

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700WSSPCTG-LED930

REPORT NUMBER

103982892CHI-018

ISSUE DATE

June 20, 2019

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST REPORT

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST OF ONE LED WALL

MODEL NO. 700WSSPCTG-LED930
LED MODEL NO. LUMINUS MP-3030-2100-30-90
DRIVER MODEL NO. ERP EBR010U-0250-42

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 700WSSPCTG-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 AH06142019092403-18.

DATE OF TESTS

June 17, 2019 through June 18, 2019.

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

SUMMARY

MODEL NO:	700WSSPCTG-LED930
DESCRIPTION:	LED wall

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	605.7	608.1
Input Power (W) @ 120 (VAC)	10.25	10.258
Lumen Efficacy (lm/W)	59.1	59.3
Input Power Factor @ 120 (VAC)	0.990	0.990

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	10.51
Correlated Color Temperature (K)	2986
Color Rendering Index - Ra	91.4
Color Rendering - R9	60.3
DUV	0.0009
Chromaticity Coordinate (x)	0.437
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.521

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

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	CHI0091	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

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

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.

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

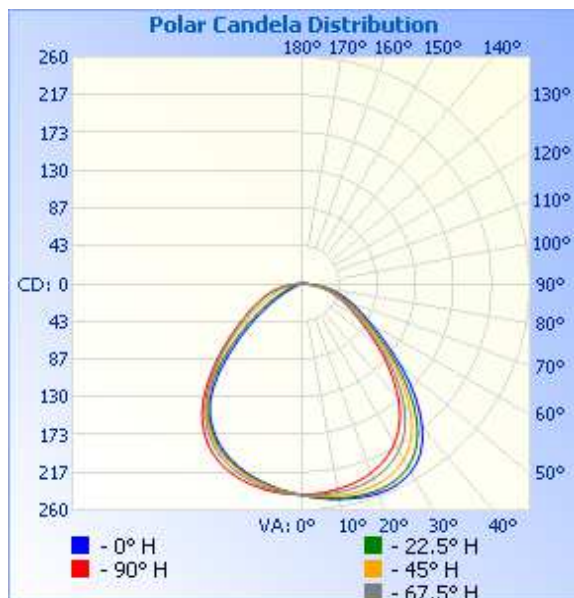
RESULTS OF TESTS

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)
AH06142019092403-18	Base Up	120.1	86.3	10.258	0.990	608.1	59.3

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	242	242	242	242	242
5	247	246	245	243	242
10	251	250	247	243	240
15	254	252	248	242	237
20	256	253	246	239	232
25	255	250	242	232	224
30	250	243	233	222	212
35	237	229	218	206	196
40	214	205	194	182	172
45	184	174	164	153	144
50	149	139	131	123	116
55	117	109	102	96	91
60	92	85	80	75	72
65	73	67	63	59	57
70	58	53	50	46	45
75	45	40	38	35	34
80	31	27	25	23	21
85	17	13	11	9	8
90	3	2	1	0	0
95	2	2	1	0	0
100	1	1	1	0	0
105	0	1	1	0	0



