

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

241121131GZU-004

ISSUE DATE

03 January 2025

REVISION DATE

None

NUMBER OF PAGES

14

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

© 2024 INTERTEK



Report No.: 241121131GZU-004

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. PBPD35127XX

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: 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 PBPD35127XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S241121131-004.
<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>	14 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:	PBPD35127XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For PBPD35127XX

Criteria	Result
Total Lumen Output	351.8 lm
Total Power	19.6 W
Luminaire Efficacy	18.0 lm/W
S/MH(C0/180)	1.09
S/MH(C90/270)	2.31
Correlated Color Temperature (CCT)	2104 K
Color Rendering Index (CRI)	88
R9	46
Chromaticity Coordinate (x)	0.5221
Chromaticity Coordinate (y)	0.4238
Chromaticity Coordinate (u')	0.2966
Chromaticity Coordinate (v')	0.5417

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 *****

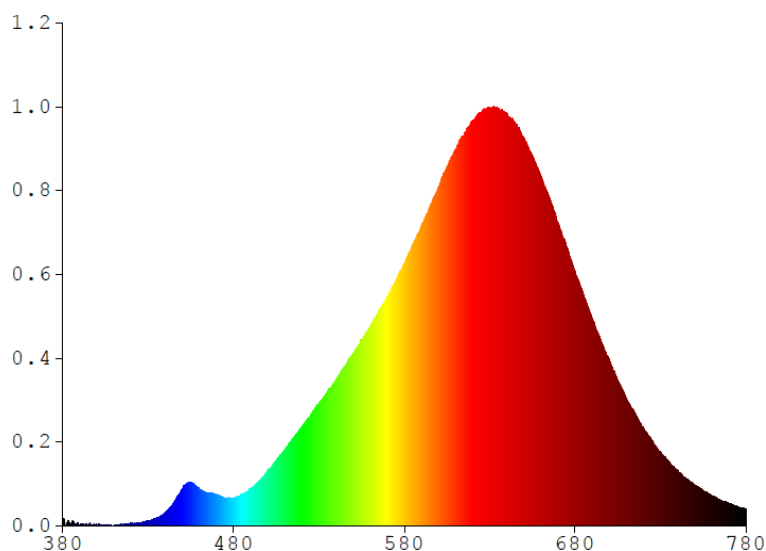
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For PBPD35127XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0667	480	0.6623	580	6.2307	680	6.0277	780	0.4088
385	0.0610	485	0.7529	585	6.6803	685	5.4631		
390	0.0321	490	0.8781	590	7.1145	690	4.9309		
395	0.0233	495	1.0493	595	7.5773	695	4.3840		
400	0.0096	500	1.3025	600	8.0287	700	3.9497		
405	0.0284	505	1.5410	605	8.5254	705	3.4526		
410	0.0031	510	1.8077	610	8.9252	710	3.0258		
415	0.0367	515	2.0884	615	9.2897	715	2.6751		
420	0.0684	520	2.3543	620	9.5957	720	2.3331		
425	0.0770	525	2.6340	625	9.8067	725	2.0143		
430	0.1028	530	2.9023	630	9.9277	730	1.7586		
435	0.1926	535	3.1742	635	9.9015	735	1.5166		
440	0.3131	540	3.4706	640	9.7818	740	1.3111		
445	0.5547	545	3.7684	645	9.5524	745	1.1218		
450	0.8774	550	4.0898	650	9.1997	750	0.9795		
455	1.0315	555	4.3919	655	8.7777	755	0.8372		
460	0.8696	560	4.7277	660	8.2854	760	0.7220		
465	0.7802	565	5.1141	665	7.7874	765	0.6040		
470	0.7475	570	5.4313	670	7.1855	770	0.5340		
475	0.6655	575	5.8110	675	6.5138	775	0.4568		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBPD35127XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

