

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

NSUDD-12W-4S-36-30K-SN_UPDOWN

REPORT NUMBER

103597691CHI-015

ISSUE DATE

August 17, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST REPORT

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REPORT DATE: August 17, 2018

TEST OF ONE LINEAR LED SUSPENSION

MODEL NO. NSUDD-12W-4S-36-30K-SN_UPDOWN
LED MODEL NO. SS5CL-12MM-24VDC-36-30K, SS7CL-12MM-24VDC-36-30K
DRIVER MODEL NO. HUARI /DR24V-2300-70D

RENDERED TO:

PURE EDGE LIGHTING
1718 WEST FULLERTON
CHICAGO, IL 60614

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00901421-1.

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 NSUDD-12W-4S-36-30K-SN_UPDOWN. The sample was received by Intertek on July 27, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH08012018090709-15.

DATE OF TESTS

August 9, 2018 through August 10, 2018.

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SUMMARY

MODEL NO:	NSUDD-12W-4S-36-30K-SN_UPDOWN
DESCRIPTION:	LINEAR LED SUSPENSION

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	2073.2	2051.2
Input Power (W) @ 120 (VAC)	41.63	41.67
Lumen Efficacy (lm/W)	49.8	49.2
Input Power Factor () @ 120 (VAC)	0.983	0.983

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	13.81
Correlated Color Temperature (K)	2973
Color Rendering Index - Ra ()	97.1
Color Rendering - R9 ()	88.4
DUV ()	0.0034
Chromaticity Coordinate (x)	0.434
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.517

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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	10/4/2017	10/4/2018
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
Newport Thermohygrometer	iServer	146957	11/17/2017	11/17/2018
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	146379	4/16/2018	4/16/2019
Yokogawa Power Meter	WT1600	146769	4/6/2018	4/6/2019
Extech K Temperature Meter	SD200	CHI0207	4/12/2018	4/12/2019

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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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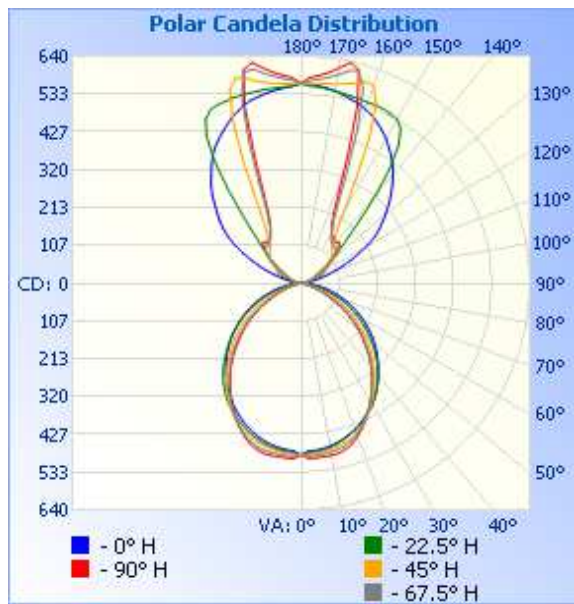
RESULTS OF TESTS

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)
AH08012018090709-15	Base Up	120.1	353.0	41.67	0.983	2051.2	49.2

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	485	485	485	485	485
5	473	477	482	488	494
10	467	470	476	484	493
15	455	457	467	475	485
20	439	441	451	454	461
25	419	422	426	424	427
30	396	398	394	387	388
35	368	368	357	347	347
40	337	335	318	307	305
45	304	298	277	264	259
50	270	259	237	219	214
55	234	219	194	175	168
60	198	179	151	129	121
65	160	139	107	85	79
70	123	99	66	48	43
75	87	60	31	20	16
80	53	24	8	4	2
85	22	4	2	2	1
90	3	2	3	4	1
95	10	4	3	5	3
100	26	14	10	10	8
105	57	33	20	19	17
110	100	55	30	31	30
115	153	68	52	40	41
120	216	79	82	58	54
125	268	98	106	91	83
130	311	133	115	121	121
135	356	194	124	142	150
140	401	326	138	138	152
145	439	476	170	147	158
150	474	535	252	171	171
155	502	543	449	241	215
160	523	543	594	459	382
165	538	546	584	622	623
170	550	551	570	597	617
175	559	556	565	578	589
180	564	564	564	564	564



