

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

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

REPORT NUMBER

102602453CHI-020

ISSUE DATE

May 31, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

© 2017 INTERTEK



REPORT NO.:102602453CHI-020

REPORT DATE: May 31, 2018

TEST REPORT

TEST OF ONE LINEAR LED FIXTURE

MODEL NO. ZSD-7W-4S-36-30K-SN
LED MODEL NO. LUMILED/SS7CL-12MM-24VDC-C-30K
DRIVER MODEL NO. MEANWELL APV-16-26

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 ZSD-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 AH05172018024639-020.

DATE OF TESTS

May 23, 2018 through May 25, 2018.

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

REPORT NO.:102602453CHI-020

REPORT DATE: May 31, 2018

TEST REPORT

SUMMARY

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1380.1	1334.4
Input Power (W) @ 120 (VAC)	25.99	25.899
Lumen Efficacy (lm/W)	53.1	51.5
Input Power Factor () @ 120 (VAC)	0.984	0.989

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	12.47
Correlated Color Temperature (K)	2920
Color Rendering Index - Ra	96.9
Color Rendering - R9	87.2
DUV	0.0037
Chromaticity Coordinate (x)	0.437
Chromaticity Coordinate (y)	0.396
Chromaticity Coordinate (u')	0.255
Chromaticity Coordinate (v')	0.518

REPORT NO.:102602453CHI-020

REPORT DATE: May 31, 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-020

REPORT DATE: May 31, 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-020

REPORT DATE: May 31, 2018

TEST REPORT

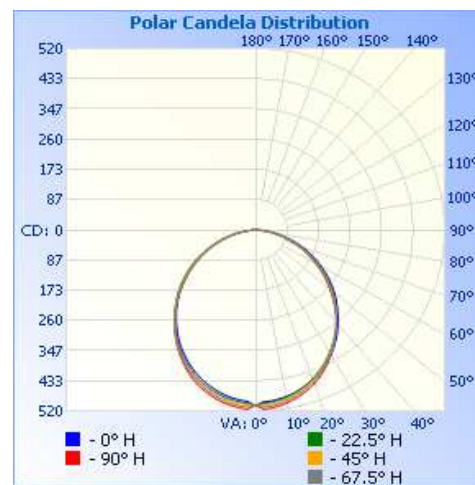
RESULTS OF TESTS

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)
AH05172018024639-020	Base Up	120.1	218.1	25.899	0.989	1334.4	51.5

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	504	504	504	504	504
5	493	496	500	506	513
10	486	488	492	497	504
15	474	475	478	483	489
20	458	456	460	464	470
25	438	434	437	441	445
30	413	407	411	412	415
35	385	378	380	380	382
40	352	346	346	345	347
45	318	313	311	308	308
50	284	276	273	269	269
55	247	239	235	231	230
60	208	201	196	191	191
65	169	162	156	154	152
70	130	122	118	115	114
75	92	84	81	79	78
80	56	49	47	45	44
85	25	20	17	16	15
90	0	0	0	0	0



REPORT NO.:102602453CHI-020

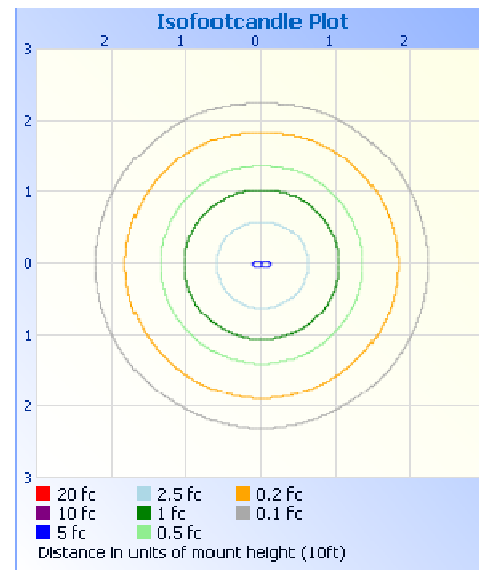
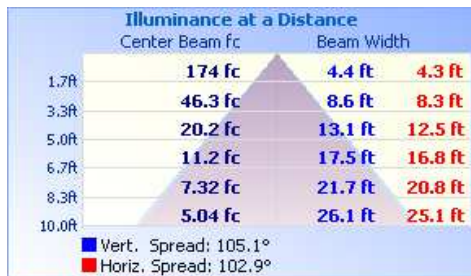
REPORT DATE: May 31, 2018

