

Visual Comfort and Company

TEST REPORT

SCOPE OF WORK

LM-79 testing report

REPORT NUMBER

230717030GZU-005

ISSUE DATE

01-August-2023

REVISION DATE

None

NUMBER OF PAGES

13

DOCUMENT CONTROL NUMBER

Report format for LM-79:2008_F

© 2021 INTERTEK



Report No.: 230717030GZU-005

TEST REPORT

TEST OF ONE LED LUMINAIRE

MODEL NO. SLTS14330XX

(Remark: "xx" are denoted finish color)

RENDERED TO

Visual Comfort and Company

Contact Name: Tess Gallagher

7400 LINDER AVE. SKOKIE, IL, 60077

Email: Tgallagher@visualcomfortco.com
Phone No.: 8474104774

<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: QGZ230714100.
<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 IES LM-79: 2019 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 SLTS14330XX. The sample was received in undamaged condition. The sample designation was S230717030-005.
<u>DATES OF TESTS:</u>	22-July-2023
<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 Science City, Guangzhou, Guangdong, China

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

TEST REPORT

SUMMARY

Model Number:	SLTS14330XX
Description:	LED Luminaries
Brand Name:	--

Test Condition: 120V, 60Hz For SLTS14330XX

Criteria	Result
Total Lumen Output	536.4 lm
Total Power	10.4 W
Luminaire Efficacy	51.8 lm/W
S/MH(C0/180)	1.20
S/MH(C90/270)	1.33
Correlated Color Temperature (CCT)	2996 K
Color Rendering Index (CRI)	92
R9	58
Chromaticity Coordinate (x)	0.4352
Chromaticity Coordinate (y)	0.4001
Chromaticity Coordinate (u')	0.2512
Chromaticity Coordinate (v')	0.5195

Remark:

Measurement uncertainty for applicable tests has been established.

***** 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	RC-HT601A	SA047-62

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 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 DC

Standard lamp used for integrating sphere:

Model: D204

Current: 3.9480A DC

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

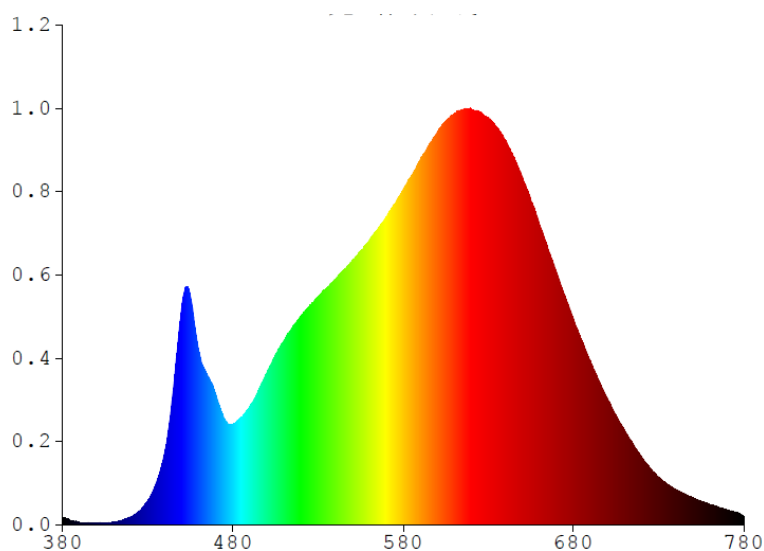
TEST REPORT

RESULTS OF TESTS

Test Condition: 120V, 60Hz For SLTS14330XX

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0301	480	0.4320	580	1.4429	680	0.8849	780	0.0383
385	0.0147	485	0.4648	585	1.5041	685	0.7901		
390	0.0108	490	0.5112	590	1.5716	690	0.7051		
395	0.0096	495	0.5787	595	1.6337	695	0.6185		
400	0.0074	500	0.6558	600	1.6909	700	0.5439		
405	0.0078	505	0.7329	605	1.7364	705	0.4704		
410	0.0116	510	0.7950	610	1.7715	710	0.4062		
415	0.0209	515	0.8506	615	1.7863	715	0.3464		
420	0.0348	520	0.8984	620	1.7903	720	0.2924		
425	0.0601	525	0.9413	625	1.7746	725	0.2446		
430	0.1041	530	0.9846	630	1.7553	730	0.2063		
435	0.1802	535	1.0196	635	1.7090	735	0.1758		
440	0.3165	540	1.0572	640	1.6548	740	0.1532		
445	0.5812	545	1.0971	645	1.5823	745	0.1350		
450	0.9410	550	1.1366	650	1.4979	750	0.1182		
455	0.9806	555	1.1784	655	1.3951	755	0.1021		
460	0.7448	560	1.2237	660	1.2929	760	0.0885		
465	0.6454	565	1.2721	665	1.1888	765	0.0775		
470	0.5593	570	1.3277	670	1.0874	770	0.0659		
475	0.4575	575	1.3807	675	0.9622	775	0.0559		



