

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700WSVTRLNS-LED927

REPORT NUMBER

104019509CHI-001

ISSUE DATE

July 28, 2019

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: July 28, 2019

TEST REPORT

TEST OF ONE LED WALL LUMINAIRE

MODEL NO. 700WSVTRLNS-LED927

LED MODEL NO. N/A

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.

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 700WSVTRLNS-LED927. The sample was received by Intertek on July 17, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH07172019014704-001.

DATE OF TESTS

July 18, 2019 through July 22, 2019.

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SUMMARY

MODEL NO:	700WSVTRLNS-LED927
DESCRIPTION:	LED wall Luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	159.7	161.0
Input Power (W) @ 120 (VAC)	2.14	2.14
Lumen Efficacy (lm/W)	74.6	75.2
Input Power Factor @ 120 (VAC)	0.944	0.944

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	34.66
Correlated Color Temperature (K)	2818
Color Rendering Index - Ra	90.4
Color Rendering - R9	50.5
DUV	0.0002
Chromaticity Coordinate (x)	0.450
Chromaticity Coordinate (y)	0.408
Chromaticity Coordinate (u')	0.258
Chromaticity Coordinate (v')	0.525

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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 2M Sphere & Spectroradiometer	CDS1100	146137	VBV	VBV
Elgar AC Power Supply	CW1251M	146113	VBV	VBV
Sorenson DC Power Supply	XFR150-8	146847	VBV	VBV
Yokogawa Power Analyzer	WT1600	146767	4/3/2019	4/3/2020
Omega Temperature	MDSi8	146873	7/2/2019	7/2/2020
Newport Thermohygrometer	iTHX-M	146382	4/17/2019	4/17/2020

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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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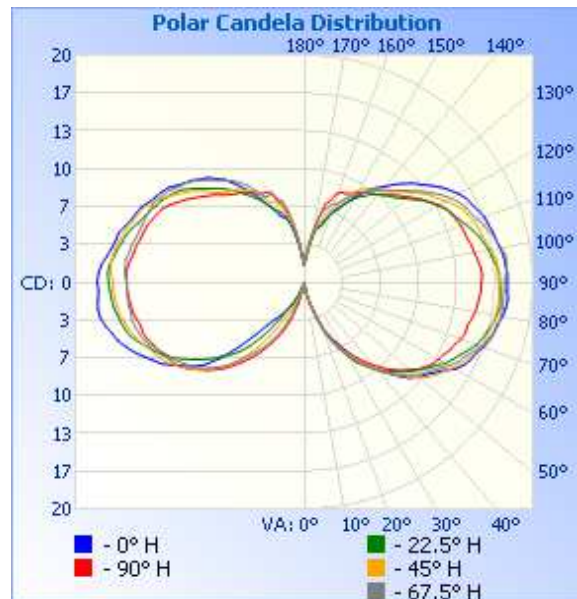
RESULTS OF TESTS

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)
AH07172019014704-001	Horizontal	120.0	18.9	2.14	0.944	161.0	75.2

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	0	0	0	0	0
5	0	0	0	0	0
10	0	0	0	0	0
15	2	2	2	2	2
20	3	4	4	4	4
25	5	6	6	6	5
30	7	7	7	7	7
35	9	9	8	9	8
40	10	10	10	10	10
45	12	11	12	12	11
50	13	12	13	13	12
55	14	13	14	14	13
60	15	14	15	15	14
65	16	15	16	16	14
70	17	16	16	16	15
75	17	17	17	17	15
80	18	17	17	18	15
85	18	17	17	18	15
90	18	17	17	18	16
95	18	17	17	18	16
100	17	16	17	18	15
105	17	16	16	17	15
110	17	15	16	16	15
115	16	14	15	16	14
120	16	14	14	15	14
125	15	13	13	14	13
130	13	12	12	12	12
135	12	11	11	11	11
140	11	10	10	11	10
145	10	9	10	10	10
150	9	8	9	9	9
155	7	7	8	8	9
160	6	6	7	7	8
165	5	5	6	7	7
170	4	4	4	5	4
175	2	2	2	2	3
180	2	2	2	2	2



