

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

Electrical and Photometric tests as required to the IESNA LM-79 test standard.

MODEL NUMBER

LCS6-5W-36-C-30K-SA

REPORT NUMBER

103597691CHI-001

ISSUE DATE

January 21, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT NO.: 103597691CHI-032

REPORT DATE: January 21, 2020

TEST REPORT

TEST OF ONE LINEAR LUMINAIRE

MODEL NO. LCS6-5W-36-C-30K-SA
LED MODEL NO. LUMILED 2835
DRIVER MODEL NO. LTF DA25W24VBF1-0000

RENDERED TO:

PURE EDGE LIGHTING
1718 WEST FULLERTON
CHICAGO, IL 60614

STATEMENT OF LIMITATIONS

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00901421-1 .

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 LCS6-5W-36-C-30K-SA. The sample was received by Intertek on January 13, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH01132020121521-032.

DATE OF TESTS

January 14, 2020 through January 15, 2020.

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SUMMARY

MODEL NO:	LCS6-5W-36-C-30K-SA
DESCRIPTION:	Linear Luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	866.0	855.7
Input Power (W) @ 120 (VAC)	14.06	14.01
Lumen Efficacy (lm/W)	61.6	61.1
Input Power Factor () @ 120 (VAC)	0.860	0.861

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	32.51
Correlated Color Temperature (K)	3095
Color Rendering Index - Ra	94.4
Color Rendering - R9	73.5
DUV	0.0031
Chromaticity Coordinate (x)	0.427
Chromaticity Coordinate (y)	0.394
Chromaticity Coordinate (u')	0.248
Chromaticity Coordinate (v')	0.516

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/1/2019	7/1/2020
Omega Thermometer	DPI8-C24	146920	10/3/2019	10/3/2020
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
Elgar, AC Power Supply	CW1251	146111	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	4/3/2019	4/3/2020
Omega Temperature	MDSi8	146873	7/2/2019	7/2/2020
Newport Thermohygrometer	iTHX-M	146961	7/26/2019	7/26/2020

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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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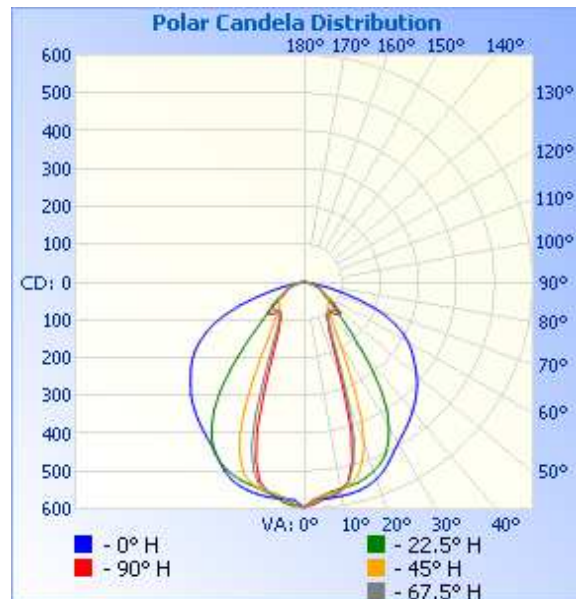
RESULTS OF TESTS

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)
AH01132020121521-032	Base Up	120.0	135.6	14.01	0.861	855.7	61.1

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	596	596	596	596	596
5	576	566	565	572	576
10	574	555	559	558	560
15	569	549	535	498	488
20	555	533	460	341	303
25	526	504	313	194	175
30	493	445	190	134	130
35	468	357	132	107	107
40	443	235	101	98	104
45	417	149	88	104	119
50	386	103	83	109	126
55	351	74	77	96	80
60	315	59	63	62	59
65	264	50	51	48	50
70	192	37	42	36	38
75	99	24	28	24	24
80	34	13	13	12	12
85	8	4	4	4	4
90	0	0	0	0	0