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTS14330XX

Total operation burning time: 60 minutes

Stabilization time: 45 minutes

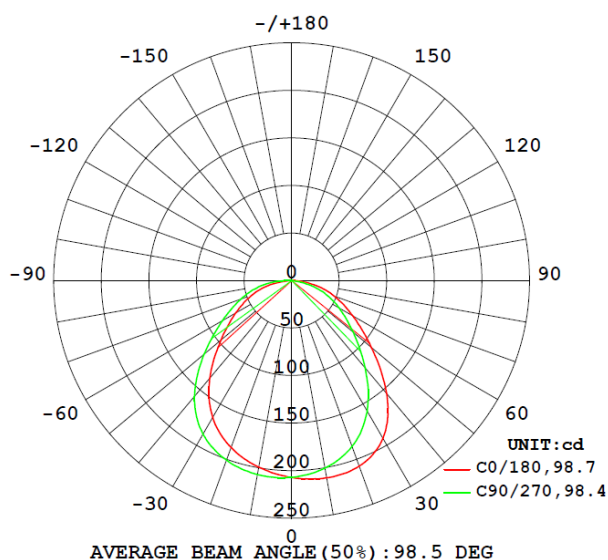
Photometric Measurements at 25°C – Distribution Method

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')
SLTS14330XX								
S2307170 30-005	--	2996	92	58	0.4352	0.4001	0.2512	0.5195

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)
SLTS14330XX							
S2307170 30-005	--	120.0	187.5	10.4	0.460	536.4	51.8

Intensity (Candlepower) Summary at 25°C – Candelas



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTS14330XX

Intensity (Candlepower) Summary at 25°C - Candelas

V \ H(°)	0	22.5	45	67.5	90
0	207.1	207.1	207.0	206.9	206.9
5	209.4	208.5	207.2	205.8	204.5
10	210.6	208.7	205.8	202.9	200.4
15	210.3	206.9	202.4	197.9	194.3
20	207.7	202.8	196.4	190.3	185.6
25	201.9	195.2	186.8	179.2	173.9
30	191.6	182.8	172.8	164.2	158.6
35	175.9	165.5	154.5	145.6	140.2
40	155.2	144.2	133.4	125.0	120.2
45	131.9	121.5	112.0	104.9	101.1
50	109.5	100.8	93.0	87.3	84.4
55	90.2	83.0	76.8	72.3	69.9
60	73.9	68.0	62.8	59.2	57.6
65	60.0	55.2	50.7	47.6	46.1
70	47.4	42.7	38.6	35.7	34.4
75	34.9	30.0	25.7	22.8	21.6
80	21.0	15.8	11.5	8.6	7.4
85	6.2	2.4	0.1	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.1
100	0.0	0.0	0.1	0.1	0.1
105	0.0	0.1	0.1	0.1	0.1
110	0.1	0.1	0.1	0.1	0.1
115	0.1	0.1	0.1	0.1	0.1
120	0.1	0.1	0.1	0.1	0.1
125	0.1	0.1	0.1	0.1	0.1
130	0.2	0.2	0.2	0.2	0.2
135	0.2	0.2	0.2	0.2	0.2
140	0.2	0.2	0.2	0.2	0.2
145	0.3	0.3	0.3	0.3	0.3
150	0.3	0.3	0.3	0.3	0.3
155	0.3	0.3	0.3	0.3	0.3
160	0.3	0.3	0.3	0.3	0.3
165	0.3	0.3	0.3	0.3	0.3
170	0.3	0.3	0.3	0.3	0.3
175	0.3	0.3	0.3	0.3	0.3
180	0.3	0.3	0.3	0.3	0.3

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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTS14330XX

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SLTS14330XX		
0-30	162.4	30.3
0-40	262.4	48.9
0-60	433.6	80.8
0-90	535.7	99.9
60-90	102.1	19.1
0-180	536.4	100.0

Beam Angle

Total Beam Angle (°)

