

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

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

REPORT NUMBER

102602453CHI-025

ISSUE DATE

June 4, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST OF ONE LINEAR LED FIXTURE

MODEL NO. CSDH-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 CSDH-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 AH05172018024639-025.

DATE OF TESTS

May 29, 2018 through May 30, 2018.

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SUMMARY

MODEL NO:	CSDH-7W-4S-36-30K-SN
DESCRIPTION:	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1552.5	1571.6
Input Power (W) @ 120 (VAC)	24.02	24.900
Lumen Efficacy (lm/W)	64.6	63.1
Input Power Factor () @ 120 (VAC)	0.987	0.987

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	12.66
Correlated Color Temperature (K)	2929
Color Rendering Index - Ra ()	96.6
Color Rendering - R9 ()	85.5
DUV ()	0.0033
Chromaticity Coordinate (x)	0.437
Chromaticity Coordinate (y)	0.397
Chromaticity Coordinate (u')	0.254
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	7/10/2017	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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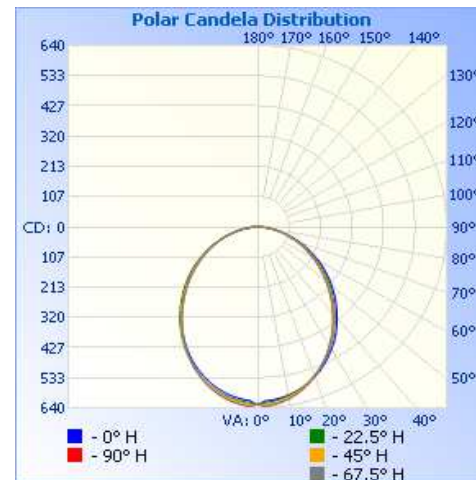
RESULTS OF TESTS

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)
AH05172018024639-025	Base Up	119.9	210.3	24.900	0.987	1571.6	63.1

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	628	628	628	628	628
5	613	618	623	630	630
10	603	606	610	615	616
15	587	586	588	592	594
20	564	560	560	562	564
25	534	527	527	526	527
30	500	490	488	486	487
35	461	450	447	443	443
40	418	407	402	397	398
45	374	362	356	350	351
50	330	317	310	304	305
55	284	272	265	260	260
60	238	227	221	215	215
65	191	182	178	173	173
70	146	138	136	133	133
75	102	96	96	95	95
80	61	57	59	62	62
85	26	24	29	32	33
90	0	0	0	0	0



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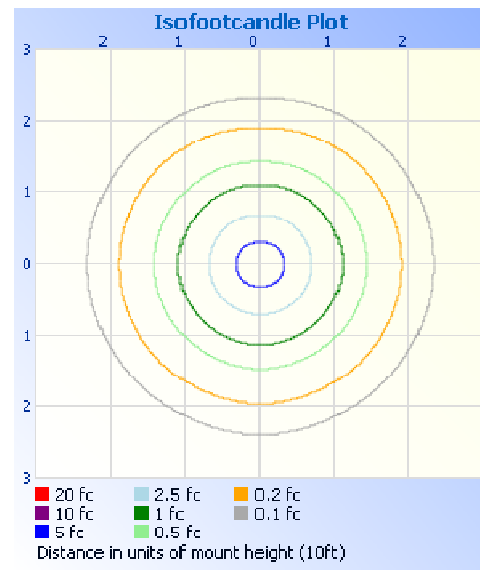
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RESULTS OF TESTS

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	467.6	29.8
0-40	747.2	47.5
0-60	1261.2	80.3
60-90	310.3	19.7
70-100	133.7	8.5
90-120	0.0	0.0
0-90	1571.6	100.0
90-180	0.0	0.0
0-180	1571.6	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	59.0	3.8
10-20	165.8	10.6
20-30	242.7	15.4
30-40	279.6	17.8
40-50	275.6	17.5
50-60	238.4	15.2
60-70	176.6	11.2
70-80	101.9	6.5
80-90	31.8	2.0

