

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

P2SD-5W-4S-36-30K-SN

REPORT NUMBER

102602453CHI-034

ISSUE DATE

June 4, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST OF ONE LINEAR LED FIXTURE

MODEL NO. P2SD-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 P2SD-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 AH05172018024639-034.

DATE OF TESTS

May 29, 2018 through May 30, 2018.

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SUMMARY

MODEL NO:	P2SD-5W-4S-36-30K-SN
DESCRIPTION:	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1545.0	1493.0
Input Power (W) @ 120 (VAC)	17.61	17.729
Lumen Efficacy (lm/W)	87.7	84.2
Input Power Factor () @ 120 (VAC)	0.519	0.518

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	83.61
Correlated Color Temperature (K)	3019
Color Rendering Index - Ra ()	95.8
Color Rendering - R9 ()	81.8
DUV ()	0.0029
Chromaticity Coordinate (x)	0.432
Chromaticity Coordinate (y)	0.395
Chromaticity Coordinate (u')	0.251
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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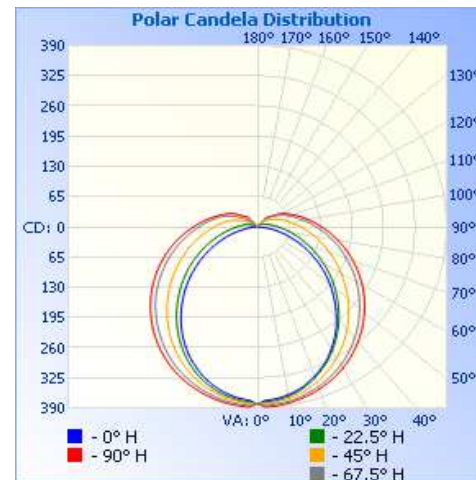
RESULTS OF TESTS

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)
AH05172018024639-034	Base Up	120.1	285.1	17.729	0.518	1493.0	84.2

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	381	381	381	381	381
5	373	376	380	384	387
10	367	370	375	380	384
15	357	360	367	374	379
20	343	346	356	366	372
25	326	328	342	356	363
30	304	308	326	343	351
35	280	285	308	328	338
40	253	261	288	312	323
45	225	235	266	294	306
50	196	209	244	275	288
55	167	183	221	255	269
60	138	157	199	235	249
65	109	132	178	215	229
70	82	109	157	194	209
75	56	88	138	175	188
80	32	70	120	156	169
85	12	54	104	138	150
90	2	42	89	121	132
95	1	33	77	106	116
100	1	26	66	92	101
105	1	20	56	80	88
110	1	16	48	70	77
115	2	13	39	60	67
120	2	11	31	50	57
125	2	9	25	40	43
130	2	8	21	32	36
135	2	7	18	26	30



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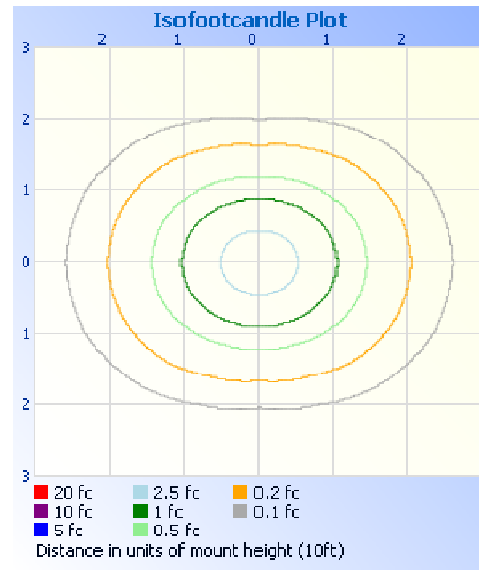
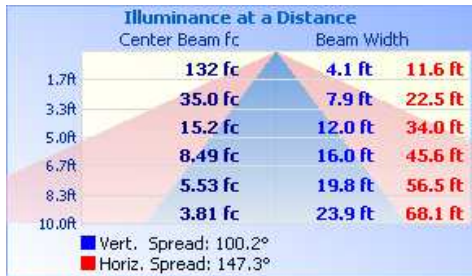
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RESULTS OF TESTS

