

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240621176GZU-013

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-013
Modification 1: 06 November 2024

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLTB32327XX

Remark: "XX" are denoted appearance color.

RENDERED TO

Visual Comfort & Co.

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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 SLTB32327XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240621176-018.
<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:	SLTB32327XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLTB32327XX

Criteria	Result
Total Lumen Output	102.6 lm
Total Power	9.2 W
Luminaire Efficacy	11.2 lm/W
S/MH(C0/180)	0.48
S/MH(C90/270)	1.53
Correlated Color Temperature (CCT)	2421 K
Color Rendering Index (CRI)	95
R9	71
Chromaticity Coordinate (x)	0.4803
Chromaticity Coordinate (y)	0.4084
Chromaticity Coordinate (u')	0.2768
Chromaticity Coordinate (v')	0.5296

Remark:

Revision history:

Modification 1: Based on and superseded the previous report 240621176GZU-013 issued on 08 October 2024, correct the manufacturer information on page 2 of the report, correct the applicant name on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.

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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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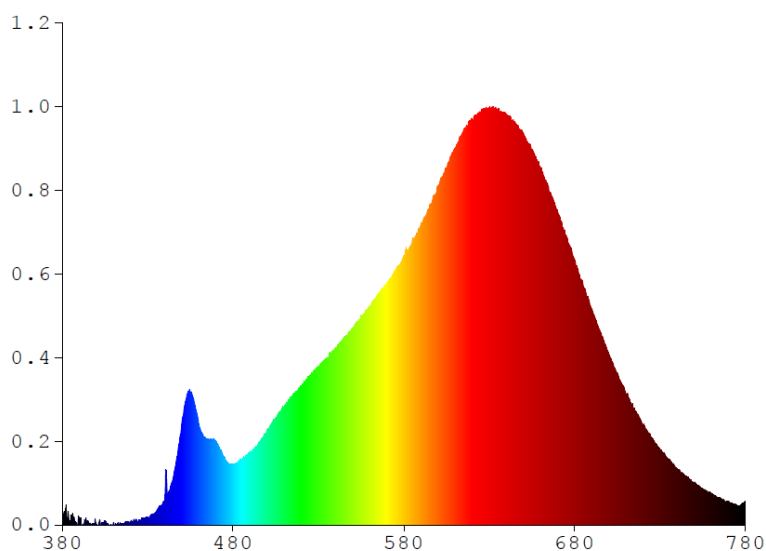
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLTB32327XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.0398	580	0.1790	680	0.1759	780	0.0158
385	0.0032	485	0.0435	585	0.1894	685	0.1585		
390	0.0013	490	0.0490	590	0.1996	690	0.1437		
395	0.0027	495	0.0544	595	0.2124	695	0.1279		
400	0.0006	500	0.0633	600	0.2251	700	0.1132		
405	0.0025	505	0.0713	605	0.2374	705	0.1008		
410	0.0016	510	0.0789	610	0.2508	710	0.0872		
415	0.0012	515	0.0858	615	0.2625	715	0.0773		
420	0.0017	520	0.0918	620	0.2694	720	0.0663		
425	0.0033	525	0.0997	625	0.2746	725	0.0584		
430	0.0053	530	0.1049	630	0.2758	730	0.0500		
435	0.0088	535	0.1111	635	0.2768	735	0.0434		
440	0.0165	540	0.1179	640	0.2724	740	0.0372		
445	0.0314	545	0.1246	645	0.2678	745	0.0323		
450	0.0667	550	0.1304	650	0.2602	750	0.0281		
455	0.0883	555	0.1392	655	0.2493	755	0.0240		
460	0.0658	560	0.1453	660	0.2372	760	0.0205		
465	0.0570	565	0.1523	665	0.2213	765	0.0180		
470	0.0556	570	0.1605	670	0.2077	770	0.0155		
475	0.0448	575	0.1683	675	0.1878	775	0.0129		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTB32327XX

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

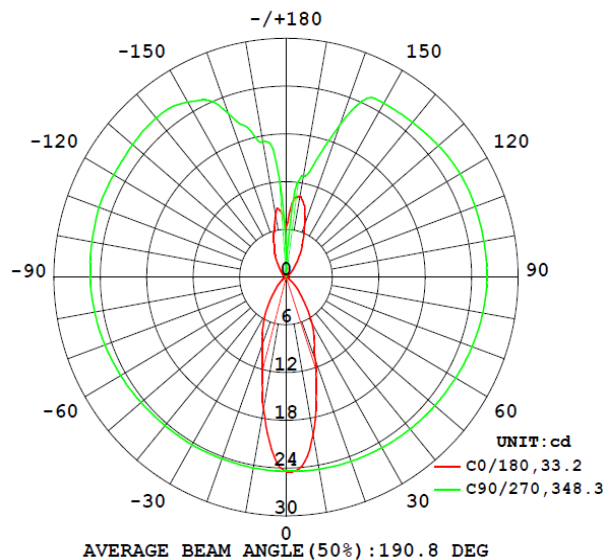
Photometric Measurements at 25°C – Distribution Method

