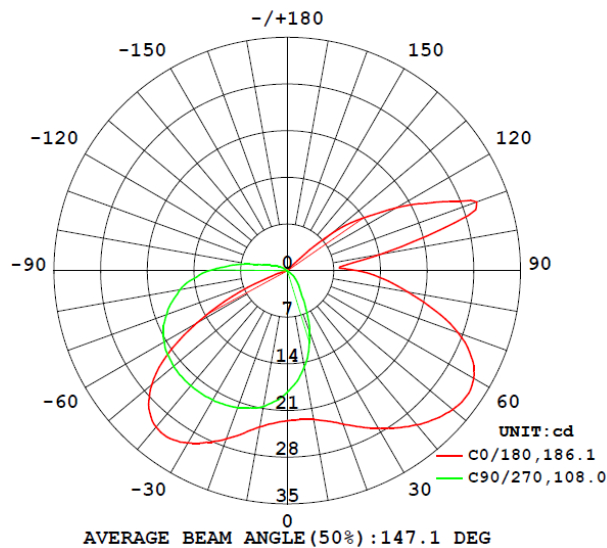
Photometric Measurements at 25°C – Distribution Method

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')
PBTB50327XXX								
S2411011 45-002	base-up	2016	86	35	0.5301	0.4205	0.3035	0.5417

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
						Flux (Lumens)	Efficacy (Lumens Per Watt)
PBTB50327XXX							
S2411011 45-002	base-up	120.1	125.9	12.5	0.823	116.4	9.4

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBTB50327XXX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	22.5	26.4	23.0	19.2	18.2
5	22.4	27.6	23.0	18.0	16.7
10	22.7	28.6	22.7	16.4	14.7
15	23.4	29.2	22.0	14.6	12.4
20	24.5	29.7	20.8	12.2	9.9
25	25.9	29.6	19.5	9.5	7.0
30	27.3	28.9	17.4	6.8	4.6
35	28.8	27.5	15.1	4.7	3.3
40	30.2	24.8	12.4	3.4	2.4
45	31.4	21.2	9.9	2.5	1.7
50	32.4	16.4	7.9	1.7	0.9
55	32.8	11.9	6.0	0.7	0.0
60	32.3	8.6	4.4	0.5	0.0
65	30.4	8.1	3.3	0.4	0.0
70	27.3	10.6	2.3	0.3	0.0
75	22.9	12.5	1.6	0.2	0.0
80	18.3	12.3	1.1	0.2	0.0
85	14.5	10.9	0.7	0.1	0.0
90	10.6	9.8	0.4	0.1	0.0
95	8.4	4.9	0.2	0.1	0.0
100	14.1	1.1	0.1	0.0	0.0
105	23.8	0.8	0.1	0.0	0.0
110	30.2	0.3	0.1	0.0	0.0
115	24.3	0.1	0.1	0.0	0.0
120	18.9	0.1	0.1	0.0	0.0
125	13.7	0.0	0.1	0.0	0.0
130	8.8	0.0	0.0	0.0	0.0
135	2.1	0.0	0.0	0.0	0.0
140	0.6	0.0	0.0	0.0	0.0
145	0.2	0.0	0.0	0.0	0.0
150	0.1	0.0	0.0	0.0	0.0
155	0.1	0.0	0.0	0.0	0.0
160	0.0	0.0	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

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBTB50327XXX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
PBTB50327XXX		
0-30	17.4	15.0
0-40	28.4	24.4
0-60	54.1	46.5
0-90	92.1	79.1
60-90	38.0	32.6
0-180	116.4	100.0

Beam Angle

Total Beam Angle(°)

