

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

NSUDD-10W-4S-36-30K-SN\_DOWN

### REPORT NUMBER

103597691CHI-011

### ISSUE DATE

August 16, 2018

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

TBD

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**TEST REPORT**

**REPORT NO.: 103597691CHI-011**

**REPORT DATE: August 16, 2018**

**TEST OF ONE LINEAR LED SUSPENSION**

MODEL NO. NSUDD-10W-4S-36-30K-SN\_DOWN  
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 NSUDD-10W-4S-36-30K-SN\_DOWN. The sample was received by Intertek on August 1, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH08012018090709-11.

**DATE OF TESTS**

August 6, 2018 through August 7, 2018.

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**SUMMARY**

<b>MODEL NO:</b>	NSUDD-10W-4S-36-30K-SN_DOWN
<b>DESCRIPTION:</b>	LINEAR LED SUSPENSION

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	821.5	781.8
Input Power (W) @ 120 (VAC)	16.91	16.890
Lumen Efficacy (lm/W)	48.6	46.3
Input Power Factor ( ) @ 120 (VAC)	0.975	0.974

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	15.87
Correlated Color Temperature (K)	2960
Color Rendering Index - Ra	97.4
Color Rendering - R9	90.4
DUV	0.0030
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.397
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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**TEST REPORT**

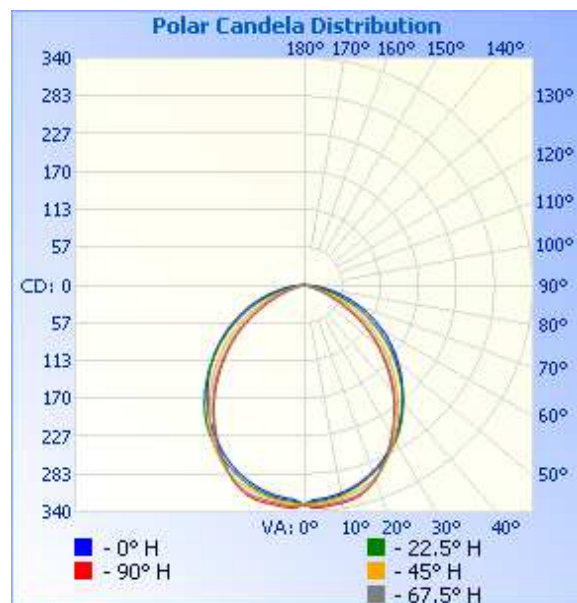
**RESULTS OF TESTS**

**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)
AH08012018090709-11	Base Up	120.0	144.5	16.890	0.974	781.8	46.3

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	329	329	329	329	329
5	321	324	327	331	334
10	316	319	323	328	331
15	309	311	317	323	326
20	298	300	308	309	310
25	284	287	291	288	287
30	268	271	268	262	261
35	249	252	243	236	234
40	228	229	216	208	206
45	206	203	189	179	175
50	183	177	161	148	145
55	159	150	132	119	114
60	135	123	103	87	82
65	109	96	74	57	53
70	84	68	44	31	28
75	59	41	20	13	11
80	36	17	5	1	1
85	15	2	1	0	0
90	0	0	0	0	0



