

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700WSOBLN-LED930

REPORT NUMBER

103982892CHI-033

ISSUE DATE

July 9, 2019

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: July 9, 2019

TEST REPORT

TEST OF ONE LED WALL LUMINAIRE

MODEL NO. 700WSOBLN-LED930

RENDERED TO:

VISUAL COMFORT GROUP
7400 LINDER AVE.
SKOKIE, IL 60077

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00981438-0.

STANDARDS USED

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

ANSI NEMA ANSLG C78.377: 2015: Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE

The client submitted one production sample of model number 700WSOBLN-LED930. The sample was received by Intertek on June 14, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH06142019092403-33.

DATE OF TESTS

June 19, 2019 through July 2, 2019.

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SUMMARY

MODEL NO:	700WSOBLN-LED930
DESCRIPTION:	LED wall luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	319.4	316.3
Input Power (W) @ 120 (VAC)	3.83	3.81
Lumen Efficacy (lm/W)	83.4	83.0
Input Power Factor @ 120 (VAC)	0.807	0.949

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	35.55
Correlated Color Temperature (K)	3007
Color Rendering Index - Ra	90.3
Color Rendering - R9	49.6
DUV	0.0018
Chromaticity Coordinate (x)	0.434
Chromaticity Coordinate (y)	0.399
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.519

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/1/2019	7/1/2020
Omega Thermometer	DPI8-C24	146920	10/4/2018	10/4/2019
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
Newport Thermohygrometer	iServer	146957	12/11/2018	12/11/2019
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV
Labsphere Spectroradiometer	CDS1100	146137	VBV	VBV
3 Meter Sphere	SPR600	CHI0088	VBV	VBV
Elgar AC Power Supply	CW1251	146112	VBV	VBV
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV
Newport Humidity Recorder	iTHX-SD	146961	7/23/2018	7/23/2019
Yokogawa Power Meter	WT1600	146769	4/3/2019	4/3/2020
Extech K Temperature Meter	SD200	CHI0207	4/3/2019	4/3/2020

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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 Spectroradiometer and integrating 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. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a 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 Type C Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for the SSL sample.

Ambient temperature was measured equal to the height of the sample mounted on the goniometer equipment. The SSL sample was operated on the client provided driver at rated input volts in its designated orientation. The SSL sample was allowed to stabilize for at least thirty minutes before measurements were made. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

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TEST REPORT

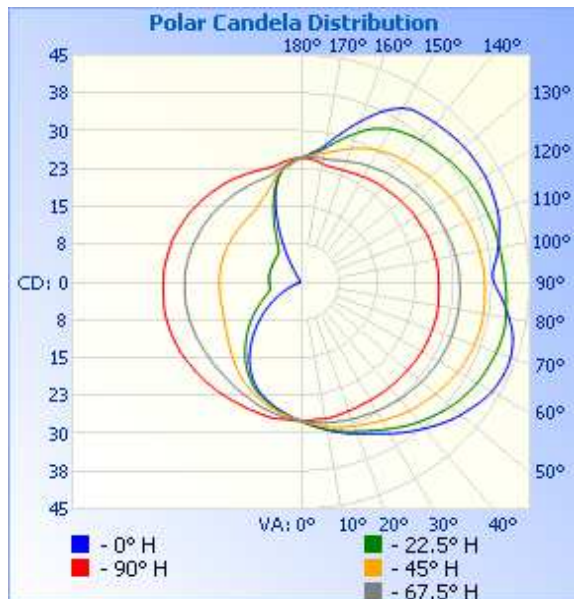
RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR	LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)
AH06142019092403-33	Horizontal	120.0	33.5	3.81	0.949	316.3	83.0

