

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

CSDW-10W-4S-36-30K-SN

### REPORT NUMBER

102602453CHI-028

### ISSUE DATE

June 4, 2018

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

TBD

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**REPORT DATE: June 4, 2018**

**TEST REPORT**

**TEST OF ONE LINEAR LED FIXTURE**

MODEL NO. CSDW-10W-4S-36-30K-SN  
LED MODEL NO. LUMILED/SS10CL-12MM-24VDC-C-30K  
DRIVER MODEL NO. MEANWELL APV-16-24

**RENDERED TO:**

PURE EDGE LIGHTING  
1718 WEST FULLERTON  
CHICAGO, IL 60614

**AUTHORIZATION**

The testing performed was authorized by signed quote number Qu-00685500-1.

**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 CSDW-10W-4S-36-30K-SN. The sample was received by Intertek on May 17, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH05172018024639-028.

**DATE OF TESTS**

May 30, 2018 through May 30, 2018.

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**SUMMARY**

<b>MODEL NO:</b>	CSDW-10W-4S-36-30K-SN
<b>DESCRIPTION:</b>	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1215.1	1191.3
Input Power (W) @ 120 (VAC)	30.34	30.264
Lumen Efficacy (lm/W)	40.0	39.4
Input Power Factor ( ) @ 120 (VAC)	0.991	0.991

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	11.97
Correlated Color Temperature (K)	2893
Color Rendering Index - Ra ( )	97.4
Color Rendering - R9 ( )	90.2
DUV ( )	0.0042
Chromaticity Coordinate (x)	0.439
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.256
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	7/10/2017	7/10/2018
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 2M Sphere & Spectroradiometer	CDS1100	146137	VBV	VBV
Elgar AC Power Supply	CW1251M	146113	VBV	VBV
Sorenson DC Power Supply	XFR150-8	146847	VBV	VBV
Yokogawa Power Analyzer	WT1600	146767	4/5/2018	4/5/2019
Omega Temperature	MDSi8	146873	7/20/2017	7/20/2018
Newport Thermohygrometer	iTHX-M	146382	7/14/2017	7/14/2018

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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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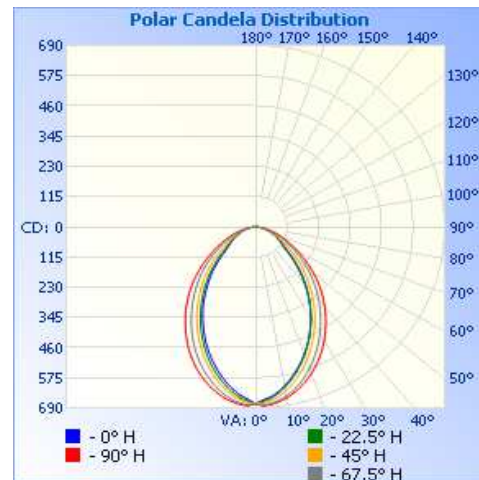
**RESULTS OF TESTS**

**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)
AH05172018024639-028	Base Up	120.0	254.6	30.264	0.991	1191.3	39.4

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	674	674	674	674	674
5	650	655	664	675	678
10	614	619	634	653	660
15	569	574	592	619	632
20	519	521	543	574	595
25	464	464	489	524	551
30	404	404	432	470	501
35	343	343	374	413	447
40	278	282	315	357	392
45	218	224	259	302	336
50	161	169	206	247	278
55	123	124	157	195	222
60	100	99	113	148	170
65	78	77	84	108	126
70	59	58	62	75	90
75	41	40	42	48	60
80	26	24	25	27	32
85	11	10	10	10	9
90	0	0	0	0	0



