

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

CSDW-7W-4S-36-30K-SN

### REPORT NUMBER

102602453CHI-027

### 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-7W-4S-36-30K-SN  
LED MODEL NO. LUMILED/SS7CL-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-7W-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 AH05172018024639-027.

**DATE OF TESTS**

May 29, 2018 through May 30, 2018.

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**SUMMARY**

<b>MODEL NO:</b>	CSDW-7W-4S-36-30K-SN
<b>DESCRIPTION:</b>	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	997.3	981.3
Input Power (W) @ 120 (VAC)	24.55	24.488
Lumen Efficacy (lm/W)	40.6	40.1
Input Power Factor ( ) @ 120 (VAC)	0.986	0.986

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	13.83
Correlated Color Temperature (K)	2896
Color Rendering Index - Ra ( )	97.5
Color Rendering - R9 ( )	91.1
DUV ( )	0.0044
Chromaticity Coordinate (x)	0.438
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.256
Chromaticity Coordinate (v')	0.518

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**EQUIPMENT LIST**

<b>EQUIPMENT USED</b>	<b>MODEL NO.</b>	<b>CONTROL NO.</b>	<b>LAST CAL DATE</b>	<b>CAL DUE DATE</b>
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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**TEST REPORT**

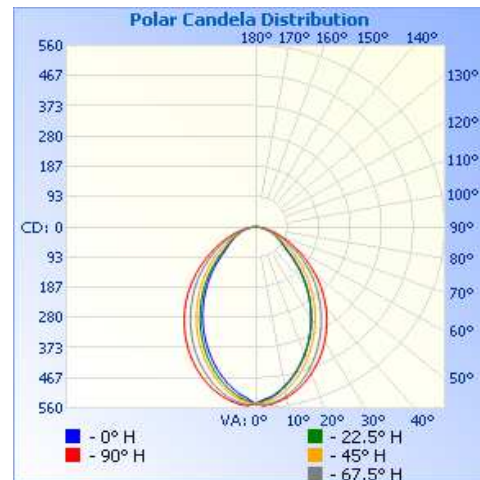
**RESULTS OF TESTS**

**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)
AH05172018024639-027	Base Up	119.9	207.1	24.488	0.986	981.3	40.1

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	546	546	546	546	546
5	527	531	538	547	550
10	499	502	515	530	535
15	463	465	480	502	512
20	422	423	441	467	483
25	378	377	397	426	448
30	330	329	351	384	410
35	281	280	306	339	368
40	232	232	259	294	325
45	181	185	214	250	279
50	134	140	171	206	233
55	103	103	130	164	188
60	84	83	94	124	145
65	66	65	70	91	107
70	50	48	51	62	75
75	35	33	34	40	49
80	22	20	20	22	27
85	10	8	9	8	8
90	0	0	0	0	0



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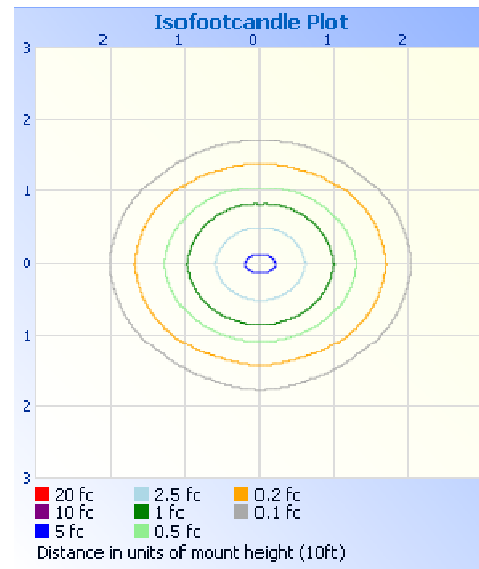
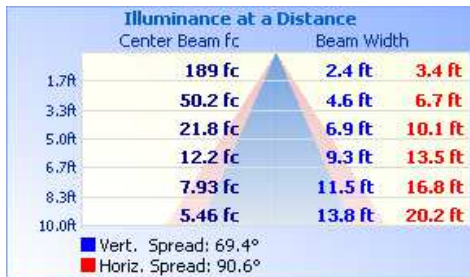
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**RESULTS OF TESTS**

