



REPORT

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

Project No. G102056385

Date: April 10, 2015

REPORT NO. 102056385CHI-008

TEST OF ONE LED LINEAR SUSPENSION LUMINAIRE

MODEL NO. 700LSVANWS-LED830
LED MODEL NO. EVERLIGHT 67-21S/KK2C-H3030M31N42936Z6/2T
DRIVER MODEL NO. LTF DA40W960C2042L1-0000

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 700LSVANWS-LED830. The sample was received by Intertek on March 27, 2015, in undamaged condition and one sample was tested as received. The sample designation was 03272015125026-004.

DATES OF TESTS: March 31, 2015 through April 10, 2015.

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SUMMARY

Model No.:	700LSVANWS-LED830
Description:	LED Linear Suspension Luminaire

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	3020	2892
Total Power (W)	49.25	49.07
Luminaire Efficacy (LPW)	61.32	58.94

Criteria	Result
Power Factor	0.996
Current ATHD %	5.96
Correlated Color Temperature (CCT - K)	3172
Color Rendering Index (CRI - Ra)	82.9
Color Rendering Index (CRI - R9)	9.1
DUV	0.002
Chromaticity Coordinate (x)	0.423
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.245
Chromaticity Coordinate (v')	0.516

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	04/10/15
Omega Thermometer	DPI8-C24	146920	10/09/14	10/09/15	04/10/15
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	04/10/15
Newport Hygrometer	iServer	146956	01/06/15	01/06/16	04/10/15
Elgar, AC Power Supply	CW1251P	146918	VBU	VBU	04/10/15
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	03/31/15
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	03/31/15
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	03/31/15
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	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

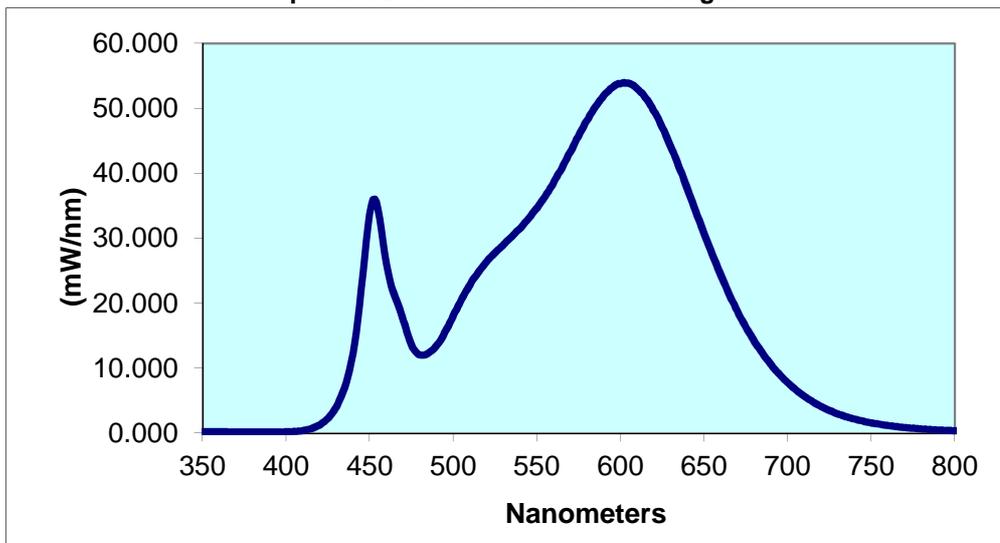
Intertek Sample No.	Base Orientatio n	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
03272015125026-004	UP	120.0	412.2	49.25	0.996	5.96	3020	61.32

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')
3172	82.9	9.1	0.002	0.423	0.395	0.245	0.516

Spectral Distribution over Visible Wavelengths

nm	mW/nm								
350	0.216	440	12.29	530	29.02	620	49.61	710	5.677
355	0.195	445	22.14	535	30.25	625	47.09	715	4.847
360	0.209	450	33.73	540	31.51	630	44.21	720	4.109
365	0.186	455	34.49	545	33.02	635	41.02	725	3.498
370	0.163	460	26.18	550	34.67	640	37.66	730	2.971
375	0.154	465	21.15	555	36.48	645	34.20	735	2.536
380	0.150	470	17.47	560	38.58	650	30.77	740	2.168
385	0.145	475	13.60	565	40.82	655	27.50	745	1.851
390	0.140	480	12.05	570	43.30	660	24.39	750	1.586
395	0.156	485	12.32	575	45.75	665	21.43	755	1.362
400	0.183	490	13.46	580	48.15	670	18.76	760	1.172
405	0.247	495	15.52	585	50.27	675	16.32	765	1.002
410	0.388	500	18.05	590	52.00	680	14.19	770	0.856
415	0.686	505	20.59	595	53.19	685	12.29	775	0.740
420	1.255	510	22.80	600	53.80	690	10.57	780	0.635
425	2.283	515	24.77	605	53.86	695	9.080		
430	4.041	520	26.40	610	53.05	700	7.778		
435	7.012	525	27.77	615	51.63	705	6.655		

