

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

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

REPORT NUMBER

102602453CHI-021

ISSUE DATE

May 31, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: May 31, 2018

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TEST OF ONE LINEAR LED FIXTURE

MODEL NO. ZSDW-7W-4S-36-30K-SN
LED MODEL NO. LUMILED/SS7CL-12MM-24VDC-C-30K
DRIVER MODEL NO. MEANWELL APV-16-27

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 ZSDW-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 AH05172018024639-021.

DATE OF TESTS

May 23, 2018 through May 25, 2018.

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SUMMARY

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1092.9	1082.0
Input Power (W) @ 120 (VAC)	25.04	24.952
Lumen Efficacy (lm/W)	43.6	43.4
Input Power Factor () @ 120 (VAC)	0.990	0.987

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	11.90
Correlated Color Temperature (K)	2882
Color Rendering Index - Ra ()	96.5
Color Rendering - R9 ()	84.8
DUV ()	0.0036
Chromaticity Coordinate (x)	0.441
Chromaticity Coordinate (y)	0.397
Chromaticity Coordinate (u')	0.256
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 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	146961	7/14/2017	7/14/2018
Yokogawa Power Meter	WT1600	146768	10/3/2017	10/3/2018
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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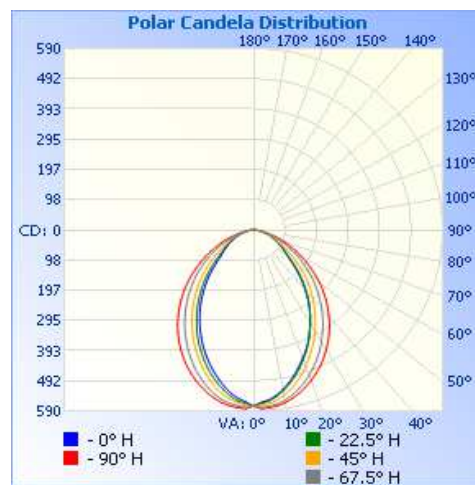
RESULTS OF TESTS

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)
AH05172018024639-021	Base Up	120.1	210.6	24.952	0.987	1082.0	43.4

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	574	574	574	574	574
5	556	560	567	576	581
10	528	532	548	563	571
15	490	495	515	538	550
20	447	452	474	505	523
25	403	404	430	466	490
30	353	354	383	423	453
35	303	304	335	378	411
40	249	253	287	330	366
45	196	202	238	282	318
50	146	152	191	235	270
55	117	116	147	190	220
60	94	93	106	146	172
65	74	73	80	107	127
70	54	53	59	72	87
75	38	36	40	45	52
80	23	22	24	25	25
85	9	9	10	11	6
90	0	0	0	0	0



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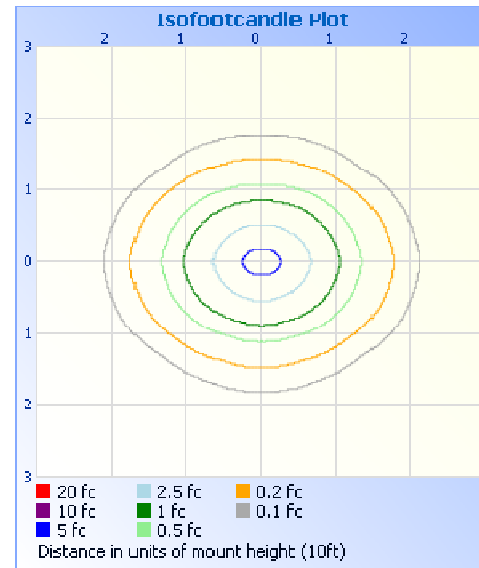
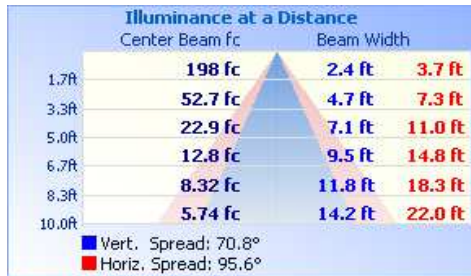
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RESULTS OF TESTS

