

# 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\_DOWN

### REPORT NUMBER

103597691CHI-017

### ISSUE DATE

August 17, 2018

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

TBD

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**TEST REPORT**

**REPORT NO.: 103597691CHI-017**

**REPORT DATE: August 17, 2018**

**TEST OF ONE LINEAR LED SUSPENSION**

MODEL NO. NSUDDW-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 NSUDDW-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 AH08012018090709-17.

**DATE OF TESTS**

August 3, 2018 through August 10, 2018.

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**SUMMARY**

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	600.6	573.7
Input Power (W) @ 120 (VAC)	16.96	16.92
Lumen Efficacy (lm/W)	35.4	33.9
Input Power Factor ( ) @ 120 (VAC)	0.974	0.973

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	16.42
Correlated Color Temperature (K)	2877
Color Rendering Index - Ra	97.6
Color Rendering - R9	90.9
DUV	0.0029
Chromaticity Coordinate (x)	0.442
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.256
Chromaticity Coordinate (v')	0.520

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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**

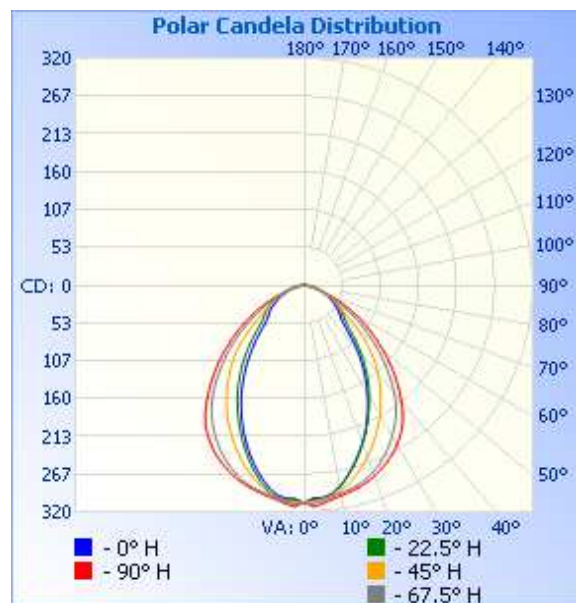
**RESULTS OF TESTS**

**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)
AH08012018090709-17	Base Up	120.0	144.9	16.92	0.973	573.7	33.9

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	307	307	307	307	307
5	301	302	303	305	309
10	289	289	294	298	302
15	265	265	278	292	295
20	238	239	258	281	287
25	209	211	236	266	275
30	178	183	212	247	260
35	146	153	187	224	240
40	111	123	160	196	212
45	80	93	132	162	179
50	66	74	100	130	146
55	57	65	71	98	114
60	46	53	53	70	84
65	36	40	40	45	55
70	27	28	27	26	29
75	19	19	18	15	8
80	12	11	10	7	1
85	6	4	4	2	0
90	0	0	0	0	0



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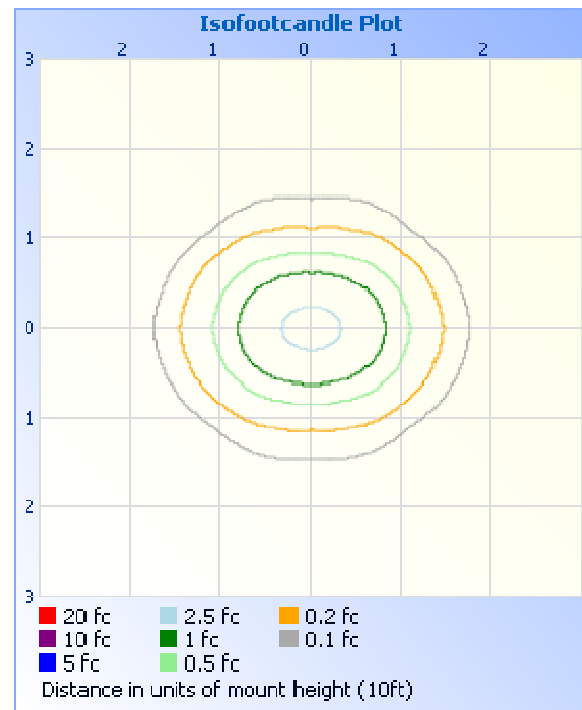
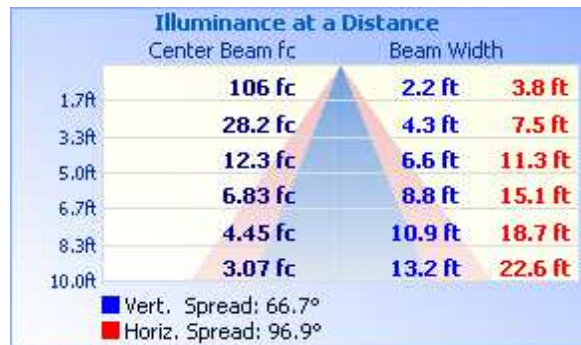
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**RESULTS OF TESTS**

