



REPORT

545 E. Algonquin Rd., Arlington Heights, IL 60005

Project No. G103017649

Date: April 26, 2017

REPORT NO. 103017649CHI-004

TEST OF ONE 4' SUSPENDED MERGE LINEAR LUMINAIRE

MODEL NO. SLS3406SXXX835W
LED MODEL NO. NICHIA NFSL757D-V1
DRIVER MODEL NO. ERP ESS030W-0700-42

RENDERED TO

GENERATION BRANDS
7400 LINDER AVE
SKOKIE, IL 60077

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-00779063-2.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI NEMA ANSLG C78.377: 2012: Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one prototype sample of model number SLS3406SXXX835W. The sample was received by Intertek on April 6, 2017, in undamaged condition and one sample was tested as received. The sample designation was 04062017115221U.

DATES OF TESTS: April 19, 2017 through April 26, 2017.

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SUMMARY

Model No.:	SLS3406SXXX835W
Description:	4' Suspended Merge linear luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	2766	2715
Total Power (W)	29.69	29.73
Luminaire Efficacy (LPW)	93.16	91.32

Criteria	Result
Power Factor at 120Vac	0.991
Power Factor at 277Vac	0.961
Current ATHD % at 120Vac	11.66
Current ATHD % at 277Vac	12.71
Correlated Color Temperature (CCT - K)	3438
Color Rendering Index (CRI - Ra)	83.2
Color Rendering Index (CRI - R9)	15.2
DUV	0.000
Chromaticity Coordinate (x)	0.409
Chromaticity Coordinate (y)	0.392
Chromaticity Coordinate (u')	0.237
Chromaticity Coordinate (v')	0.512

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/11/16	07/11/17	04/26/17
Omega Newport Thermometer	DPI8-C24	146920	10/07/16	10/07/17	04/26/17
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	04/26/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	04/26/17
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	04/26/17
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	04/19/17
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	04/19/17
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	04/19/17
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	04/19/17
Newport Humidity Recorder	iTHX-SD	146382	06/27/16	06/27/17	04/19/17
Yokogawa Power Meter	WT1600	146768	01/10/17	01/10/18	04/19/17
Fluke J/KTemperature Meter	52	146004	01/10/17	01/10/18	04/19/17

TEST METHODS

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

Photometric and Electrical Measurements – Integrating Sphere Method

A Labsphere Model CDS 1100 CCD Array Spectroradiometer and Two Meter or Ten Foot Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation. Each SSL unit was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.

Photometric and Electrical Measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

RESULTS OF TEST

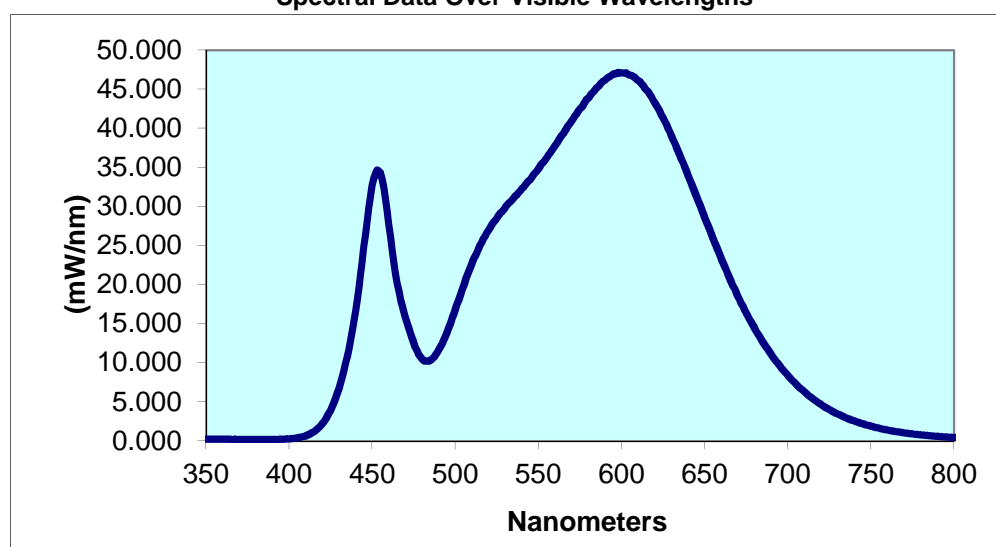
Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
04062017115221U	Down	120.0	249.6	29.69	0.991	11.66	2766	93.16
		277.0	111.9	29.80	0.961	12.71		
Correlated Color Temperature (K)	CRI -Ra	CRI -R9	DUV	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')	
3438	83.2	15.2	0.000	0.409	0.392	0.237	0.512	

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.196	440	16.66	530	29.85	620	43.29	710	6.297
355	0.215	445	24.81	535	31.07	625	41.39	715	5.423
360	0.214	450	32.67	540	32.29	630	39.06	720	4.660
365	0.193	455	34.33	545	33.43	635	36.64	725	4.018
370	0.180	460	27.72	550	34.82	640	34.02	730	3.459
375	0.164	465	20.25	555	36.27	645	31.32	735	2.975
380	0.164	470	15.82	560	37.81	650	28.60	740	2.567
385	0.164	475	12.58	565	39.34	655	25.94	745	2.199
390	0.169	480	10.48	570	40.94	660	23.37	750	1.895
395	0.203	485	10.33	575	42.50	665	20.87	755	1.631
400	0.270	490	11.66	580	43.87	670	18.54	760	1.408
405	0.396	495	13.85	585	45.19	675	16.40	765	1.204
410	0.657	500	16.81	590	46.17	680	14.44	770	1.036
415	1.189	505	19.84	595	46.94	685	12.66	775	0.893
420	2.199	510	22.69	600	47.11	690	11.08	780	0.773
425	3.939	515	25.10	605	46.82	695	9.666		
430	6.732	520	26.95	610	46.10	700	8.391		
435	10.80	525	28.52	615	44.91	705	7.273		

