

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

240729032GZU-006

ISSUE DATE

29 November 2024

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79_G

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Report No.: 240729032GZU-006

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLCH56027XX

Remark: "XX" 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: QGZ240726006, 241121130GZU.
<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 SLCH56027XX. The sample was received by Intertek in undamaged condition and tested as received. The sample designation was S240729032-015.
<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>	25 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:	SLCH56027XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLCH56027XX

Criteria	Result
Total Lumen Output	2337.2 lm
Total Power	45.4 W
Luminaire Efficacy	51.5 lm/W
S/MH(C0/180)	1.14
S/MH(C90/270)	1.44
Correlated Color Temperature (CCT)	2602 K
Color Rendering Index (CRI)	91
R9	52
Chromaticity Coordinate (x)	0.4663
Chromaticity Coordinate (y)	0.4092
Chromaticity Coordinate (u')	0.2673
Chromaticity Coordinate (v')	0.5278

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	DS215S	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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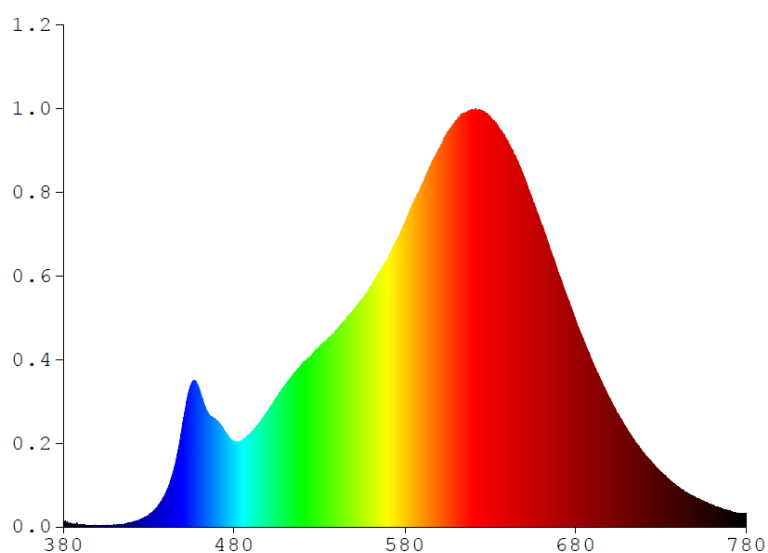
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLCH56027XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	1.3531	480	19.2220	580	68.7880	680	46.6040	780	3.1451
385	0.7305	485	19.6280	585	73.3680	685	41.7590		
390	0.4104	490	21.4310	590	77.4980	690	37.0950		
395	0.3284	495	23.5280	595	81.6760	695	32.8070		
400	0.2837	500	26.3750	600	85.5910	700	28.9520		
405	0.3142	505	29.2920	605	89.2740	705	25.3510		
410	0.3861	510	32.0640	610	91.9700	710	22.1100		
415	0.5893	515	34.6420	615	93.4710	715	19.0620		
420	1.0176	520	36.8810	620	94.2820	720	16.6040		
425	1.5967	525	38.7650	625	94.1450	725	14.2910		
430	2.6480	530	40.8780	630	92.7180	730	12.3510		
435	4.4776	535	42.6710	635	90.2330	735	10.5250		
440	7.6600	540	44.5070	640	87.3690	740	9.0106		
445	13.3620	545	46.7740	645	83.4980	745	7.6887		
450	23.4200	550	49.0010	650	78.8460	750	6.6871		
455	32.3810	555	51.4840	655	73.4160	755	5.7572		
460	30.5910	560	54.4300	660	68.3460	760	4.9539		
465	25.4960	565	57.7320	665	62.7430	765	4.1883		
470	23.9230	570	60.7020	670	57.1470	770	3.6313		
475	21.3100	575	64.7340	675	50.9880	775	3.1080		



