

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-D-30K-SA

REPORT NUMBER

103597691CHI-031

ISSUE DATE

January 21, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: January 21, 2020

TEST REPORT

TEST OF ONE LINEAR LUMINAIRE

MODEL NO. LCS6-5W-36-D-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-D-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 AH01132020121521-031.

DATE OF TESTS

January 14, 2020 through January 15, 2020.

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SUMMARY

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

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	669.8	646.8
Input Power (W) @ 120 (VAC)	14.09	14.04
Lumen Efficacy (lm/W)	47.5	46.1
Input Power Factor () @ 120 (VAC)	0.859	0.861

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	32.59
Correlated Color Temperature (K)	3009
Color Rendering Index - Ra	95.2
Color Rendering - R9	77.5
DUV	0.0027
Chromaticity Coordinate (x)	0.432
Chromaticity Coordinate (y)	0.396
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	7/1/2019	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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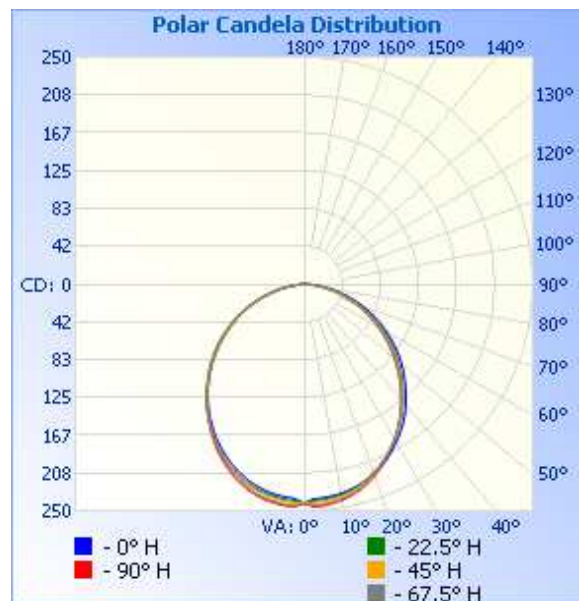
RESULTS OF TESTS

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)
AH01132020121521-031	Base Up	120.0	135.9	14.04	0.861	646.8	46.1

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	242	242	242	242	242
5	236	238	240	243	245
10	234	236	238	240	242
15	230	230	231	233	235
20	222	221	222	223	225
25	213	211	211	211	213
30	201	198	198	197	198
35	188	184	183	182	182
40	173	168	167	166	165
45	157	152	150	148	148
50	140	135	132	130	130
55	122	117	114	112	112
60	104	99	96	94	93
65	85	80	77	75	75
70	66	61	59	57	57
75	47	43	41	40	39
80	30	25	24	23	23
85	13	10	10	9	9
90	2	1	1	1	1



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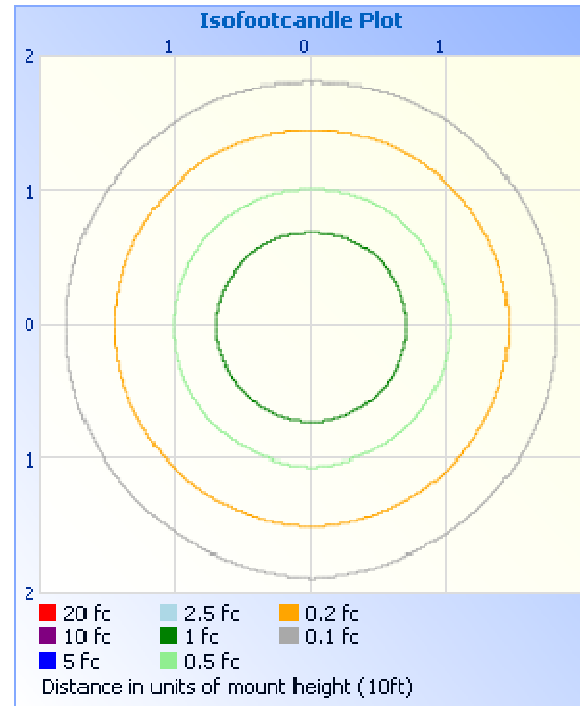
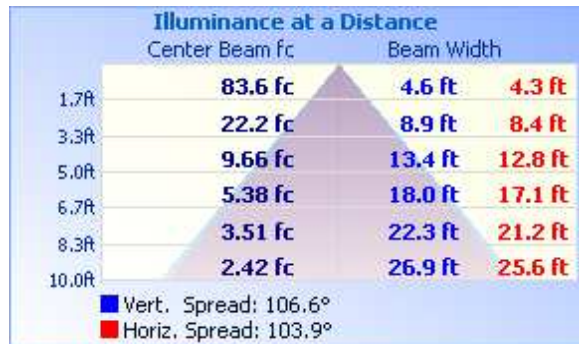
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RESULTS OF TESTS