REPORT NO.: 103982892CHI-018

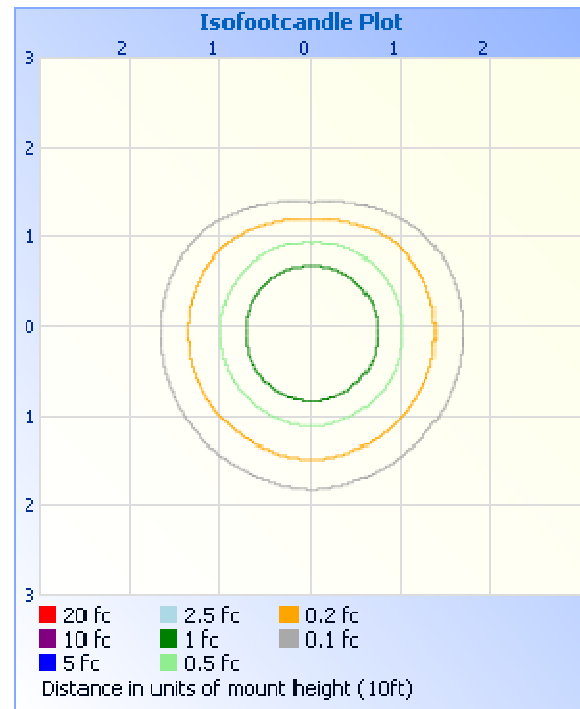
REPORT DATE: June 20, 2019

TEST REPORT

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	195.6	32.2
0-40	321.1	52.8
0-60	516.0	84.9
60-90	91.2	15.0
70-100	40.7	6.7
90-120	0.9	0.1
0-90	607.2	99.9
90-180	0.9	0.1
0-180	608.1	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	23.1	3.8
10-20	67.5	11.1
20-30	105.1	17.3
30-40	125.5	20.6
40-50	114.4	18.8
50-60	80.5	13.2
60-70	51.1	8.4
70-80	30.8	5.1
80-90	9.2	1.5
90-100	0.6	0.1
100-110	0.3	0.0

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

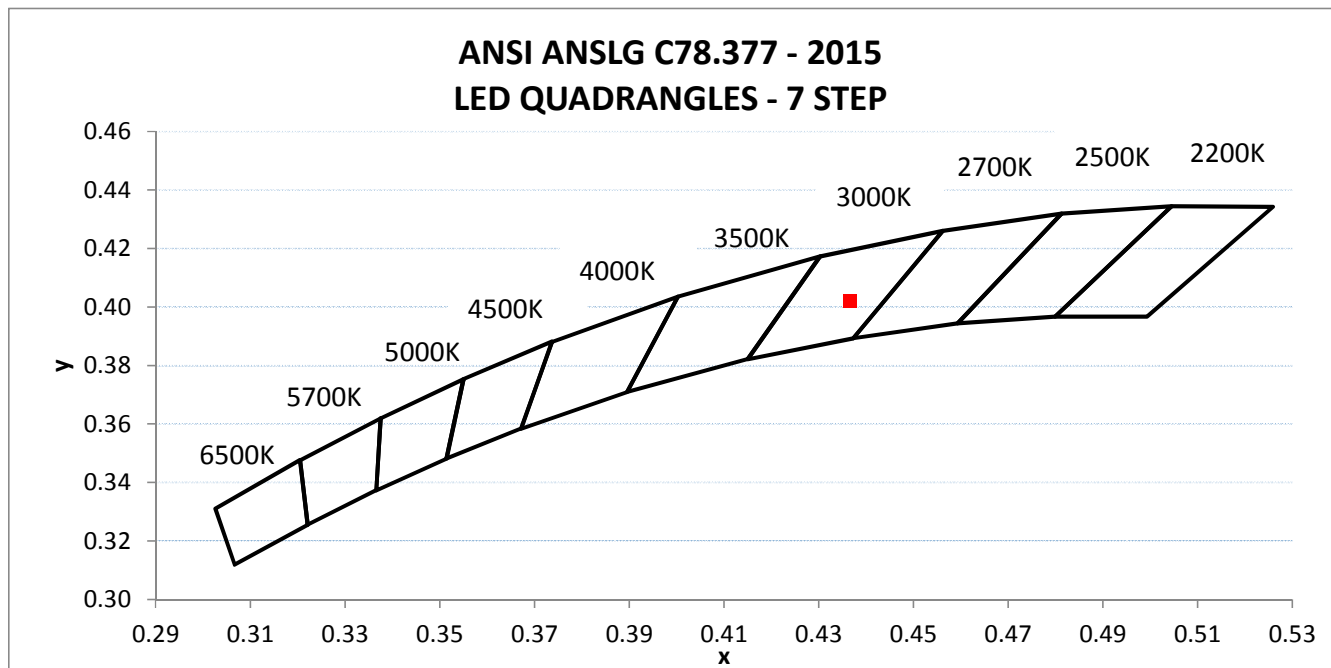
RESULTS OF TESTS

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 (%)
AH06142019092403-18	Base Up	120.01	86.31	10.25	0.990	10.51

