



# REPORT

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

Project No. G102056385

Date: April 16, 2015

REPORT NO. 102056385CHI-007

TEST OF ONE LED SUSPENSION

MODEL NO. 700BOD30S-LED830  
LED MODEL NO. EVERLIGHT 62-217B/KK2C-S3030QAR2B42Z15/2T  
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 700BOD30S-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 03272015124947-003.

DATES OF TESTS: March 30, 2015 through April 16, 2015.

---

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 copy or distribute 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.

## SUMMARY

Model No.:	700BOD30S-LED830
Description:	LED Suspension

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	1883	1884
Total Power (W)	32.11	31.89
Luminaire Efficacy (LPW)	58.64	59.08

Criteria	Result
Power Factor	0.944
Current ATHD %	23.76
Correlated Color Temperature (CCT - K)	3017
Color Rendering Index (CRI - Ra)	85.1
Color Rendering Index (CRI - R9)	29.9
DUV	0.003
Chromaticity Coordinate (x)	0.432
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.517

## 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	VBU	VBU	04/16/15
Newport Hygrometer	iServer	146956	01/06/15	01/06/16	04/16/15
Elgar, AC Power Supply	CW1251P	146918	VBU	VBU	04/16/15
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU	03/30/15
3 Meter Sphere	SPR600	CHI0088	VBU	VBU	03/30/15
Elgar AC Power Supply	CW1251M	146112	VBU	VBU	03/30/15
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU	03/30/15
Newport Humidity Recorder	iTHX-SD	146382	07/02/14	07/02/15	03/30/15
Yokogawa Power Meter	WT1600	146770	04/10/14	04/10/15	03/30/15
Omega Temperature Meter	MDSi8	146139	04/02/14	04/02/15	03/30/15

## 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)
03272015124947-003	Horizontal	120.0	283.5	32.11	0.944	23.76	1883	58.64

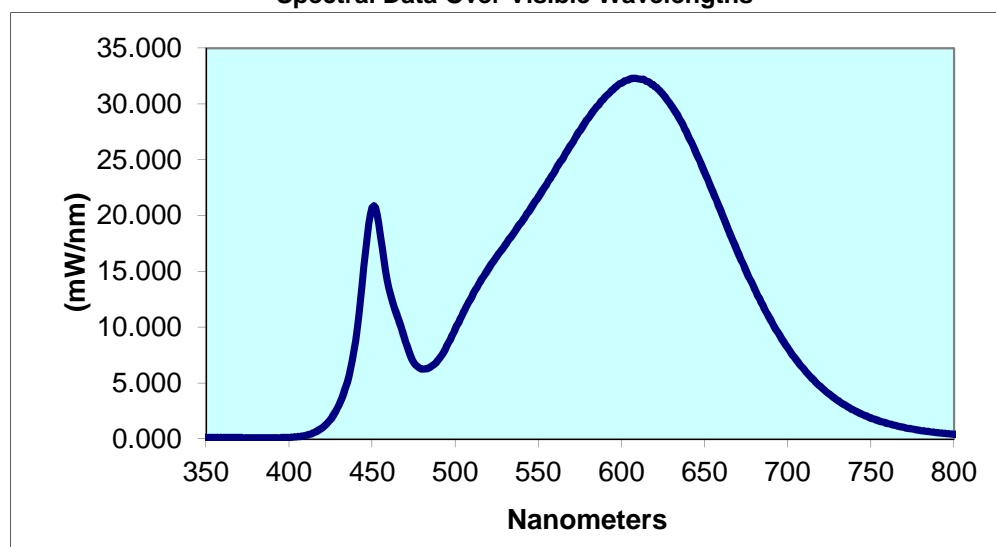
  

Correlated Color Temperature (K)	CRI -Ra	CRI -R9	DUV	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
3017	85.1	29.9	0.003	0.432	0.395	0.251	0.517

## **Spectral Distribution over Visible Wavelengths**

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.134	440	8.809	530	17.38	620	31.56	710	6.182
355	0.124	445	15.36	535	18.41	625	30.84	715	5.365
360	0.128	450	20.72	540	19.43	630	29.86	720	4.634
365	0.121	455	18.23	545	20.56	635	28.63	725	4.010
370	0.108	460	13.56	550	21.69	640	27.20	730	3.453
375	0.095	465	11.08	555	22.84	645	25.60	735	2.975
380	0.091	470	8.744	560	24.04	650	23.89	740	2.554
385	0.093	475	6.856	565	25.22	655	22.13	745	2.191
390	0.091	480	6.266	570	26.44	660	20.32	750	1.877
395	0.107	485	6.438	575	27.60	665	18.48	755	1.616
400	0.131	490	7.102	580	28.72	670	16.73	760	1.392
405	0.193	495	8.333	585	29.76	675	15.04	765	1.197
410	0.321	500	9.838	590	30.63	680	13.46	770	1.022
415	0.564	505	11.34	595	31.30	685	11.98	775	0.879
420	1.005	510	12.74	600	31.85	690	10.57	780	0.751
425	1.766	515	14.07	605	32.22	695	9.308		
430	3.039	520	15.26	610	32.25	700	8.138		
435	5.091	525	16.35	615	32.04	705	7.101		