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH56027XX

Total operation burning time: 60 minutes

Stabilization time: 30 minutes

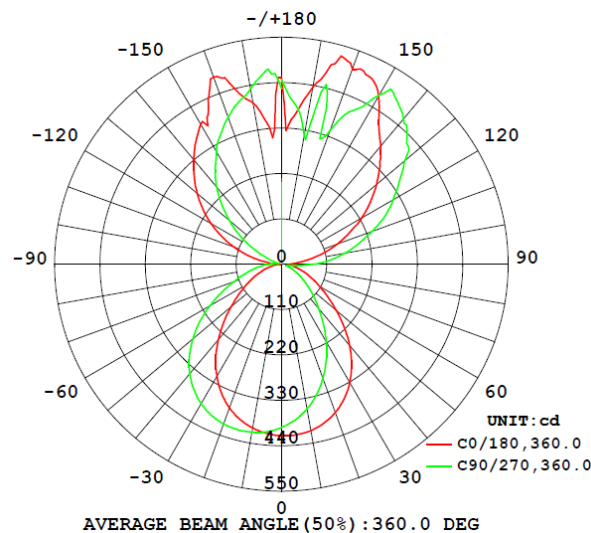
Photometric Measurements at 25°C – Distribution Method

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')
SLCH56027XX								
S2407290 32-015	base-up	2602	91	52	0.4663	0.4092	0.2673	0.5278

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	Lumen Efficacy
						(Lumens)	(Lumens Per Watt)
SLCH56027XX							
S2407290 32-015	base-up	120.1	382.2	45.4	0.990	2337.2	51.5

Intensity (Candlepower) Summary at 25°C - Candelas



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH56027XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	415.3	404.9	401.3	397.2	395.6
5	414.7	391.4	386.6	380.8	378.8
10	409.3	372.7	366.3	358.6	356.4
15	398.3	347.8	339.0	329.9	327.8
20	381.9	316.4	305.7	296.0	294.2
25	359.8	279.2	268.5	258.4	257.0
30	331.3	238.7	228.4	218.7	217.5
35	296.6	197.0	187.4	179.0	177.9
40	257.5	157.7	150.1	143.4	141.6
45	215.5	125.1	119.8	113.8	111.0
50	173.7	98.1	94.8	88.8	84.9
55	136.4	75.6	73.1	67.1	63.1
60	106.5	57.1	54.8	49.0	45.3
65	81.9	41.5	39.4	33.8	30.5
70	61.0	29.0	27.1	22.3	18.9
75	43.7	20.3	19.7	16.1	11.9
80	29.6	21.5	24.2	23.8	19.4
85	19.5	46.5	48.0	49.1	40.5
90	15.6	81.8	84.1	84.5	75.8
95	33.3	116.4	122.0	121.2	117.7
100	65.9	157.3	160.0	159.2	155.1
105	104.5	195.9	197.6	196.6	193.5
110	144.0	232.9	235.7	233.6	233.5
115	181.4	268.8	271.4	271.6	276.9
120	224.7	305.3	307.9	314.8	312.5
125	263.1	341.6	361.0	352.8	348.8
130	300.6	399.0	417.8	416.8	390.2
135	338.3	454.9	452.5	452.5	430.8
140	375.2	480.9	476.6	474.0	460.6
145	412.2	503.2	492.7	496.7	486.4
150	470.0	512.6	504.7	503.1	473.3
155	502.8	469.0	435.8	411.2	411.0
160	503.2	410.1	380.7	349.4	345.8
165	503.1	338.1	328.3	414.7	430.8
170	435.3	400.8	296.9	326.0	316.9
175	360.4	356.8	372.3	374.9	388.4
180	454.7	406.6	409.9	418.8	447.5

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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH56027XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLCH56027XX		
0-30	296.5	12.7
0-40	468.7	20.1
0-60	765.0	32.7
0-90	959.3	41.0
60-90	194.3	8.3
0-180	2337.2	100.0