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	28	28	28	28	28
5	29	29	28	28	27
10	30	30	29	28	28
15	31	31	30	29	27
20	32	32	30	29	27
25	33	32	31	29	27
30	35	34	32	30	27
35	36	35	32	30	27
40	38	36	33	30	27
45	40	37	34	30	27
50	41	38	35	31	27
55	42	39	35	31	27
60	43	40	36	31	28
65	44	40	36	31	28
70	44	41	36	32	28
75	43	41	36	32	28
80	42	41	36	32	27
85	40	41	36	31	27
90	38	40	36	31	27
95	38	40	36	31	27
100	39	40	36	31	27
105	40	40	35	31	27
110	41	39	35	30	27
115	42	39	34	30	26
120	42	39	34	30	26
125	42	38	33	29	26
130	42	38	33	28	25
135	42	37	32	28	25
140	41	37	32	28	25
145	41	36	31	27	24
150	40	35	30	27	24
155	37	34	29	26	24
160	34	31	28	26	24
165	31	29	27	25	24
170	28	27	26	25	24
175	26	26	25	25	24
180	25	25	25	25	25



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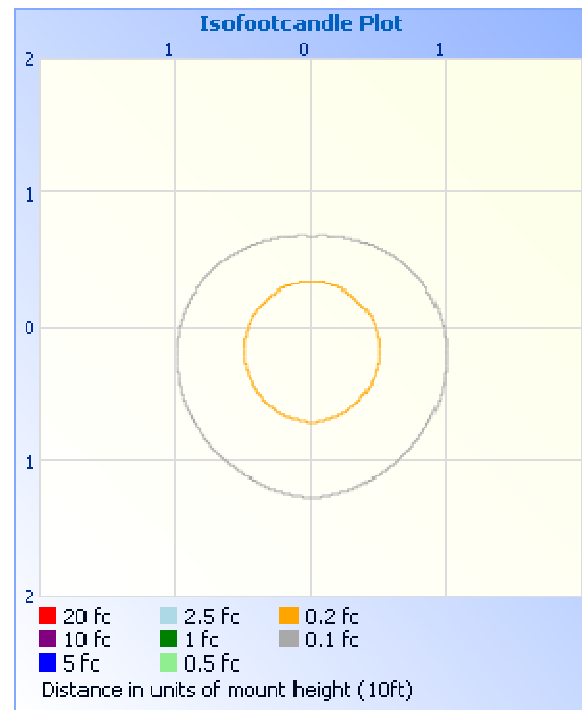
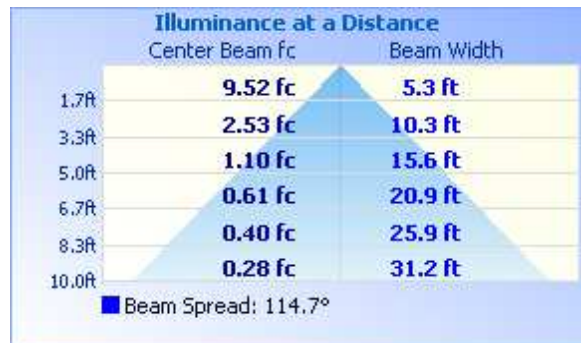
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RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft	
ILLUMINANCE - CONE OF LIGHT	ISOILLUMINATION PLOT



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	23.1	7.3
0-40	40.1	12.7
0-60	84.3	26.7
60-90	80.1	25.3
70-100	81.5	25.8
90-120	77.5	24.5
0-90	164.4	52.0
90-180	151.9	48.0
0-180	316.3	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	2.6	0.8
10-20	7.8	2.5
20-30	12.6	4.0
30-40	17.0	5.4
40-50	20.6	6.5
50-60	23.6	7.5
60-70	25.7	8.1
70-80	27.0	8.5
80-90	27.4	8.7
90-100	27.1	8.6
100-110	26.1	8.3
110-120	24.2	7.7
120-130	21.6	6.8
130-140	18.3	5.8
140-150	14.6	4.6
150-160	10.9	3.4
160-170	6.8	2.1
170-180	2.3	0.7

