

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

221205125GZU-013

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REVISION DATE

None

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Report No.: 221205125GZU-013

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLBA14430*

(Remark: "*" denote other appearance colors for the characters that change)

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

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<u>TEST:</u>	Electrical and Photometric as required to the IES LM-79 test standard.
<u>STATEMENT OF LIMITATION:</u>	The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
<u>AUTHORIZATION:</u>	The testing performed was authorized by signed quote number: QGZ221129088.
<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: 2008	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C78.377:2017	Specifications of the Chromaticity of Solid State Lighting Products
<u>DESCRIPTION OF SAMPLE:</u>	The client submitted one sample of model SLBA14430*. The sample was received, in undamaged condition. The sample designation was S221205125-013.
<u>DATES OF TESTS:</u>	16 January 2023
<u>ISSUED BY:</u>	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
<u>TEST LOCATION:</u>	Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD, Guangzhou, Guangdong, China

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TEST REPORT

SUMMARY

Model Number:	SLBA14430*
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLBA14430*

Criteria	Result
Total Lumen Output	2477.1 lm
Total Power	34.2 W
Luminaire Efficacy	72.5 lm/W
S/MH(C0/180)	1.31
S/MH(C90/270)	1.74
Correlated Color Temperature (CCT)	2848 K
Color Rendering Index (CRI)	93
R9	63
Chromaticity Coordinate (x)	0.4481
Chromaticity Coordinate (y)	0.4075
Chromaticity Coordinate (u')	0.2563
Chromaticity Coordinate (v')	0.5244

Remark:

Measurement uncertainty for applicable tests has been established.

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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	RC-HT601A	SA047-62

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 EVERFINE - Digital Power Meter., model PLM3000.

Correction factor (self-absorption) has been considered when doing measurement.

Standard lamp used for Goniophotometer method:

Model: D215S

Current: 4.809A

Standard lamp used for integrating sphere:

Model: S82134

Current: 1.830

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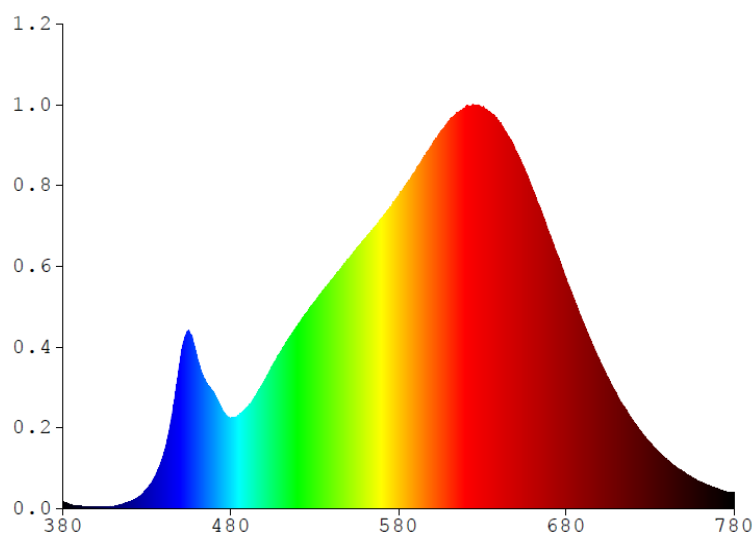
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLBA14430*

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0123	480	0.1716	580	0.5925	680	0.4360	780	0.0316
385	0.0077	485	0.1780	585	0.6168	685	0.3944		
390	0.0056	490	0.1936	590	0.6400	690	0.3543		
395	0.0037	495	0.2142	595	0.6646	695	0.3158		
400	0.0033	500	0.2424	600	0.6900	700	0.2807		
405	0.0036	505	0.2719	605	0.7159	705	0.2478		
410	0.0042	510	0.2994	610	0.7345	710	0.2175		
415	0.0082	515	0.3253	615	0.7514	715	0.1901		
420	0.0138	520	0.3474	620	0.7617	720	0.1664		
425	0.0226	525	0.3703	625	0.7658	725	0.1444		
430	0.0371	530	0.3918	630	0.7602	730	0.1251		
435	0.0617	535	0.4144	635	0.7497	735	0.1081		
440	0.1041	540	0.4335	640	0.7332	740	0.0932		
445	0.1776	545	0.4534	645	0.7085	745	0.0804		
450	0.2836	550	0.4735	650	0.6788	750	0.0694		
455	0.3375	555	0.4937	655	0.6450	755	0.0595		
460	0.2860	560	0.5121	660	0.6054	760	0.0509		
465	0.2419	565	0.5320	665	0.5652	765	0.0440		
470	0.2195	570	0.5511	670	0.5210	770	0.0378		
475	0.1866	575	0.5723	675	0.4704	775	0.0326		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLBA14430*