Beam Angle

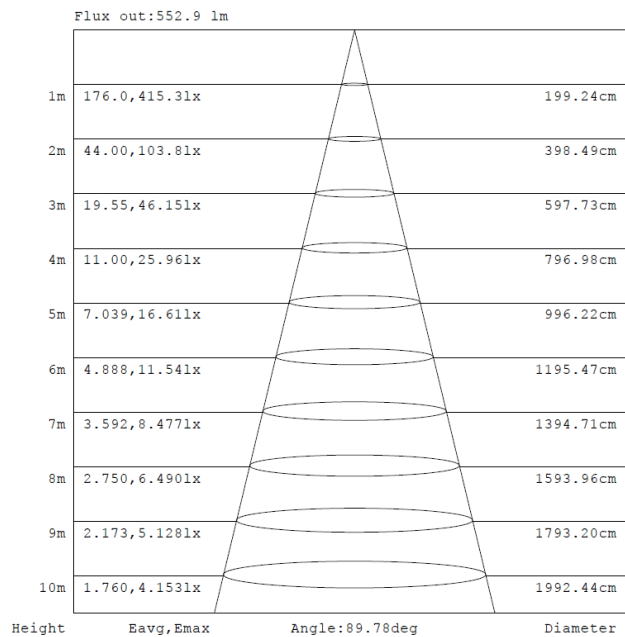
Total Beam Angle(°)
360.0

Illumination Plots

Model No.: SLCH56027XX

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

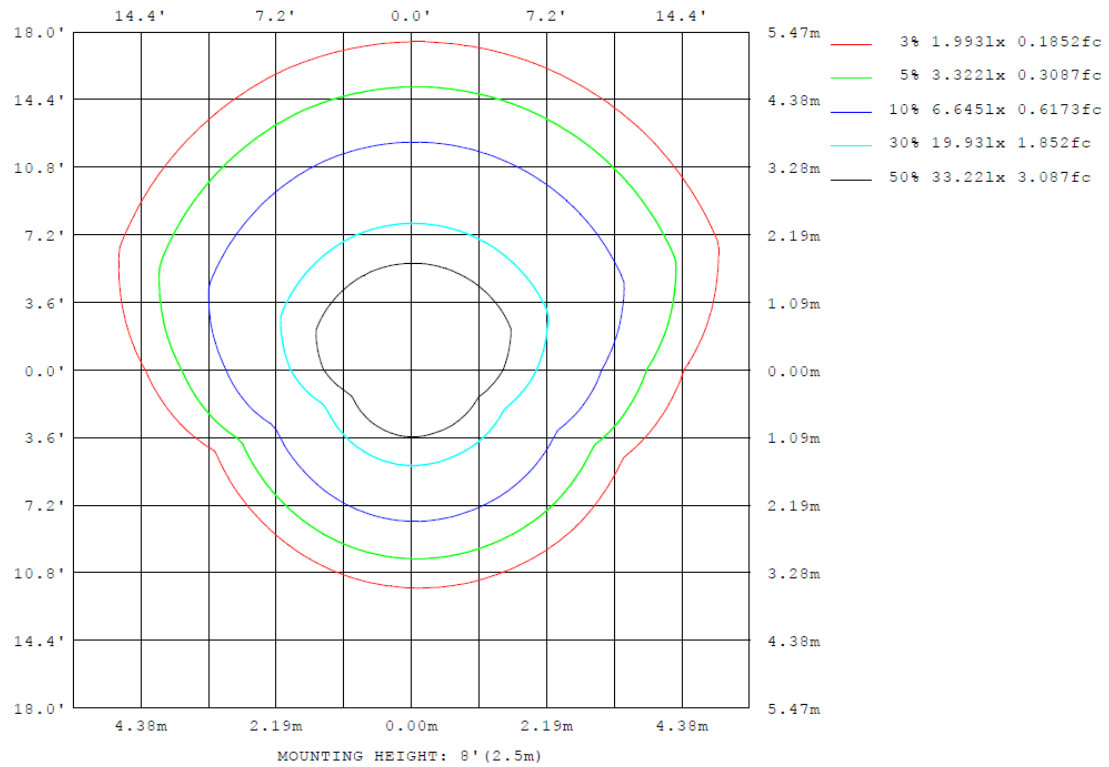
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH56027XX

Model No.: SLCH56027XX

Mount Height: 2.5 m

Isoillumination Plot



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TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLCH56027XX