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	184.9	28.6
0-40	299.0	46.2
0-60	515.8	79.7
60-90	129.8	20.1
70-100	54.0	8.3
90-120	0.4	0.1
0-90	645.6	99.8
90-180	1.2	0.2
0-180	646.8	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	22.9	3.5
10-20	65.1	10.1
20-30	97.0	15.0
30-40	114.1	17.6
40-50	115.1	17.8
50-60	101.6	15.7
60-70	76.0	11.8
70-80	42.6	6.6
80-90	11.1	1.7
90-100	0.2	0.0
100-110	0.1	0.0
110-120	0.1	0.0
120-130	0.2	0.0
130-140	0.2	0.0
140-150	0.2	0.0
150-160	0.1	0.0
160-170	0.1	0.0

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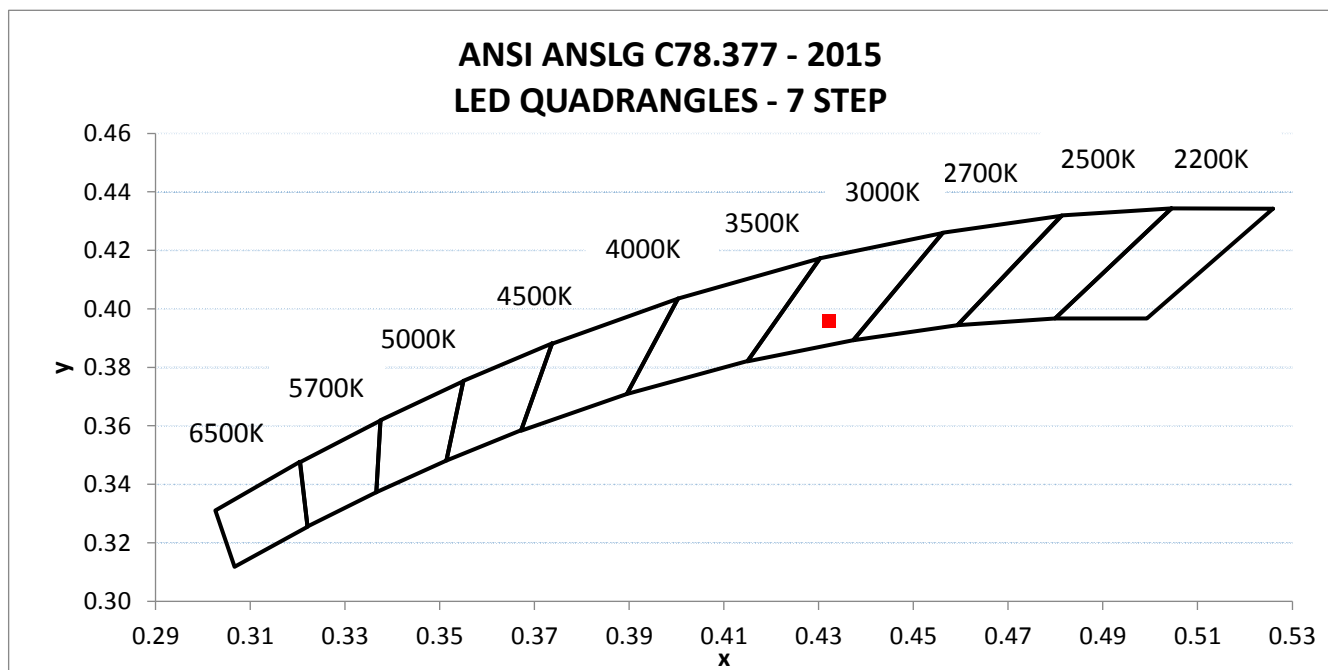
RESULTS OF TESTS