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

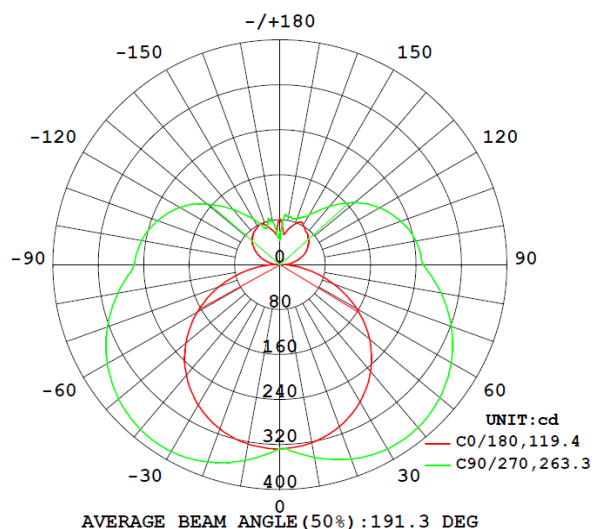
Photometric Measurements at 25°C – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Correlated Color Temperatur e (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')
SLBA14430*								
S2212051 25-013	--	2848	93	63	0.4481	0.4075	0.2563	0.5244

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)
SLBA14430*							
S2212051 25-013	--	120.2	286.3	34.2	0.994	2477.1	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 SLBA14430*

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	327.4	327.8	327.3	327.2	327.4
5	325.6	326.3	330.8	334.1	335.7
10	321.6	327.6	337.4	344.7	347.9
15	315.0	326.7	342.3	353.9	358.6
20	306.2	324.0	345.6	361.0	367.5
25	295.4	318.8	346.5	366.3	374.1
30	281.9	311.8	345.8	369.0	378.2
35	266.3	302.2	342.2	368.9	379.5
40	248.3	291.1	336.1	366.2	378.3
45	228.0	277.1	327.7	361.3	374.1
50	205.9	261.2	317.2	353.5	367.7
55	181.7	243.1	304.0	343.7	359.0
60	155.8	223.1	289.2	332.0	348.2
65	128.8	201.5	272.3	318.2	335.5
70	100.8	178.6	254.1	302.8	321.3
75	72.5	154.8	234.4	286.2	305.1
80	46.6	130.9	214.1	268.3	287.9
85	21.1	108.1	194.3	249.8	269.8
90	8.6	93.3	177.9	232.8	252.2
95	13.4	91.0	175.5	229.4	248.1
100	22.5	87.5	171.1	225.1	243.4
105	30.8	83.7	164.9	217.9	236.1
110	40.3	78.6	157.7	208.8	226.7
115	48.6	73.5	149.0	198.4	215.6
120	55.1	69.3	138.8	186.2	202.8
125	61.1	68.2	127.2	172.4	188.4
130	65.9	70.1	115.3	156.6	171.8
135	70.2	70.9	103.6	140.2	153.8
140	74.0	71.5	94.0	123.6	135.6
145	77.2	72.8	88.8	108.1	117.7
150	82.1	77.2	85.9	96.5	102.5
155	84.2	79.5	83.1	90.9	93.5
160	76.7	84.6	83.3	86.0	87.8
165	68.4	83.5	85.9	85.9	85.2
170	58.1	58.6	88.1	87.6	87.0
175	63.2	57.8	64.6	79.3	86.9
180	81.7	79.9	66.9	59.3	42.9

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLBA14430*

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLBA14430*		
0-30	289.1	11.7
0-40	501.5	20.2
0-60	1014.2	40.9
0-90	1699.8	68.6
60-90	685.6	27.7
0-180	2477.1	100.0

Beam Angle

Total Beam Angle (°)