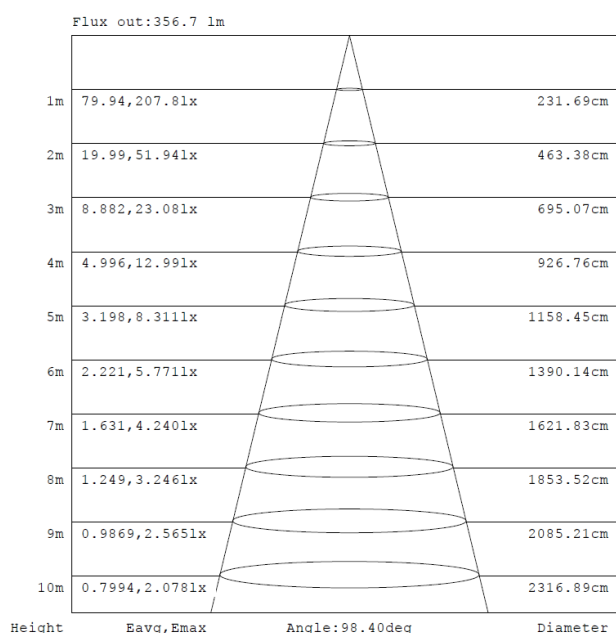
98.5

Illumination Plots

Model No.: SLTS14330XX

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

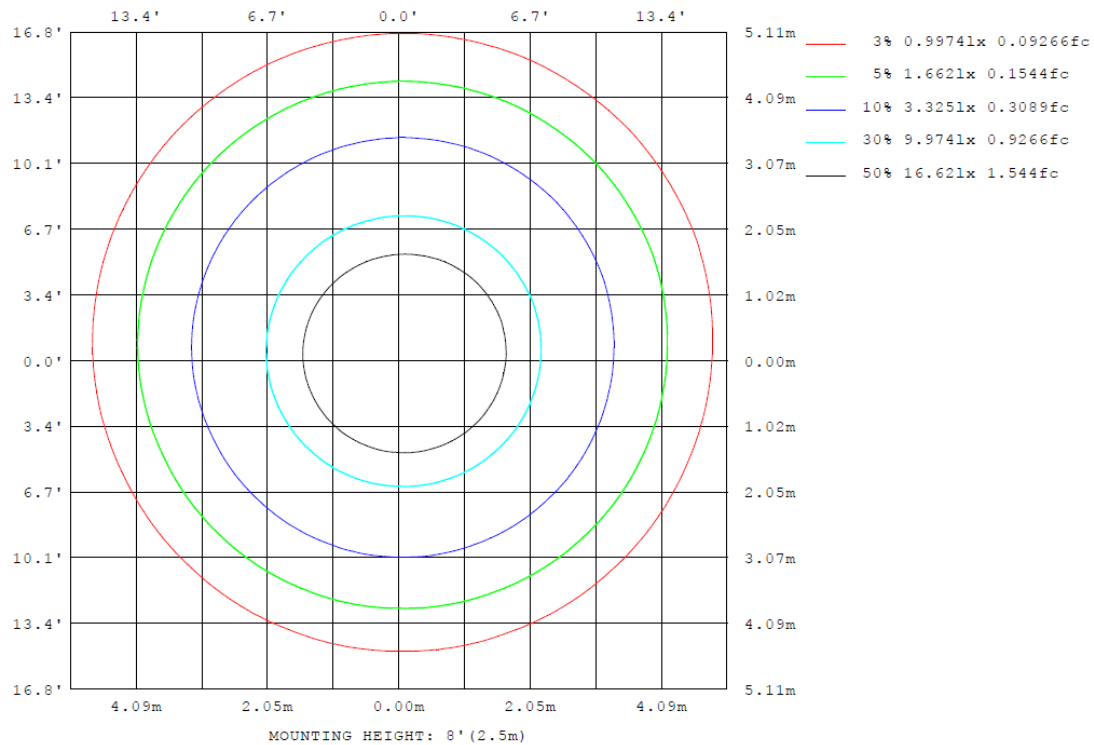
RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTS14330XX

Model No.: SLTS14330XX

Mount Height: 2.5 m

Isoillumination Plot



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

TEST REPORT

RESULTS OF TESTS (cont'd)

