

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

CSDH-2W-4S-36-30K-SN

### REPORT NUMBER

102602453CHI-023

### ISSUE DATE

June 4, 2018

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

TBD

© 2017 INTERTEK



**REPORT NO.:102602453CHI-023**

**REPORT DATE: June 4, 2018**

**TEST REPORT**

**TEST OF ONE LINEAR LED FIXTURE**

MODEL NO. CSDH-2W-4S-36-30K-SN  
LED MODEL NO. LUMILED/SS2CL-12MM-24VDC-C-30K  
DRIVER MODEL NO. MEANWELL APV-16-29

**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 CSDH-2W-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 AH05172018024639-023.

**DATE OF TESTS**

May 29, 2018 through May 30, 2018.

**REPORT NO.:102602453CHI-023**

**REPORT DATE: June 4, 2018**

**TEST REPORT**

**SUMMARY**

<b>MODEL NO:</b>	CSDH-2W-4S-36-30K-SN
<b>DESCRIPTION:</b>	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	561.6	551.7
Input Power (W) @ 120 (VAC)	9.00	9.050
Lumen Efficacy (lm/W)	62.4	61.0
Input Power Factor ( ) @ 120 (VAC)	0.482	0.474

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	86.72
Correlated Color Temperature (K)	2619
Color Rendering Index - Ra ( )	95.4
Color Rendering - R9 ( )	78.1
DUV ( )	0.0026
Chromaticity Coordinate (x)	0.462
Chromaticity Coordinate (y)	0.404
Chromaticity Coordinate (u')	0.267
Chromaticity Coordinate (v')	0.525

**REPORT NO.:102602453CHI-023**

**REPORT DATE: June 4, 2018**

**TEST REPORT**

**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

**REPORT NO.:102602453CHI-023**

**REPORT DATE: June 4, 2018**

**TEST REPORT**

**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.

REPORT NO.:102602453CHI-023

REPORT DATE: June 4, 2018

TEST REPORT

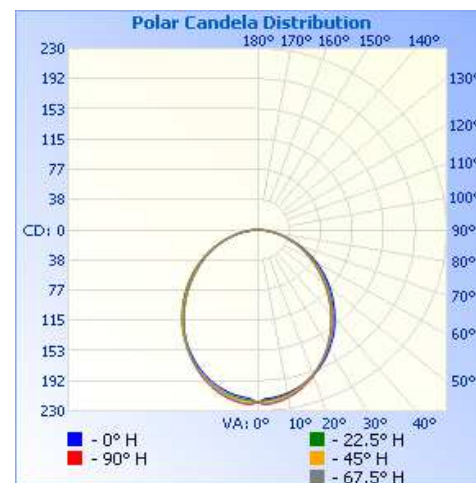
RESULTS OF TESTS

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)
AH05172018024639-023	Base Up	120.1	159.0	9.050	0.474	551.7	61.0

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	219	219	219	219	219
5	214	216	218	220	221
10	210	212	213	215	216
15	204	205	206	207	208
20	197	196	196	197	198
25	187	184	184	184	185
30	174	172	171	170	171
35	161	157	156	155	156
40	146	142	141	139	140
45	130	127	125	123	123
50	115	111	109	107	107
55	99	96	93	91	91
60	83	80	78	76	76
65	67	64	63	61	61
70	51	49	48	47	47
75	36	34	34	34	34
80	22	20	21	22	22
85	9	9	10	12	12
90	0	0	0	0	0