**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	217.3	37.9
0-40	335.6	58.5
0-60	508.6	88.7
60-90	65.1	11.3
70-100	22.2	3.9
90-120	0.0	0.0
0-90	573.7	100.0
90-180	0.0	0.0
0-180	573.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	28.8	5.0
10-20	78.6	13.7
20-30	110.0	19.2
30-40	118.3	20.6
40-50	100.7	17.6
50-60	72.3	12.6
60-70	42.9	7.5
70-80	18.1	3.2
80-90	4.1	0.7

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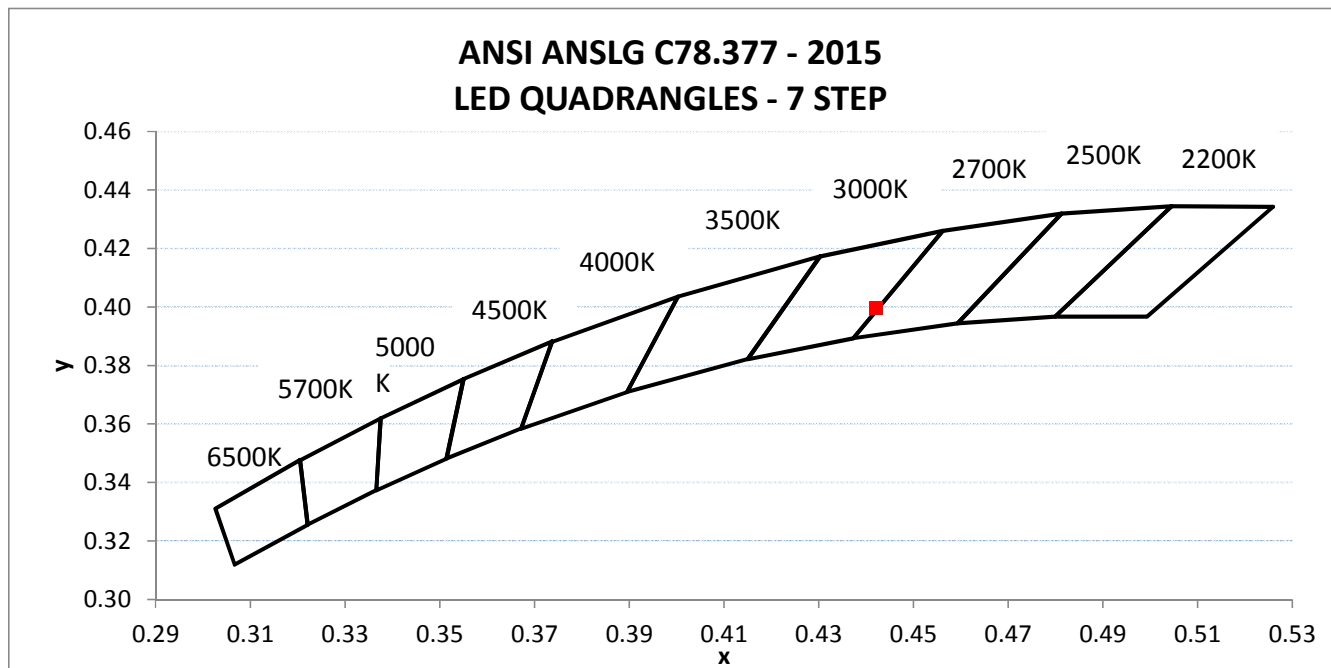
RESULTS OF TESTS

