

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700WSQDRI-LEDWD

REPORT NUMBER

103982892CHI-009

ISSUE DATE

June 24, 2019

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: June 24, 2019

TEST REPORT

TEST OF ONE LED WALL

MODEL NO. 700WSQDRI-LEDWD
LED MODEL NO. LYNK LABS SRL46SS31P14W52WDIH-120
DRIVER MODEL NO. N/A

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 700WSQDRI-LEDWD. The sample was received by Intertek on June 14, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH06142019092403-009.

DATE OF TESTS

June 20, 2019 through June 24, 2019.

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SUMMARY

MODEL NO:	700WSQDRI-LEDWD
DESCRIPTION:	LED wall

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	994.0	961.1
Input Power (W) @ 120 (VAC)	26.27	26.27
Lumen Efficacy (lm/W)	37.8	36.6
Input Power Factor @ 120 (VAC)	0.976	0.977

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	21.36
Correlated Color Temperature (K)	3099
Color Rendering Index - Ra	92.5
Color Rendering - R9	56.0
DUV	0.0054
Chromaticity Coordinate (x)	0.423
Chromaticity Coordinate (y)	0.387
Chromaticity Coordinate (u')	0.249
Chromaticity Coordinate (v')	0.513

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
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	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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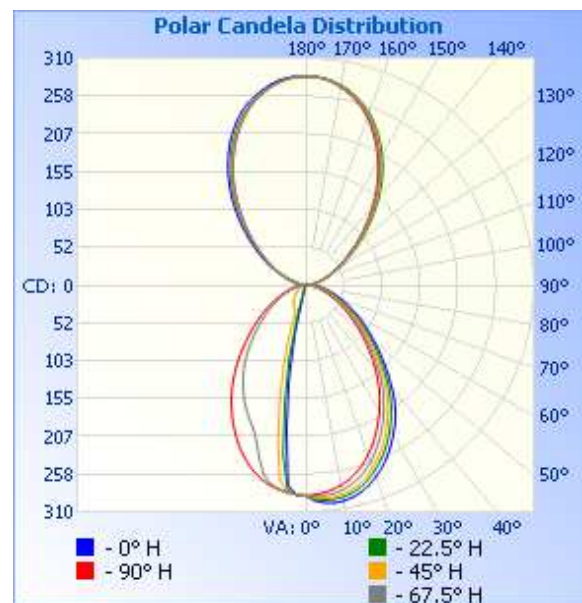
RESULTS OF TESTS

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)
AH06142019092403-009	Base Up	120.0	224.3	26.27	0.977	961.1	36.6

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	288	288	288	288	288
5	299	295	292	289	285
10	299	294	290	285	278
15	293	286	282	274	265
20	279	272	266	258	248
25	261	252	245	236	225
30	238	229	221	211	200
35	213	203	195	185	175
40	182	173	166	156	147
45	151	144	137	128	120
50	124	117	110	103	95
55	100	94	87	81	75
60	80	74	68	63	57
65	63	57	52	47	42
70	48	43	39	34	30
75	36	32	28	24	20
80	26	23	20	16	12
85	17	15	12	9	5
90	5	4	3	2	0
95	5	6	5	4	4
100	12	13	12	11	10
105	20	21	20	19	18
110	29	31	30	29	28
115	41	43	42	40	40
120	56	59	57	55	54
125	74	78	75	72	71
130	96	100	97	94	92
135	122	126	122	118	116
140	149	154	150	145	142
145	178	182	178	173	170
150	204	208	204	199	197
155	227	231	229	224	222
160	248	251	249	246	244
165	266	266	265	263	262
170	277	278	277	276	275
175	284	284	284	284	283
180	286	286	286	286	286



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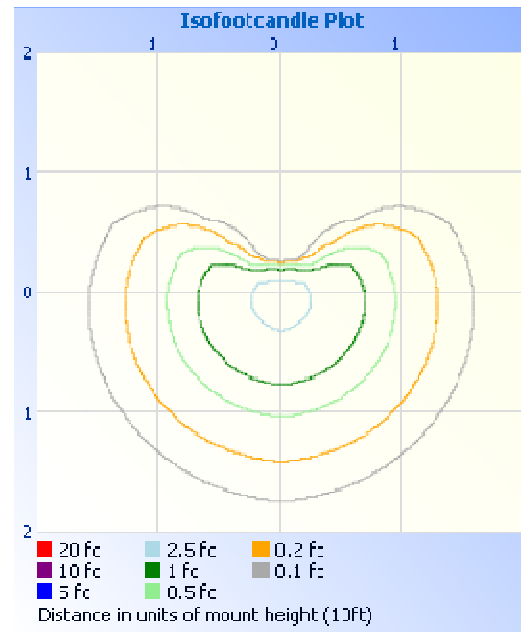
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RESULTS OF TESTS

