

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

P1SD-10W-4S-36--30K-SN

REPORT NUMBER

102602453CHI-033

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-10W-4S-36--30K-SN
LED MODEL NO. LUMILED/SS10CL-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-10W-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 AH05172018024639-033.

DATE OF TESTS

May 29, 2018 through May 30, 2018.

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SUMMARY

MODEL NO:	P1SD-10W-4S-36--30K-SN
DESCRIPTION:	Linear LED fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	2363.6	2317.0
Input Power (W) @ 120 (VAC)	30.16	30.186
Lumen Efficacy (lm/W)	78.4	76.8
Input Power Factor () @ 120 (VAC)	0.990	0.990

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	12.30
Correlated Color Temperature (K)	2999
Color Rendering Index - Ra ()	96.3
Color Rendering - R9 ()	84.3
DUV ()	0.0034
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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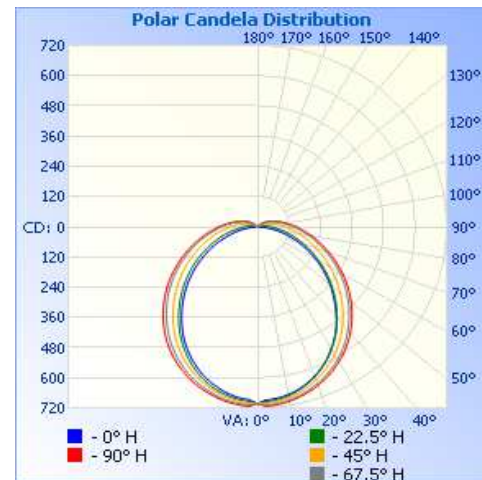
RESULTS OF TESTS

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)
AH05172018024639-033	Base Up	120.0	254.0	30.186	0.990	2317.0	76.8

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	702	702	702	702	702
5	687	693	699	707	712
10	676	681	689	698	703
15	658	662	672	684	689
20	632	635	649	664	671
25	601	601	620	639	647
30	561	562	586	609	619
35	518	518	547	574	586
40	467	470	504	535	549
45	414	421	458	494	509
50	362	370	412	450	465
55	309	320	365	405	420
60	256	270	319	360	374
65	203	222	275	315	330
70	154	178	234	272	286
75	108	138	196	234	246
80	67	103	161	198	209
85	31	74	131	166	176
90	3	56	108	138	150
95	1	34	82	112	122
100	1	23	64	91	100
105	1	14	49	74	81
110	1	8	37	58	66
115	1	5	26	45	52
120	1	3	17	34	40
125	1	2	12	24	30
130	1	2	8	16	19
135	1	1	5	11	13



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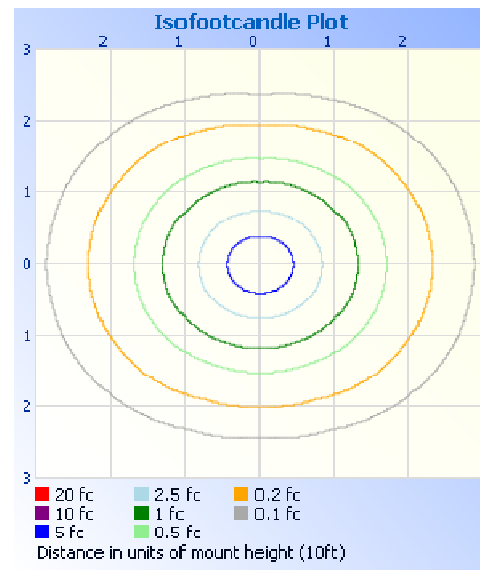
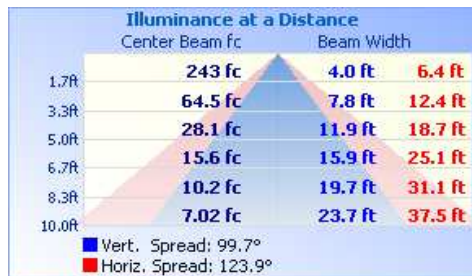
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RESULTS OF TESTS

