VISUAL COMFORT GROUP

TEST REPORT

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

MODEL NUMBER
EDIT8RL9301W

REPORT NUMBER
103017649CHI-069

ISSUE DATE
April 12, 2018

REVISION DATE
None

DOCUMENT CONTROL NUMBER
TBD

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REPORT NO.:103017649CHI-069

TEST REPORT **REPORT DATE: April 12, 2018**

TEST OF ONE LED RECESSED

MODEL NO. EDIT8RL9301W
LED MODEL NO. SAMSUNG SPMWHT541MD7WAVMS0
DRIVER MODEL NO. ERP ESS020W-0450-42

RENDERED TO:

VISUAL COMFORT GROUP
7400 LINDER AVE.
SKOKIE IL 60077

AUTHORIZATION
The testing performed was authorized by signed quote number Qu-00779063-2.

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 EDIT8RL9301W. The sample was received by Intertek on April 10, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH04102018084248.

DATE OF TESTS
April 11, 2018 through April 12, 2018.

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SUMMARY

MODEL NO:	EDIT8RL9301W
DESCRIPTION:	LED recessed

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1254.7	1216.2
Input Power (W) @ 120 (VAC)	15.00	15.035
Lumen Efficacy (lm/W)	83.6	80.9
Input Power Factor ( ) @ 120 (VAC)	0.987	0.987

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	13.64
Correlated Color Temperature (K)	3077
Color Rendering Index - Ra ( )	93.6
Color Rendering - R9 ( )	65.8
DUV ( )	0.0004
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	7/10/2017	7/10/2018
Omega Newport Thermometer	DPI8-C24	146920	10/4/2017	10/4/2018
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146957	11/17/2017	11/17/2018
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	7/14/2017	7/14/2018
Yokogawa Power Meter	WT1600	146768	10/3/2017	10/3/2018
Extech K Temperature Meter	SD200	CHI0476	3/8/2018	3/8/2019

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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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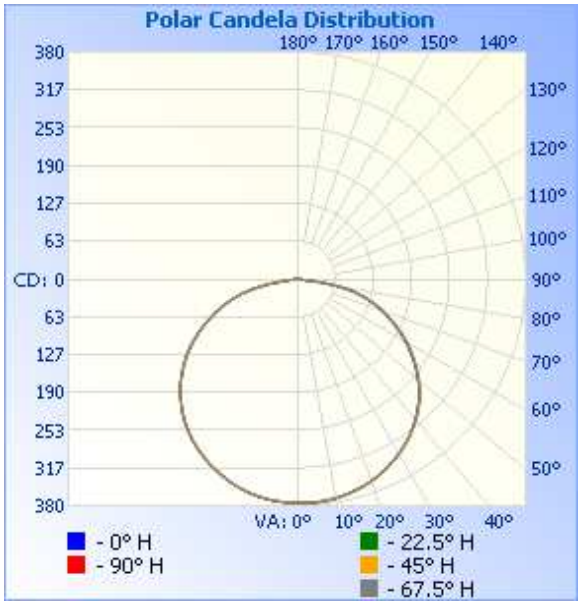
RESULTS OF TESTS

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)
AH04102018084248	Base Up	120.0	126.9	15.035	0.987	1216.2	80.9

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	375	375	375	375	375
5	375	375	375	375	375
10	373	373	373	372	372
15	368	368	368	368	367
20	360	361	361	360	360
25	351	350	351	350	350
30	338	338	338	338	338
35	324	324	324	324	323
40	306	307	307	307	306
45	286	288	288	288	287
50	263	264	265	264	264
55	236	238	239	238	238
60	208	209	211	211	210
65	178	179	180	180	180
70	147	148	150	150	150
75	114	116	117	117	116
80	71	72	72	72	71
85	7	7	8	8	8
90	0	0	0	0	0



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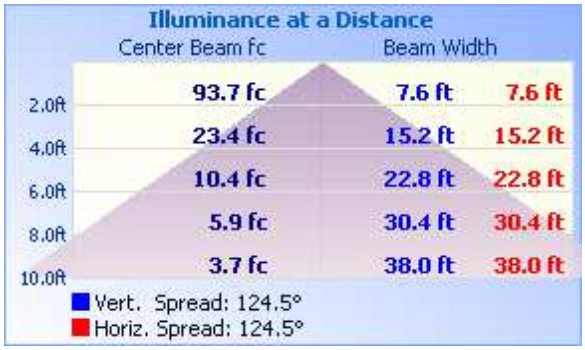
RESULTS OF TESTS

