

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700MDWS3CRR

REPORT NUMBER

103982892CHI-005

ISSUE DATE

June 23, 2019

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: June 23, 2019

TEST REPORT

TEST OF ONE LED WALL LUMINAIRE

MODEL NO. 700MDWS3CRR
LED MODEL NO. BRIDGELUX BXEN-30G-13H-9C-00-0-0
DRIVER MODEL NO. MACRON MDR60824100LC

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 700MDWS3CRR. The sample was received by Intertek on June 14, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH06142019092403-005.

DATE OF TESTS

June 21, 2019 through June 22, 2019.

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SUMMARY

MODEL NO:	700MDWS3CRR
DESCRIPTION:	LED wall luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1404.5	1339.1
Input Power (W) @ 120 (VAC)	44.62	44.70
Lumen Efficacy (lm/W)	31.5	30.0
Input Power Factor @ 120 (VAC)	0.994	0.992

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	5.83
Correlated Color Temperature (K)	3079
Color Rendering Index - Ra	91.3
Color Rendering - R9	59.3
DUV	0.0009
Chromaticity Coordinate (x)	0.431
Chromaticity Coordinate (y)	0.401
Chromaticity Coordinate (u')	0.248
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	7/9/2018	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

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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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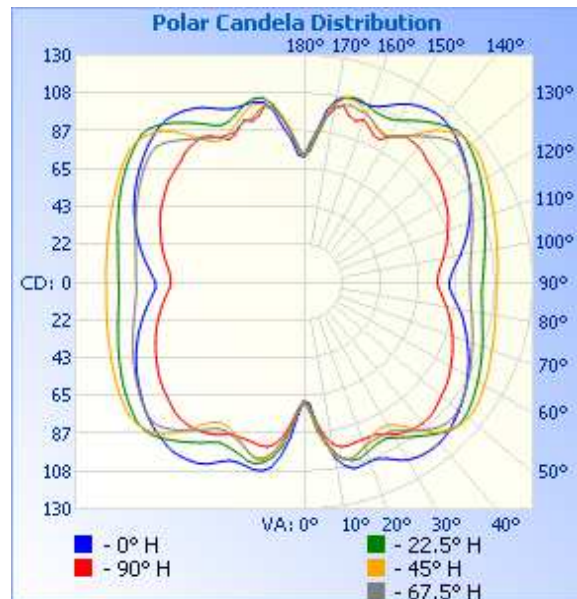
RESULTS OF TESTS

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)
AH06142019092403-005	Base Up	120.0	375.2	44.70	0.992	1339.1	30.0

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	68	68	68	68	68
5	82	86	84	81	81
10	102	99	101	100	94
15	111	106	105	105	97
20	109	104	100	101	96
25	112	101	95	99	96
30	118	103	95	99	101
35	120	108	101	104	104
40	120	114	112	110	105
45	118	119	119	114	104
50	115	120	122	114	102
55	111	117	121	111	100
60	107	114	118	108	96
65	103	111	116	105	93
70	99	108	114	102	90
75	94	105	112	99	86
80	90	103	110	97	82
85	85	102	110	95	78
90	82	102	110	94	76
95	85	103	110	95	77
100	90	104	111	96	80
105	95	107	113	99	84
110	100	109	115	102	87
115	104	113	117	105	90
120	109	116	120	109	93
125	113	120	123	113	95
130	117	122	124	116	97
135	120	123	121	116	99
140	123	118	113	109	101
145	121	113	102	102	102
150	118	107	96	96	96
155	112	105	98	98	93
160	108	107	104	103	99
165	109	109	108	105	99
170	106	104	104	101	102
175	88	84	87	88	86
180	72	72	72	72	72