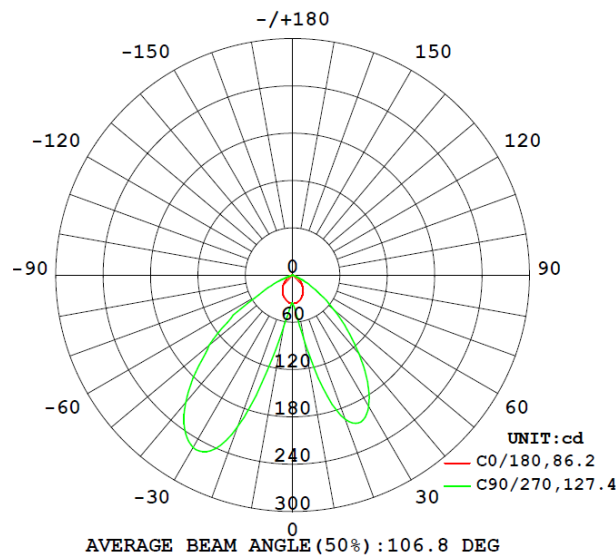
Photometric Measurements at 25°C – Distribution Method

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')
PBPD35127XX								
S2411211 31-004	base-up	2104	88	46	0.5221	0.4238	0.2966	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 Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
PBPD35127XX							
S2411211 31-004	base-up	120.1	164.5	19.6	0.991	351.8	18.0

Intensity (Candlepower) Summary at 25°C - Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBPD35127XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	36.0	36.1	36.1	36.2	36.2
5	35.8	38.6	42.8	46.7	48.0
10	35.0	42.9	58.2	75.5	82.7
15	33.5	49.2	89.2	132.9	148.1
20	31.5	58.6	131.7	181.5	194.5
25	29.1	72.1	160.8	197.1	205.2
30	26.4	87.4	166.9	188.8	192.4
35	23.4	97.4	156.1	165.0	165.2
40	20.2	98.0	134.0	132.5	130.8
45	16.9	90.1	106.9	100.5	97.4
50	13.5	76.9	80.0	72.1	68.7
55	10.3	60.2	56.6	46.9	43.3
60	7.6	43.6	35.9	27.4	23.8
65	4.5	27.7	19.3	13.1	11.2
70	1.9	10.6	3.5	0.7	0.4
75	0.1	0.1	0.2	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.1	0.1
120	0.0	0.0	0.1	0.1	0.1
125	0.0	0.0	0.1	0.1	0.1
130	0.1	0.1	0.1	0.1	0.1
135	0.1	0.1	0.1	0.1	0.1
140	0.1	0.1	0.1	0.1	0.1
145	0.1	0.1	0.1	0.1	0.1
150	0.1	0.1	0.1	0.1	0.1
155	0.1	0.1	0.1	0.1	0.1
160	0.1	0.1	0.1	0.1	0.1
165	0.2	0.1	0.1	0.1	0.1
170	0.2	0.1	0.1	0.1	0.1
175	0.1	0.1	0.1	0.1	0.1
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 PBPD35127XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
PBPD35127XX		
0-30	92.9	26.4
0-40	182.0	51.8
0-60	325.3	92.5
0-90	351.5	99.9
60-90	26.2	7.4
0-180	351.8	100.0

Beam Angle

Total Beam Angle(°)