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	397.9	36.8
0-40	611.1	56.5
0-60	937.7	86.7
60-90	144.2	13.3
70-100	55.2	5.1
90-120	0.0	0.0
0-90	1082.0	100.0
90-180	0.0	0.0
0-180	1082.0	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	53.5	4.9
10-20	144.7	13.4
20-30	199.8	18.5
30-40	213.2	19.7
40-50	187.7	17.3
50-60	138.9	12.8
60-70	89.0	8.2
70-80	44.2	4.1
80-90	11.0	1.0

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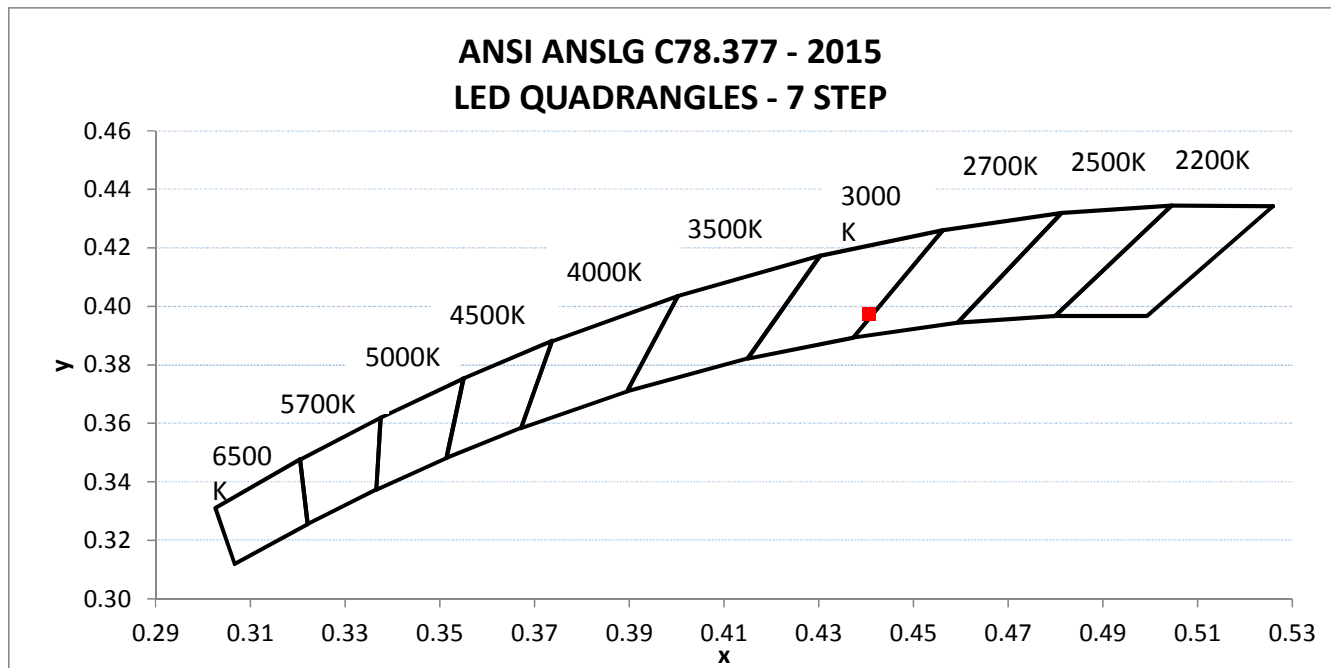
RESULTS OF TESTS

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 (%)
AH05172018024639-021	Base Up	120.00	210.86	25.04	0.990	11.90

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra ()	CRI - R9 ()	DUV ()
1092.9	43.6	2882	96.5	84.8	0.0036