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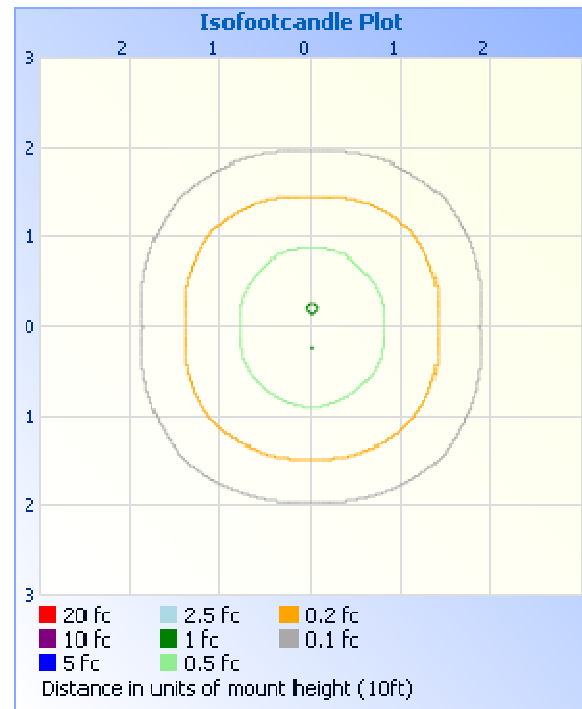
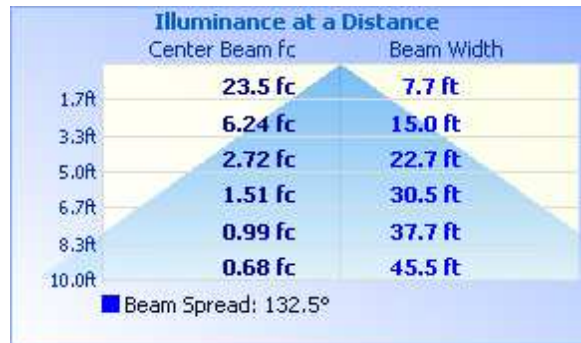
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RESULTS OF TESTS

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	84.4	6.3
0-40	151.7	11.3
0-60	345.1	25.8
60-90	324.3	24.2
70-100	323.7	24.2
90-120	324.4	24.2
0-90	669.4	50.0
90-180	669.8	50.0
0-180	1339.1	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	8.5	0.6
10-20	29.3	2.2
20-30	46.6	3.5
30-40	67.3	5.0
40-50	90.2	6.7
50-60	103.1	7.7
60-70	108.1	8.1
70-80	108.9	8.1
80-90	107.3	8.0
90-100	107.5	8.0
100-110	108.9	8.1
110-120	108.0	8.1
120-130	103.1	7.7
130-140	90.2	6.7
140-150	67.1	5.0
150-160	46.5	3.5
160-170	29.7	2.2
170-180	8.8	0.7

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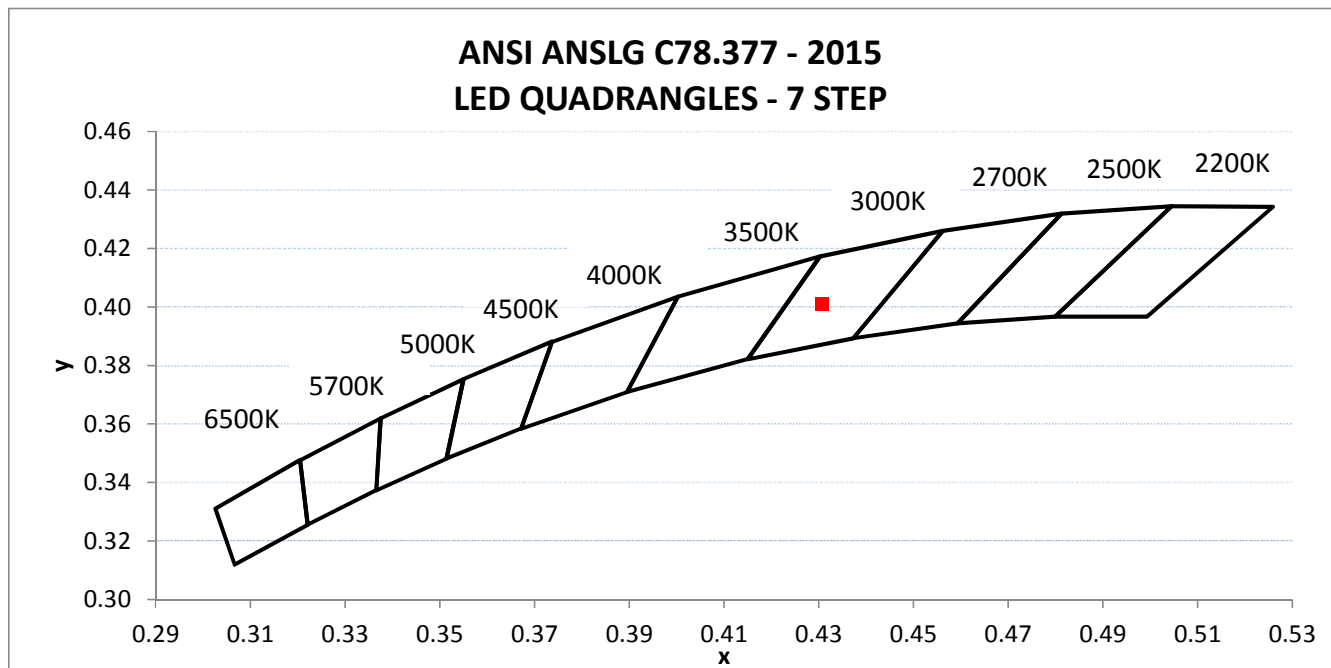
RESULTS OF TESTS

