

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_UP

REPORT NUMBER

103597691CHI-016

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_UP
LED MODEL NO. SS5CL-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 NSUDDW-10W-4S-36-30K-SN_UP. The sample was received by Intertek on August 1, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH08012018090709-16.

DATE OF TESTS

August 9, 2018 through August 10, 2018.

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SUMMARY

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	805.0	822.2
Input Power (W) @ 120 (VAC)	16.97	16.96
Lumen Efficacy (lm/W)	47.4	48.5
Input Power Factor () @ 120 (VAC)	0.975	0.975

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	15.50
Correlated Color Temperature (K)	3027
Color Rendering Index - Ra ()	97.7
Color Rendering - R9 ()	91.7
DUV ()	0.0029
Chromaticity Coordinate (x)	0.431
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.251
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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TEST REPORT

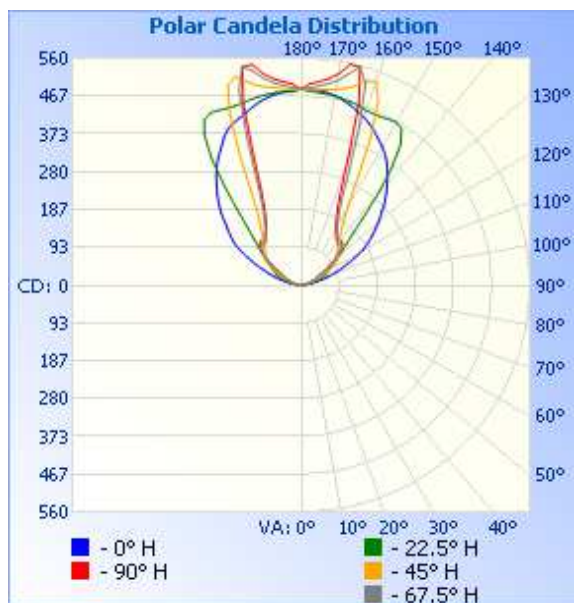
RESULTS OF TESTS

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)
AH08012018090709-16	Base Up	120.0	145.0	16.96	0.975	822.2	48.5

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	0	0	0	0	0
5	0	0	0	0	0
10	0	0	0	0	0
15	0	0	0	0	0
20	0	0	0	0	0
25	0	0	0	0	0
30	0	0	0	0	0
35	0	0	0	0	0
40	0	0	0	0	0
45	0	0	0	0	0
50	0	0	0	0	0
55	0	0	0	0	0
60	0	0	0	0	0
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	10	4	2	2	2
100	26	15	9	7	6
105	52	35	20	16	15
110	88	55	33	29	27
115	128	68	57	41	40
120	176	81	84	63	55
125	212	100	107	95	86
130	249	130	114	123	119
135	290	179	127	138	144
140	328	290	144	137	142
145	366	425	176	153	152
150	396	465	237	180	171
155	422	459	403	238	213
160	443	461	536	416	342
165	461	469	509	558	558
170	476	474	491	513	530
175	482	478	484	493	504
180	484	484	484	484	484



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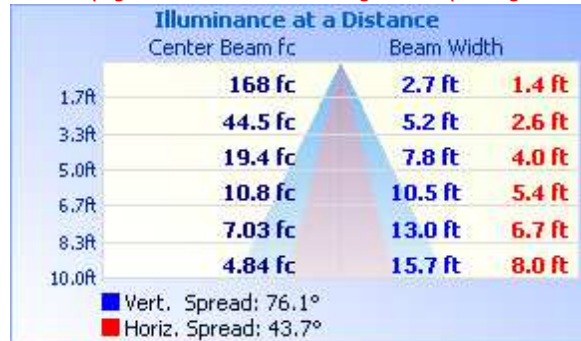
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RESULTS OF TESTS

