

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

NSUDDW-10W-4S-36-30K-SN_UPDOWN

REPORT NUMBER

103597691CHI-018

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. NSUDDW-10W-4S-36-30K-SN_UPDOWN
LED MODEL NO. SS5CL-12MM-24VDC-36-30K (2)
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 NSUDDW-10W-4S-36-30K-SN_UPDOWN. The sample was received by Intertek on August 1, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH08012018090709-18.

DATE OF TESTS

August 3, 2018 through August 10, 2018.

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SUMMARY

MODEL NO:	NSUDDW-10W-4S-36-30K-SN_UPDOWN
DESCRIPTION:	LINEAR LED SUSPENSION

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1398.3	1412.6
Input Power (W) @ 120 (VAC)	34.17	34.13
Lumen Efficacy (lm/W)	40.9	41.4
Input Power Factor () @ 120 (VAC)	0.975	0.974

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	16.00
Correlated Color Temperature (K)	2960
Color Rendering Index - Ra	97.6
Color Rendering - R9	91.5
DUV	0.0033
Chromaticity Coordinate (x)	0.435
Chromaticity Coordinate (y)	0.396
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.518

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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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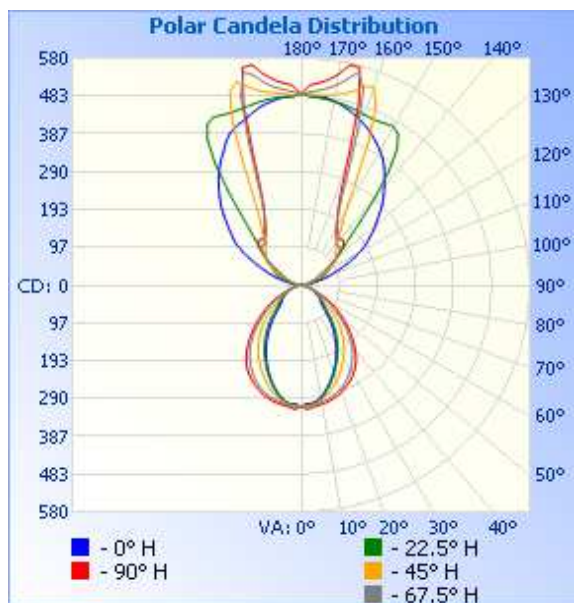
RESULTS OF TESTS

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)
AH08012018090709-18	Base Up	120.0	291.8	34.13	0.974	1412.6	41.4

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	310	310	310	310	310
5	303	306	308	310	314
10	290	294	298	303	309
15	266	270	282	297	303
20	239	243	262	286	293
25	210	215	239	270	280
30	178	186	215	250	263
35	145	156	189	228	243
40	111	126	162	199	213
45	80	95	134	166	180
50	66	74	102	132	146
55	57	66	73	100	114
60	46	54	55	72	83
65	35	41	41	46	54
70	27	30	29	27	29
75	19	20	19	15	8
80	12	12	10	8	1
85	6	5	4	2	1
90	1	1	1	2	0
95	9	4	3	4	3
100	25	15	10	10	8
105	51	34	20	19	19
110	87	55	33	32	32
115	128	68	57	44	46
120	175	81	84	65	62
125	213	100	108	96	94
130	250	130	115	125	128
135	291	179	128	140	153
140	329	290	144	138	153
145	368	424	177	155	164
150	399	468	239	181	182
155	425	463	404	240	226
160	446	464	539	417	358
165	464	472	514	563	576
170	479	478	495	519	548
175	486	481	488	500	519
180	490	490	490	490	490