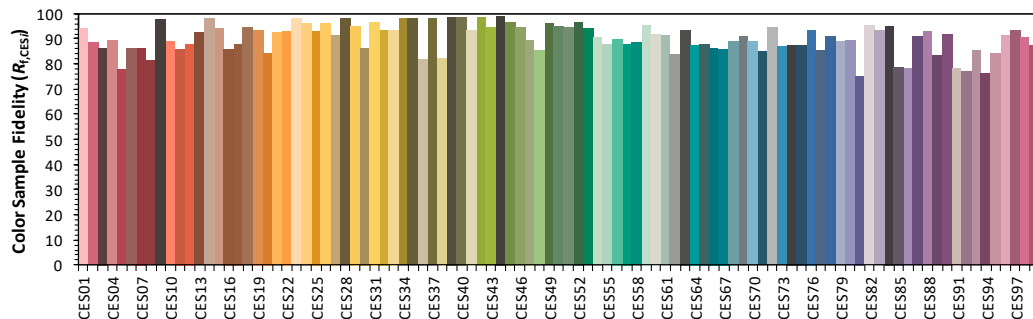
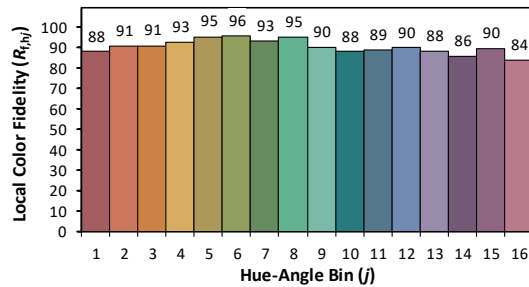
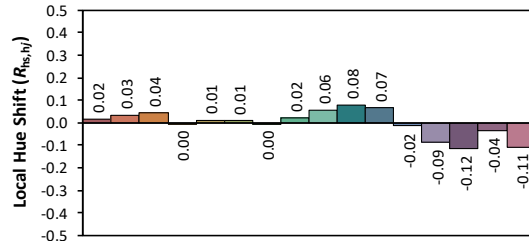
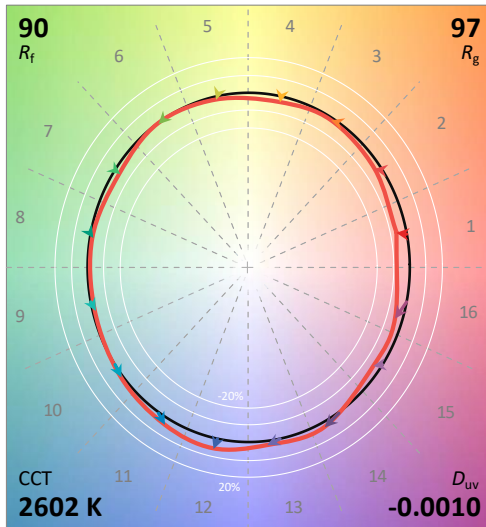
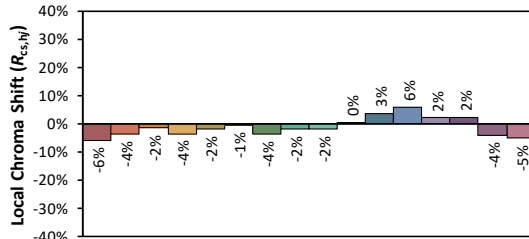
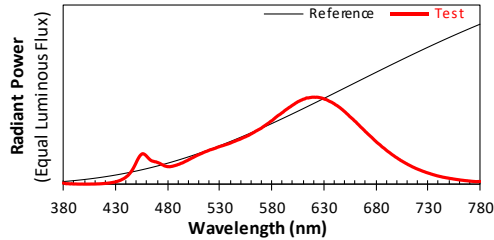
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 2024/11/25

Model: SLCH56027XX



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

x 0.4663
 y 0.4092
 u' 0.2673
 v' 0.5278

CIE 13.3-1995
(CRI)