Spectral Data Over Visible Wavelengths



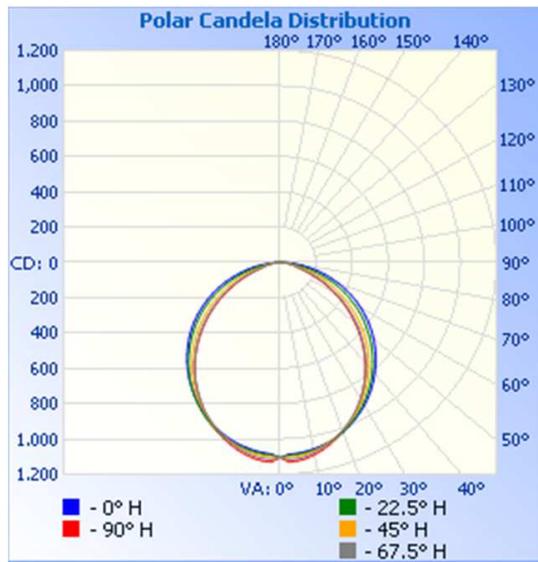
RESULTS OF TEST (cont'd)

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 (Lumens Per Watt)
03272015125026-004	UP	120.0	410.4	49.07	0.996	2892	58.94

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	1105	1105	1105	1105	1105
5	1085	1091	1099	1114	1127
10	1073	1079	1084	1093	1105
15	1051	1056	1053	1058	1067
20	1021	1020	1013	1012	1019
25	982	976	964	957	961
30	935	923	906	893	893
35	879	864	840	820	818
40	817	797	767	741	736
45	750	724	686	654	646
50	679	646	601	562	552
55	601	564	511	468	455
60	520	478	417	370	354
65	435	388	321	273	255
70	345	296	226	178	163
75	256	203	134	100	95
80	167	112	69	72	70
85	83	39	40	37	35
90	8	8	6	3	3

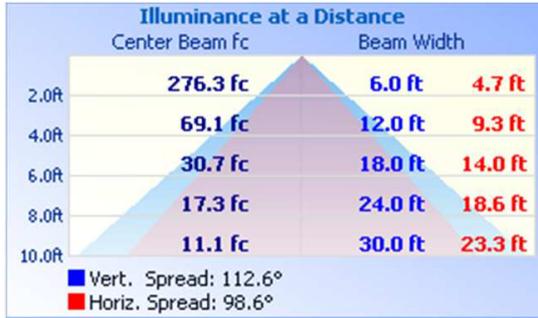


RESULTS OF TEST (cont'd)

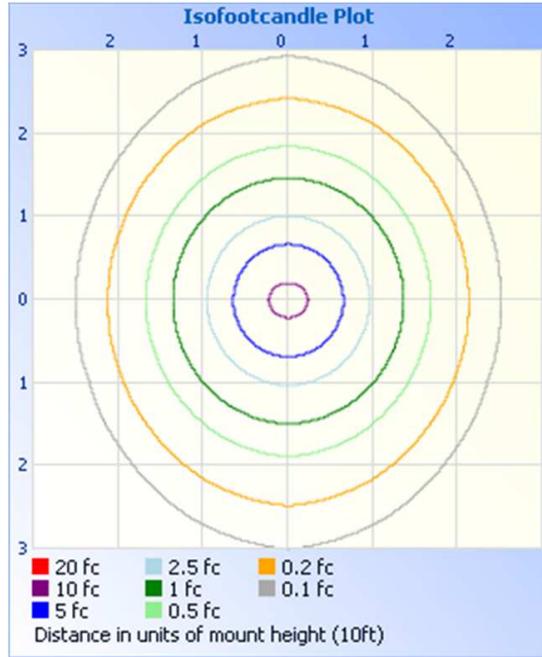
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	846.1	29.3
0-40	1371	47.4
0-60	2359	81.6
60-90	532.5	18.4
0-90	2891	100.0
90-180	0.6	0.0
0-180	2892	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	104.6	3.6
10-20	297.3	10.3
20-30	444.2	15.4
30-40	525.0	18.2
40-50	529.2	18.3
50-60	458.3	15.8
60-70	323.2	11.2
70-80	162.1	5.6
80-90	47.2	1.6
90-100	0.6	0.0

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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Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
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