



# REPORT

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

Project No. G102056385

Date: April 16, 2015

REPORT NO. 102056385CHI-021

TEST OF ONE LED SUSPENSION LUMINAIRE

MODEL NO. SU767SCLED  
LED MODEL NO. EVERLIGHT 67-21S/KK2C-H2727M3N42936Z6/2T  
DRIVER MODEL NO. LTF DA30W24VOC-0000

RENDERED TO

GENERATION BRANDS  
7400 LINDER AVE  
SKOKIE, IL 60077

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

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500587731.

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 production sample of model number SU767SCLED. The sample was received by Intertek on March 27, 2015, in undamaged condition and one sample was tested as received. The sample designation was 03272015125145-011.

DATES OF TESTS: March 31, 2015 through April 16, 2015.

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## SUMMARY

Model No.:	SU767SCLED
Description:	LED Suspension Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	2466	2486
Total Power (W)	36.03	36.08
Luminaire Efficacy (LPW)	68.44	68.90

Criteria	Result
Power Factor	0.965
Current ATHD %	25.98
Correlated Color Temperature (CCT - K)	2716
Color Rendering Index (CRI - Ra)	82.3
Color Rendering Index (CRI - R9)	5.5
DUV	0.000
Chromaticity Coordinate (x)	0.459
Chromaticity Coordinate (y)	0.411
Chromaticity Coordinate (u')	0.262
Chromaticity Coordinate (v')	0.528

## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/16/14	07/16/15	04/16/15
Omega Thermometer	DPI8-C24	146920	10/09/14	10/09/15	04/16/15
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	04/16/15
Newport Hygrometer	iServer	146956	01/06/15	01/06/16	04/16/15
Elgar, AC Power Supply	CW1251P	146918	VBV	VBV	04/16/15
Labsphere Spectroradiometer	CDS1100	CHI0091	VBV	VBV	03/31/15
3 Meter Sphere	SPR600	CHI0088	VBV	VBV	03/31/15
Elgar AC Power Supply	CW1251M	146112	VBV	VBV	03/31/15
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV	03/31/15
Newport Humidity Recorder	iTHX-SD	146382	07/02/14	07/02/15	03/31/15
Yokogawa Power Meter	WT1600	146770	04/10/14	04/10/15	03/31/15
Omega Temperature Meter	MDSi8	146139	04/02/14	04/02/15	03/31/15

## 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**

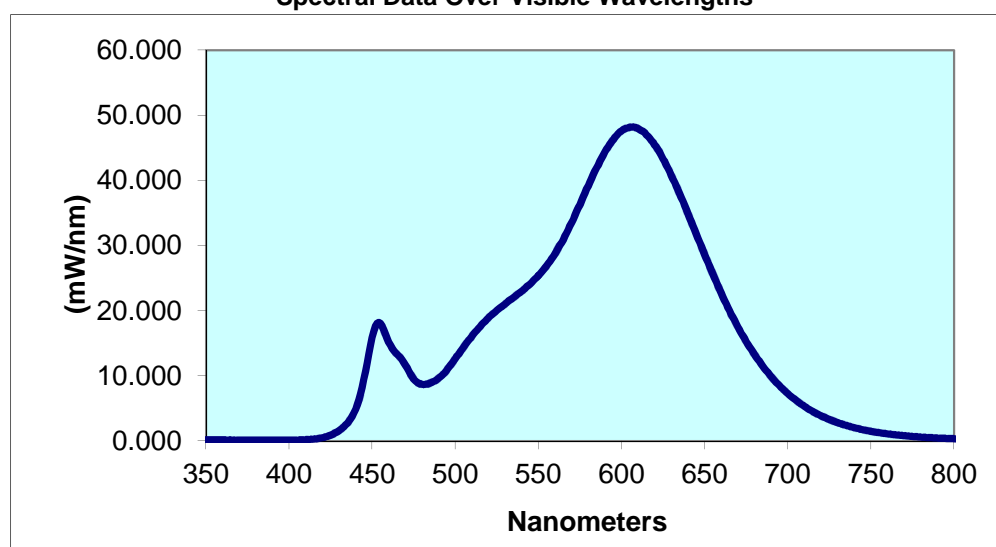
Intertek Sample No.	Base Orientatio n	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
03272015125145-011	Horizontal	120.0	311.1	36.03	0.965	25.98	2466	68.44

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')
2716	82.3	5.5	0.000	0.459	0.411	0.262	0.528