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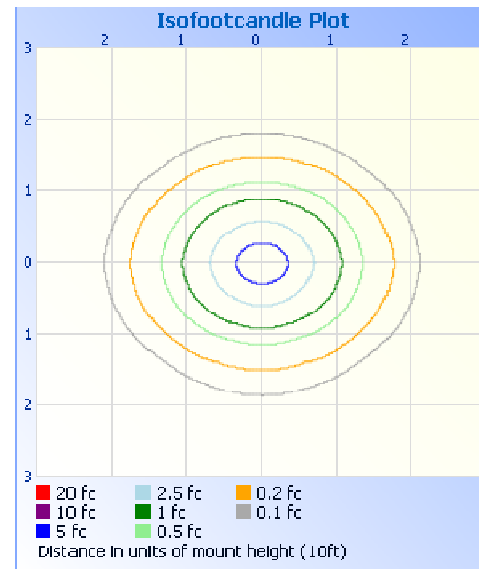
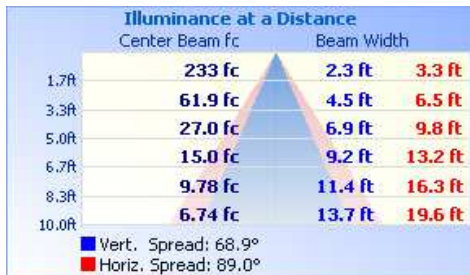
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RESULTS OF TESTS

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	455.1	38.2
0-40	691.3	58.0
0-60	1039.4	87.2
60-90	152.0	12.8
70-100	59.9	5.0
90-120	0.0	0.0
0-90	1191.3	100.0
90-180	0.0	0.0
0-180	1191.3	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	62.3	5.2
10-20	166.5	14.0
20-30	226.3	19.0
30-40	236.2	19.8
40-50	202.9	17.0
50-60	145.2	12.2
60-70	92.0	7.7
70-80	47.8	4.0
80-90	12.1	1.0

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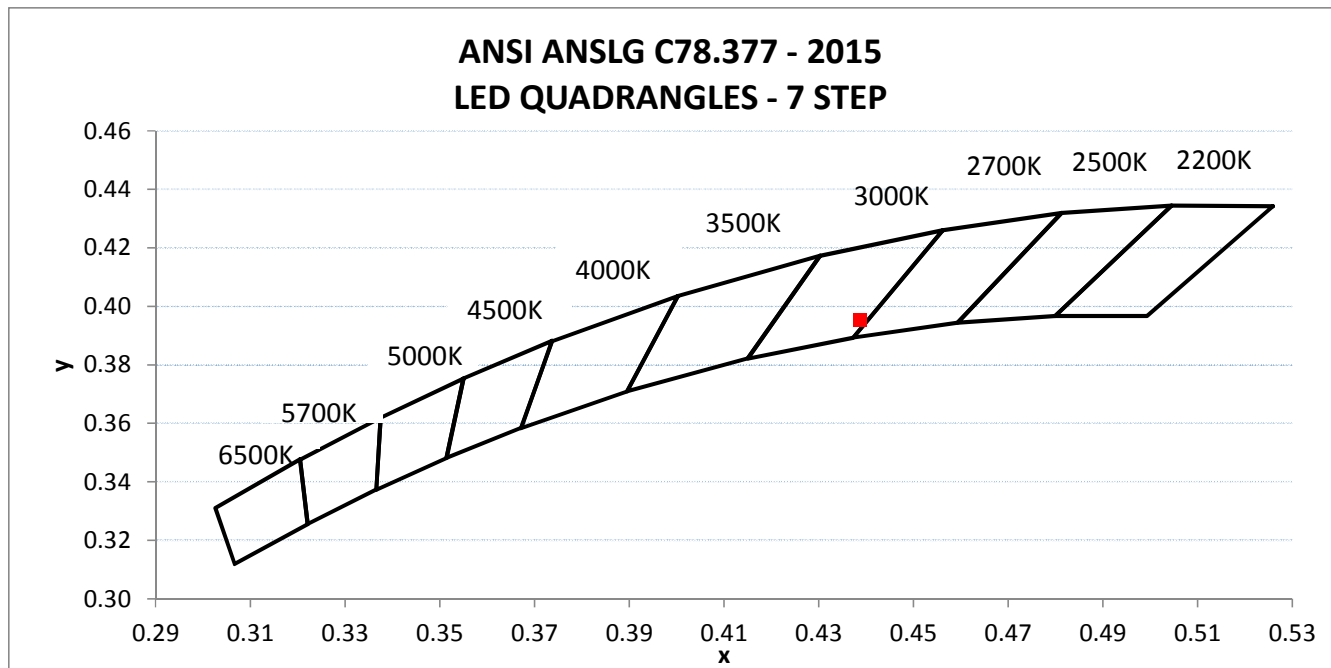
RESULTS OF TESTS