Test Condition: 120V, 60Hz For SLTS14330XX

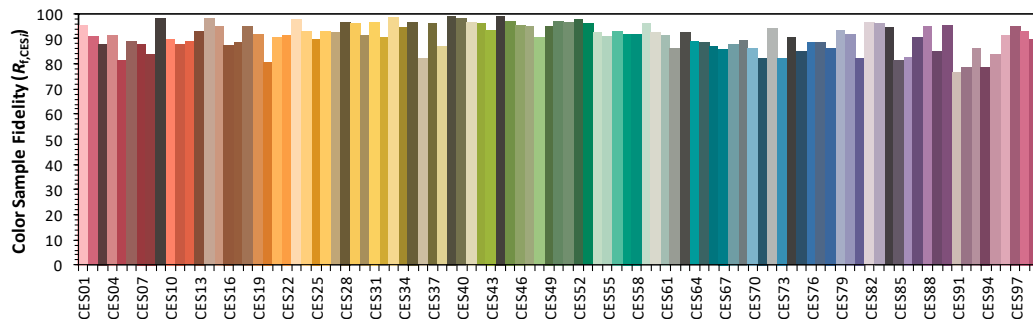
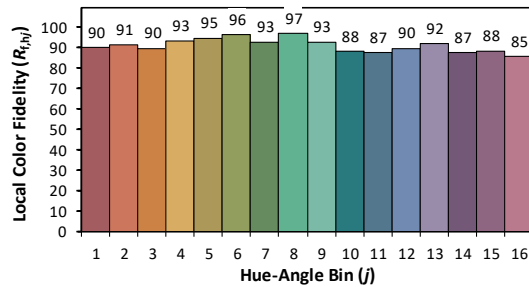
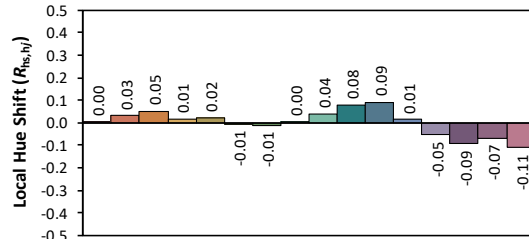
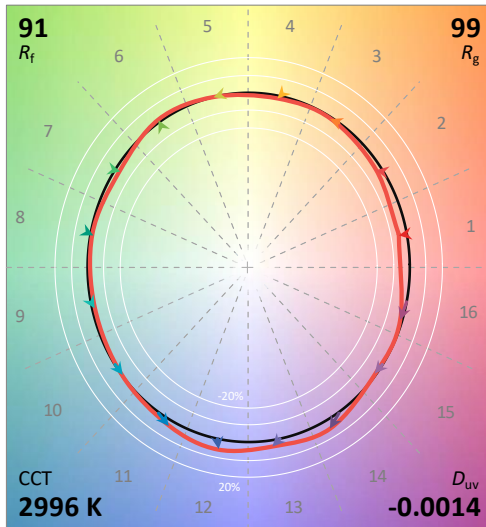
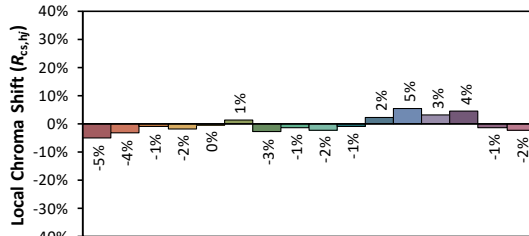
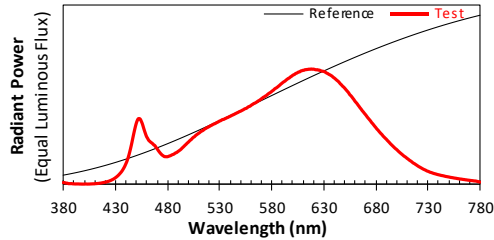
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort and Company

Date: 2023/7/22

Model: SLTS14330xx



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

x 0.4352
 y 0.4001
 u' 0.2512
 v' 0.5195

CIE 13.3-1995
(CRI)

R_a 92
 R_g 58

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 SLTS14330XX

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

TEST REPORT

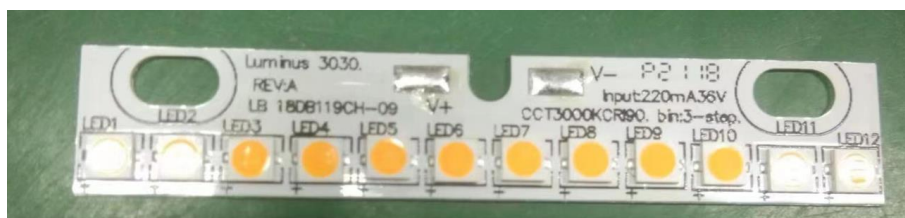
PRODUCT PICTURE (not to scale)



External view of SLTS14330XX



View of LED driver



View of LED board

In Charge Of Tests:

Done Ye

Done Ye
Engineer

Report Reviewed By

Shelley Ying

Shelley Ying
Reviewer

Attachment: None

***** End of Report *****