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	540.7	23.3
0-40	881.7	38.1
0-60	1557.3	67.2
60-90	592.0	25.5
70-100	406.6	17.5
90-120	152.8	6.6
0-90	2149.3	92.8
90-180	167.7	7.2
0-180	2317.0	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	66.4	2.9
10-20	189.3	8.2
20-30	285.0	12.3
30-40	341.0	14.7
40-50	352.1	15.2
50-60	323.6	14.0
60-70	266.0	11.5
70-80	196.1	8.5
80-90	129.8	5.6
90-100	80.6	3.5
100-110	47.5	2.0
110-120	24.7	1.1
120-130	10.9	0.5
130-140	4.0	0.2

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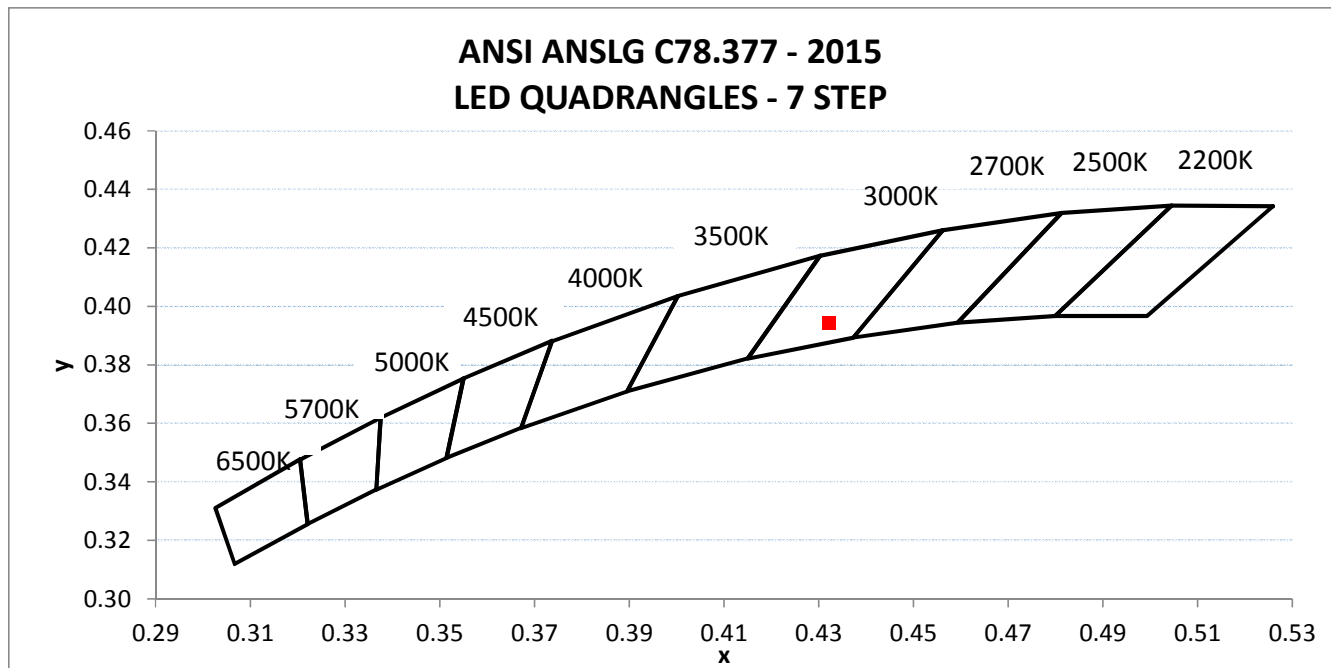
RESULTS OF TESTS

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 (%)
AH05172018024639-033	Base Up	119.98	253.80	30.16	0.990	12.30

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
2363.6	78.4	2999	96.3	84.3	0.0034