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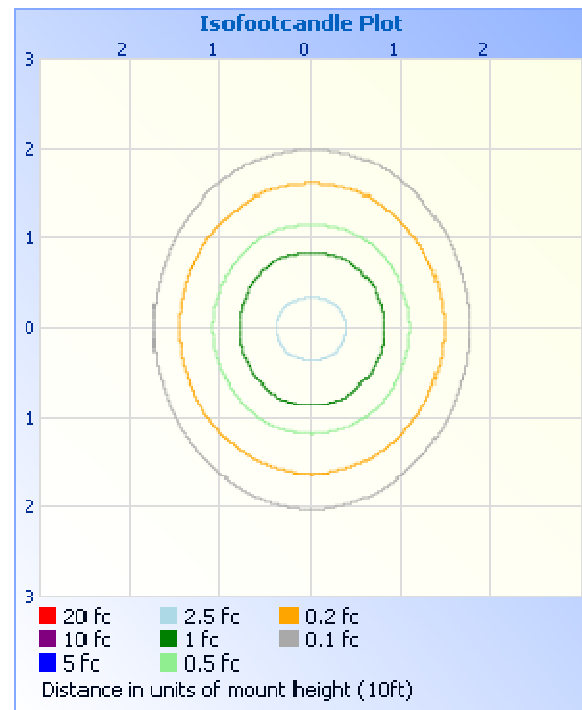
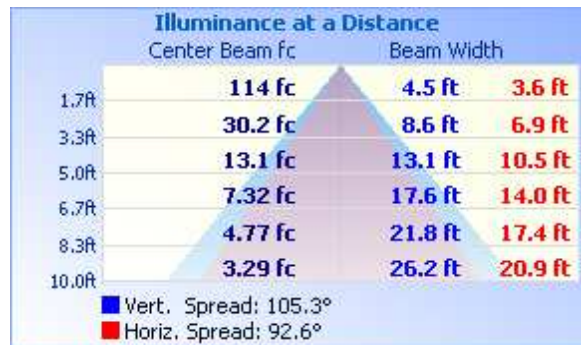
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**RESULTS OF TESTS**

**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	252.6	32.3
0-40	404.5	51.7
0-60	671.7	85.9
60-90	110.1	14.1
70-100	33.8	4.3
90-120	0.0	0.0
0-90	781.8	100.0
90-180	0.0	0.0
0-180	781.8	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	31.1	4.0
10-20	89.2	11.4
20-30	132.3	16.9
30-40	152.0	19.4
40-50	147.0	18.8
50-60	120.1	15.4
60-70	76.4	9.8
70-80	29.9	3.8
80-90	3.9	0.5

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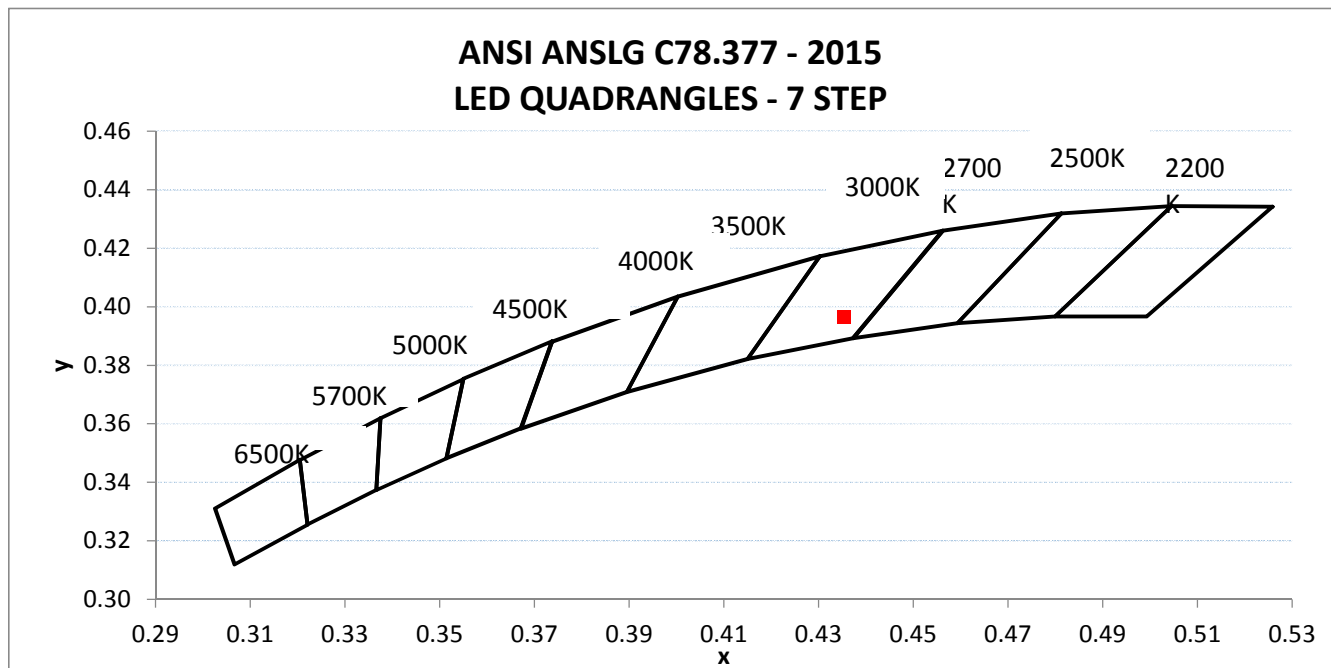
RESULTS OF TESTS