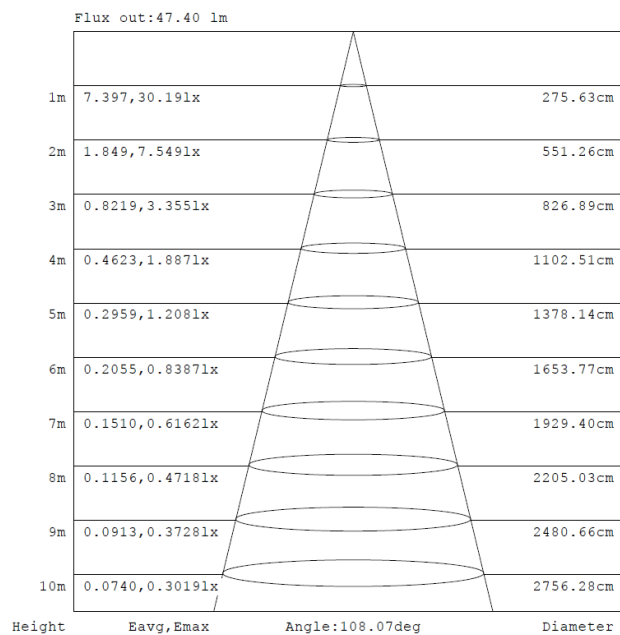
147.1

Illumination Plots

Model No.: PBTB50327XXX

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

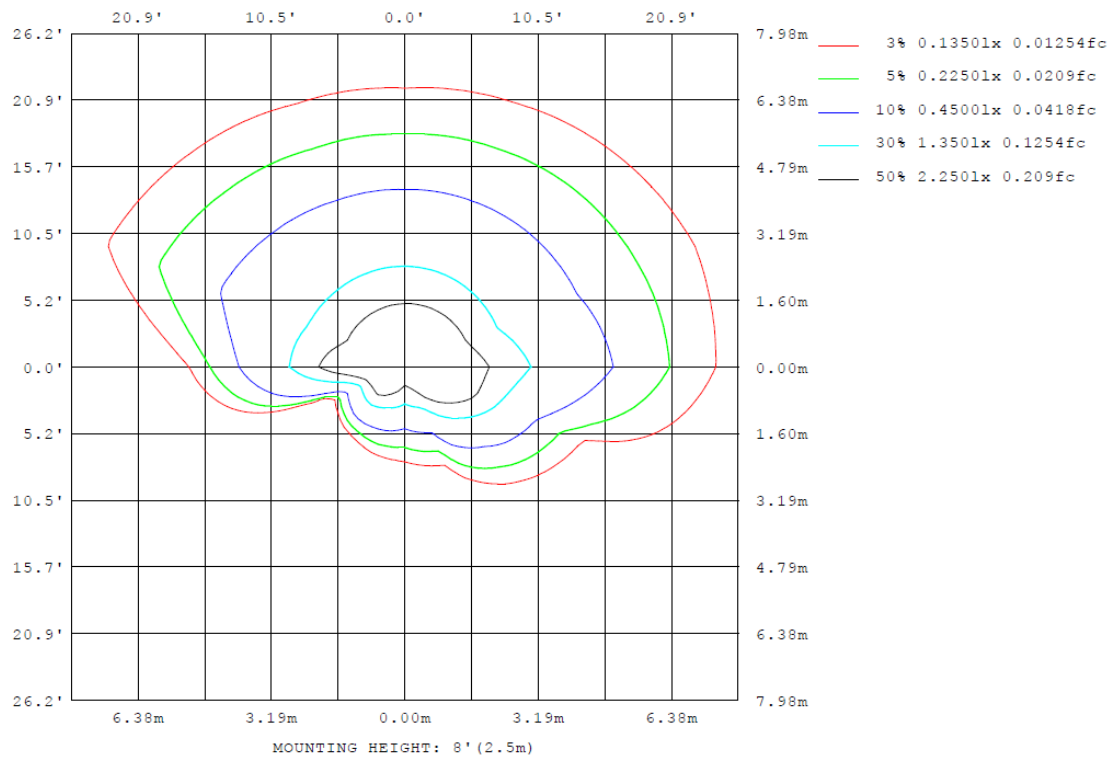
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBTB50327XXX

Model No.: PBTB50327XXX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBTB50327XXX