**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	369.9	37.7
0-40	563.7	57.4
0-60	853.7	87.0
60-90	127.6	13.0
70-100	50.0	5.1
90-120	0.0	0.0
0-90	981.3	100.0
90-180	0.0	0.0
0-180	981.3	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	50.5	5.1
10-20	135.1	13.8
20-30	184.3	18.8
30-40	193.8	19.7
40-50	168.2	17.1
50-60	121.8	12.4
60-70	77.6	7.9
70-80	39.8	4.1
80-90	10.1	1.0

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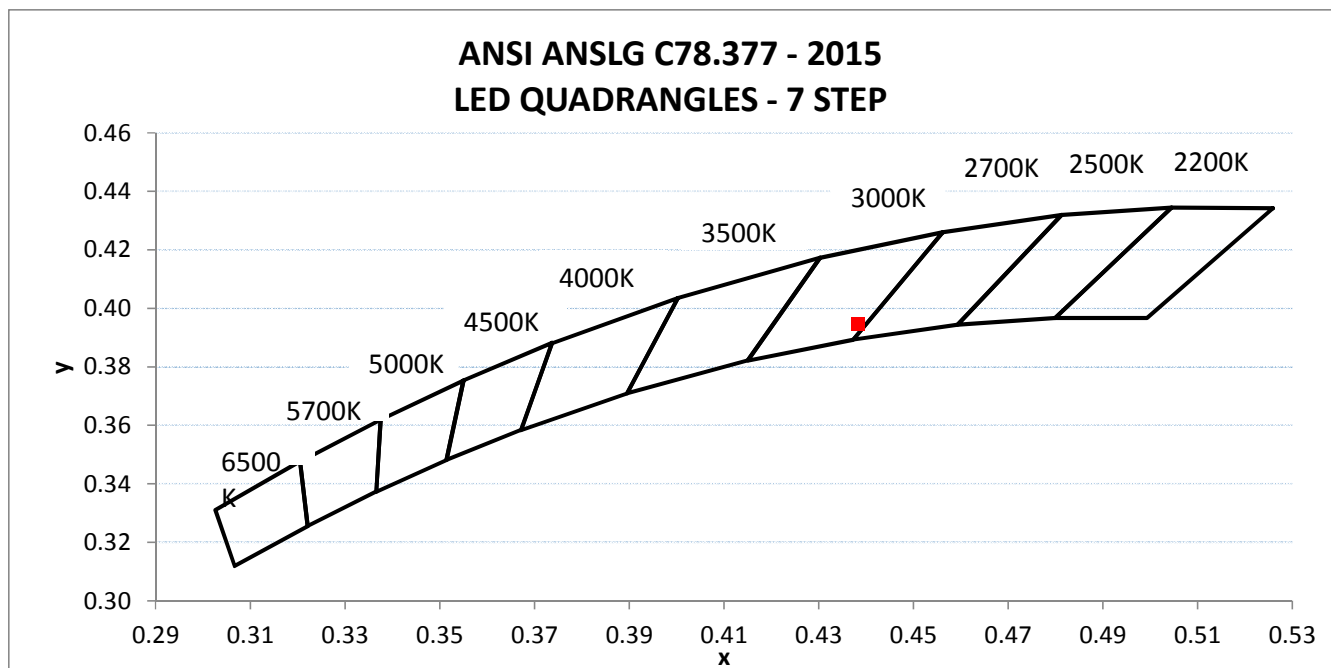
RESULTS OF TESTS

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 (%)
AH05172018024639-027	Base Up	119.97	207.45	24.55	0.986	13.83

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
997.3	40.6	2896	97.5	91.1	0.0044