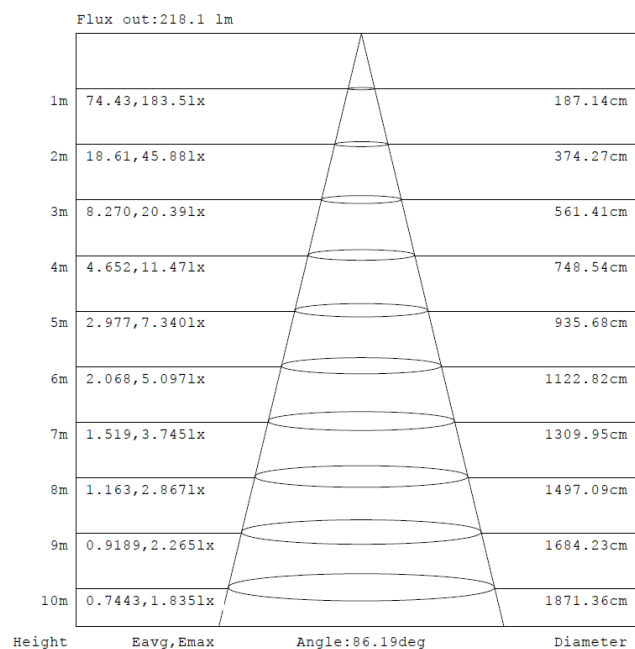
106.8

Illumination Plots

Model No.: PBPD35127XX

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

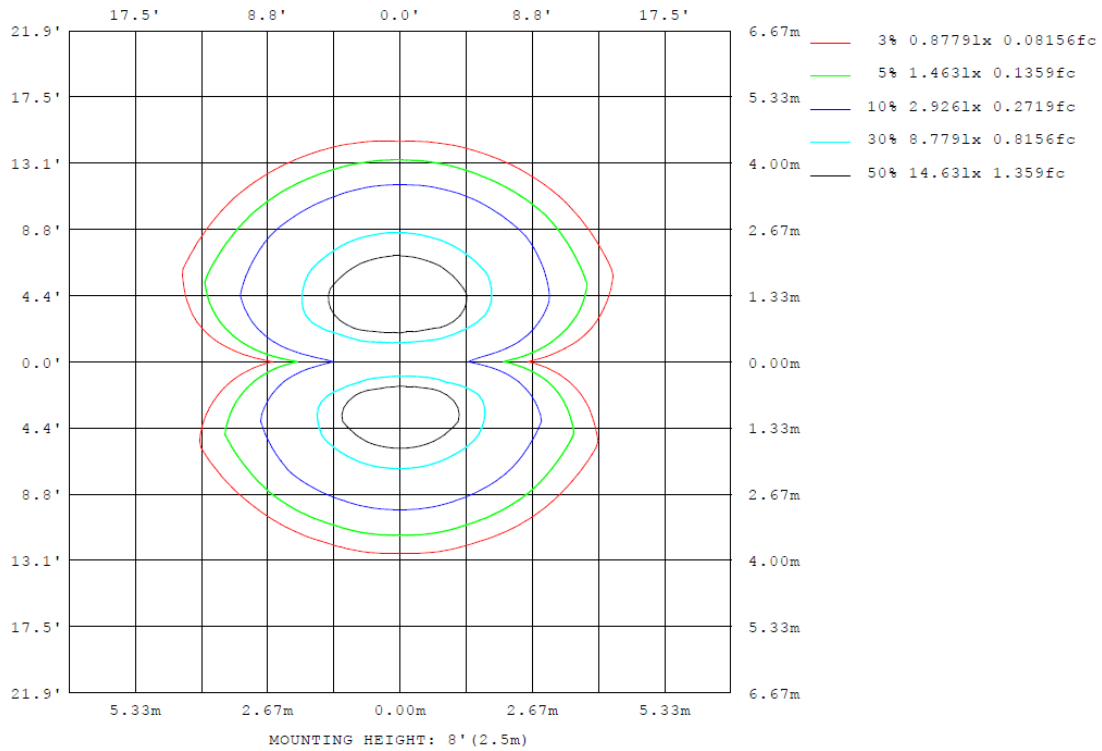
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBPD35127XX

Model No.: PBPD35127XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For PBPD35127XX