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	297.0	19.9
0-40	488.9	32.7
0-60	888.5	59.5
60-90	412.5	27.6
70-100	316.3	21.2
90-120	162.3	10.9
0-90	1301.0	87.1
90-180	192.0	12.9
0-180	1493.0	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	36.1	2.4
10-20	103.5	6.9
20-30	157.5	10.5
30-40	191.9	12.9
40-50	203.9	13.7
50-60	195.7	13.1
60-70	171.4	11.5
70-80	138.0	9.2
80-90	103.0	6.9
90-100	75.2	5.0
100-110	53.1	3.6
110-120	34.0	2.3
120-130	19.5	1.3
130-140	10.2	0.7

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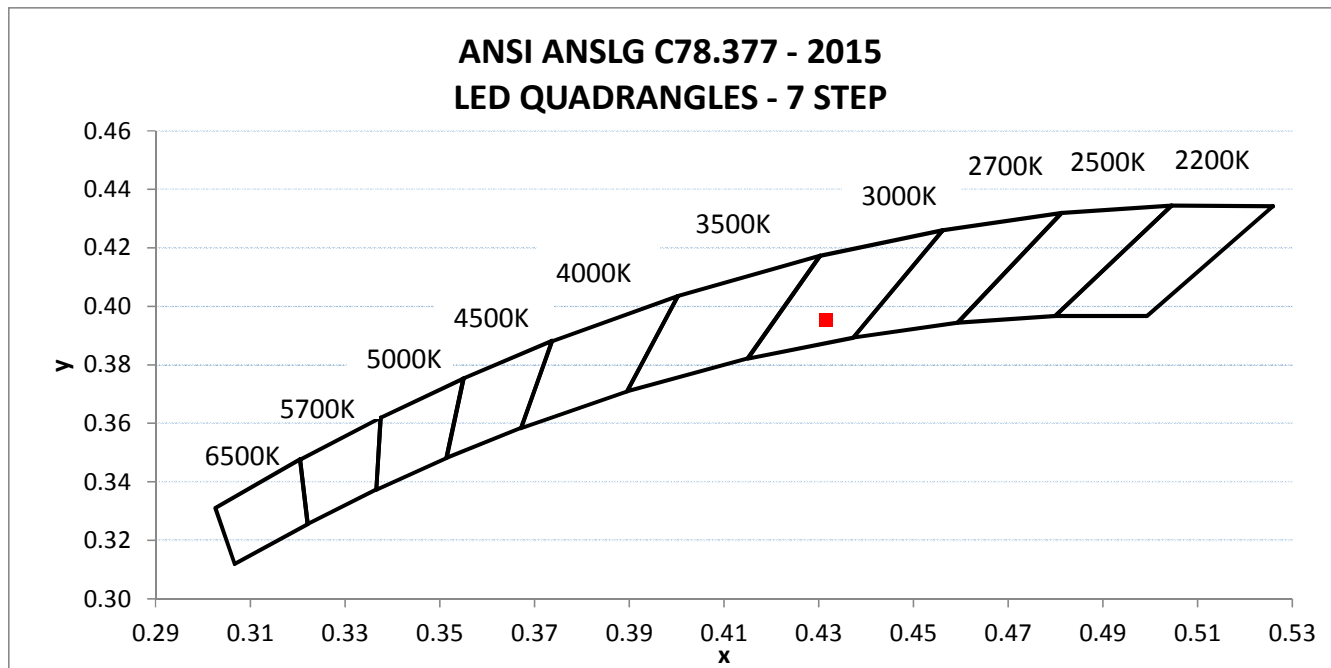
RESULTS OF TESTS