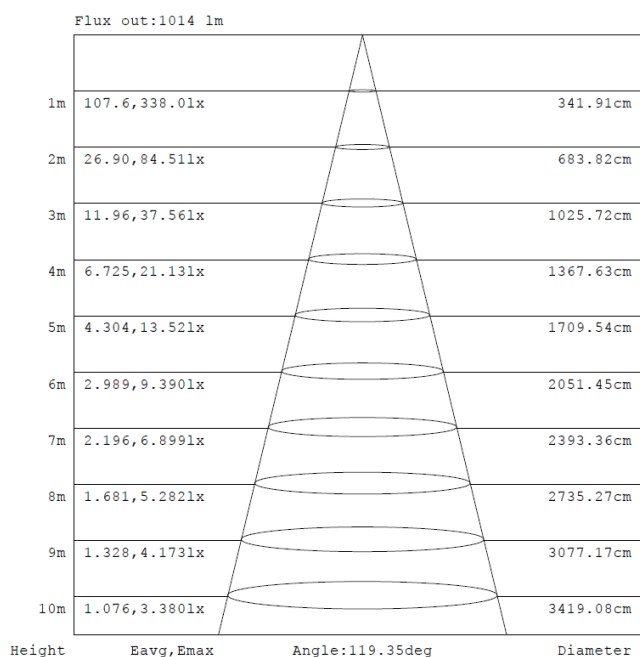
191.3

Illumination Plots

Model No.: SLBA14430*

Mount Height: 2.5 m

Illuminance - Cone of Light



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TEST REPORT

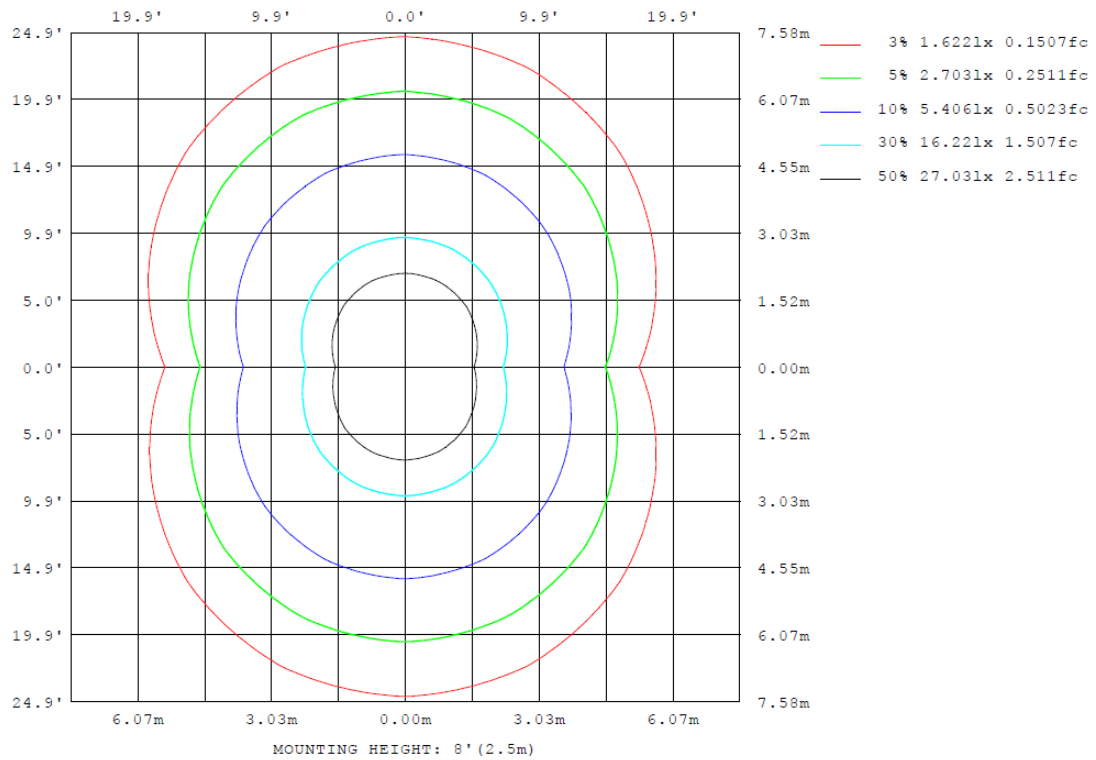
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLBA14430*