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	384.0	28.8
0-40	621.2	46.6
0-60	1070.4	80.2
60-90	264.0	19.8
70-100	108.3	8.1
90-120	0.0	0.0
0-90	1334.4	100.0
90-180	0.0	0.0
0-180	1334.4	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	47.6	3.6
10-20	135.0	10.1
20-30	201.4	15.1
30-40	237.2	17.8
40-50	239.2	17.9
50-60	210.0	15.7
60-70	155.7	11.7
70-80	86.7	6.5
80-90	21.6	1.6

REPORT NO.:102602453CHI-020

TEST REPORT

REPORT DATE: May 31, 2018

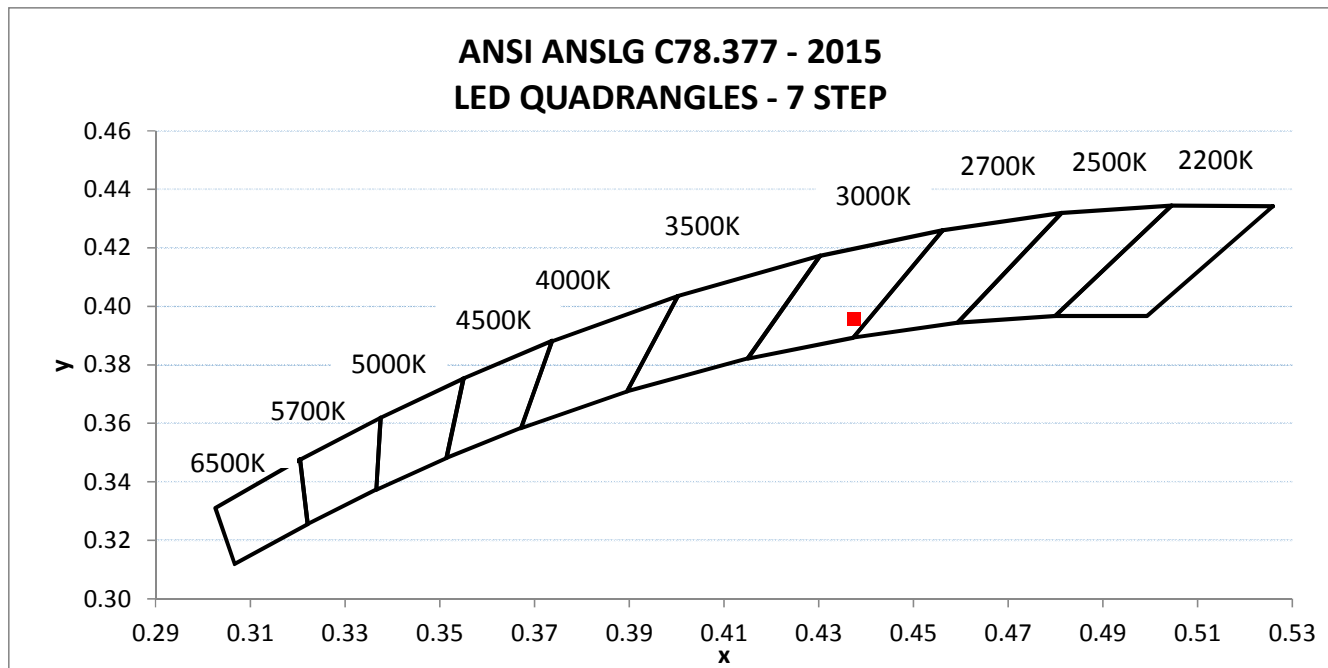
RESULTS OF TESTS

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 (%)
AH05172018024639-020	Base Up	119.99	220.05	25.99	0.984	12.47

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1380.1	53.1	2920	96.9	87.2	0.0037