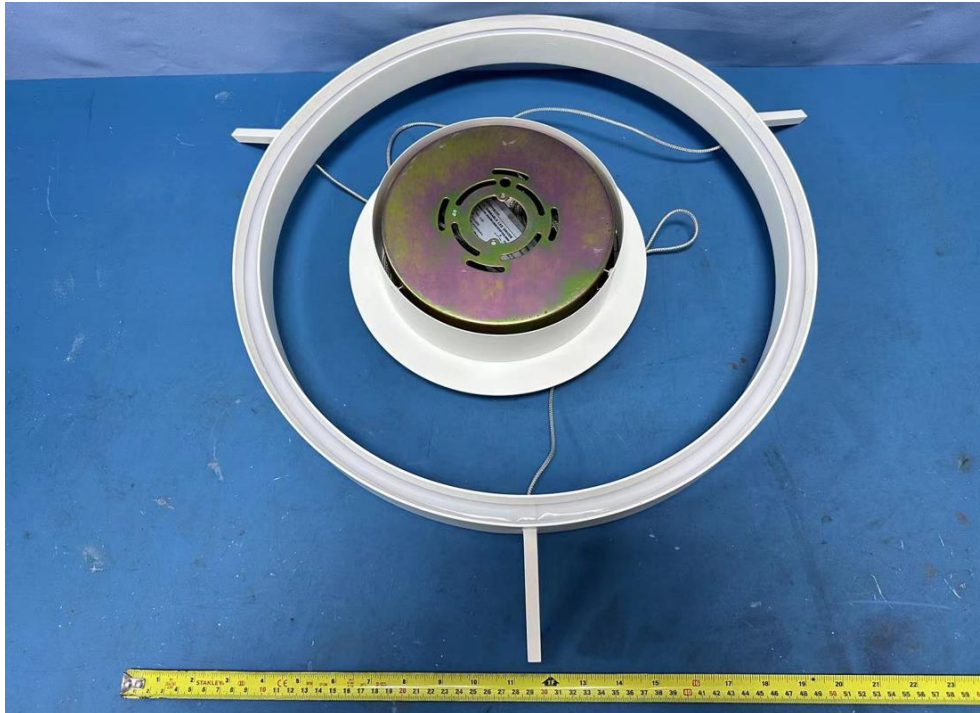
R_a 91
 R_g 52

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

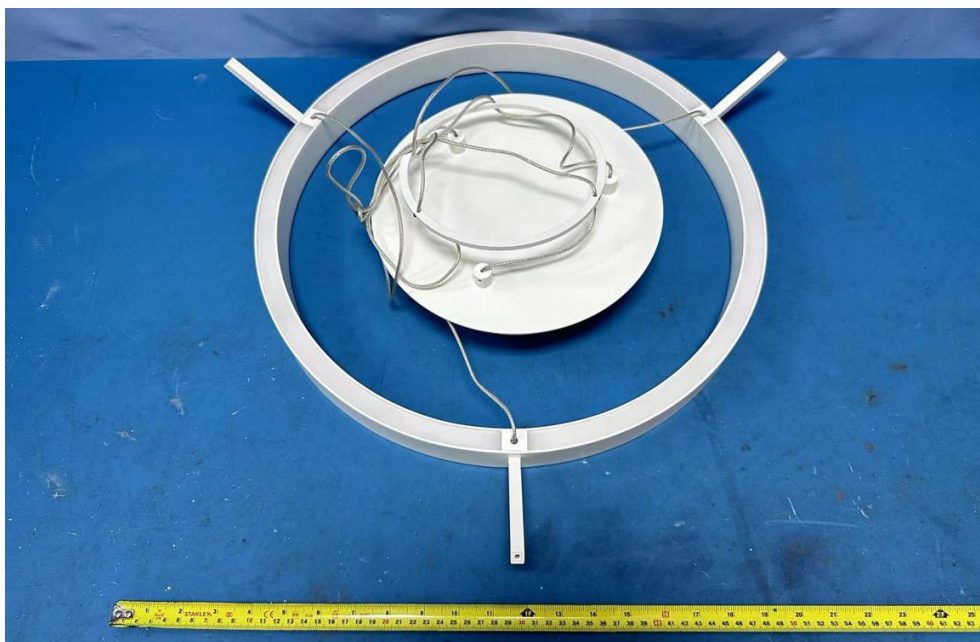
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TEST REPORT

PRODUCT PICTURE (not to scale)



External view of SLCH56027XX



External view of SLCH56027XX

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

TEST REPORT

PRODUCT PICTURE (not to scale)



View of LED driver DS45W1200C2036F5UD-0000



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 *****