Model No.: SLBA14430*

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLBA14430*

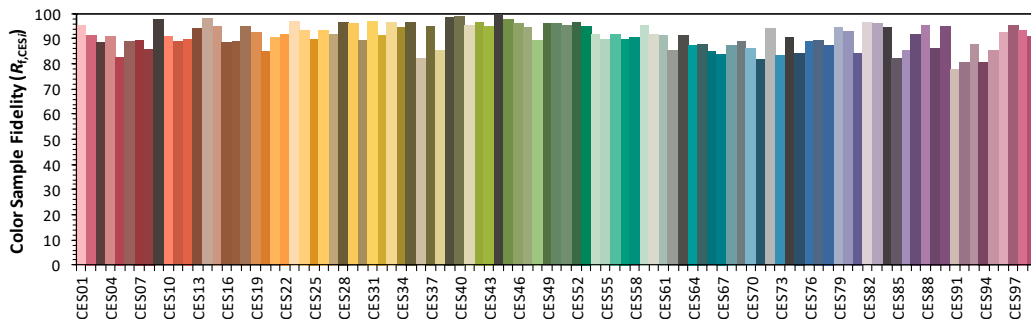
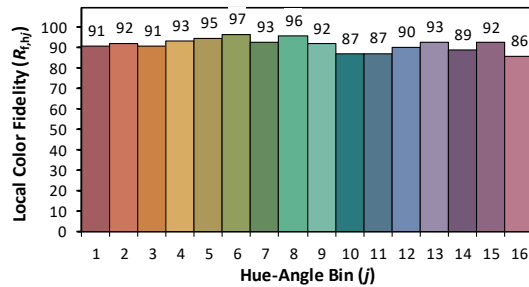
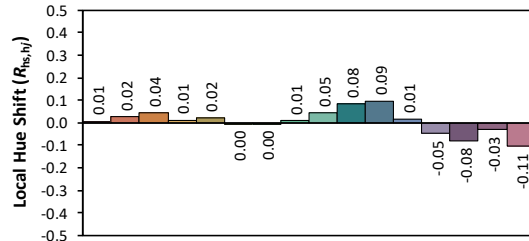
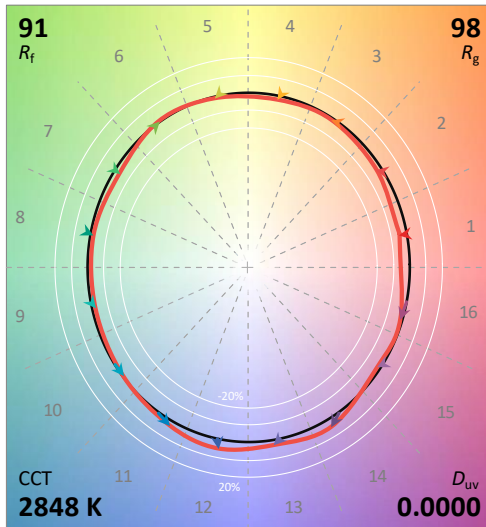
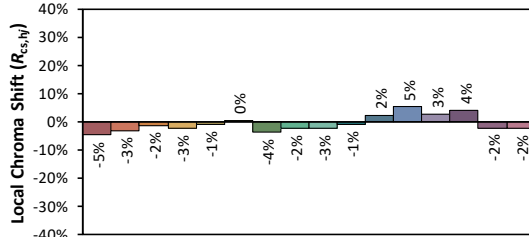
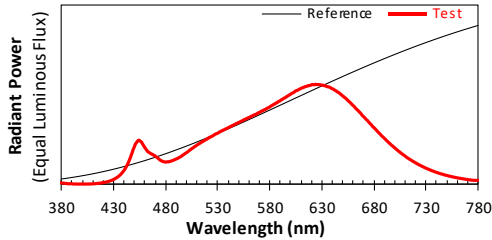
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/1/16

Model: SLBA14430*



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

x 0.4481
 y 0.4075
 u' 0.2563
 v' 0.5244

CIE 13.3-1995
(CRI)

R_a 93

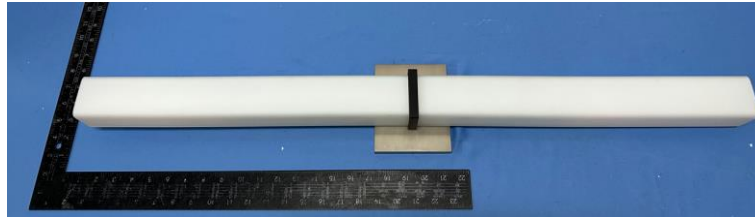
R_g 63

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

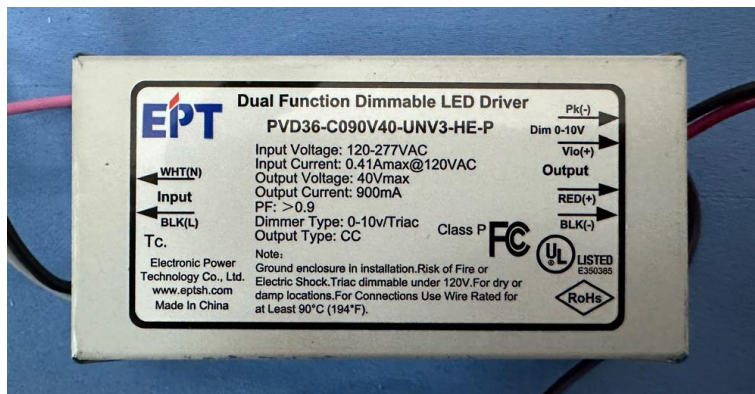
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLBA14430*



View of LED Driver PVD36-C090V40-UNV3-HE-P

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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 *****