**REPORT NO.:102602453CHI-023**

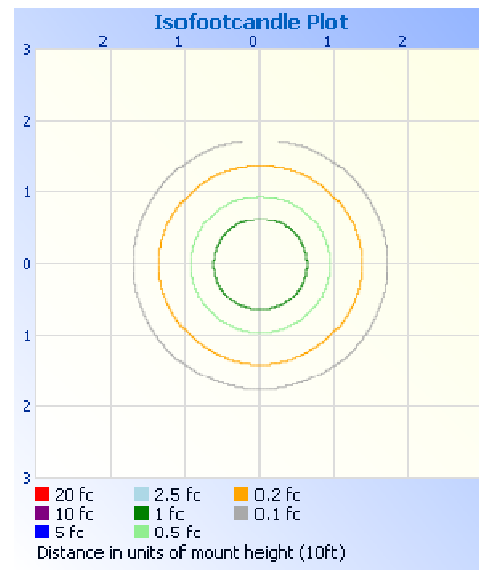
**REPORT DATE: June 4, 2018**

**TEST REPORT**

**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	163.5	29.6
0-40	261.4	47.4
0-60	441.7	80.1
60-90	110.0	19.9
70-100	47.6	8.6
90-120	0.0	0.0
0-90	551.7	100.0
90-180	0.0	0.0
0-180	551.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	20.6	3.7
10-20	58.0	10.5
20-30	84.9	15.4
30-40	97.9	17.7
40-50	96.6	17.5
50-60	83.7	15.2
60-70	62.4	11.3
70-80	36.1	6.6
80-90	11.4	2.1

REPORT NO.:102602453CHI-023

REPORT DATE: June 4, 2018

TEST REPORT

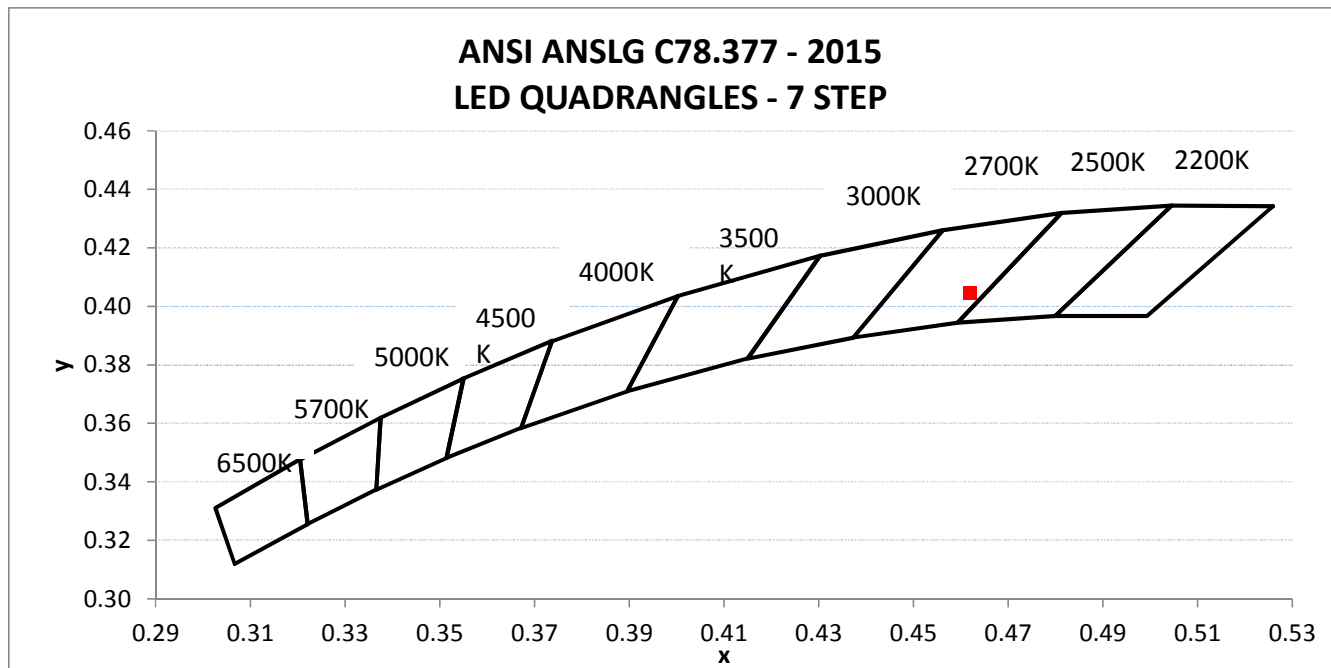
RESULTS OF TESTS

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 (%)
AH05172018024639-023	Base Up	120.01	155.56	9.00	0.482	86.72

