

# VISUAL COMFORT GROUP TEST REPORT

## SCOPE OF WORK

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

**MODEL NUMBER**  
700WSVGOOR-LED930

**REPORT NUMBER**  
103982892CHI-024

**ISSUE DATE**  
June 28, 2019

**REVISION DATE**  
None

**DOCUMENT CONTROL NUMBER**  
TBD  
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**REPORT NO.: 103982892CHI-024**

**REPORT DATE: June 28, 2019**

**TEST REPORT**

**TEST OF ONE LED WALL-MOUNT LUMINAIRE**

**MODEL NO. 700WSVGOOR-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 700WSVGOOR-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 AH06142019092403-24.

**DATE OF TESTS**

June 21, 2019 through June 28, 2019.

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**SUMMARY**

<b>MODEL NO:</b>	700WSVGOOR-LED930
<b>DESCRIPTION:</b>	LED wall-mount luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	2021.2	1982.8
Input Power (W) @ 120 (VAC)	26.61	26.60
Lumen Efficacy (lm/W)	76.0	74.5
Input Power Factor @ 120 (VAC)	0.932	0.980

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	22.79
Correlated Color Temperature (K)	3081
Color Rendering Index - Ra	92.4
Color Rendering - R9	59.8
DUV	0.0015
Chromaticity Coordinate (x)	0.430
Chromaticity Coordinate (y)	0.399
Chromaticity Coordinate (u')	0.248
Chromaticity Coordinate (v')	0.518

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**EQUIPMENT LIST**

<b>EQUIPMENT USED</b>	<b>MODEL NO.</b>	<b>CONTROL NO.</b>	<b>LAST CAL DATE</b>	<b>CAL DUE DATE</b>
Yokogawa Power Meter	WT210	146919	7/9/2018	7/9/2019
Omega Newport Thermometer	DPI8-C24	146920	10/4/2018	10/4/2019
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146957	12/11/2018	12/11/2019
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU
3 Meter Sphere	SPR600	CHI0088	VBU	VBU
Elgar AC Power Supply	CW1251	146112	VBU	VBU
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
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.

TEST REPORT

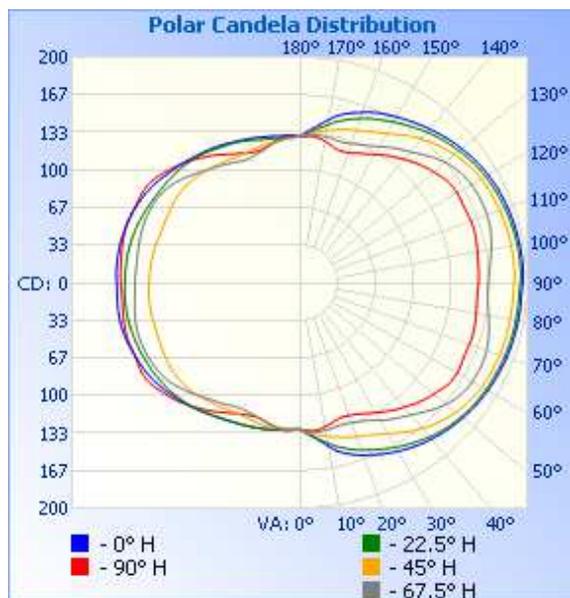
RESULTS OF TESTS

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)
AH06142019092403-24	Horizontal	120.1	226.0	26.60	0.980	1982.8	74.5

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	130	130	130	130	130
5	137	137	134	133	132
10	147	145	138	133	130
15	157	152	142	131	126
20	163	158	145	132	125
25	168	163	149	135	128
30	173	169	154	141	133
35	177	174	162	147	138
40	181	178	168	153	144
45	184	182	174	160	149
50	187	185	179	168	154
55	189	188	182	173	158
60	191	189	185	175	160
65	193	191	186	176	159
70	194	192	187	175	159
75	195	193	188	172	159
80	195	193	188	169	158
85	195	193	188	166	157
90	196	194	189	166	157
95	197	195	189	168	158
100	196	194	189	171	159
105	196	194	188	174	160
110	195	192	187	176	160
115	193	191	186	175	159
120	192	189	184	174	160
125	189	186	181	171	158
130	186	183	177	167	153
135	182	179	172	159	149
140	178	174	166	152	143
145	174	169	160	146	137
150	170	165	153	140	131
155	166	160	148	135	127
160	161	155	144	131	123
165	155	149	141	130	123
170	147	142	137	131	128
175	138	135	134	132	130
180	130	130	130	130	130