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

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



N/A

ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	2.5	1.6
0-40	7.3	4.5
0-60	27.4	17.0
60-90	50.3	31.2
70-100	53.8	33.4
90-120	50.2	31.2
0-90	77.7	48.2
90-180	83.3	51.8
0-180	161.0	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	0.0	0.0
10-20	0.5	0.3
20-30	2.1	1.3
30-40	4.8	3.0
40-50	8.3	5.1
50-60	11.8	7.3
60-70	14.8	9.2
70-80	17.2	10.7
80-90	18.3	11.4
90-100	18.3	11.4
100-110	17.0	10.5
110-120	14.9	9.3
120-130	12.1	7.5
130-140	9.0	5.6
140-150	6.2	3.9
150-160	3.7	2.3
160-170	1.7	1.1
170-180	0.3	0.2

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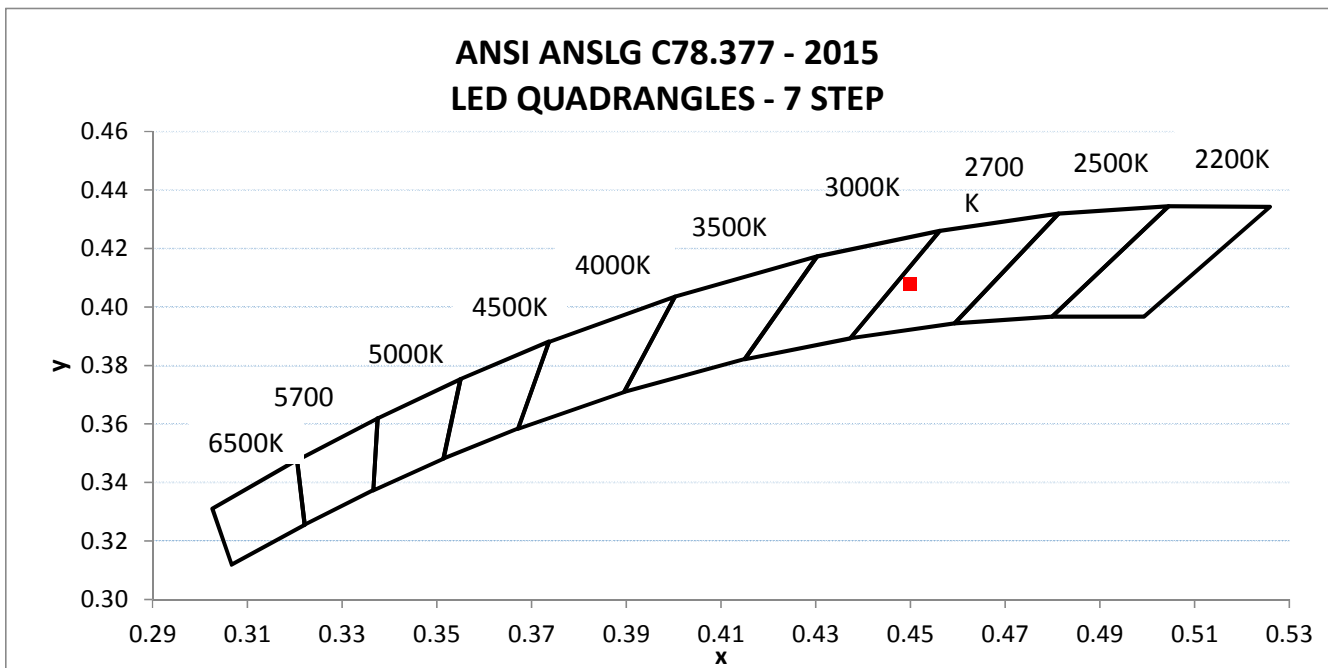
RESULTS OF TESTS

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 (%)
AH07172019014704-001	Horizontal	120.03	18.88	2.14	0.944	34.66