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 (%)
AH05172018024639-028	Base Up	120.00	255.18	30.34	0.991	11.97

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1215.1	40.0	2893	97.4	90.2	0.0042

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.439	0.395	0.256	0.518





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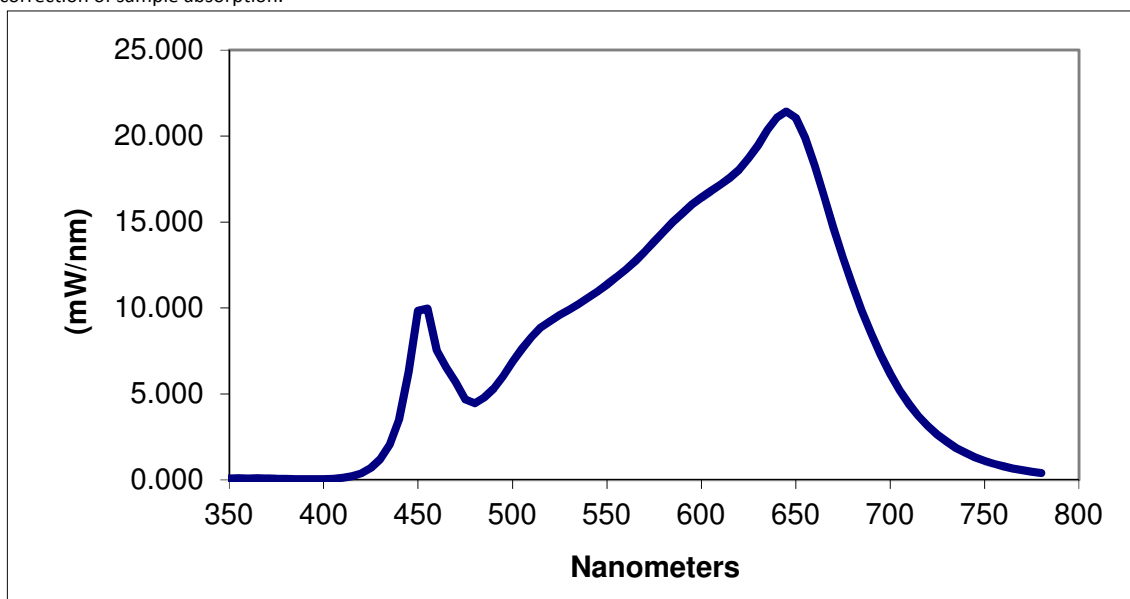
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RESULTS OF TESTS

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	0.093	460	7.540	570	13.272	680	11.335
355	0.103	465	6.528	575	13.866	685	9.846
360	0.097	470	5.694	580	14.436	690	8.493
365	0.101	475	4.682	585	15.014	695	7.269
370	0.089	480	4.464	590	15.505	700	6.169
375	0.078	485	4.791	595	16.007	705	5.221
380	0.065	490	5.316	600	16.418	710	4.406
385	0.051	495	6.025	605	16.797	715	3.717
390	0.055	500	6.873	610	17.169	720	3.145
395	0.058	505	7.630	615	17.552	725	2.649
400	0.060	510	8.313	620	18.050	730	2.223
405	0.072	515	8.865	625	18.695	735	1.865
410	0.120	520	9.248	630	19.462	740	1.571
415	0.216	525	9.591	635	20.358	745	1.318
420	0.392	530	9.895	640	21.076	750	1.116
425	0.699	535	10.221	645	21.421	755	0.942
430	1.208	540	10.598	650	21.063	760	0.803
435	2.053	545	10.961	655	19.905	765	0.672
440	3.507	550	11.371	660	18.293	770	0.568
445	6.284	555	11.802	665	16.520	775	0.483
450	9.831	560	12.248	670	14.649	780	0.409
455	9.975	565	12.720	675	12.946		

\*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:

*Tess Gallagher*

Tess Gallagher  
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Report Reviewed By:

*Tim Quigley*

Timothy Quigley  
Engineer  
Lighting Division

Attachments: IES File

**REVISION HISTORY**

JOB NUMBER	DATE OF REVISION	PROJECT HANDLER	REVIEWED BY	REVISION NOTE
None				