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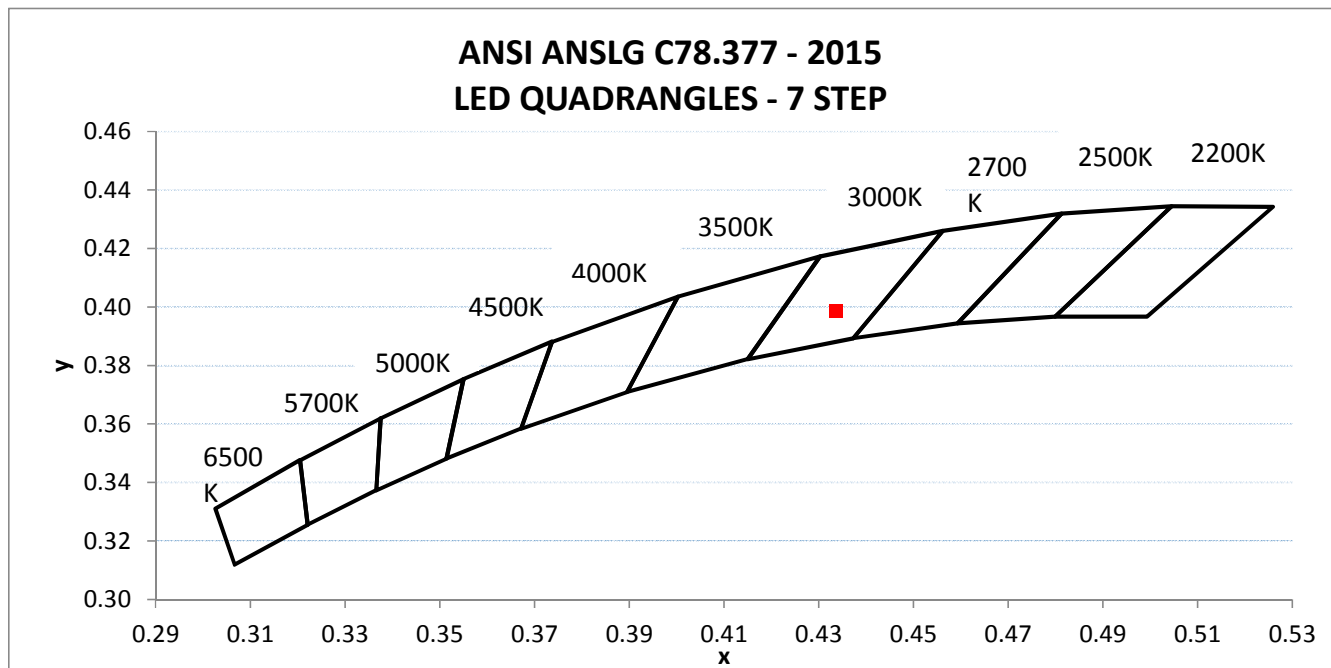
RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR	INPUT CURRENT ATHD (%)
AH06142019092403-33	Horizontal	120.00	39.55	3.83	0.807	35.55

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
319.4	83.4	3007	90.3	49.6	0.0018

