

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

P1SD-5W-4S-36--30K-SN

REPORT NUMBER

102602453CHI-031

ISSUE DATE

June 4, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST OF ONE LINEAR LED FIXTURE

MODEL NO. P1SD-5W-4S-36--30K-SN
LED MODEL NO. LUMILED/SS5CL-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 P1SD-5W-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 AH05172018024639-031.

DATE OF TESTS

May 29, 2018 through May 30, 2018.

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SUMMARY

MODEL NO:	P1SD-5W-4S-36--30K-SN
DESCRIPTION:	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1362.1	1340.5
Input Power (W) @ 120 (VAC)	17.33	17.342
Lumen Efficacy (lm/W)	78.6	77.3
Input Power Factor () @ 120 (VAC)	0.975	0.975

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	16.15
Correlated Color Temperature (K)	2993
Color Rendering Index - Ra ()	96.8
Color Rendering - R9 ()	87.0
DUV ()	0.0035
Chromaticity Coordinate (x)	0.432
Chromaticity Coordinate (y)	0.394
Chromaticity Coordinate (u')	0.252
Chromaticity Coordinate (v')	0.517

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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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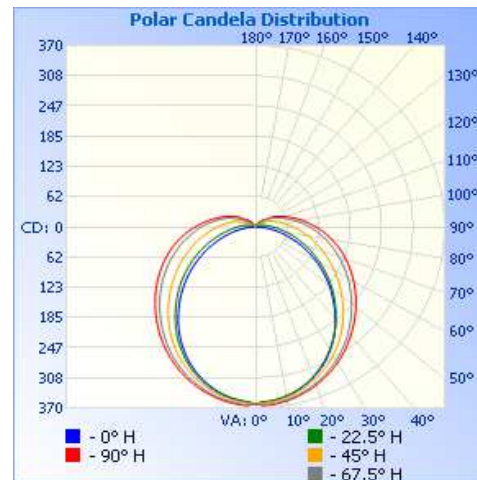
RESULTS OF TESTS

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)
AH05172018024639-031	Base Up	120.0	148.3	17.342	0.975	1340.5	77.3

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	361	361	361	361	361
5	357	356	359	362	365
10	351	350	354	358	360
15	341	340	345	351	353
20	328	327	334	341	344
25	312	310	320	329	333
30	291	290	303	315	321
35	269	268	285	299	306
40	243	244	264	282	290
45	216	220	243	264	273
50	189	195	221	245	256
55	162	170	199	227	239
60	134	146	178	208	222
65	107	122	158	190	204
70	81	99	138	172	187
75	57	79	120	155	170
80	36	60	103	138	152
85	17	45	88	121	135
90	2	34	74	106	118
95	1	25	61	90	102
100	1	19	51	76	87
105	1	14	42	64	74
110	1	10	34	53	61
115	1	8	26	44	50
120	1	6	20	35	41
125	1	5	16	26	28
130	1	4	13	20	22
135	1	4	10	16	18
140	2	3	8	13	14
145	2	3	6	10	6



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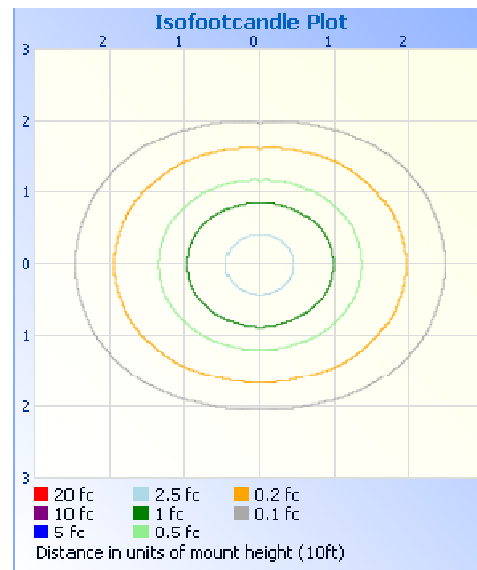
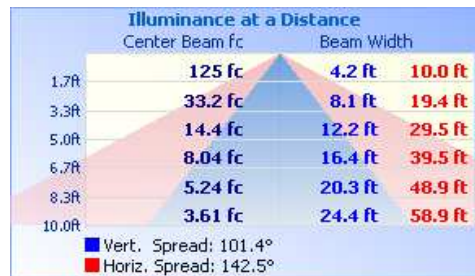
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RESULTS OF TESTS