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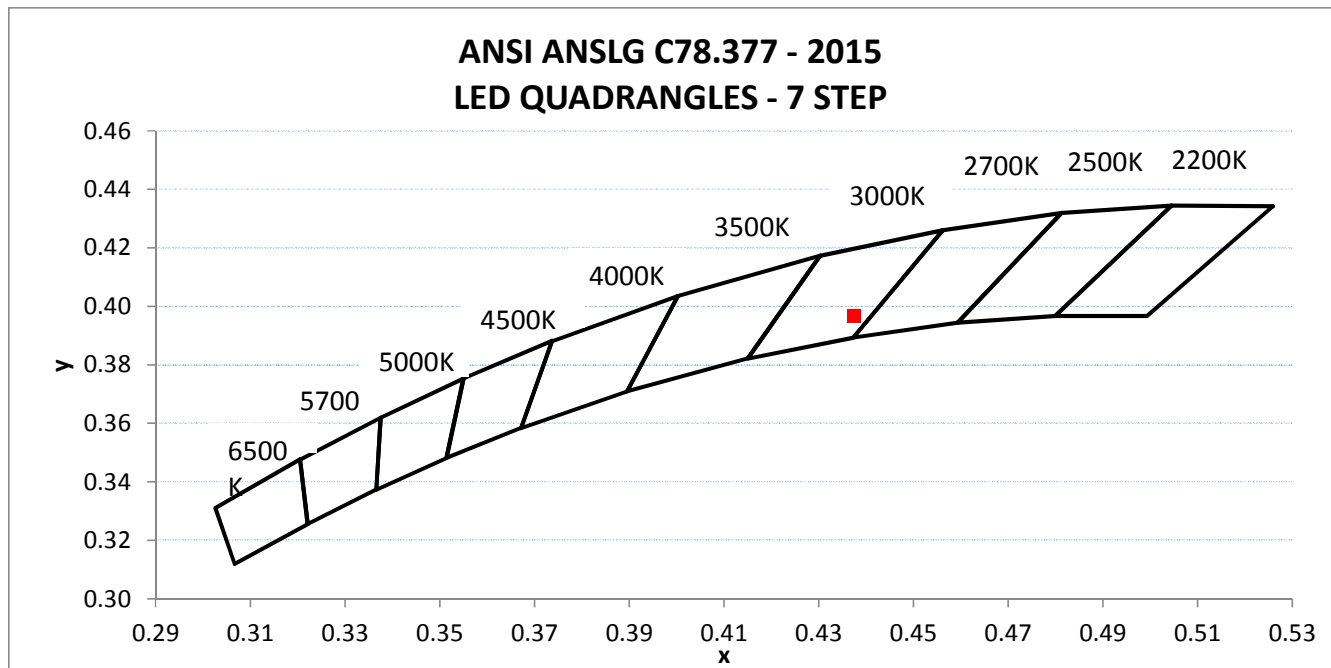
RESULTS OF TESTS

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 (%)
AH05172018024639-025	Base Up	119.97	202.80	24.02	0.987	12.66

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1552.5	64.6	2929	96.6	85.5	0.0033

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.437	0.397	0.254	0.519



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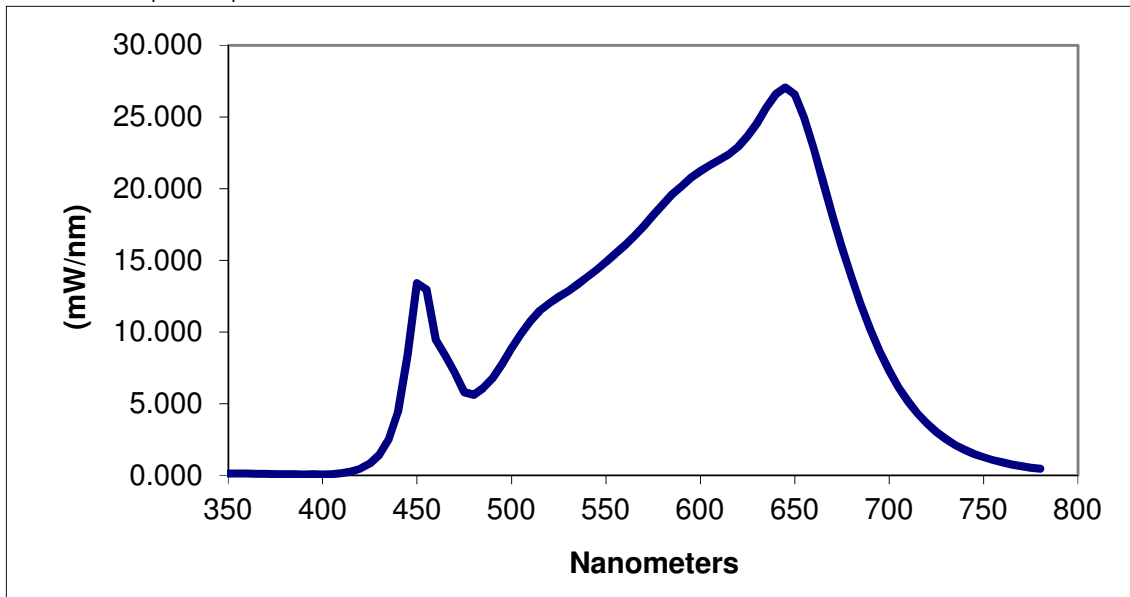
TEST REPORT

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	0.122	460	9.463	570	17.386	680	13.834
355	0.121	465	8.338	575	18.149	685	11.915
360	0.121	470	7.173	580	18.881	690	10.184
365	0.111	475	5.800	585	19.589	695	8.657
370	0.109	480	5.616	590	20.167	700	7.299
375	0.093	485	6.089	595	20.763	705	6.141
380	0.078	490	6.785	600	21.232	710	5.156
385	0.079	495	7.738	605	21.636	715	4.327
390	0.075	500	8.874	610	22.013	720	3.629
395	0.075	505	9.874	615	22.395	725	3.041
400	0.071	510	10.763	620	22.931	730	2.540
405	0.096	515	11.485	625	23.659	735	2.126
410	0.147	520	12.004	630	24.580	740	1.787
415	0.264	525	12.444	635	25.669	745	1.499
420	0.464	530	12.856	640	26.612	750	1.267
425	0.817	535	13.318	645	27.066	755	1.066
430	1.437	540	13.838	650	26.562	760	0.902
435	2.518	545	14.322	655	24.967	765	0.759
440	4.449	550	14.896	660	22.805	770	0.641
445	8.410	555	15.462	665	20.483	775	0.539
450	13.414	560	16.049	670	18.115	780	0.459
455	12.976	565	16.666	675	15.931		

*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
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Attachments: IES File

REVISION HISTORY

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