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.437	0.396	0.255	0.518



REPORT NO.:102602453CHI-020

REPORT DATE: May 31, 2018

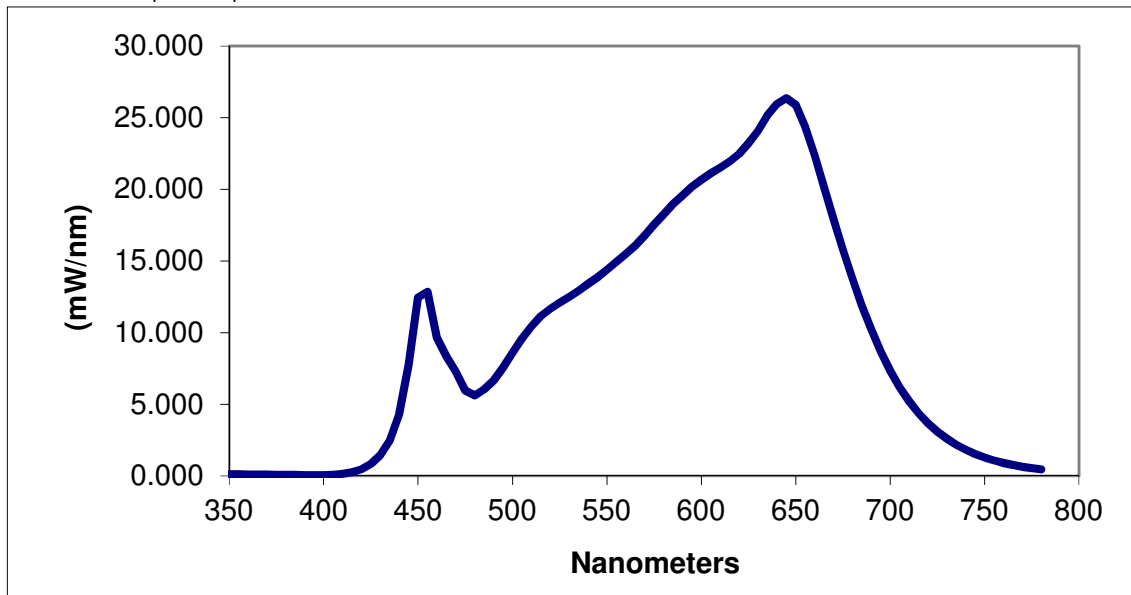
TEST REPORT

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	0.137	460	9.665	570	16.790	680	13.774
355	0.133	465	8.344	575	17.548	685	11.907
360	0.100	470	7.303	580	18.258	690	10.217
365	0.112	475	5.956	585	18.981	695	8.697
370	0.099	480	5.627	590	19.580	700	7.343
375	0.094	485	6.037	595	20.168	705	6.204
380	0.080	490	6.676	600	20.670	710	5.217
385	0.077	495	7.575	605	21.115	715	4.388
390	0.069	500	8.620	610	21.513	720	3.687
395	0.067	505	9.579	615	21.937	725	3.099
400	0.071	510	10.444	620	22.478	730	2.604
405	0.088	515	11.149	625	23.221	735	2.180
410	0.146	520	11.664	630	24.096	740	1.826
415	0.265	525	12.104	635	25.147	745	1.538
420	0.474	530	12.501	640	25.965	750	1.295
425	0.838	535	12.925	645	26.358	755	1.089
430	1.449	540	13.410	650	25.890	760	0.922
435	2.482	545	13.864	655	24.387	765	0.778
440	4.290	550	14.392	660	22.367	770	0.655
445	7.765	555	14.939	665	20.200	775	0.555
450	12.460	560	15.495	670	17.946	780	0.468
455	12.854	565	16.072	675	15.805		

*Without correction of sample absorption.



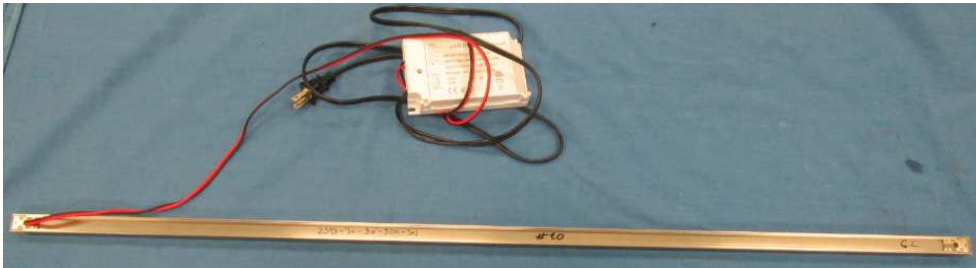
End Of Test Results

REPORT NO.:102602453CHI-020

REPORT DATE: May 31, 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				