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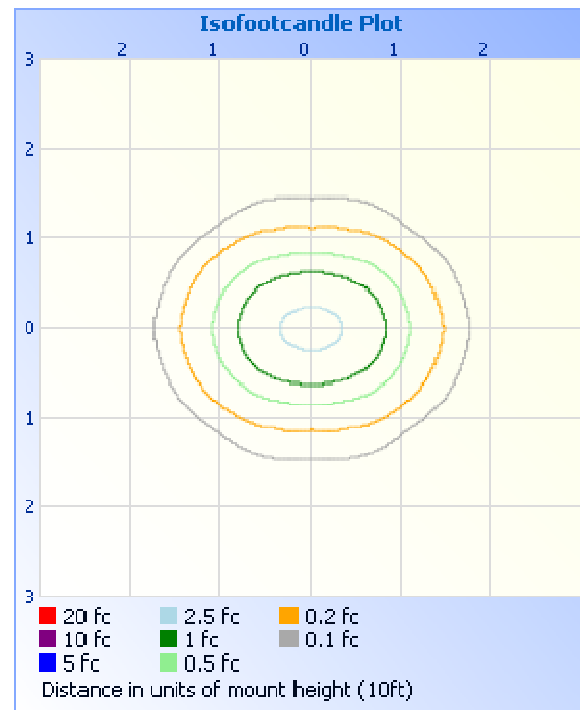
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RESULTS OF TESTS

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	219.8	15.6
0-40	339.1	24.0
0-60	513.2	36.3
60-90	66.2	4.7
70-100	28.1	2.0
90-120	96.9	6.9
0-90	579.4	41.0
90-180	833.2	59.0
0-180	1412.6	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	29.1	2.1
10-20	79.6	5.6
20-30	111.2	7.9
30-40	119.2	8.4
40-50	101.4	7.2
50-60	72.7	5.1
60-70	43.2	3.1
70-80	18.5	1.3
80-90	4.5	0.3
90-100	5.2	0.4
100-110	28.5	2.0
110-120	63.3	4.5
120-130	101.2	7.2
130-140	127.7	9.0
140-150	153.8	10.9
150-160	164.5	11.6
160-170	141.7	10.0
170-180	47.4	3.4

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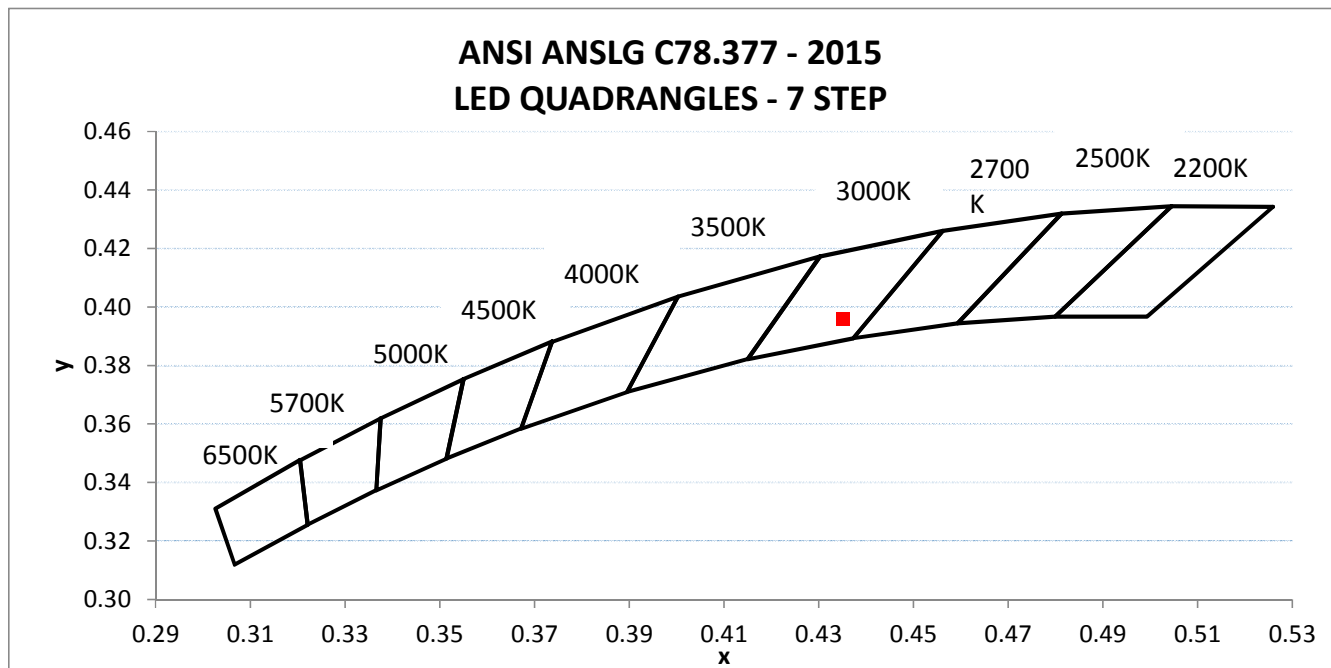
RESULTS OF TESTS