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	160.1	16.7
0-40	241.0	25.1
0-60	362.9	37.8
60-90	60.6	6.3
70-100	31.5	3.3
90-120	64.8	6.7
0-90	423.5	44.1
90-180	537.5	55.9
0-180	961.1	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	26.1	2.7
10-20	58.6	6.1
20-30	75.4	7.8
30-40	80.9	8.4
40-50	70.0	7.3
50-60	52.0	5.4
60-70	34.0	3.5
70-80	19.1	2.0
80-90	7.6	0.8
90-100	4.9	0.5
100-110	19.5	2.0
110-120	40.4	4.2
120-130	66.2	6.9
130-140	92.8	9.7
140-150	109.1	11.4
150-160	103.7	10.8
160-170	74.1	7.7
170-180	26.8	2.8

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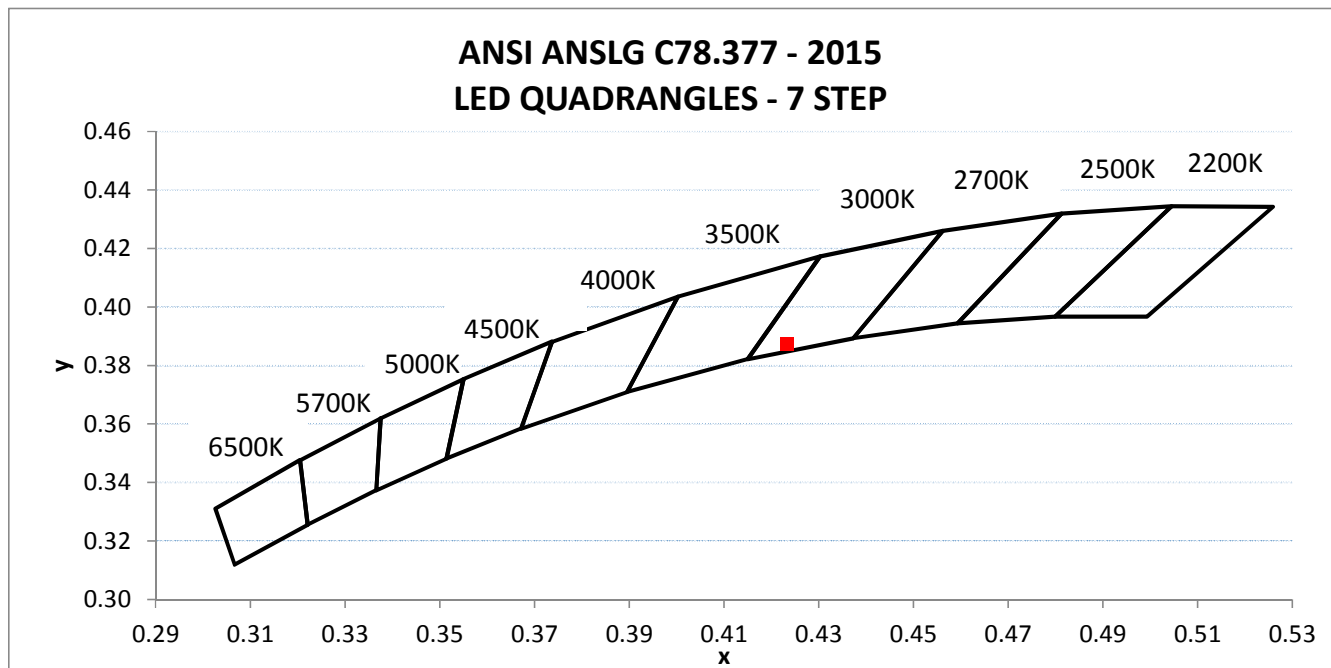
RESULTS OF TESTS

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 (%)
AH06142019092403-009	Base Up	120.01	224.32	26.27	0.976	21.36

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
994.0	37.8	3099	92.5	56.0	0.0054