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 (%)
AH08012018090709-17	Base Up	120.04	145.02	16.96	0.974	16.42

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
600.6	35.4	2877	97.6	90.9	0.0029

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.442	0.400	0.256	0.520





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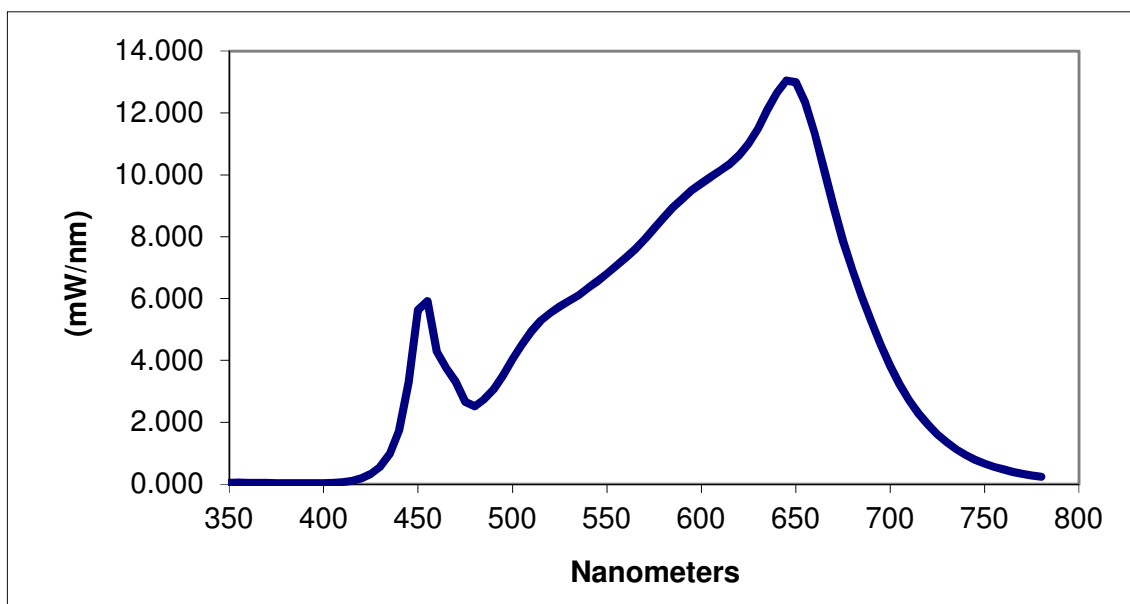
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RESULTS OF TESTS

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	0.040	460	4.284	570	7.916	680	6.923
355	0.049	465	3.749	575	8.270	685	6.060
360	0.039	470	3.312	580	8.614	690	5.256
365	0.042	475	2.659	585	8.953	695	4.511
370	0.039	480	2.518	590	9.225	700	3.821
375	0.032	485	2.747	595	9.510	705	3.224
380	0.029	490	3.059	600	9.726	710	2.707
385	0.031	495	3.504	605	9.935	715	2.288
390	0.030	500	4.044	610	10.137	720	1.922
395	0.031	505	4.513	615	10.347	725	1.616
400	0.035	510	4.942	620	10.635	730	1.354
405	0.045	515	5.284	625	11.003	735	1.129
410	0.066	520	5.533	630	11.498	740	0.944
415	0.107	525	5.741	635	12.109	745	0.792
420	0.188	530	5.924	640	12.656	750	0.667
425	0.327	535	6.105	645	13.048	755	0.563
430	0.559	540	6.341	650	12.992	760	0.474
435	0.977	545	6.562	655	12.343	765	0.399
440	1.727	550	6.813	660	11.341	770	0.336
445	3.290	555	7.059	665	10.181	775	0.283
450	5.629	560	7.329	670	8.974	780	0.242
455	5.917	565	7.600	675	7.877		

\*Without correction of sample absorption.



End Of Test Results

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**PICTURES**



**CONCLUSION**

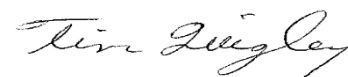
The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

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				