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
159.7	74.6	2818	90.4	50.5	0.0002

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.450	0.408	0.258	0.525



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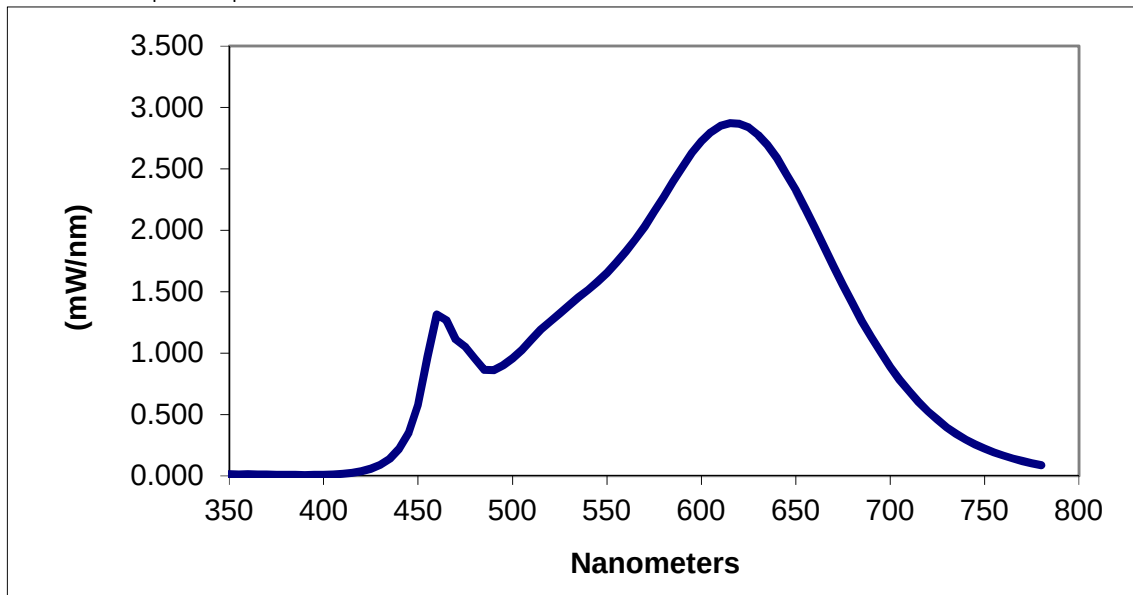
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RESULTS OF TESTS

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	0.015	460	1.314	570	2.032	680	1.406
355	0.014	465	1.269	575	2.151	685	1.261
360	0.014	470	1.111	580	2.270	690	1.130
365	0.013	475	1.053	585	2.396	695	1.010
370	0.013	480	0.956	590	2.515	700	0.888
375	0.011	485	0.864	595	2.629	705	0.784
380	0.011	490	0.861	600	2.723	710	0.690
385	0.009	495	0.901	605	2.798	715	0.604
390	0.008	500	0.957	610	2.848	720	0.527
395	0.009	505	1.026	615	2.871	725	0.460
400	0.009	510	1.111	620	2.867	730	0.396
405	0.012	515	1.193	625	2.839	735	0.344
410	0.018	520	1.258	630	2.776	740	0.297
415	0.026	525	1.322	635	2.696	745	0.257
420	0.039	530	1.390	640	2.589	750	0.222
425	0.060	535	1.456	645	2.459	755	0.192
430	0.090	540	1.517	650	2.328	760	0.165
435	0.140	545	1.582	655	2.180	765	0.142
440	0.221	550	1.653	660	2.024	770	0.122
445	0.351	555	1.736	665	1.867	775	0.105
450	0.579	560	1.828	670	1.706	780	0.090
455	0.970	565	1.924	675	1.555		

*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:

A handwritten signature in black ink, reading "Tim Quigley".

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

A handwritten signature in black ink, reading "Jeffrey Davis".

Jeffrey Davis
N.A. Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

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