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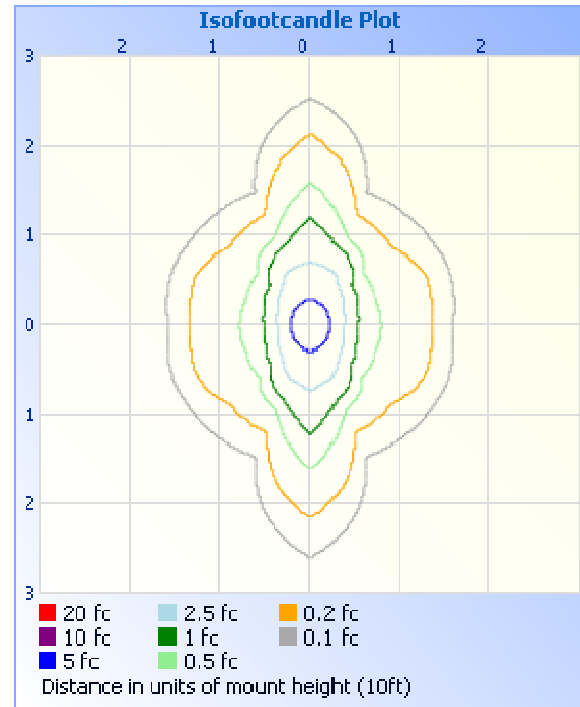
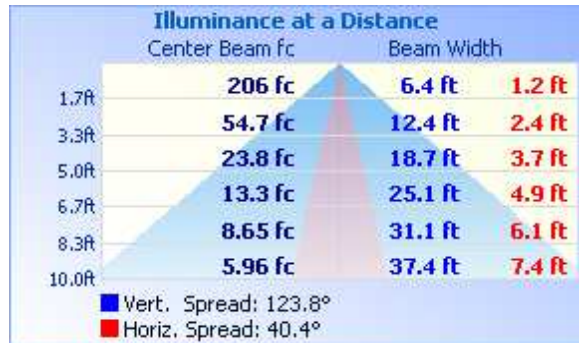
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RESULTS OF TESTS

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	363.2	42.4
0-40	506.7	59.2
0-60	734.9	85.9
60-90	119.4	14.0
70-100	43.9	5.1
90-120	0.4	0.0
0-90	854.3	99.8
90-180	1.4	0.2
0-180	855.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	54.5	6.4
10-20	146.3	17.1
20-30	162.4	19.0
30-40	143.6	16.8
40-50	122.9	14.4
50-60	105.3	12.3
60-70	75.7	8.8
70-80	37.1	4.3
80-90	6.7	0.8
90-100	0.2	0.0
100-110	0.1	0.0
110-120	0.1	0.0
120-130	0.1	0.0
130-140	0.2	0.0
140-150	0.2	0.0
150-160	0.2	0.0
160-170	0.2	0.0
170-180	0.1	0.0