**TEST REPORT**

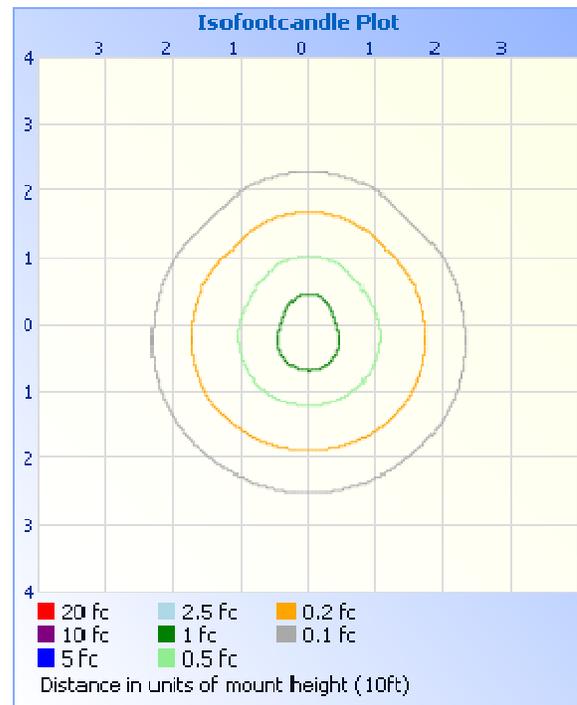
**RESULTS OF TESTS**

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

**MOUNTING HEIGHT: 10ft**

<b>ILLUMINANCE - CONE OF LIGHT</b>	<b>ISOILLUMINATION PLOT</b>
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Illuminance at a Distance		
	Center Beam fc	Beam Width
1.7ft	<b>45.0 fc</b>	
3.3ft	<b>11.9 fc</b>	
5.0ft	<b>5.20 fc</b>	
6.7ft	<b>2.90 fc</b>	
8.3ft	<b>1.89 fc</b>	
10.0ft	<b>1.30 fc</b>	



**ZONAL LUMEN SUMMARY AND PERCENTAGES**

ZONE	LUMENS	% LUMINAIRE
0-30	116.0	5.8
0-40	208.8	10.5
0-60	476.1	24.0
60-90	518.7	26.2
70-100	534.4	27.0
90-120	517.8	26.1
0-90	994.8	50.2
90-180	988.0	49.8
0-180	1982.8	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	12.7	0.6
10-20	38.5	1.9
20-30	64.7	3.3
30-40	92.8	4.7
40-50	121.1	6.1
50-60	146.2	7.4
60-70	164.1	8.3
70-80	175.2	8.8
80-90	179.4	9.1
90-100	179.8	9.1
100-110	174.9	8.8
110-120	163.1	8.2
120-130	144.7	7.3
130-140	119.6	6.0
140-150	91.6	4.6
150-160	63.9	3.2
160-170	37.9	1.9
170-180	12.6	0.6

TEST REPORT

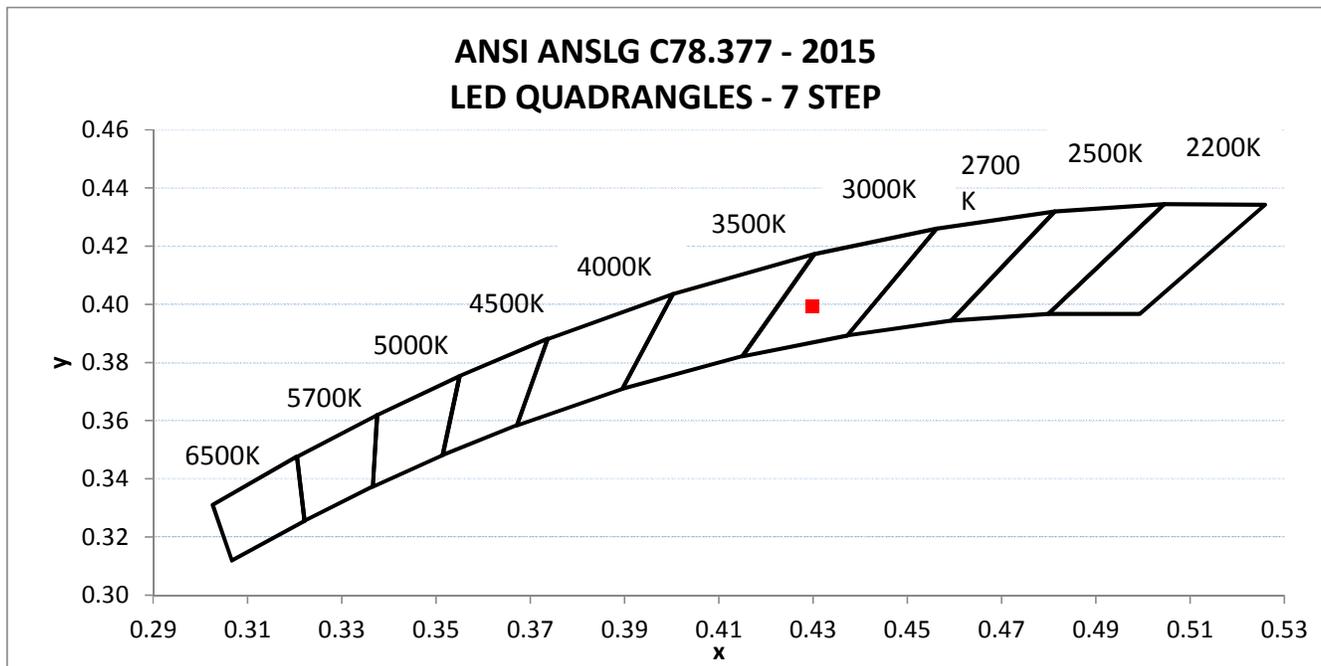
RESULTS OF TESTS

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 (%)
AH06142019092403-24	Horizontal	119.99	238.08	26.61	0.932	22.79