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')
SLTB32327XX								
S2406211 76-018	base-up	2421	95	71	0.4803	0.4084	0.2768	0.5296

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)
SLTB32327XX							
S2406211 76-018	base-up	120.0	90.0	9.2	0.852	102.6	11.2

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTB32327XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	24.4	24.4	24.5	24.4	24.4
5	23.8	24.0	24.1	24.5	24.5
10	20.1	20.8	22.2	24.2	24.5
15	15.1	16.3	19.2	23.4	24.6
20	11.0	12.2	15.5	22.2	24.6
25	8.6	9.4	12.5	20.7	24.7
30	6.7	7.7	10.1	19.2	24.8
35	4.7	5.9	8.7	17.4	24.8
40	3.0	4.1	7.6	15.7	24.9
45	2.1	2.8	6.4	14.4	25.0
50	1.3	2.1	5.3	13.1	25.1
55	0.7	1.3	4.3	12.2	25.2
60	0.4	0.8	3.4	11.3	25.3
65	0.2	0.5	2.9	10.6	25.4
70	0.1	0.3	2.5	10.1	25.6
75	0.1	0.2	2.2	9.9	25.7
80	0.0	0.2	2.0	9.7	25.8
85	0.0	0.1	1.8	9.6	25.9
90	0.0	0.1	1.7	9.6	25.9
95	0.0	0.1	1.7	9.6	26.0
100	0.0	0.1	1.8	9.7	26.0
105	0.0	0.2	2.0	9.9	26.0
110	0.1	0.2	2.3	10.2	26.0
115	0.1	0.3	2.7	10.7	26.0
120	0.2	0.5	3.3	11.6	26.0
125	0.3	0.9	4.1	12.7	25.9
130	0.6	1.5	5.2	13.9	25.7
135	1.1	2.1	6.4	15.4	25.5
140	1.7	2.8	7.6	16.9	25.4
145	2.6	3.9	9.4	18.7	25.3
150	4.0	4.7	10.4	20.5	25.2
155	5.2	5.6	11.2	20.9	24.8
160	7.0	7.7	11.4	18.1	20.5
165	9.3	9.8	12.4	14.8	15.3
170	10.2	9.9	12.7	13.4	13.0
175	9.3	8.7	7.8	8.8	8.5
180	6.2	6.1	1.5	0.0	1.0

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTB32327XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLTB32327XX		
0-30	13.8	13.4
0-40	20.7	20.1
0-60	34.0	33.1
0-90	53.4	52.0
60-90	19.4	18.9
0-180	102.6	100.0

Beam Angle

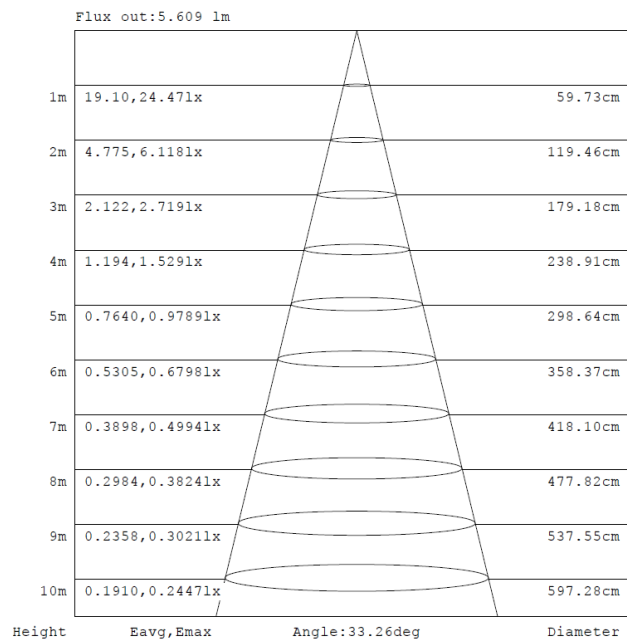
Total Beam Angle(°)
190.8

Illumination Plots

Model No.: SLTB32327XX

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.