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.434	0.399	0.251	0.519



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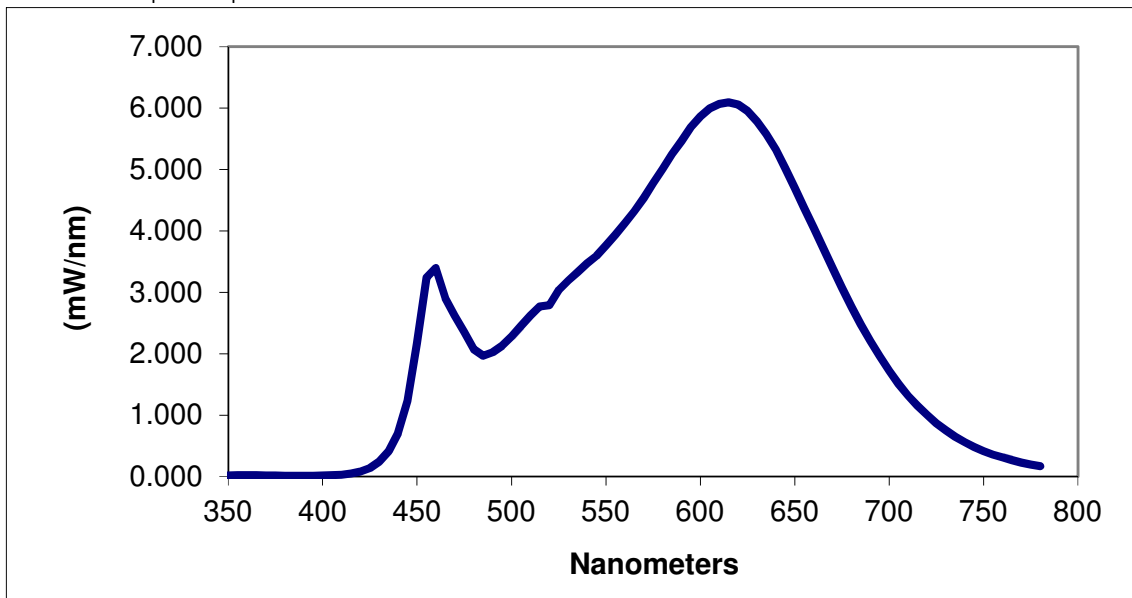
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RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.021	460	3.398	570	4.538	680	2.767
355	0.024	465	2.905	575	4.775	685	2.478
360	0.025	470	2.624	580	5.009	690	2.208
365	0.023	475	2.354	585	5.253	695	1.962
370	0.022	480	2.070	590	5.461	700	1.722
375	0.018	485	1.969	595	5.690	705	1.510
380	0.017	490	2.024	600	5.867	710	1.319
385	0.017	495	2.129	605	5.994	715	1.153
390	0.014	500	2.283	610	6.068	720	1.003
395	0.015	505	2.450	615	6.095	725	0.870
400	0.018	510	2.627	620	6.059	730	0.756
405	0.023	515	2.769	625	5.952	735	0.652
410	0.033	520	2.792	630	5.783	740	0.564
415	0.053	525	3.036	635	5.580	745	0.485
420	0.084	530	3.190	640	5.325	750	0.418
425	0.142	535	3.326	645	5.020	755	0.360
430	0.242	540	3.472	650	4.699	760	0.311
435	0.414	545	3.594	655	4.377	765	0.268
440	0.709	550	3.764	660	4.051	770	0.229
445	1.233	555	3.936	665	3.728	775	0.197
450	2.166	560	4.124	670	3.394	780	0.169
455	3.239	565	4.315	675	3.077		

*Without correction of sample absorption.



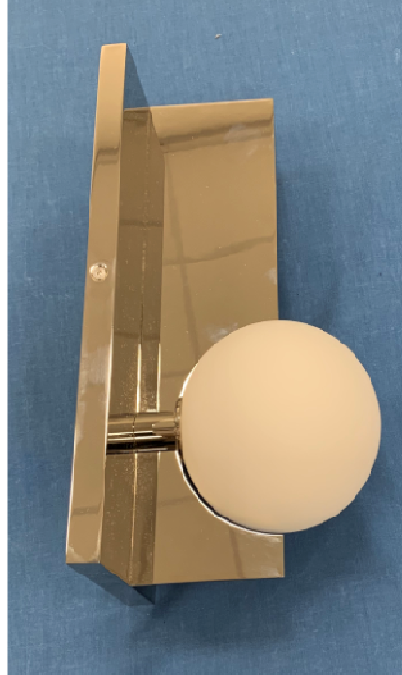
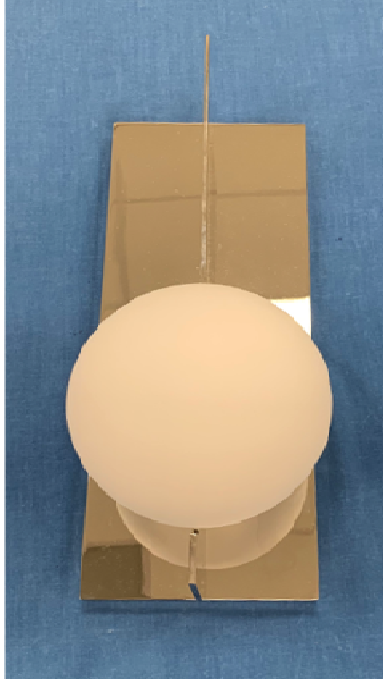
End Of Test Results

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PICTURES



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:

Hector Huitron
Associate Engineer
Lighting Division

Report Reviewed By:

Timothy Quigley
Project Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

JOB NUMBER	DATE OF REVISION	PROJECT HANDLER	REVIEWED BY	REVISION NOTE
None				