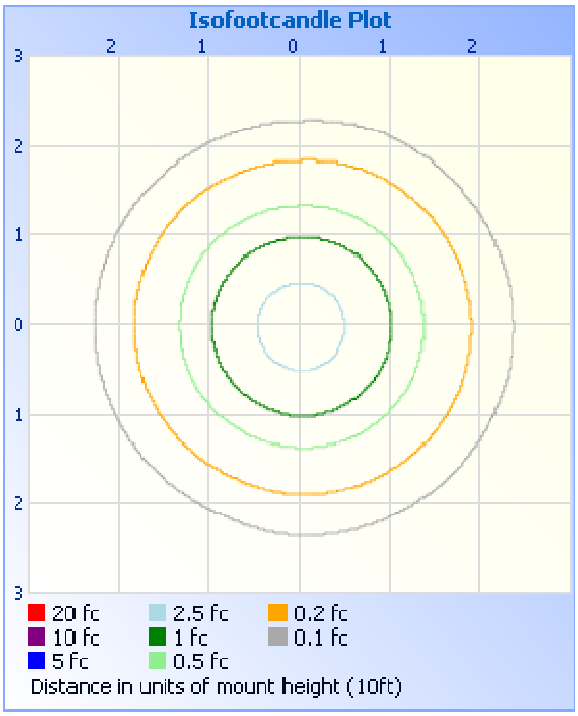
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft

ILLUMINANCE - CONE OF LIGHT



ISOILLUMINATION PLOT



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	298.4	24.5
0-40	497.7	40.9
0-60	920.0	75.6
60-90	296.2	24.4
70-100	127.1	10.4
90-120	0.0	0.0
0-90	1216.2	100.0
90-180	0.0	0.0
0-180	1216.2	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	35.6	2.9
10-20	103.1	8.5
20-30	159.7	13.1
30-40	199.3	16.4
40-50	216.3	17.8
50-60	206.0	16.9
60-70	169.1	13.9
70-80	108.9	9.0
80-90	18.1	1.5

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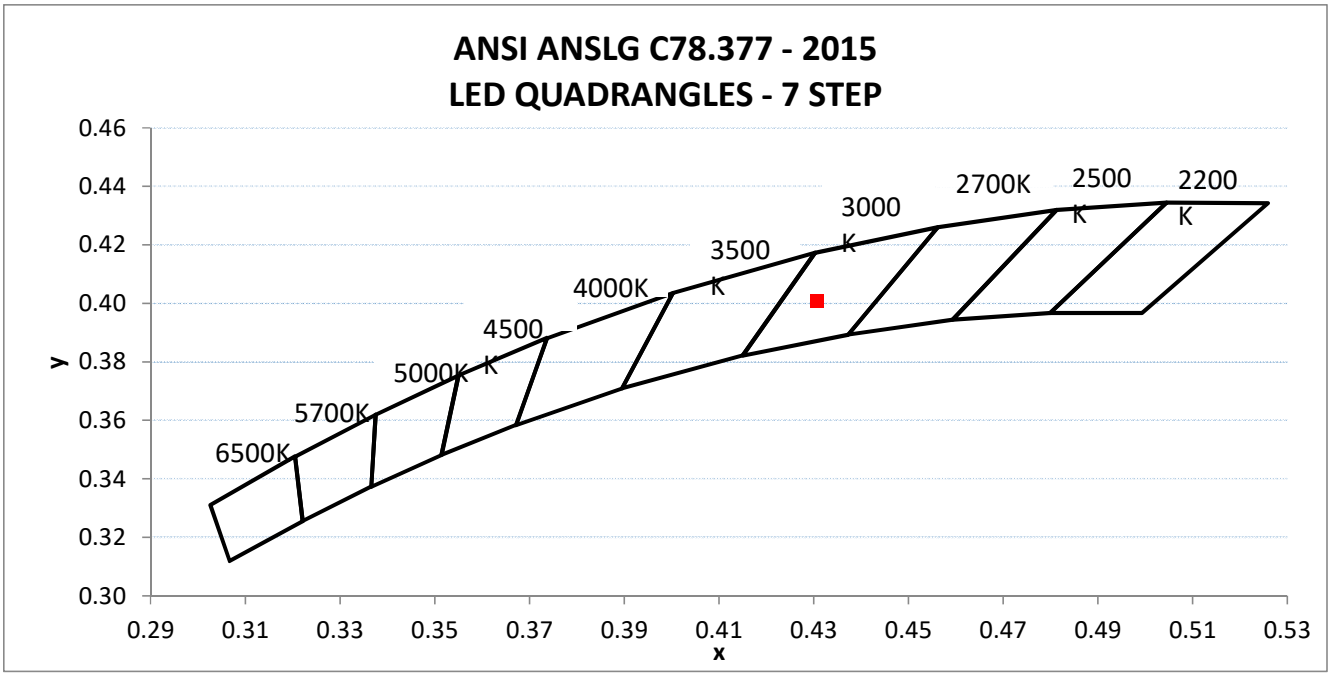
RESULTS OF TESTS

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 (%)
AH04102018084248	Base Up	119.99	126.68	15.00	0.987	13.64

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra ( )	CRI - R9 ( )	DUV ( )
1254.7	83.6	3077	93.6	65.8	0.0004