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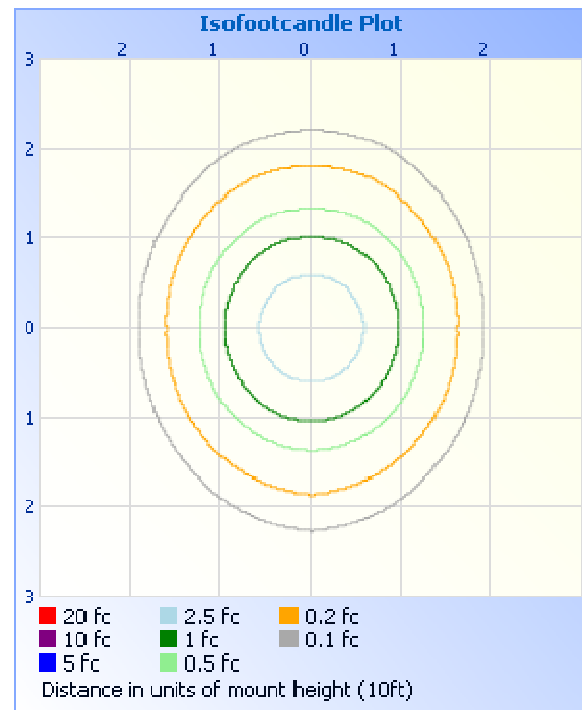
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RESULTS OF TESTS

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	372.4	18.2
0-40	596.3	29.1
0-60	989.7	48.2
60-90	163.5	8.0
70-100	56.4	2.7
90-120	97.9	4.8
0-90	1153.2	56.2
90-180	898.0	43.8
0-180	2051.2	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	45.9	2.2
10-20	131.6	6.4
20-30	194.9	9.5
30-40	223.9	10.9
40-50	216.5	10.6
50-60	176.8	8.6
60-70	112.6	5.5
70-80	44.5	2.2
80-90	6.5	0.3
90-100	5.4	0.3
100-110	28.6	1.4
110-120	63.9	3.1
120-130	103.8	5.1
130-140	135.3	6.6
140-150	164.7	8.0
150-160	181.5	8.9
160-170	160.1	7.8
170-180	54.5	2.7

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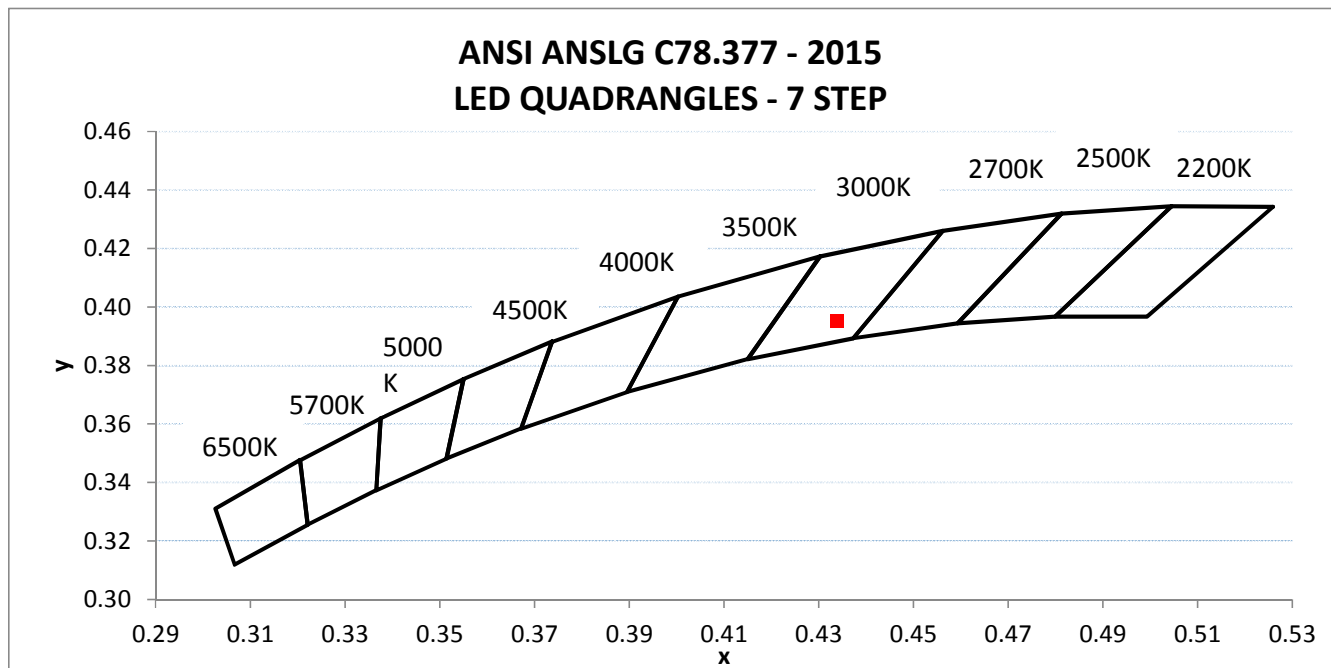
RESULTS OF TESTS