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 (%)
AH05172018024639-034	Base Up	120.01	282.72	17.61	0.519	83.61

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1545.0	87.7	3019	95.8	81.8	0.0029

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.432	0.395	0.251	0.517



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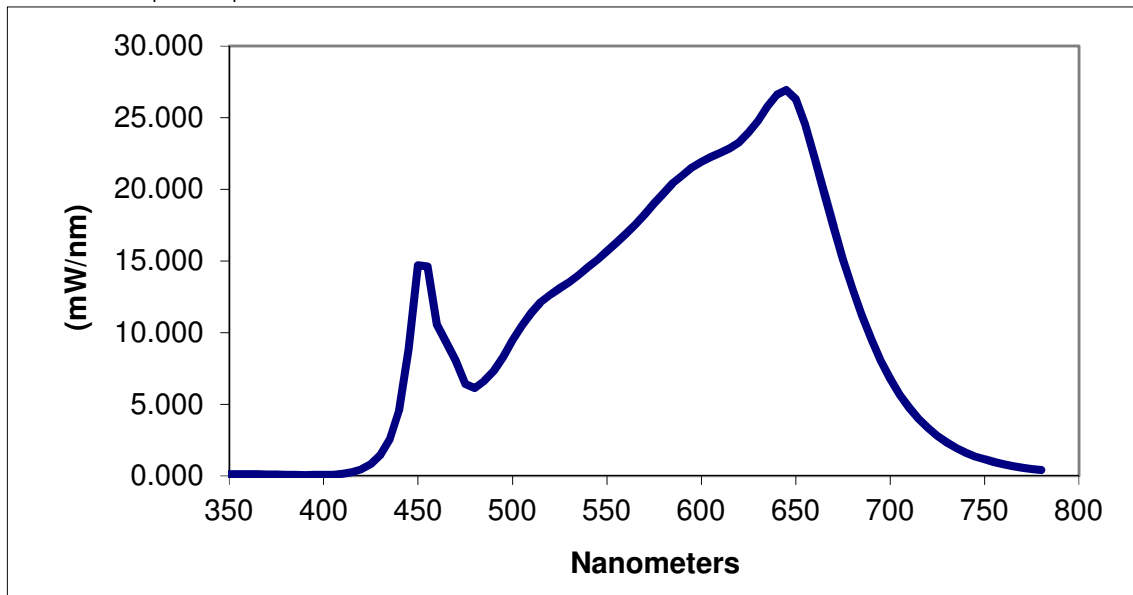
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RESULTS OF TESTS

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	0.130	460	10.572	570	18.258	680	13.090
355	0.125	465	9.298	575	19.019	685	11.219
360	0.122	470	8.047	580	19.742	690	9.545
365	0.125	475	6.430	585	20.437	695	8.065
370	0.106	480	6.143	590	20.982	700	6.774
375	0.098	485	6.634	595	21.515	705	5.695
380	0.095	490	7.323	600	21.917	710	4.765
385	0.086	495	8.287	605	22.256	715	3.994
390	0.072	500	9.475	610	22.552	720	3.346
395	0.075	505	10.492	615	22.855	725	2.800
400	0.075	510	11.401	620	23.293	730	2.341
405	0.097	515	12.141	625	23.950	735	1.957
410	0.148	520	12.663	630	24.773	740	1.633
415	0.261	525	13.110	635	25.790	745	1.368
420	0.461	530	13.537	640	26.614	750	1.148
425	0.817	535	14.015	645	26.934	755	0.970
430	1.440	540	14.573	650	26.293	760	0.820
435	2.554	545	15.091	655	24.525	765	0.688
440	4.576	550	15.691	660	22.202	770	0.577
445	8.869	555	16.281	665	19.794	775	0.490
450	14.716	560	16.903	670	17.379	780	0.415
455	14.620	565	17.529	675	15.166		

*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
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				