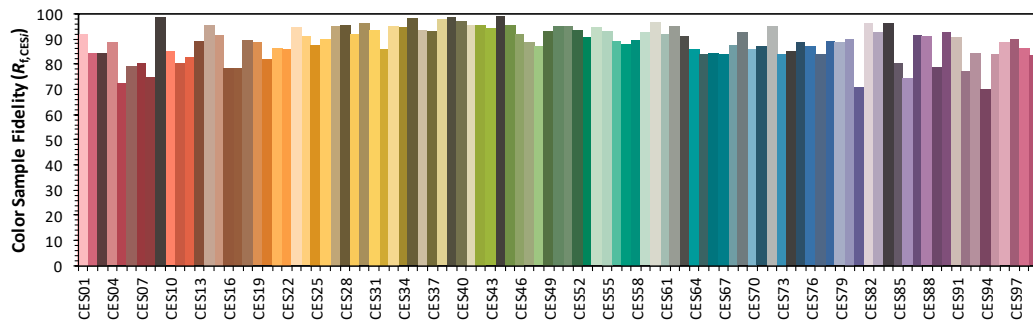
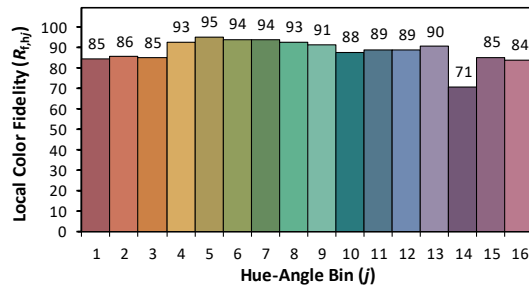
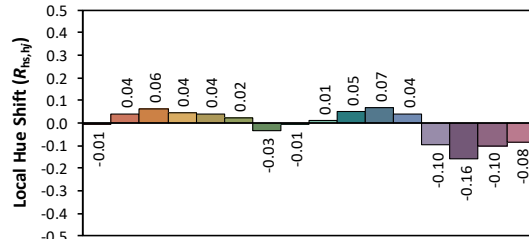
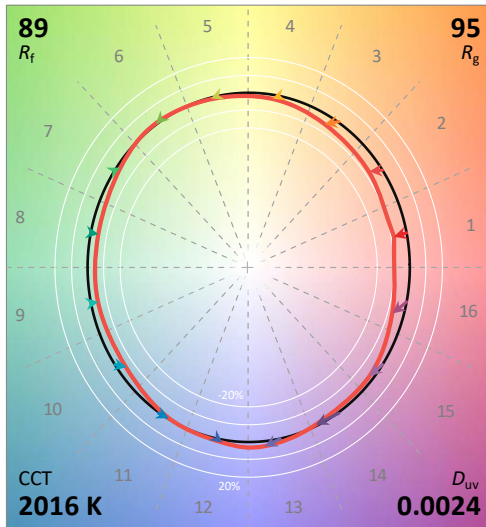
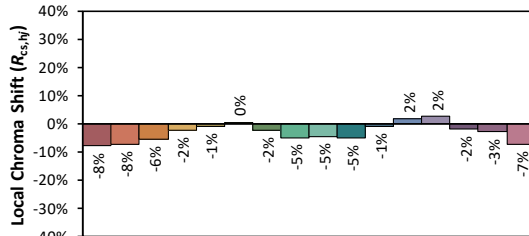
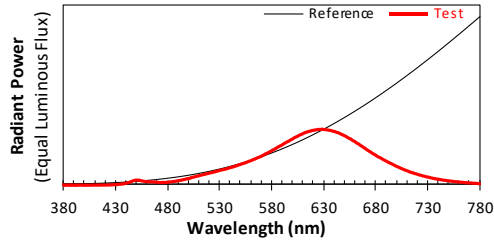
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/11/19

Model: PBTB50327XXX



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

x 0.5301
 y 0.4205
 u' 0.3035
 v' 0.5417

CIE 13.3-1995
(CRI)

R_a 86
 R_g 35

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 PBTB50327XXX

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TEST REPORT

PRODUCT PICTURE (not to scale)

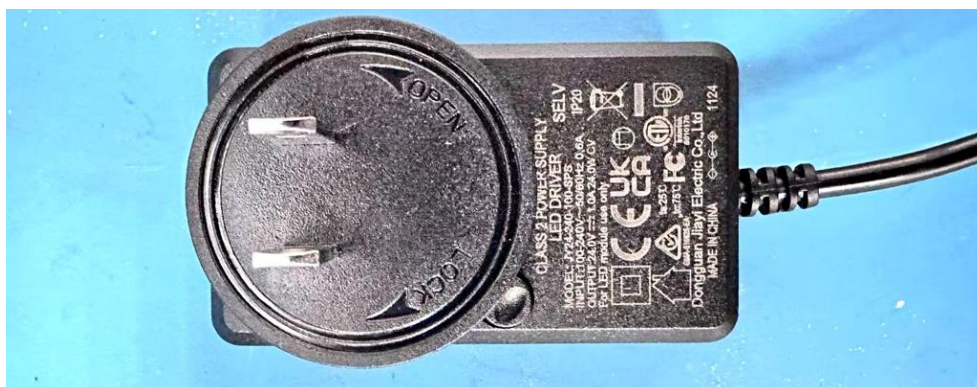


External view of PBTB50327XXX

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TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver JY24-240-100-SPS



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 *****