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 (%)
AH08012018090709-18	Base Up	119.99	292.05	34.17	0.975	16.00

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1398.3	40.9	2960	97.6	91.5	0.0033

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.435	0.396	0.253	0.518



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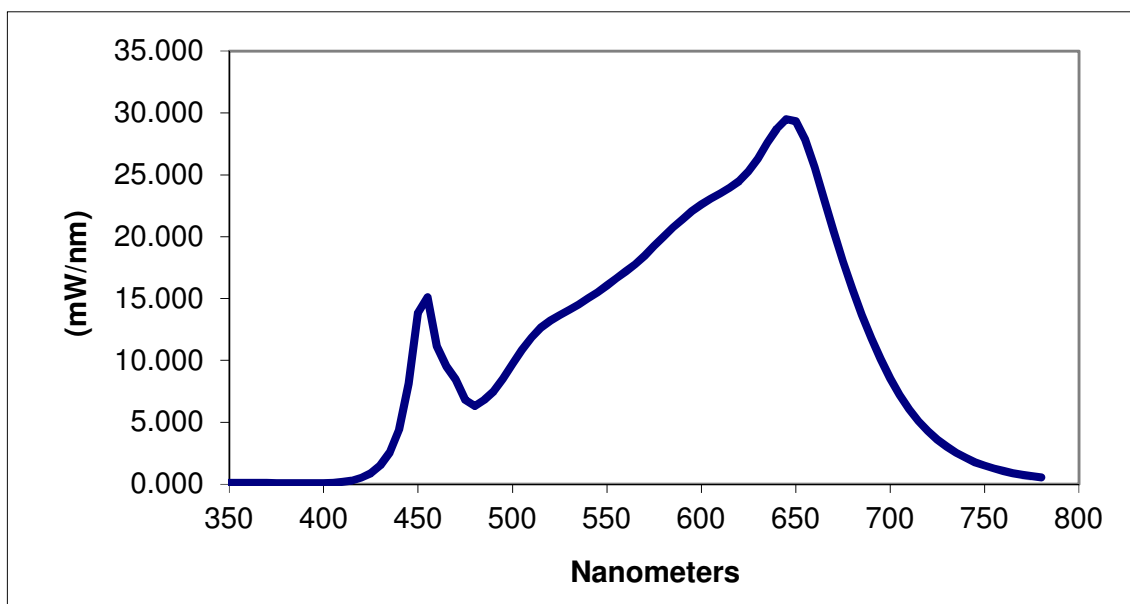
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RESULTS OF TESTS

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	0.112	460	11.138	570	18.471	680	15.767
355	0.117	465	9.527	575	19.253	685	13.693
360	0.111	470	8.470	580	19.991	690	11.809
365	0.106	475	6.806	585	20.759	695	10.103
370	0.097	480	6.310	590	21.385	700	8.538
375	0.090	485	6.793	595	22.066	705	7.214
380	0.075	490	7.499	600	22.604	710	6.053
385	0.076	495	8.502	605	23.083	715	5.108
390	0.075	500	9.735	610	23.498	720	4.288
395	0.079	505	10.840	615	23.945	725	3.609
400	0.089	510	11.840	620	24.497	730	3.024
405	0.116	515	12.639	625	25.272	735	2.527
410	0.181	520	13.213	630	26.299	740	2.116
415	0.300	525	13.660	635	27.591	745	1.772
420	0.517	530	14.061	640	28.735	750	1.494
425	0.886	535	14.501	645	29.500	755	1.260
430	1.492	540	15.018	650	29.324	760	1.058
435	2.556	545	15.501	655	27.849	765	0.894
440	4.397	550	16.068	660	25.608	770	0.753
445	8.118	555	16.621	665	23.102	775	0.637
450	13.849	560	17.199	670	20.476	780	0.540
455	15.106	565	17.780	675	18.025		

*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				