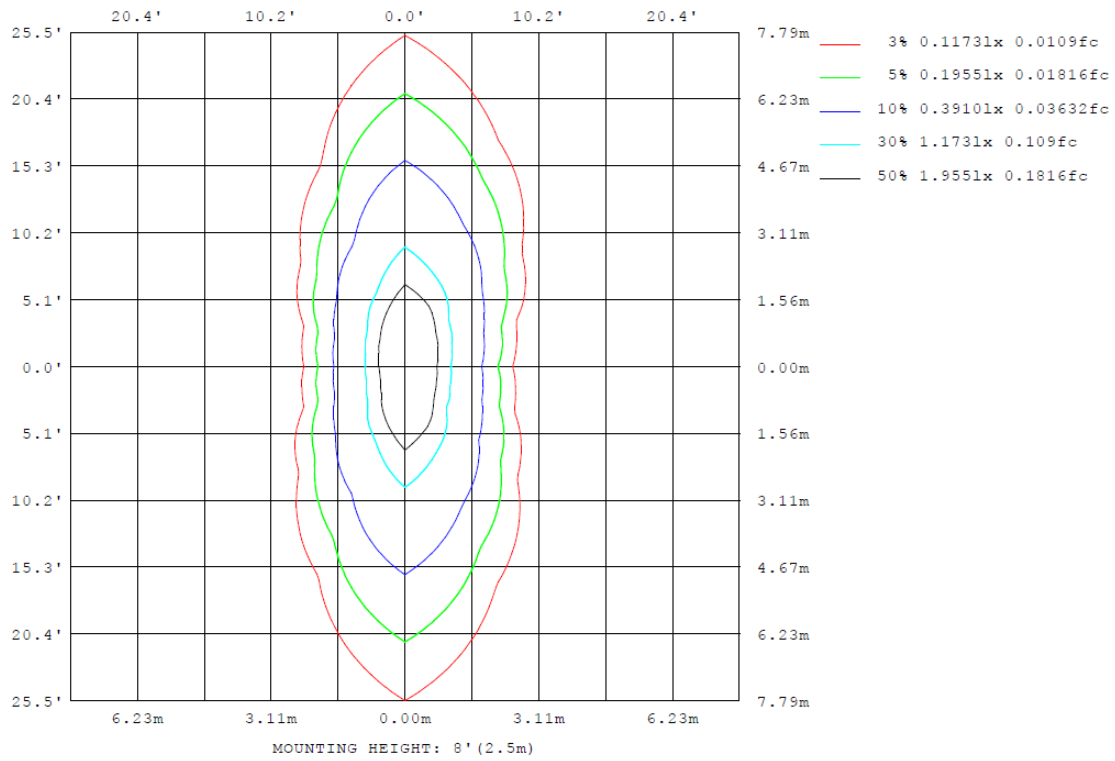
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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTB32327XX

Model No.: SLTB32327XX
Mount Height: 2.5 m
Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTB32327XX

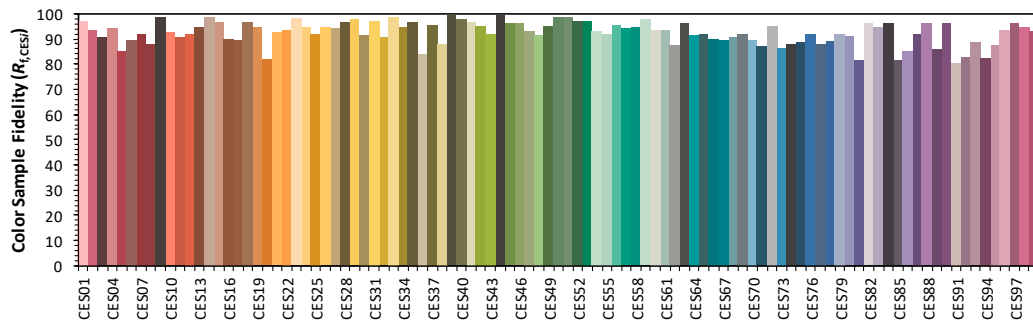
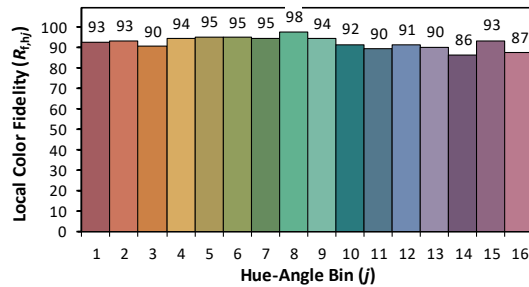
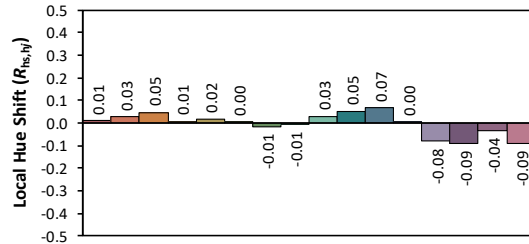
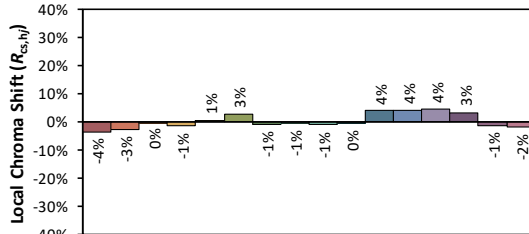
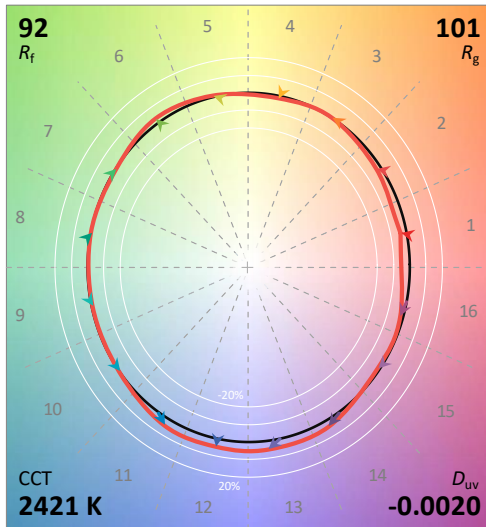
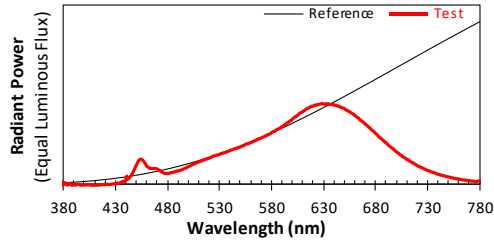
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2024/7/30