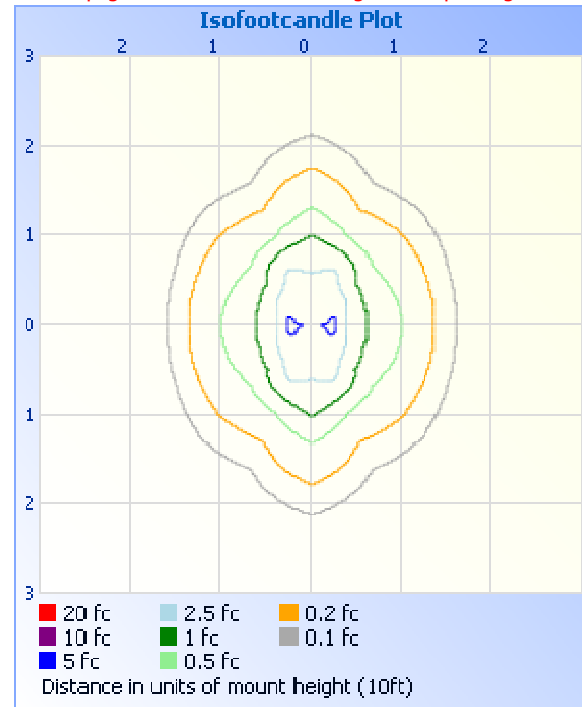
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft	
ILLUMINANCE - CONE OF LIGHT	ISOILLUMINATION PLOT

Uplight results rotated 180 degrees for plotting



Uplight results rotated 180 degrees for plotting



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	0.0	0.0
0-40	0.0	0.0
0-60	0.0	0.0
60-90	0.0	0.0
70-100	4.5	0.5
90-120	94.4	11.5
0-90	0.0	0.0
90-180	822.2	100.0
0-180	822.2	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	0.0	0.0
10-20	0.0	0.0
20-30	0.0	0.0
30-40	0.0	0.0
40-50	0.0	0.0
50-60	0.0	0.0
60-70	0.0	0.0
70-80	0.0	0.0
80-90	0.0	0.0
90-100	4.5	0.5
100-110	27.7	3.4
110-120	62.2	7.6
120-130	99.8	12.1
130-140	126.1	15.3
140-150	152.3	18.5
150-160	162.7	19.8
160-170	140.0	17.0
170-180	46.8	5.7

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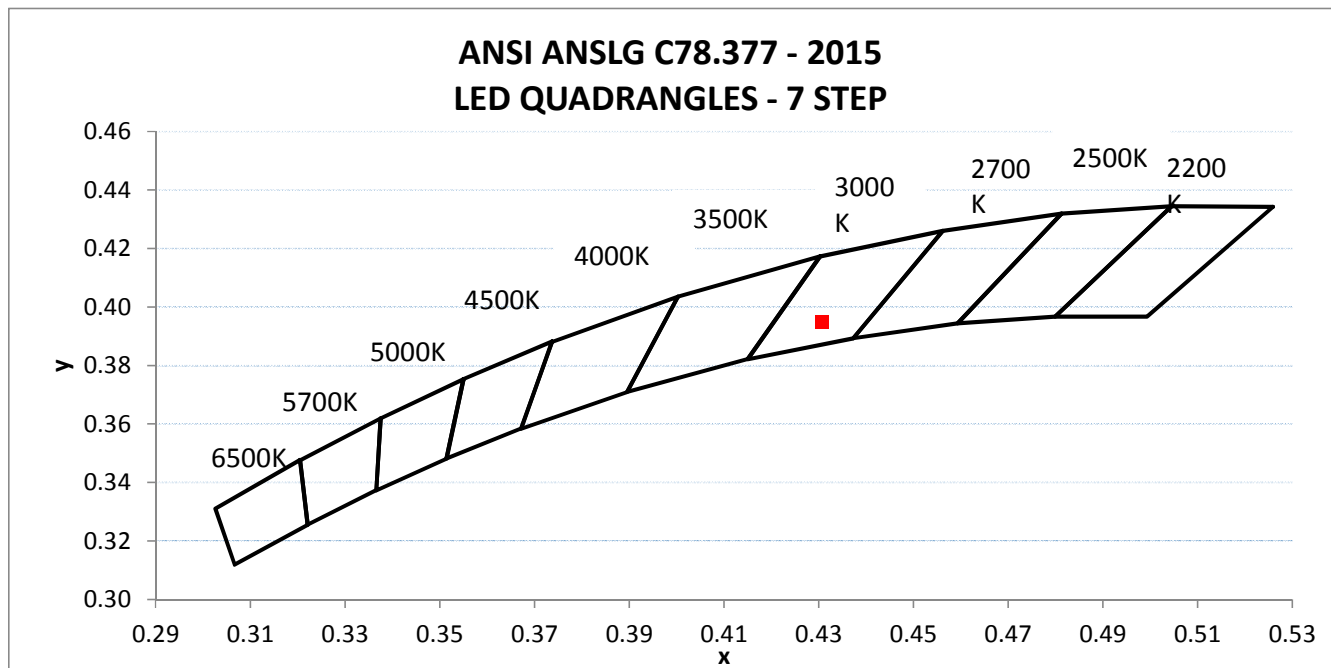
RESULTS OF TESTS