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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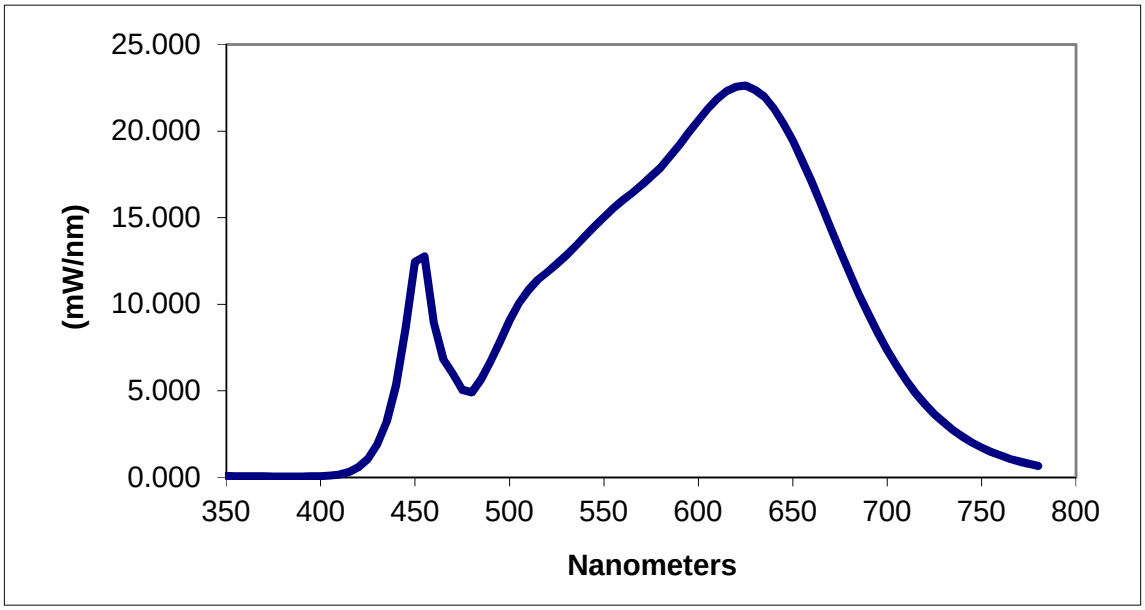
RESULTS OF TESTS

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	0.094	460	8.952	570	16.895	680	11.822
355	0.080	465	6.814	575	17.381	685	10.591
360	0.085	470	6.015	580	17.890	690	9.446
365	0.074	475	5.055	585	18.526	695	8.369
370	0.071	480	4.909	590	19.190	700	7.363
375	0.059	485	5.670	595	19.925	705	6.460
380	0.066	490	6.704	600	20.620	710	5.623
385	0.058	495	7.846	605	21.284	715	4.885
390	0.063	500	9.076	610	21.866	720	4.237
395	0.070	505	10.050	615	22.304	725	3.667
400	0.082	510	10.829	620	22.568	730	3.171
405	0.113	515	11.414	625	22.627	735	2.733
410	0.173	520	11.870	630	22.380	740	2.349
415	0.309	525	12.334	635	21.983	745	2.015
420	0.586	530	12.821	640	21.305	750	1.724
425	1.079	535	13.365	645	20.457	755	1.482
430	1.910	540	13.924	650	19.460	760	1.269
435	3.232	545	14.481	655	18.297	765	1.079
440	5.320	550	15.024	660	17.076	770	0.925
445	8.628	555	15.538	665	15.780	775	0.787
450	12.449	560	16.015	670	14.414	780	0.670
455	12.768	565	16.430	675	13.119		

*Without correction of sample absorption.



End Of Test Results

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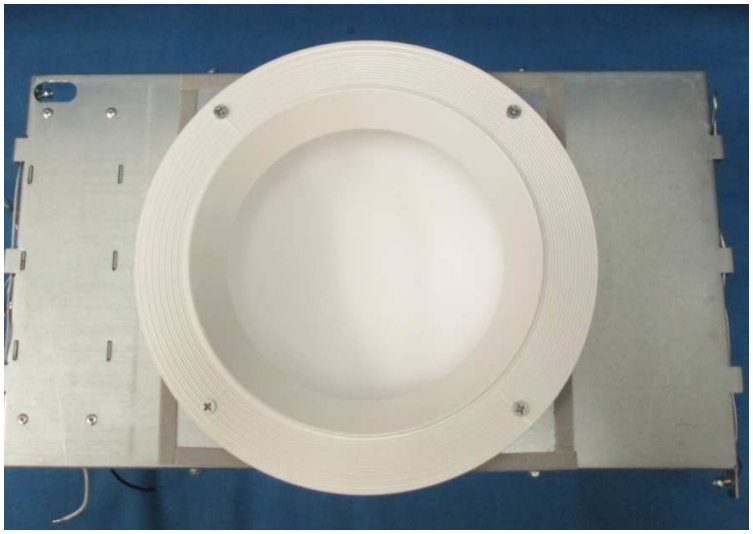
TEST REPORT

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:

Tess Gallagher
Engineer
Lighting Division

Report Reviewed By:

Timothy Quigley
Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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