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 (%)
AH08012018090709-15	Base Up	120.01	352.73	41.63	0.983	13.81

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
2073.2	49.8	2973	97.1	88.4	0.0034

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.434	0.395	0.253	0.517



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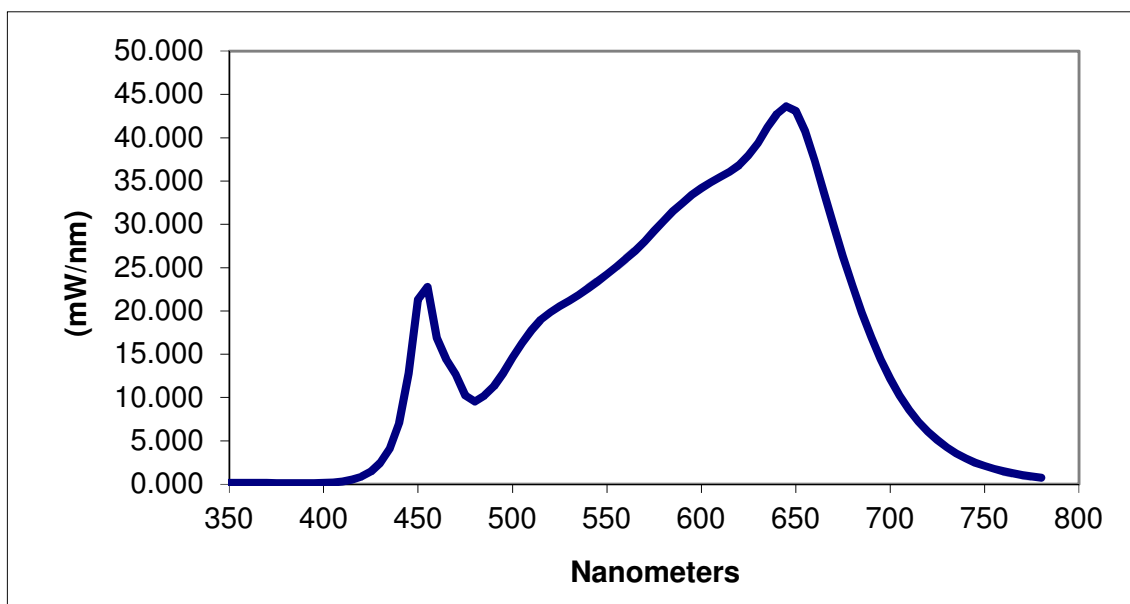
TEST REPORT

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	0.159	460	16.884	570	28.020	680	22.932
355	0.167	465	14.390	575	29.234	685	19.797
360	0.159	470	12.686	580	30.361	690	16.956
365	0.151	475	10.234	585	31.505	695	14.421
370	0.138	480	9.543	590	32.452	700	12.154
375	0.131	485	10.215	595	33.408	705	10.242
380	0.116	490	11.291	600	34.167	710	8.592
385	0.109	495	12.792	605	34.866	715	7.225
390	0.118	500	14.643	610	35.466	720	6.055
395	0.123	505	16.277	615	36.058	725	5.087
400	0.143	510	17.778	620	36.856	730	4.255
405	0.186	515	18.988	625	37.950	735	3.555
410	0.301	520	19.834	630	39.410	740	2.972
415	0.510	525	20.531	635	41.203	745	2.489
420	0.870	530	21.162	640	42.753	750	2.096
425	1.462	535	21.829	645	43.631	755	1.761
430	2.441	540	22.631	650	43.093	760	1.482
435	4.123	545	23.378	655	40.745	765	1.254
440	7.018	550	24.249	660	37.366	770	1.053
445	12.791	555	25.107	665	33.707	775	0.885
450	21.279	560	26.025	670	29.929	780	0.754
455	22.753	565	26.936	675	26.336		

*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:

Hector Huitron
Associate 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				