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 (%)
AH08012018090709-16	Base Up	120.00	145.02	16.97	0.975	15.50

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
805.0	47.4	3027	97.7	91.7	0.0029

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.431	0.395	0.251	0.517



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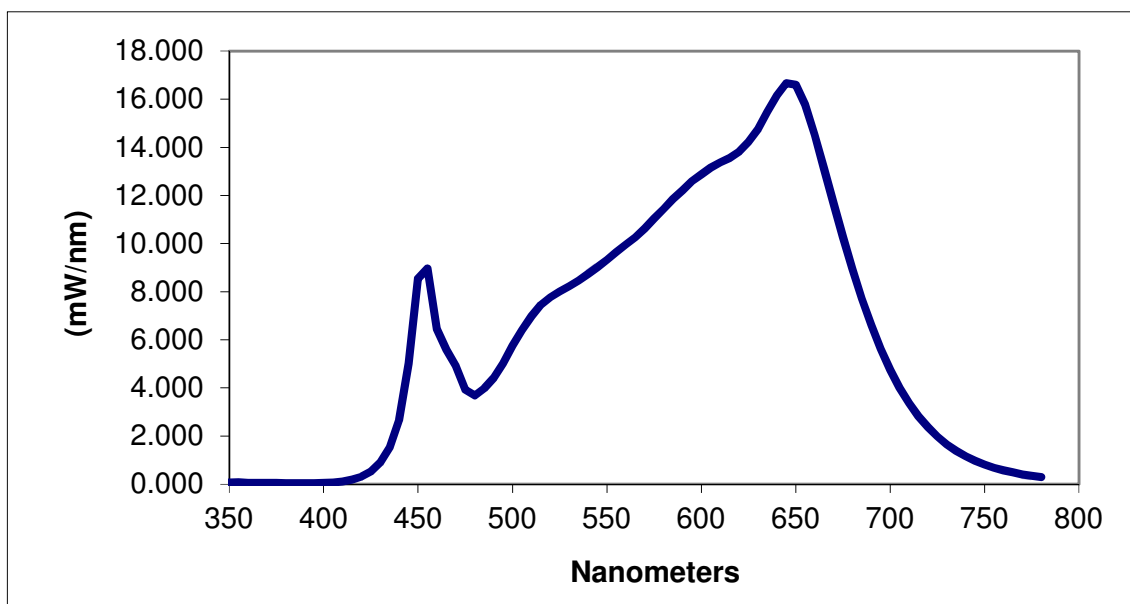
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RESULTS OF TESTS

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	0.066	460	6.458	570	10.627	680	8.956
355	0.077	465	5.593	575	11.044	685	7.718
360	0.059	470	4.924	580	11.438	690	6.615
365	0.057	475	3.924	585	11.854	695	5.628
370	0.053	480	3.689	590	12.218	700	4.754
375	0.048	485	3.982	595	12.591	705	4.007
380	0.047	490	4.411	600	12.882	710	3.360
385	0.044	495	5.010	605	13.157	715	2.825
390	0.046	500	5.751	610	13.367	720	2.364
395	0.045	505	6.404	615	13.557	725	1.984
400	0.054	510	6.988	620	13.829	730	1.657
405	0.068	515	7.444	625	14.221	735	1.389
410	0.109	520	7.767	630	14.747	740	1.161
415	0.181	525	8.015	635	15.465	745	0.974
420	0.310	530	8.228	640	16.161	750	0.817
425	0.521	535	8.460	645	16.664	755	0.686
430	0.889	540	8.745	650	16.596	760	0.578
435	1.529	545	9.023	655	15.781	765	0.487
440	2.664	550	9.329	660	14.513	770	0.407
445	5.016	555	9.649	665	13.118	775	0.344
450	8.539	560	9.963	670	11.667	780	0.294
455	8.969	565	10.259	675	10.288		

*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				