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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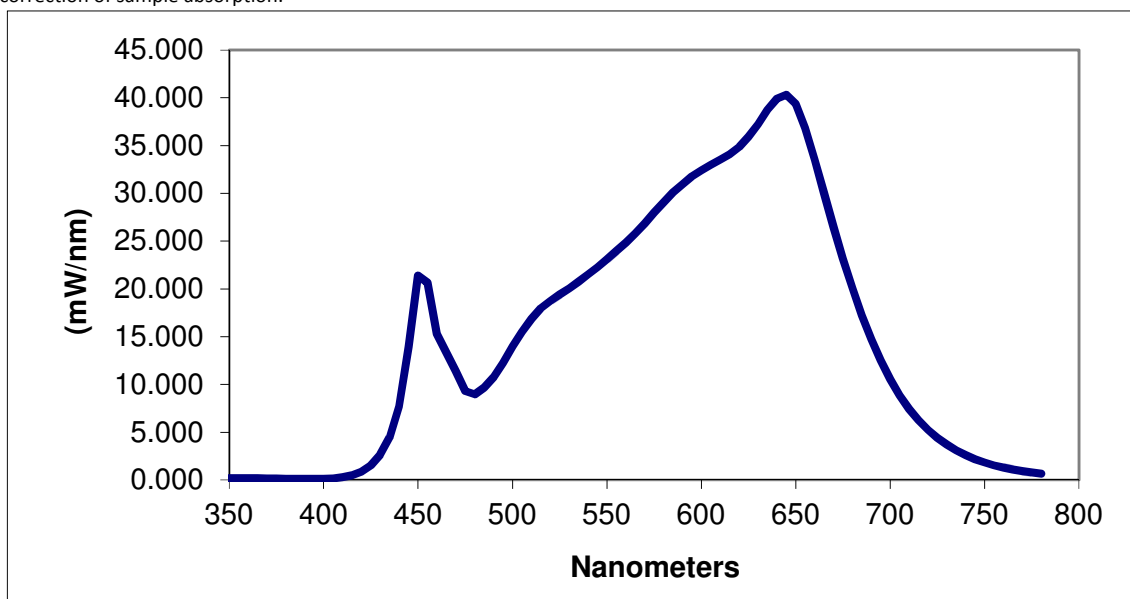
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RESULTS OF TESTS

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	0.202	460	15.300	570	26.855	680	20.100
355	0.201	465	13.332	575	27.981	685	17.258
360	0.193	470	11.413	580	29.063	690	14.724
365	0.194	475	9.312	585	30.090	695	12.510
370	0.156	480	8.975	590	30.935	700	10.533
375	0.155	485	9.686	595	31.761	705	8.868
380	0.136	490	10.778	600	32.409	710	7.440
385	0.123	495	12.252	605	32.986	715	6.250
390	0.116	500	13.986	610	33.524	720	5.261
395	0.120	505	15.514	615	34.084	725	4.409
400	0.122	510	16.868	620	34.852	730	3.699
405	0.172	515	17.965	625	35.921	735	3.095
410	0.283	520	18.738	630	37.233	740	2.597
415	0.506	525	19.426	635	38.730	745	2.175
420	0.880	530	20.043	640	39.906	750	1.831
425	1.536	535	20.743	645	40.314	755	1.540
430	2.631	540	21.523	650	39.349	760	1.307
435	4.485	545	22.257	655	36.822	765	1.098
440	7.706	550	23.116	660	33.517	770	0.919
445	13.911	555	23.970	665	30.021	775	0.784
450	21.383	560	24.853	670	26.466	780	0.662
455	20.667	565	25.779	675	23.218		

*Without correction of sample absorption.



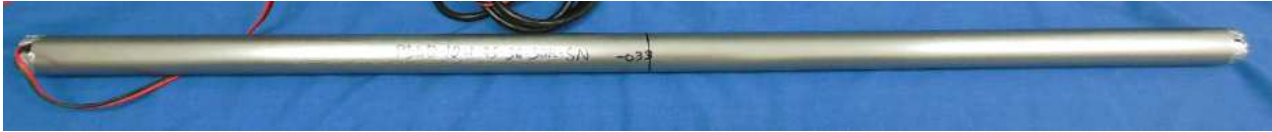
End Of Test Results

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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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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				