

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_DOWN

REPORT NUMBER

103597691CHI-014

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_DOWN
LED MODEL NO. 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_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 AH08012018090709-14.

DATE OF TESTS

August 6, 2018 through August 9, 2018.

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SUMMARY

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1197.4	1150.1
Input Power (W) @ 120 (VAC)	24.63	24.62
Lumen Efficacy (lm/W)	48.6	46.7
Input Power Factor () @ 120 (VAC)	0.987	0.986

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	13.06
Correlated Color Temperature (K)	2950
Color Rendering Index - Ra ()	97.1
Color Rendering - R9 ()	88.5
DUV ()	0.0030
Chromaticity Coordinate (x)	0.436
Chromaticity Coordinate (y)	0.397
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.519

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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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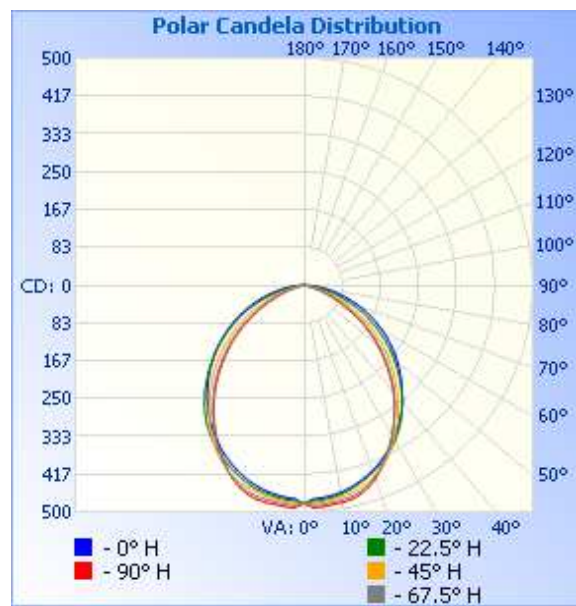
RESULTS OF TESTS

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)
AH08012018090709-14	Base Up	120.1	207.9	24.62	0.986	1150.1	46.7

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	482	482	482	482	482
5	470	475	479	485	490
10	464	468	473	480	486
15	452	455	465	472	477
20	436	439	449	451	455
25	416	420	425	421	422
30	392	397	393	385	385
35	365	368	357	346	345
40	334	334	318	306	304
45	301	297	277	263	259
50	268	258	237	218	215
55	233	219	194	175	169
60	196	180	152	129	122
65	160	140	108	86	79
70	122	99	66	48	43
75	86	60	31	20	16
80	51	25	8	3	1
85	21	3	1	1	0
90	1	1	0	0	0



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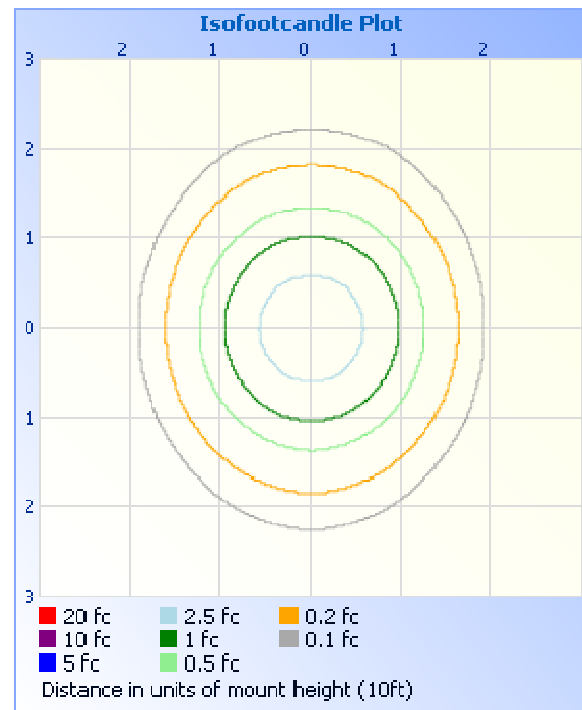
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RESULTS OF TESTS

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	370.1	32.2
0-40	593.2	51.6
0-60	986.4	85.8
60-90	163.6	14.2
70-100	50.7	4.4
90-120	0.1	0.0
0-90	1150.0	100.0
90-180	0.1	0.0
0-180	1150.1	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	45.6	4.0
10-20	130.7	11.4
20-30	193.9	16.9
30-40	223.1	19.4
40-50	216.1	18.8
50-60	177.1	15.4
60-70	113.0	9.8
70-80	44.6	3.9
80-90	6.0	0.5
90-100	0.1	0.0