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.438	0.395	0.256	0.518





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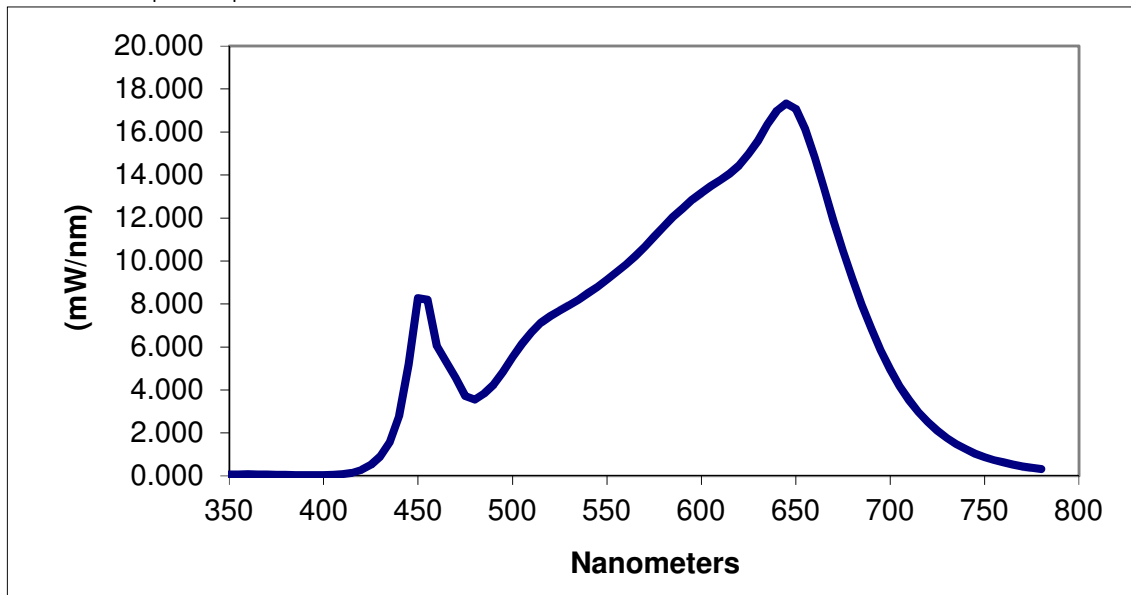
TEST REPORT

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	0.078	460	6.054	570	10.652	680	9.172
355	0.079	465	5.291	575	11.128	685	7.956
360	0.081	470	4.574	580	11.591	690	6.854
365	0.074	475	3.712	585	12.053	695	5.847
370	0.067	480	3.552	590	12.444	700	4.948
375	0.057	485	3.837	595	12.849	705	4.186
380	0.055	490	4.258	600	13.174	710	3.527
385	0.042	495	4.841	605	13.476	715	2.975
390	0.045	500	5.534	610	13.761	720	2.510
395	0.042	505	6.141	615	14.065	725	2.111
400	0.044	510	6.688	620	14.447	730	1.772
405	0.054	515	7.134	625	14.977	735	1.485
410	0.086	520	7.443	630	15.601	740	1.246
415	0.152	525	7.699	635	16.352	745	1.047
420	0.284	530	7.942	640	16.992	750	0.883
425	0.512	535	8.205	645	17.329	755	0.746
430	0.903	540	8.508	650	17.085	760	0.636
435	1.580	545	8.796	655	16.140	765	0.531
440	2.782	550	9.135	660	14.828	770	0.449
445	5.188	555	9.474	665	13.393	775	0.378
450	8.272	560	9.839	670	11.880	780	0.322
455	8.192	565	10.217	675	10.495		

\*Without correction of sample absorption.



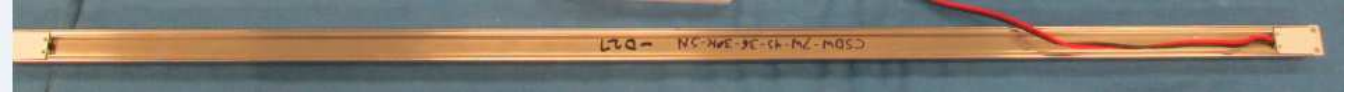
End Of Test Results

# TEST REPORT

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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  
Engineer  
Lighting Division

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				