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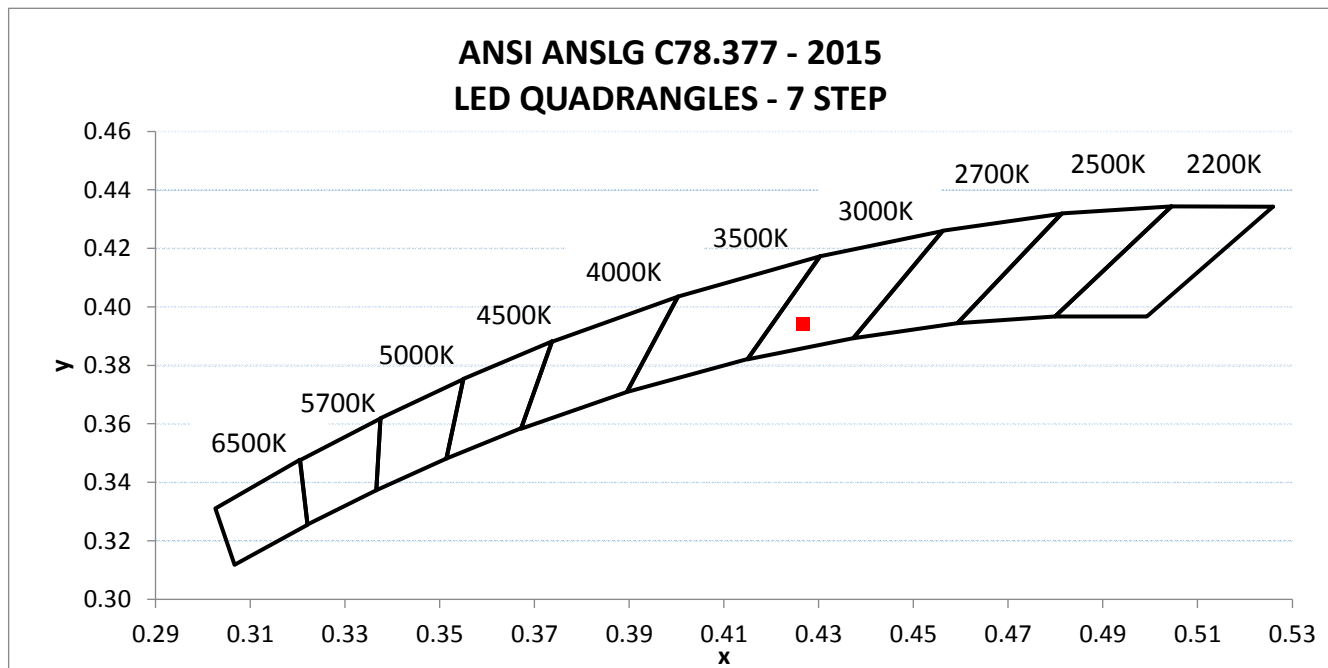
RESULTS OF TESTS

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 (%)
AH01132020121521-032	Base Up	120.01	136.30	14.06	0.860	32.51

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
866.0	61.6	3095	94.4	73.5	0.0031

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.427	0.394	0.248	0.516



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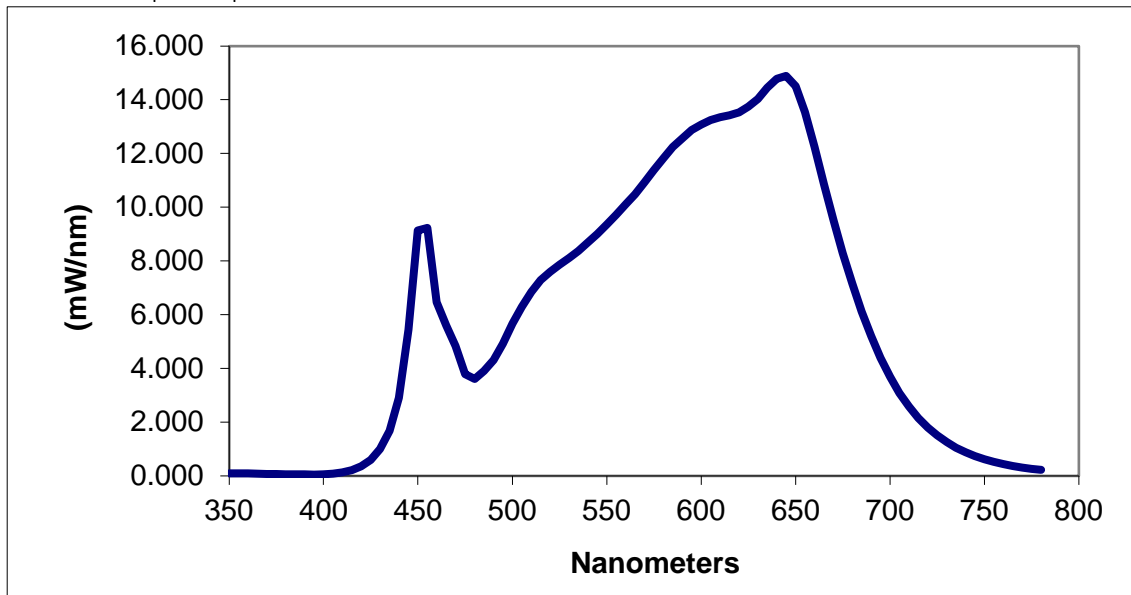
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RESULTS OF TESTS