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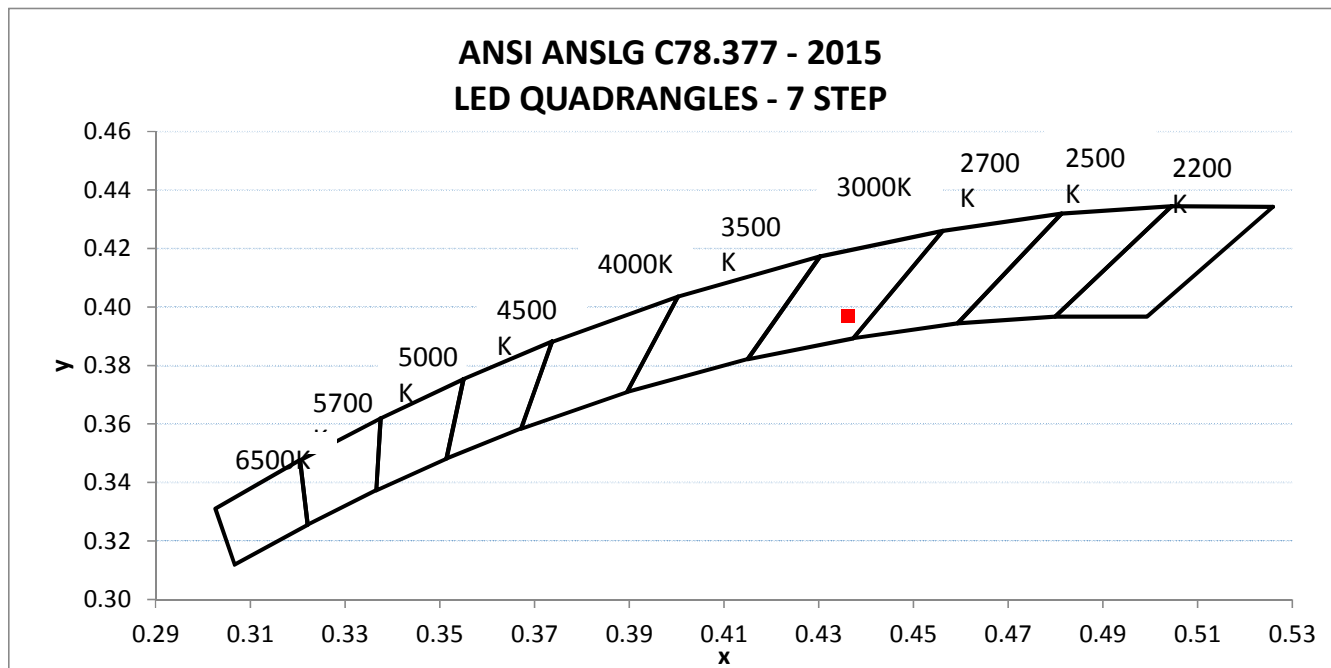
RESULTS OF TESTS

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 (%)
AH08012018090709-14	Base Up	119.97	208.01	24.63	0.987	13.06

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1197.4	48.6	2950	97.1	88.5	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	0.519



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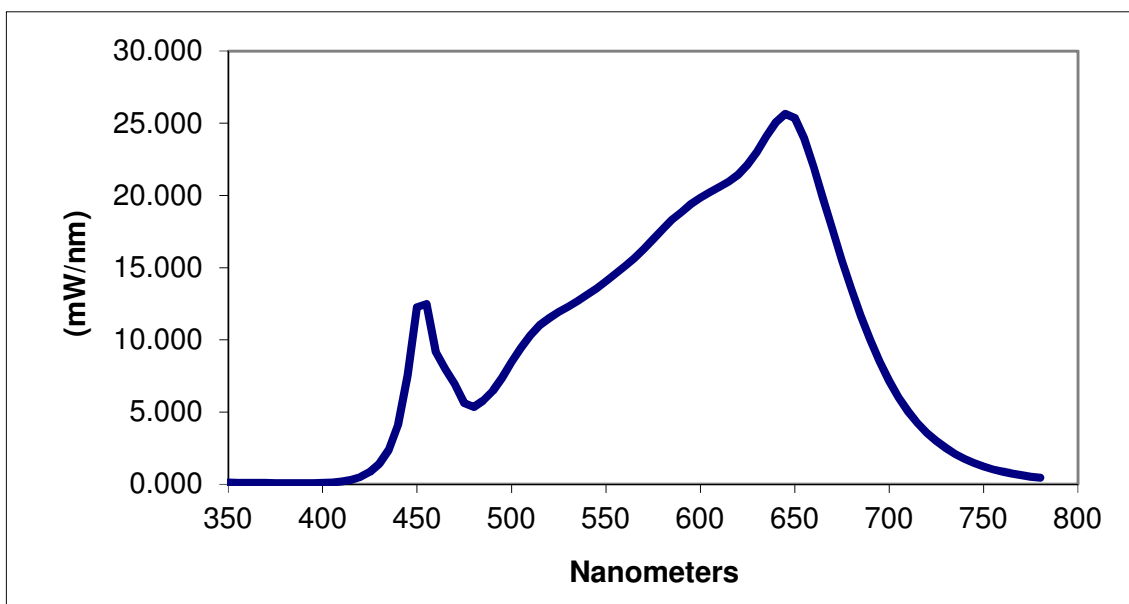
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RESULTS OF TESTS