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 (%)
AH08012018090709-11	Base Up	119.98	144.52	16.91	0.975	15.87

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
821.5	48.6	2960	97.4	90.4	0.0030

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.436	0.397	0.253	0.518





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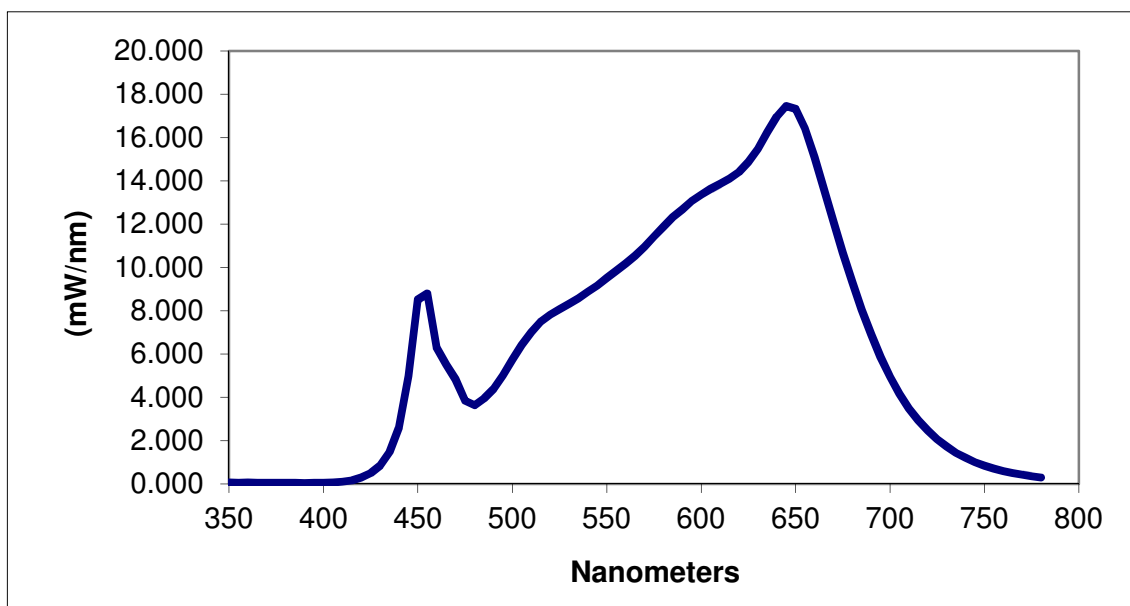
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RESULTS OF TESTS

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	0.063	460	6.300	570	10.952	680	9.325
355	0.052	465	5.507	575	11.427	685	8.055
360	0.059	470	4.830	580	11.880	690	6.911
365	0.053	475	3.837	585	12.321	695	5.874
370	0.053	480	3.643	590	12.689	700	4.950
375	0.044	485	3.947	595	13.061	705	4.172
380	0.040	490	4.388	600	13.362	710	3.497
385	0.041	495	5.005	605	13.626	715	2.939
390	0.038	500	5.758	610	13.870	720	2.464
395	0.042	505	6.416	615	14.103	725	2.069
400	0.048	510	7.007	620	14.413	730	1.726
405	0.067	515	7.488	625	14.866	735	1.439
410	0.099	520	7.813	630	15.476	740	1.207
415	0.171	525	8.079	635	16.250	745	1.009
420	0.294	530	8.319	640	16.965	750	0.848
425	0.500	535	8.569	645	17.456	755	0.708
430	0.851	540	8.888	650	17.324	760	0.598
435	1.473	545	9.167	655	16.419	765	0.502
440	2.597	550	9.514	660	15.099	770	0.423
445	4.986	555	9.840	665	13.625	775	0.356
450	8.513	560	10.192	670	12.116	780	0.300
455	8.792	565	10.545	675	10.691		

\*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				