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.423	0.387	0.249	0.513



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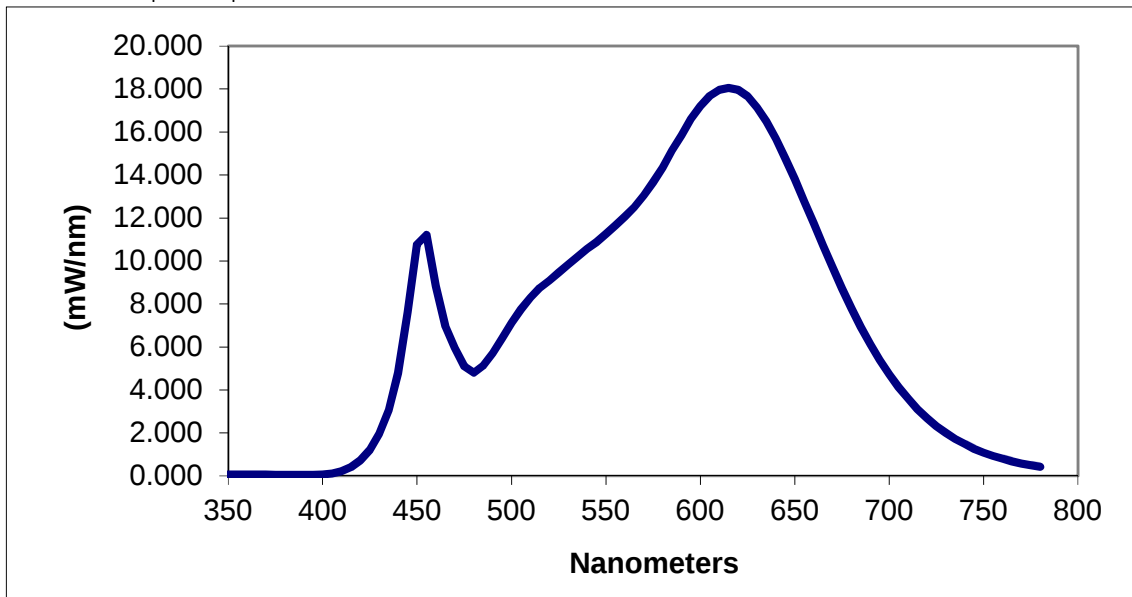
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PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.075	460	8.837	570	13.046	680	7.802
355	0.070	465	6.964	575	13.666	685	6.934
360	0.071	470	5.961	580	14.349	690	6.129
365	0.071	475	5.101	585	15.131	695	5.397
370	0.067	480	4.809	590	15.846	700	4.724
375	0.060	485	5.128	595	16.602	705	4.129
380	0.053	490	5.712	600	17.205	710	3.593
385	0.051	495	6.391	605	17.674	715	3.110
390	0.051	500	7.127	610	17.965	720	2.690
395	0.059	505	7.757	615	18.051	725	2.321
400	0.076	510	8.300	620	17.957	730	2.006
405	0.122	515	8.744	625	17.668	735	1.723
410	0.223	520	9.096	630	17.126	740	1.480
415	0.413	525	9.464	635	16.495	745	1.269
420	0.725	530	9.831	640	15.692	750	1.088
425	1.213	535	10.197	645	14.776	755	0.935
430	1.958	540	10.565	650	13.809	760	0.803
435	3.070	545	10.882	655	12.779	765	0.685
440	4.795	550	11.266	660	11.756	770	0.585
445	7.625	555	11.654	665	10.723	775	0.498
450	10.777	560	12.067	670	9.695	780	0.429
455	11.221	565	12.504	675	8.738		

*Without correction of sample absorption.



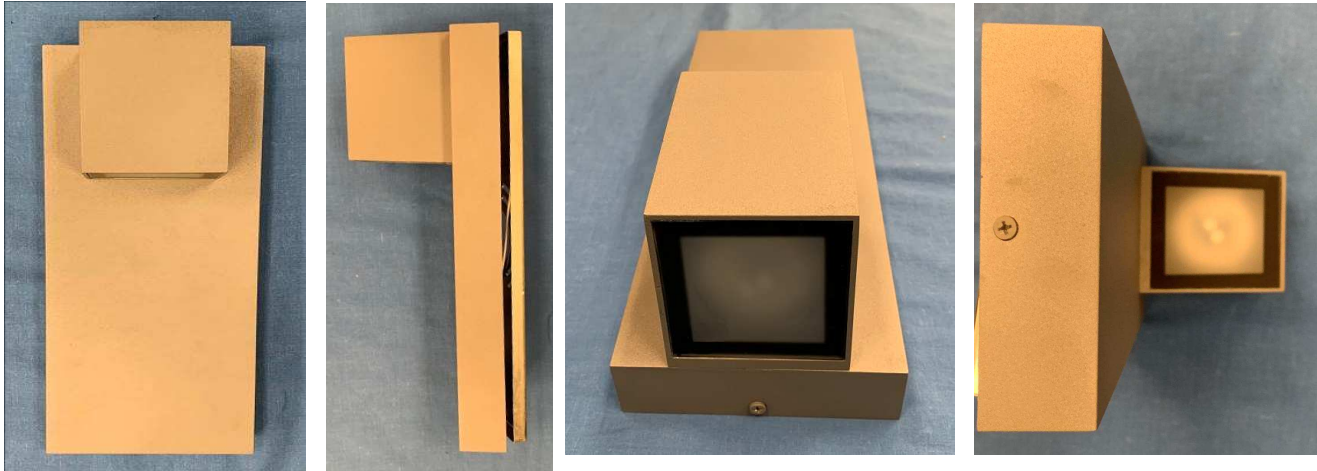
End Of Test Results

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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:

Tim Quigley

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

Hector Huitron

Hector Huitron
Associate Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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