**Spectral Data Over Visible Wavelengths**



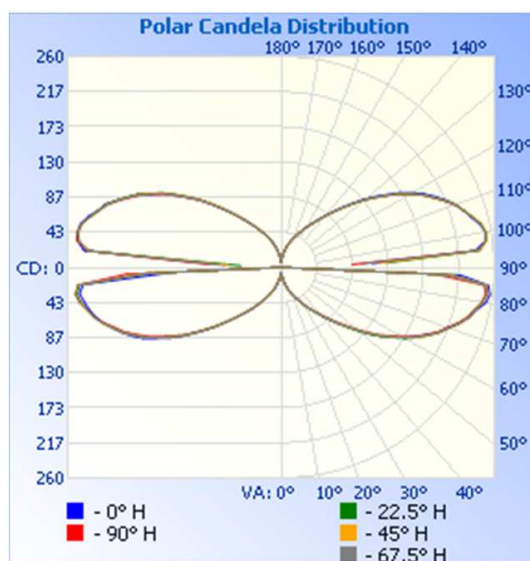
# RESULTS OF TEST (cont'd)

## 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)
03272015124947-003	Horizontal	120.0	281.6	31.89	0.943	1884	59.08

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

Angle	0	22.5	45	67.5	90
0	7	7	7	7	7
5	10	10	10	10	10
10	16	17	17	16	16
15	25	25	24	24	24
20	33	33	33	32	32
25	42	42	41	41	41
30	51	52	51	51	50
35	63	64	63	63	62
40	78	78	77	77	76
45	97	98	96	96	95
50	120	121	119	119	118
55	147	148	146	145	145
60	174	175	173	172	171
65	197	199	198	197	195
70	217	218	218	218	216
75	238	236	237	237	235
80	253	249	250	249	248
85	253	251	252	250	248
90	0	0	0	0	0
95	237	243	243	242	240
100	253	253	253	252	253
105	240	242	242	241	241
110	227	227	226	226	226
115	207	205	204	204	204
120	184	181	181	181	180
125	156	154	154	154	154
130	130	128	128	128	128
135	104	103	103	103	103
140	83	82	82	82	83
145	66	66	66	66	67
150	54	54	54	54	54
155	44	43	43	43	44
160	35	35	35	35	35
165	27	27	27	27	27
170	19	18	19	19	19
175	11	11	11	11	11
180	7	7	7	7	7

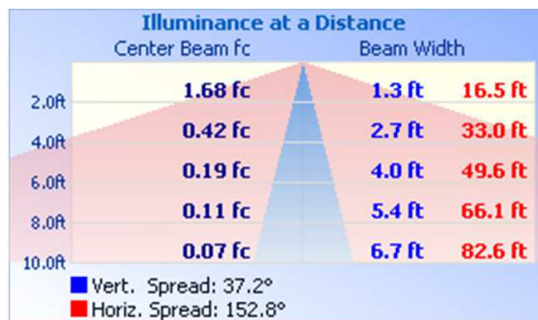


# RESULTS OF TEST (cont'd)

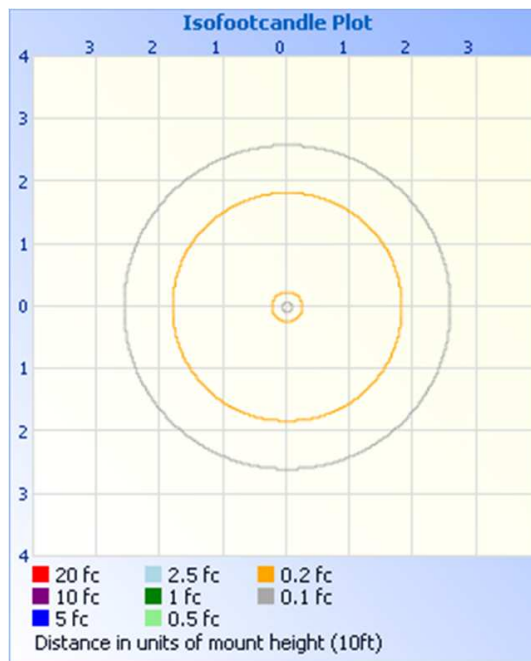
## Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	27.5	1.5
0-40	67.3	3.6
0-60	274.3	14.6
60-90	665.3	35.3
0-90	939.6	49.9
90-180	944.0	50.1
0-180	1884	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	1.2	0.1
10-20	7.1	0.4
20-30	19.2	1.0
30-40	39.8	2.1
40-50	75.4	4.0
50-60	131.6	7.0
60-70	195.8	10.4
70-80	248.8	13.2
80-90	220.7	11.7
90-100	191.8	10.2
100-110	254.9	13.5
110-120	203.7	10.8
120-130	139.9	7.4
130-140	81.5	4.3
140-150	42.7	2.3
150-160	20.6	1.1
160-170	7.8	0.4
170-180	1.3	0.1

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.

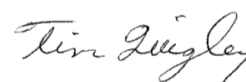
In Charge Of Tests:



Vladimir Kozak  
Senior Associate Engineer  
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley  
Engineer  
Lighting Division