## **Spectral Distribution over Visible Wavelengths**

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.166	440	4.860	530	21.06	620	45.42	710	5.321
355	0.154	445	9.421	535	22.01	625	43.32	715	4.537
360	0.141	450	15.88	540	22.99	630	40.78	720	3.864
365	0.133	455	18.02	545	24.11	635	37.94	725	3.308
370	0.128	460	15.19	550	25.40	640	34.89	730	2.816
375	0.115	465	13.35	555	26.92	645	31.75	735	2.394
380	0.104	470	11.64	560	28.77	650	28.62	740	2.037
385	0.094	475	9.514	565	30.94	655	25.61	745	1.733
390	0.097	480	8.692	570	33.52	660	22.74	750	1.481
395	0.095	485	8.891	575	36.29	665	20.00	755	1.271
400	0.113	490	9.617	580	39.15	670	17.51	760	1.090
405	0.130	495	10.94	585	41.96	675	15.27	765	0.933
410	0.182	500	12.65	590	44.41	680	13.27	770	0.794
415	0.294	505	14.41	595	46.26	685	11.48	775	0.682
420	0.505	510	16.06	600	47.58	690	9.884	780	0.586
425	0.892	515	17.58	605	48.19	695	8.485		
430	1.571	520	18.91	610	47.96	700	7.284		
435	2.723	525	20.05	615	47.00	705	6.233		

**Spectral Data Over Visible Wavelengths**



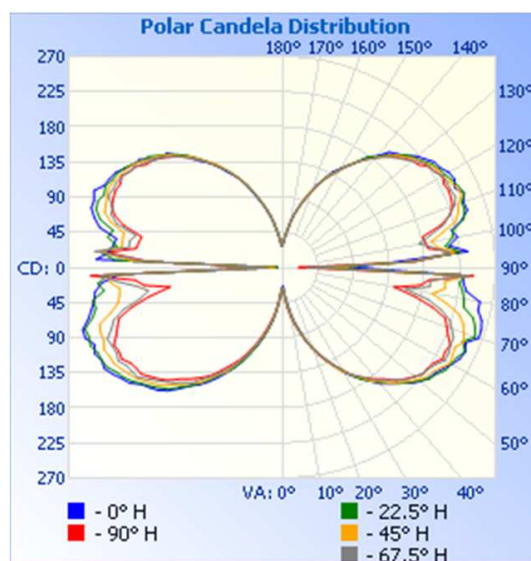
# RESULTS OF TEST (cont'd)

## Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientatio n	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
03272015125145-011	Horizontal	120.0	311.1	36.08	0.966	2486	68.90

## Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	27	27	27	27	27
5	33	36	37	38	41
10	58	60	61	63	65
15	82	83	85	84	86
20	108	109	107	108	109
25	130	130	131	130	132
30	155	153	155	151	151
35	173	175	171	170	172
40	194	192	191	189	187
45	209	210	209	204	205
50	227	226	224	218	218
55	236	238	233	226	225
60	248	247	246	238	234
65	256	255	241	235	235
70	265	260	245	228	222
75	261	250	232	208	198
80	254	234	193	158	144
85	230	225	207	188	187
90	85	53	43	31	21
95	236	226	219	213	223
100	225	219	192	176	184
105	236	237	227	212	207
110	244	242	237	232	229
115	241	246	244	236	233
120	244	238	235	235	234
125	236	232	228	226	226
130	222	219	217	213	214
135	206	204	204	200	200
140	186	185	184	183	185
145	165	165	165	165	165
150	146	144	143	143	145
155	125	125	124	123	124
160	102	102	102	99	100
165	80	79	78	79	79
170	58	58	58	57	58
175	39	39	39	38	38
180	28	28	28	28	28



# RESULTS OF TEST (cont'd)

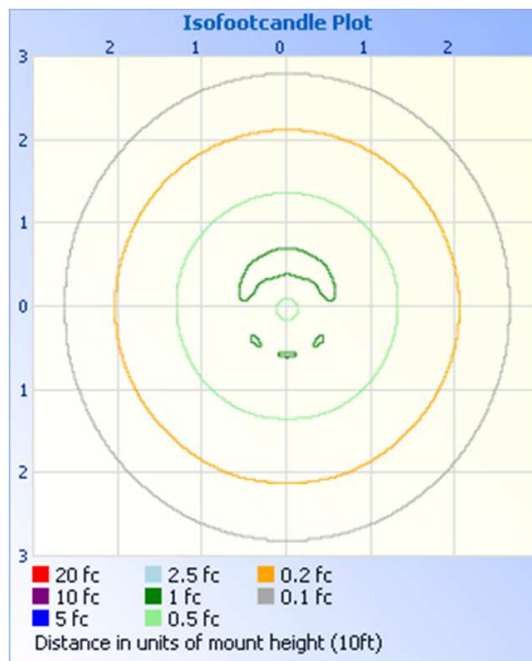
## Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	92.9	3.7
0-40	203.3	8.2
0-60	577.3	23.2
60-90	690.3	27.8
0-90	1268	51.0
90-180	1219.0	49.0
0-180	2486	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	4.7	0.2
10-20	25.6	1.0
20-30	62.6	2.5
30-40	110.4	4.4
40-50	162.8	6.5
50-60	211.2	8.5
60-70	243.4	9.8
70-80	238.9	9.6
80-90	208.1	8.4
90-100	196.0	7.9
100-110	234.3	9.4
110-120	238.2	9.6
120-130	204.5	8.2
130-140	156.7	6.3
140-150	104.2	4.2
150-160	57.8	2.3
160-170	23.0	0.9
170-180	4.3	0.2

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:



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Senior Associate Engineer  
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley  
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