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	0.096	460	6.464	570	10.926	680	7.152
355	0.093	465	5.597	575	11.383	685	6.120
360	0.091	470	4.838	580	11.819	690	5.205
365	0.082	475	3.787	585	12.235	695	4.392
370	0.076	480	3.604	590	12.557	700	3.687
375	0.064	485	3.901	595	12.871	705	3.088
380	0.058	490	4.312	600	13.078	710	2.581
385	0.060	495	4.921	605	13.235	715	2.154
390	0.058	500	5.662	610	13.343	720	1.800
395	0.057	505	6.291	615	13.422	725	1.505
400	0.063	510	6.845	620	13.526	730	1.261
405	0.086	515	7.289	625	13.740	735	1.049
410	0.128	520	7.596	630	14.020	740	0.878
415	0.208	525	7.860	635	14.440	745	0.733
420	0.351	530	8.104	640	14.775	750	0.619
425	0.593	535	8.371	645	14.887	755	0.521
430	0.996	540	8.685	650	14.501	760	0.440
435	1.680	545	8.995	655	13.533	765	0.370
440	2.905	550	9.359	660	12.233	770	0.311
445	5.435	555	9.719	665	10.866	775	0.263
450	9.134	560	10.111	670	9.523	780	0.223
455	9.230	565	10.480	675	8.287		

*Without correction of sample absorption.



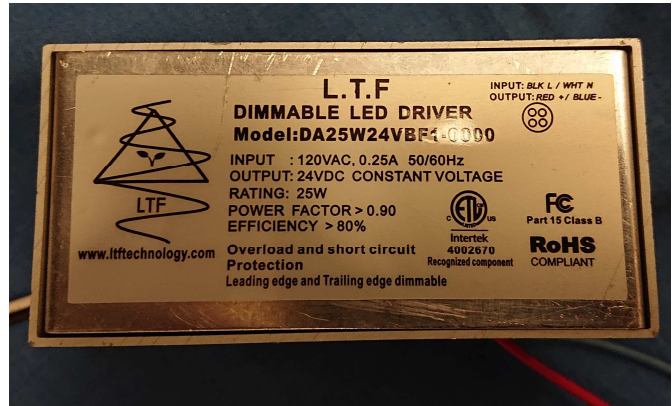
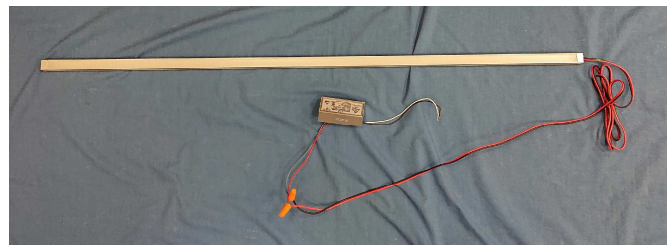
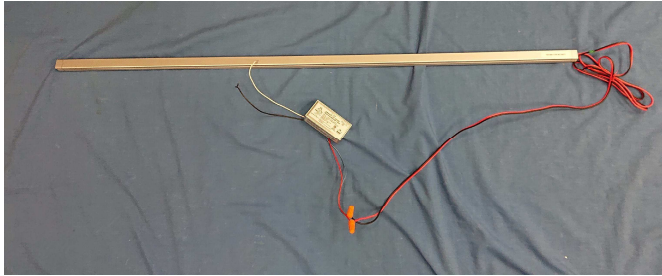
End Of Test Results

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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:

Ian Smith

Ian Smith
Engineer
Lighting Division

Report Reviewed By:

Jeff Davis

Jeff Davis
NA Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

JOB NUMBER	DATE OF REVISION	PROJECT HANDLER	REVIEWED BY	REVISION NOTE
None				