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	278.9	20.8
0-40	456.7	34.1
0-60	821.3	61.3
60-90	367.8	27.4
70-100	276.2	20.6
90-120	129.0	9.6
0-90	1189.1	88.7
90-180	151.4	11.3
0-180	1340.5	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	34.1	2.5
10-20	97.5	7.3
20-30	147.3	11.0
30-40	177.8	13.3
40-50	186.9	13.9
50-60	177.7	13.3
60-70	154.5	11.5
70-80	123.2	9.2
80-90	90.1	6.7
90-100	62.9	4.7
100-110	41.6	3.1
110-120	24.5	1.8
120-130	12.8	1.0
130-140	6.7	0.5
140-150	3.0	0.2

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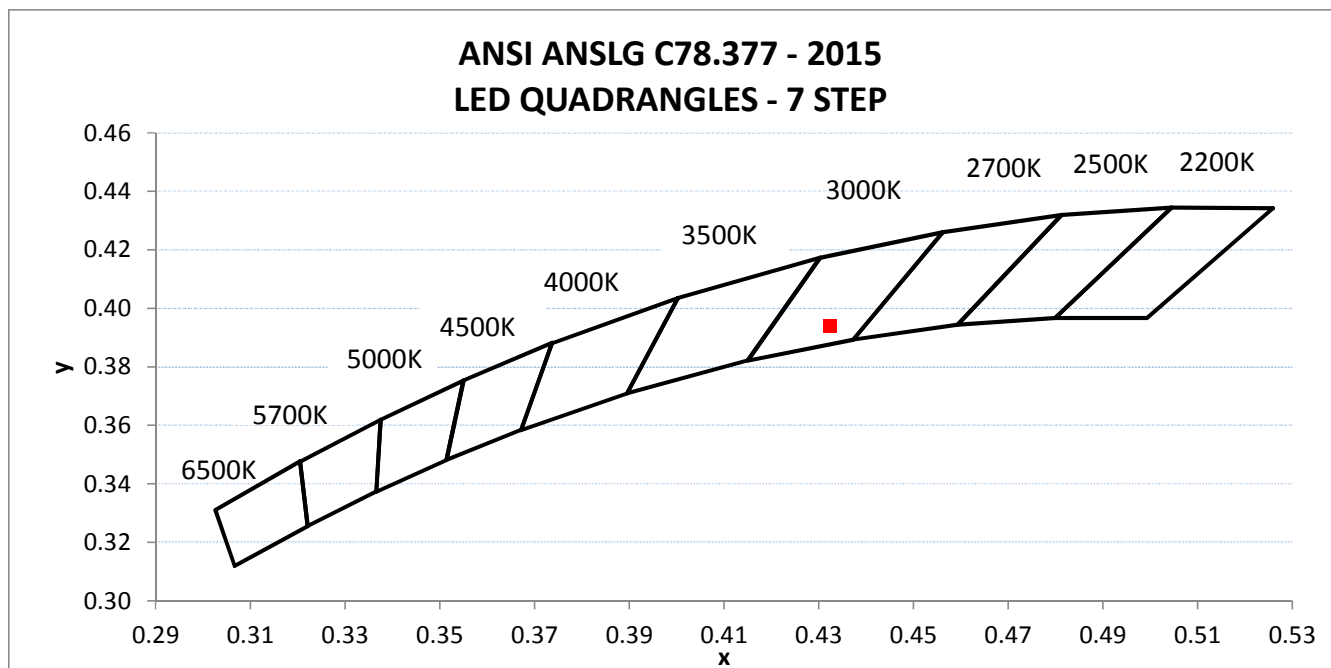
RESULTS OF TESTS