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.441	0.397	0.256	0.519



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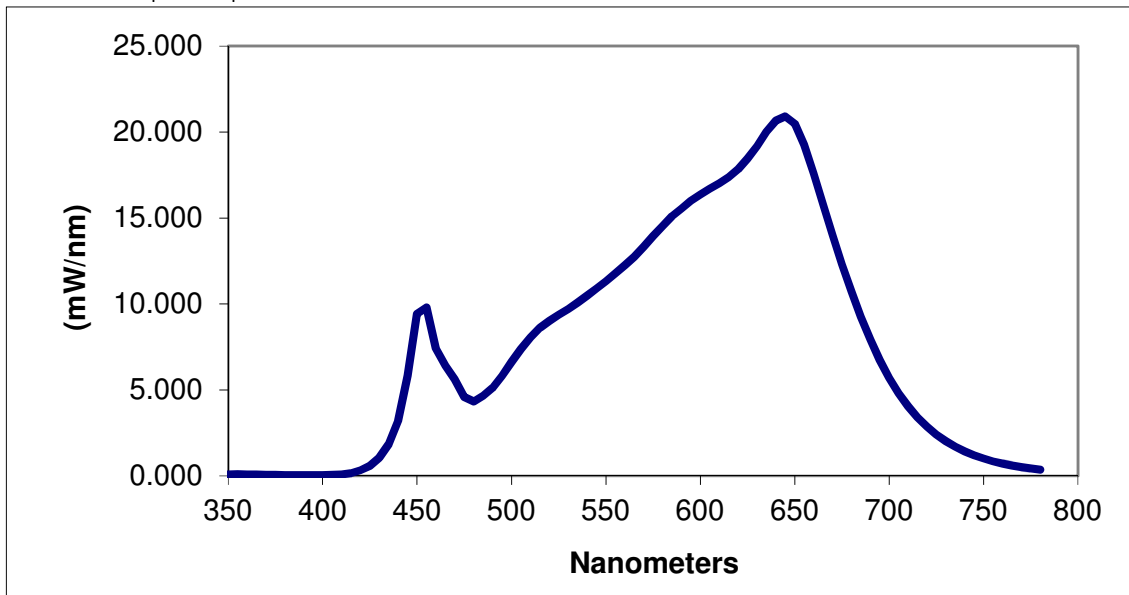
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RESULTS OF TESTS

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	0.098	460	7.420	570	13.328	680	10.730
355	0.102	465	6.410	575	13.956	685	9.268
360	0.093	470	5.618	580	14.525	690	7.940
365	0.088	475	4.598	585	15.095	695	6.749
370	0.081	480	4.339	590	15.548	700	5.708
375	0.067	485	4.659	595	15.999	705	4.809
380	0.058	490	5.139	600	16.377	710	4.046
385	0.060	495	5.817	605	16.700	715	3.408
390	0.054	500	6.641	610	17.020	720	2.867
395	0.048	505	7.384	615	17.378	725	2.410
400	0.052	510	8.047	620	17.841	730	2.020
405	0.066	515	8.611	625	18.462	735	1.702
410	0.097	520	9.015	630	19.182	740	1.427
415	0.173	525	9.379	635	20.023	745	1.202
420	0.329	530	9.716	640	20.660	750	1.014
425	0.600	535	10.072	645	20.907	755	0.857
430	1.063	540	10.494	650	20.486	760	0.729
435	1.850	545	10.892	655	19.255	765	0.613
440	3.206	550	11.323	660	17.581	770	0.517
445	5.831	555	11.780	665	15.810	775	0.438
450	9.428	560	12.249	670	14.014	780	0.374
455	9.807	565	12.750	675	12.319		

*Without correction of sample absorption.



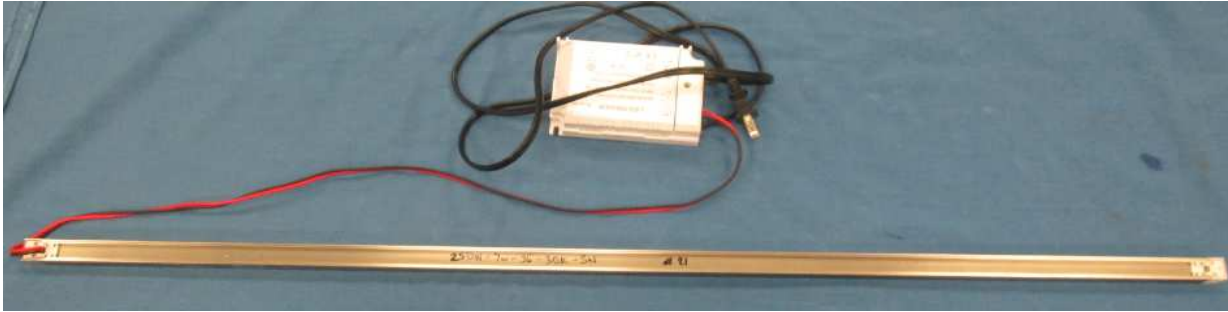
End Of Test Results

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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				