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
561.6	62.4	2619	95.4	78.1	0.0026

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.462	0.404	0.267	0.525



REPORT NO.:102602453CHI-023

REPORT DATE: June 4, 2018

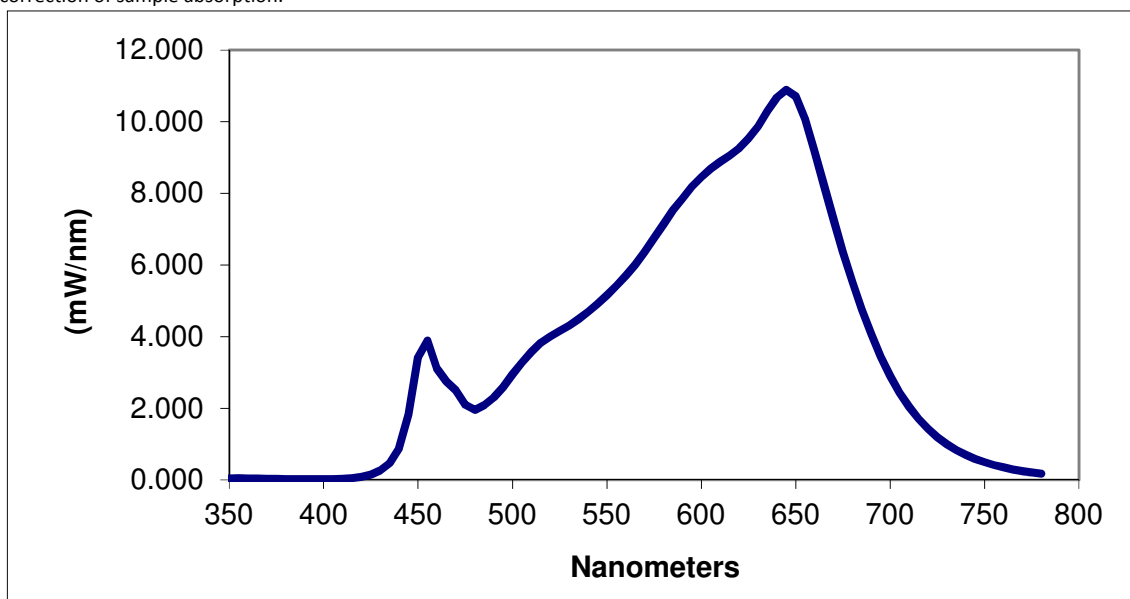
TEST REPORT

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	0.039	460	3.111	570	6.362	680	5.531
355	0.051	465	2.752	575	6.751	685	4.759
360	0.048	470	2.510	580	7.142	690	4.068
365	0.047	475	2.095	585	7.530	695	3.445
370	0.035	480	1.954	590	7.858	700	2.903
375	0.033	485	2.085	595	8.184	705	2.440
380	0.029	490	2.303	600	8.458	710	2.044
385	0.027	495	2.591	605	8.691	715	1.716
390	0.025	500	2.950	610	8.886	720	1.435
395	0.024	505	3.279	615	9.055	725	1.200
400	0.022	510	3.580	620	9.255	730	1.003
405	0.024	515	3.829	625	9.532	735	0.836
410	0.033	520	4.007	630	9.868	740	0.701
415	0.052	525	4.164	635	10.293	745	0.589
420	0.084	530	4.313	640	10.675	750	0.495
425	0.148	535	4.494	645	10.890	755	0.417
430	0.263	540	4.699	650	10.709	760	0.355
435	0.472	545	4.910	655	10.070	765	0.296
440	0.879	550	5.157	660	9.174	770	0.248
445	1.833	555	5.421	665	8.227	775	0.209
450	3.423	560	5.704	670	7.265	780	0.179
455	3.895	565	6.009	675	6.377		

\*Without correction of sample absorption.



End Of Test Results

**REPORT NO.:102602453CHI-023**

**REPORT DATE: June 4, 2018**

**TEST REPORT**

**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				