Spectral Data Over Visible Wavelengths



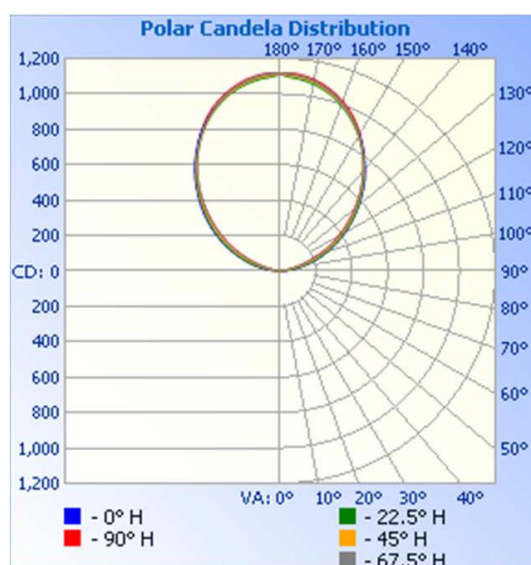
RESULTS OF TEST (cont'd)

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°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 (LPW)
04062017115221U	Down	119.9	250.2	29.73	0.991	2715	91.32

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	0	0	0	0	0
5	0	0	0	0	0
10	0	0	0	0	0
15	0	0	0	0	0
20	0	0	0	0	0
25	0	0	0	0	0
30	0	0	0	0	0
35	0	0	0	0	0
40	0	0	0	0	0
45	0	0	0	0	0
50	0	0	0	0	0
55	0	0	0	0	0
60	0	0	0	0	0
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	38	17	9	7	7
100	99	88	51	35	32
105	168	162	129	99	91
110	244	238	214	183	173
115	323	317	298	272	263
120	405	399	383	363	356
125	487	481	469	453	448
130	570	565	555	542	540
135	654	646	639	631	632
140	736	728	724	718	723
145	811	804	804	803	810
150	885	876	879	881	890
155	951	940	946	951	962
160	1007	995	1002	1010	1021
165	1054	1039	1048	1056	1065
170	1087	1072	1081	1091	1098
175	1106	1092	1102	1112	1117
180	1112	1112	1112	1112	1112



RESULTS OF TEST (cont'd)

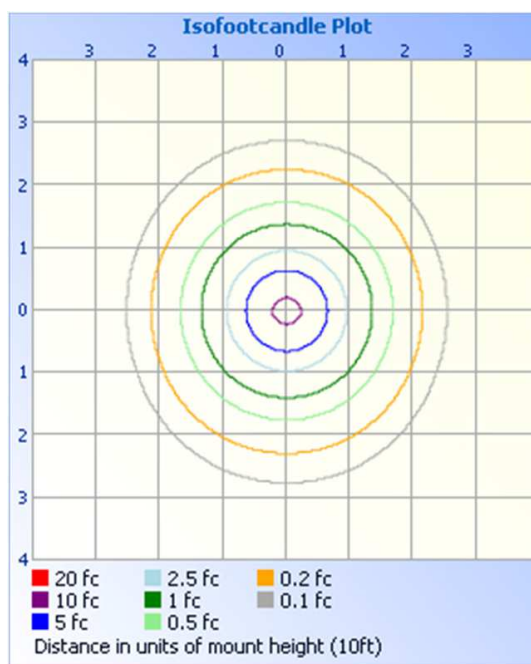
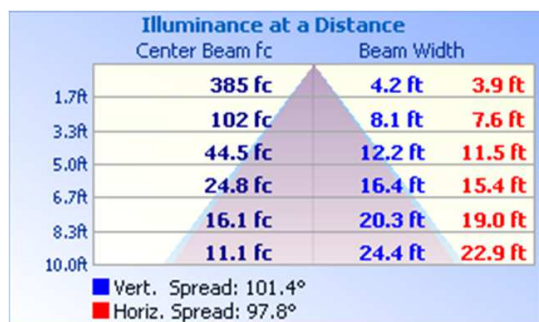
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light

Isoillumination Plot

Note * IES file was rotated to provide an Isoillumination Plot.



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	0.0	0.0
0-40	0.0	0.0
0-60	0.0	0.0
60-90	0.0	0.0
0-90	0.0	0.0
90-180	2715.0	100.0
0-180	2715	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	0.0	0.0
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.0	0.0
40-50	0.0	0.0
50-60	0.0	0.0
60-70	0.0	0.0
70-80	0.0	0.0
80-90	0.0	0.0
90-100	23.7	0.9
100-110	142.1	5.2
110-120	294.4	10.8
120-130	419.2	15.4
130-140	494.3	18.2
140-150	503.9	18.6
150-160	436.4	16.1
160-170	296.0	10.9
170-180	104.8	3.9

PICTURES (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:



Jehue Williams
Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
Lighting Division