Model: SLTB32327XX



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

x 0.4803
 y 0.4084
 u' 0.2768
 v' 0.5296

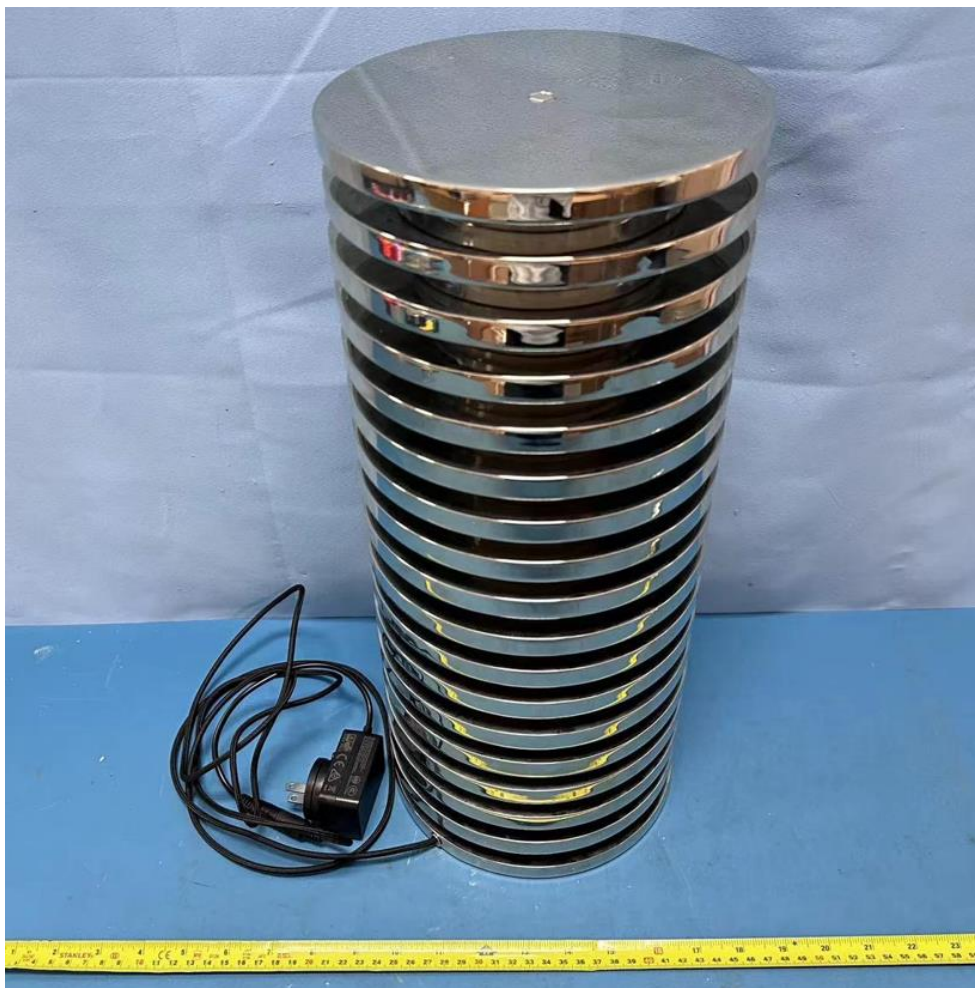
CIE 13.3-1995
(CRI)
 R_a 95
 R_g 71

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 SLTB32327XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver A122-1201000ID



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 *****