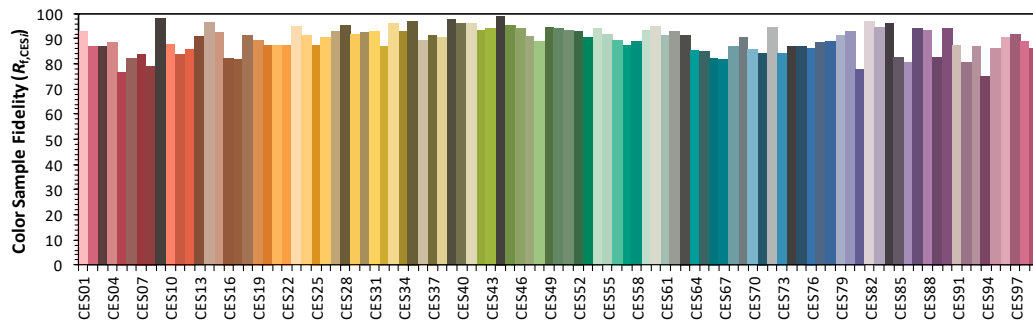
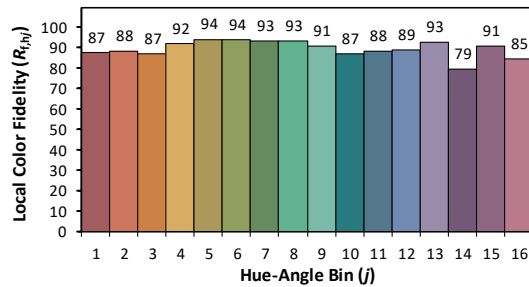
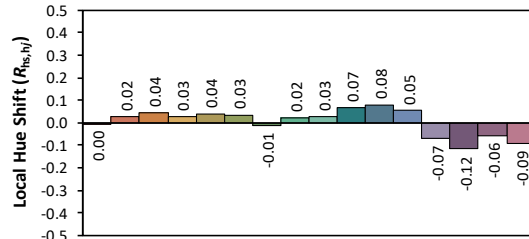
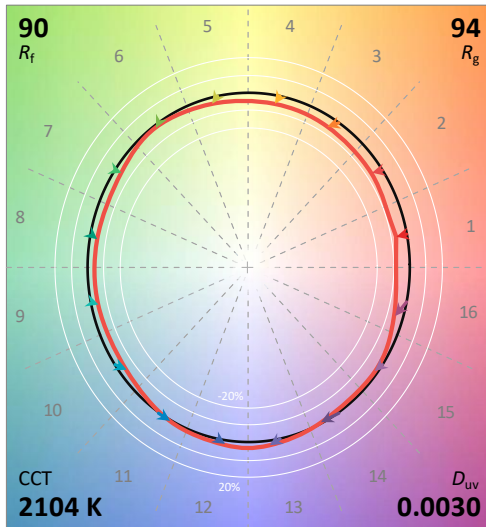
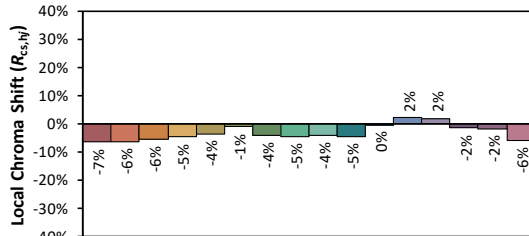
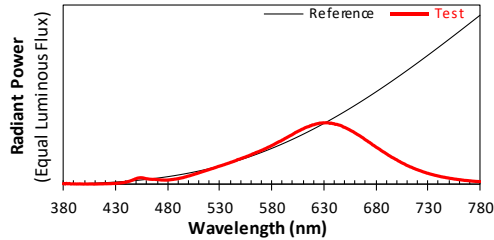
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/12/14

Model: PBPD35127XX



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

x 0.5221
 y 0.4238
 u' 0.2966
 v' 0.5417

CIE 13.3-1995
(CRI)

R_a 88

R_g 46

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 PBPD35127XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)

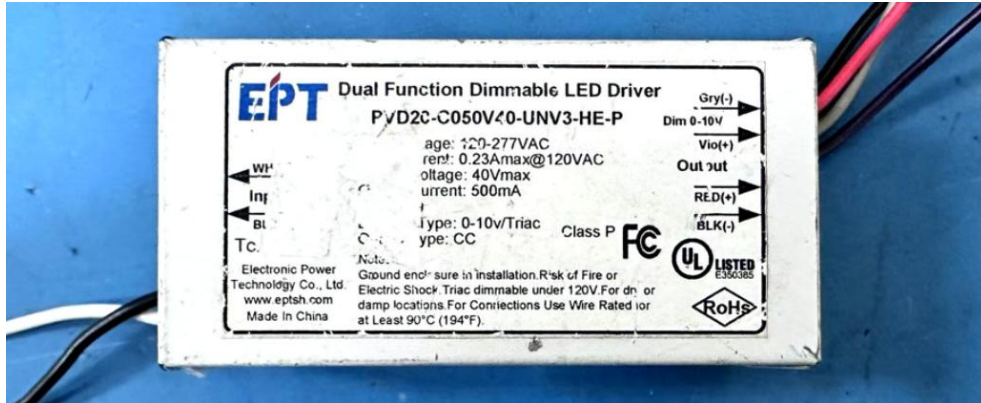


External view of PBPD35127XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver PVD20-C050V40-UNV3-HE-P



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 *****