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 (%)
AH05172018024639-031	Base Up	120.02	148.09	17.33	0.975	16.15

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1362.1	78.6	2993	96.8	87.0	0.0035

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.432	0.394	0.252	0.517



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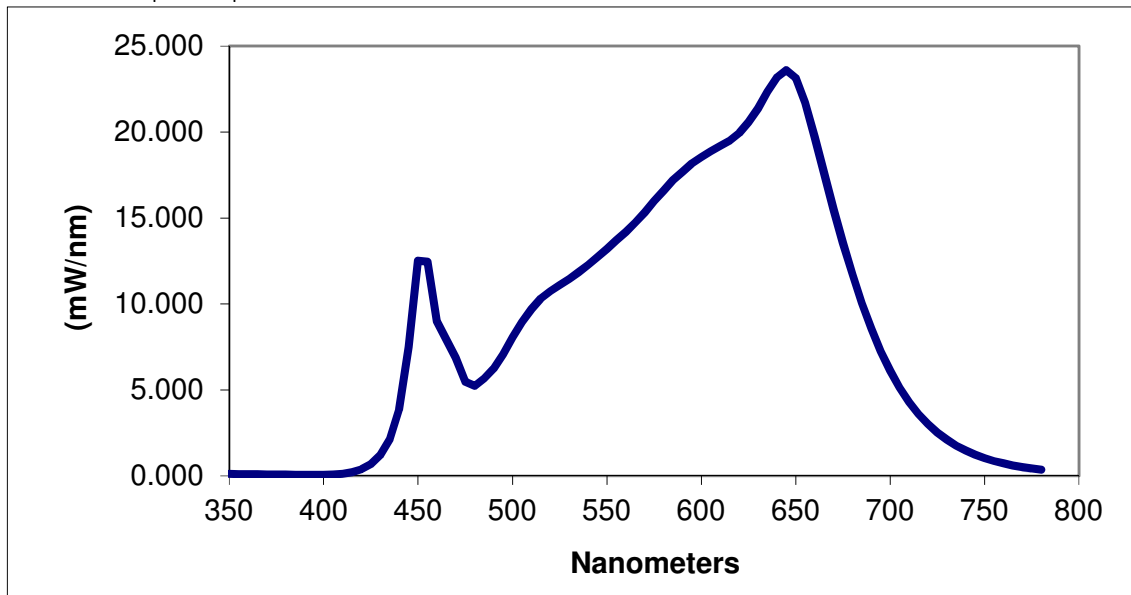
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RESULTS OF TESTS

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	0.131	460	8.997	570	15.327	680	11.732
355	0.118	465	7.923	575	15.972	685	10.063
360	0.113	470	6.875	580	16.594	690	8.579
365	0.113	475	5.487	585	17.198	695	7.260
370	0.097	480	5.241	590	17.687	700	6.111
375	0.084	485	5.665	595	18.167	705	5.141
380	0.082	490	6.248	600	18.546	710	4.304
385	0.074	495	7.074	605	18.887	715	3.608
390	0.069	500	8.070	610	19.188	720	3.028
395	0.064	505	8.937	615	19.503	725	2.531
400	0.066	510	9.705	620	19.935	730	2.117
405	0.082	515	10.326	625	20.573	735	1.766
410	0.129	520	10.754	630	21.376	740	1.480
415	0.218	525	11.112	635	22.341	745	1.235
420	0.383	530	11.460	640	23.184	750	1.038
425	0.681	535	11.843	645	23.598	755	0.872
430	1.211	540	12.280	650	23.140	760	0.738
435	2.139	545	12.716	655	21.701	765	0.619
440	3.861	550	13.213	660	19.709	770	0.519
445	7.503	555	13.701	665	17.626	775	0.440
450	12.527	560	14.201	670	15.501	780	0.376
455	12.467	565	14.729	675	13.563		

*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				