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 (%)
AH06142019092403-005	Base Up	119.96	374.25	44.62	0.994	5.83

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1404.5	31.5	3079	91.3	59.3	0.0009

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.431	0.401	0.248	0.519



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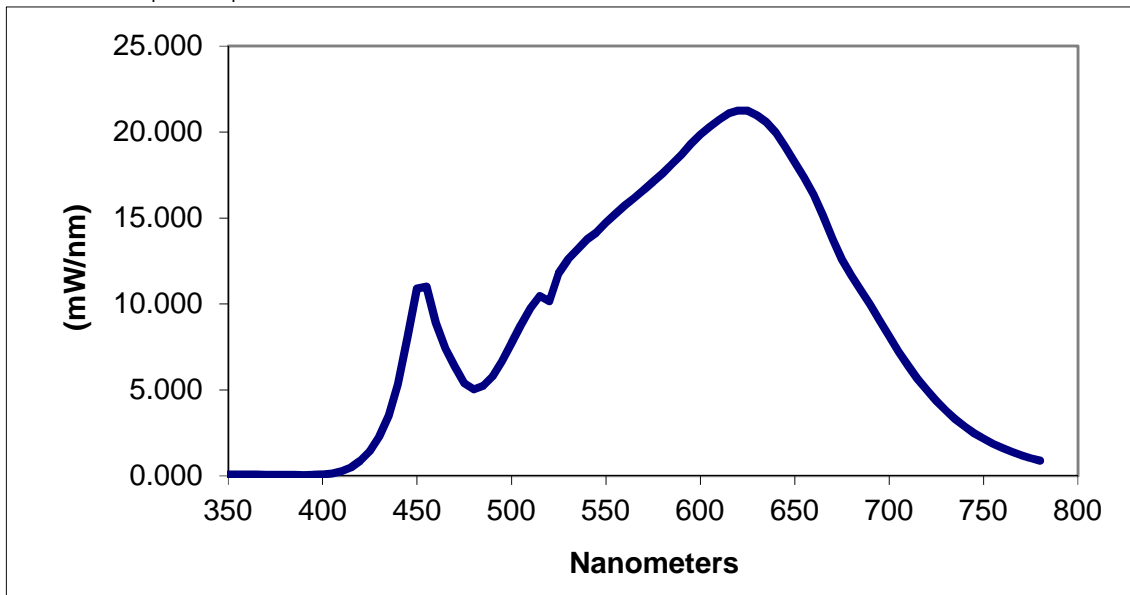
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RESULTS OF TESTS

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	0.097	460	8.902	570	16.636	680	11.637
355	0.089	465	7.421	575	17.117	685	10.805
360	0.084	470	6.381	580	17.603	690	9.954
365	0.084	475	5.401	585	18.140	695	9.037
370	0.074	480	5.034	590	18.675	700	8.123
375	0.073	485	5.237	595	19.304	705	7.231
380	0.068	490	5.803	600	19.850	710	6.409
385	0.063	495	6.669	605	20.301	715	5.659
390	0.060	500	7.742	610	20.724	720	4.981
395	0.069	505	8.783	615	21.067	725	4.364
400	0.084	510	9.757	620	21.240	730	3.819
405	0.142	515	10.480	625	21.243	735	3.314
410	0.268	520	10.164	630	20.968	740	2.879
415	0.508	525	11.784	635	20.577	745	2.496
420	0.890	530	12.609	640	19.962	750	2.168
425	1.446	535	13.172	645	19.149	755	1.878
430	2.288	540	13.760	650	18.236	760	1.626
435	3.520	545	14.153	655	17.361	765	1.404
440	5.342	550	14.731	660	16.342	770	1.211
445	8.116	555	15.241	665	15.148	775	1.042
450	10.900	560	15.739	670	13.778	780	0.897
455	11.003	565	16.164	675	12.584		

*Without correction of sample absorption.



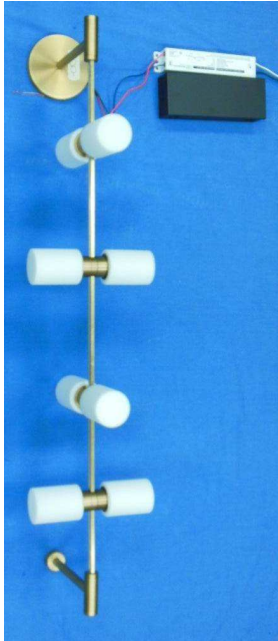
End Of Test Results

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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:

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

Hector Huitron
Associate Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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