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
2021.2	76.0	3081	92.4	59.8	0.0015

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.430	0.399	0.248	0.518



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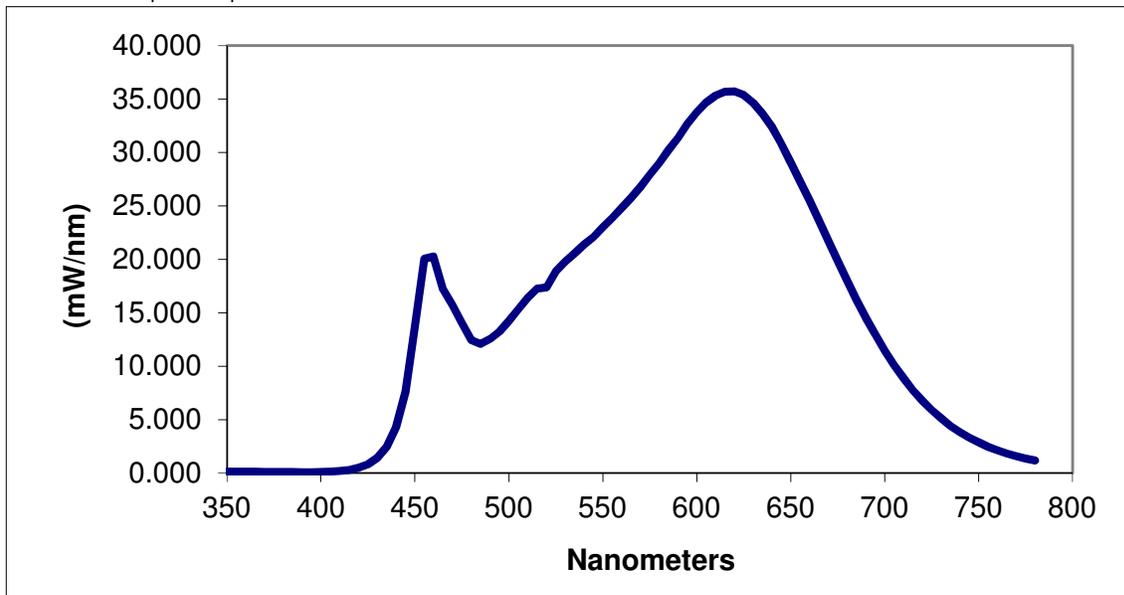
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RESULTS OF TESTS

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	0.148	460	20.261	570	26.793	680	17.996
355	0.153	465	17.214	575	27.906	685	16.217
360	0.147	470	15.748	580	29.025	690	14.534
365	0.134	475	14.079	585	30.247	695	13.014
370	0.127	480	12.438	590	31.380	700	11.459
375	0.116	485	12.087	595	32.675	705	10.115
380	0.101	490	12.544	600	33.771	710	8.882
385	0.101	495	13.242	605	34.673	715	7.779
390	0.096	500	14.241	610	35.334	720	6.794
395	0.095	505	15.334	615	35.688	725	5.922
400	0.106	510	16.395	620	35.710	730	5.142
405	0.139	515	17.262	625	35.375	735	4.445
410	0.200	520	17.387	630	34.635	740	3.848
415	0.308	525	18.859	635	33.639	745	3.322
420	0.500	530	19.805	640	32.379	750	2.875
425	0.825	535	20.568	645	30.798	755	2.476
430	1.415	540	21.412	650	29.049	760	2.141
435	2.455	545	22.097	655	27.296	765	1.844
440	4.281	550	22.993	660	25.500	770	1.582
445	7.626	555	23.882	665	23.651	775	1.365
450	13.642	560	24.821	670	21.736	780	1.180
455	20.049	565	25.738	675	19.872		

\*Without correction of sample absorption.

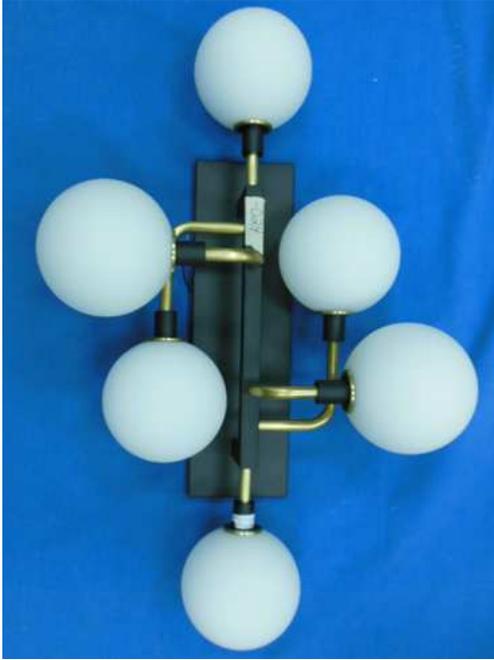


**End Of Test Results**

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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				