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
605.7	59.1	2986	91.4	60.3	0.0009

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.437	0.402	0.251	0.521



REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

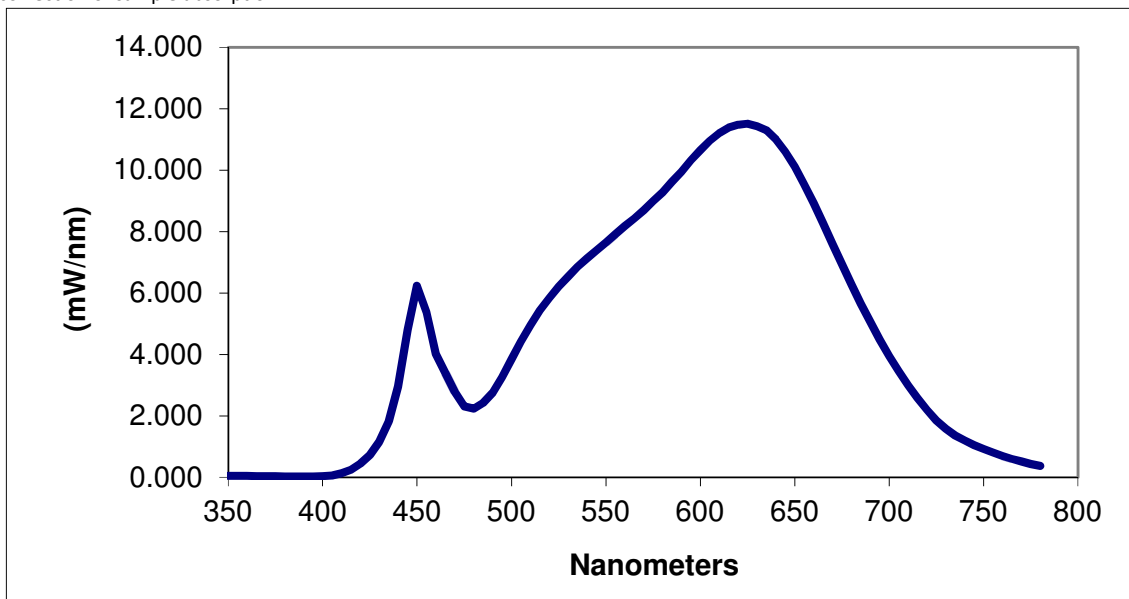
TEST REPORT

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	0.050	460	4.015	570	8.699	680	6.285
355	0.051	465	3.395	575	8.993	685	5.656
360	0.047	470	2.791	580	9.285	690	5.063
365	0.043	475	2.308	585	9.627	695	4.490
370	0.042	480	2.242	590	9.948	700	3.945
375	0.038	485	2.428	595	10.325	705	3.465
380	0.035	490	2.761	600	10.659	710	3.002
385	0.031	495	3.262	605	10.961	715	2.591
390	0.031	500	3.854	610	11.211	720	2.196
395	0.033	505	4.420	615	11.383	725	1.853
400	0.043	510	4.957	620	11.480	730	1.580
405	0.065	515	5.442	625	11.516	735	1.362
410	0.131	520	5.846	630	11.426	740	1.195
415	0.252	525	6.210	635	11.298	745	1.055
420	0.443	530	6.545	640	10.999	750	0.927
425	0.726	535	6.853	645	10.601	755	0.810
430	1.158	540	7.140	650	10.119	760	0.702
435	1.821	545	7.387	655	9.548	765	0.606
440	2.956	550	7.651	660	8.932	770	0.517
445	4.806	555	7.917	665	8.281	775	0.441
450	6.234	560	8.188	670	7.595	780	0.376
455	5.372	565	8.428	675	6.945		

*Without correction of sample absorption.



End Of Test Results

REPORT NO.: 103982892CHI-018

REPORT DATE: June 20, 2019

TEST REPORT

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				