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	0.108	460	9.151	570	16.265	680	13.505
355	0.099	465	7.954	575	16.972	685	11.658
360	0.089	470	6.950	580	17.646	690	9.984
365	0.087	475	5.614	585	18.307	695	8.485
370	0.084	480	5.337	590	18.852	700	7.149
375	0.077	485	5.788	595	19.404	705	6.020
380	0.069	490	6.445	600	19.835	710	5.043
385	0.065	495	7.372	605	20.229	715	4.238
390	0.064	500	8.473	610	20.582	720	3.553
395	0.070	505	9.423	615	20.958	725	2.986
400	0.084	510	10.308	620	21.450	730	2.497
405	0.109	515	11.023	625	22.119	735	2.085
410	0.169	520	11.518	630	23.010	740	1.738
415	0.286	525	11.922	635	24.105	745	1.457
420	0.493	530	12.282	640	25.075	750	1.228
425	0.835	535	12.674	645	25.658	755	1.031
430	1.400	540	13.134	650	25.372	760	0.865
435	2.385	545	13.559	655	23.976	765	0.731
440	4.097	550	14.065	660	21.971	770	0.615
445	7.530	555	14.561	665	19.830	775	0.519
450	12.254	560	15.096	670	17.621	780	0.440
455	12.494	565	15.627	675	15.498		

*Without correction of sample absorption.



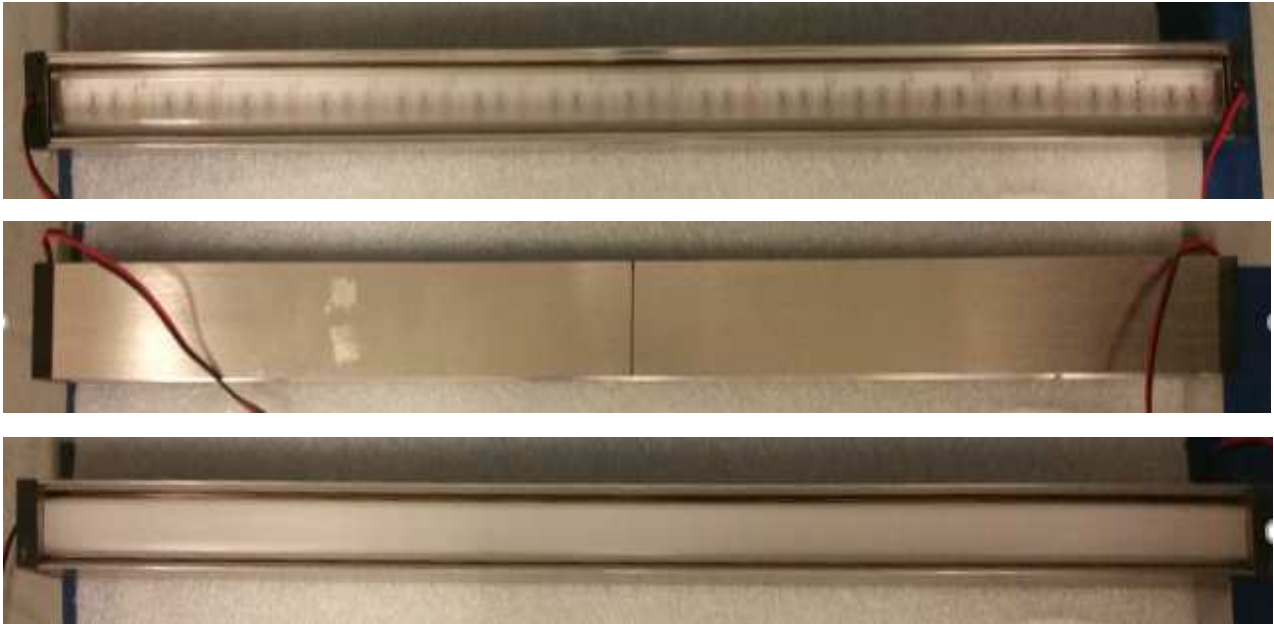
End Of Test Results

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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				