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 (%)
AH01132020121521-031	Base Up	119.99	136.70	14.09	0.859	32.59

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
669.8	47.5	3009	95.2	77.5	0.0027

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.432	0.396	0.251	0.517



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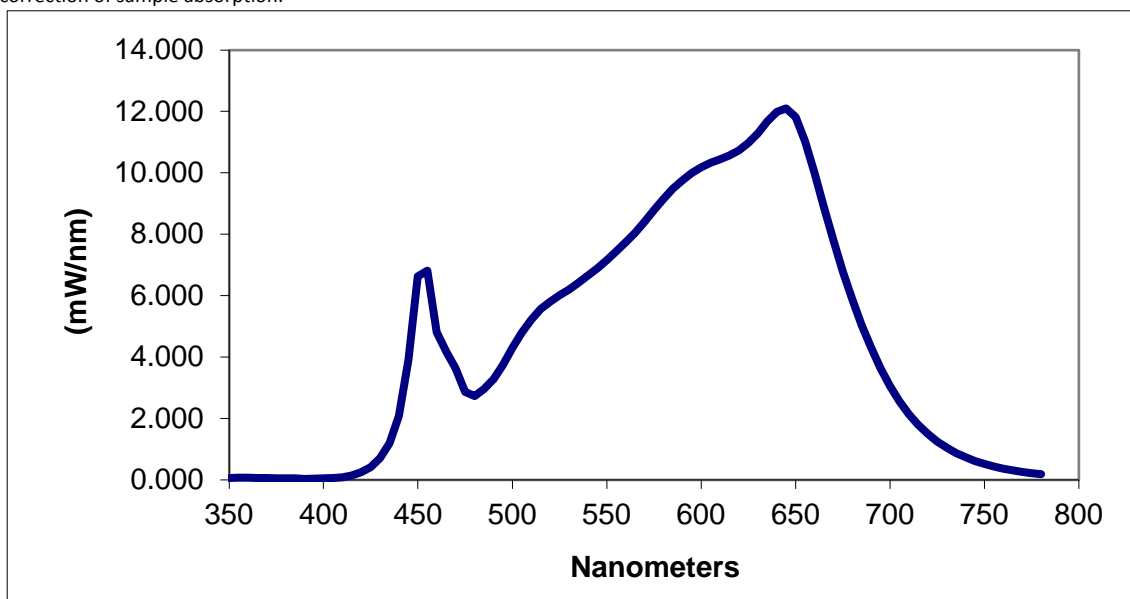
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RESULTS OF TESTS

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	0.063	460	4.812	570	8.404	680	5.877
355	0.071	465	4.173	575	8.785	685	5.046
360	0.067	470	3.639	580	9.143	690	4.302
365	0.064	475	2.862	585	9.478	695	3.634
370	0.060	480	2.725	590	9.745	700	3.050
375	0.051	485	2.958	595	9.991	705	2.558
380	0.049	490	3.276	600	10.174	710	2.139
385	0.046	495	3.739	605	10.320	715	1.788
390	0.037	500	4.306	610	10.442	720	1.496
395	0.042	505	4.793	615	10.564	725	1.252
400	0.047	510	5.222	620	10.728	730	1.051
405	0.059	515	5.565	625	10.971	735	0.875
410	0.086	520	5.801	630	11.278	740	0.734
415	0.143	525	6.013	635	11.671	745	0.613
420	0.248	530	6.201	640	11.978	750	0.518
425	0.418	535	6.413	645	12.104	755	0.435
430	0.709	540	6.652	650	11.809	760	0.368
435	1.202	545	6.884	655	11.031	765	0.310
440	2.084	550	7.161	660	9.991	770	0.261
445	3.912	555	7.439	665	8.889	775	0.221
450	6.625	560	7.743	670	7.798	780	0.188
455	6.807	565	8.044	675	6.796		

*Without correction of sample absorption.



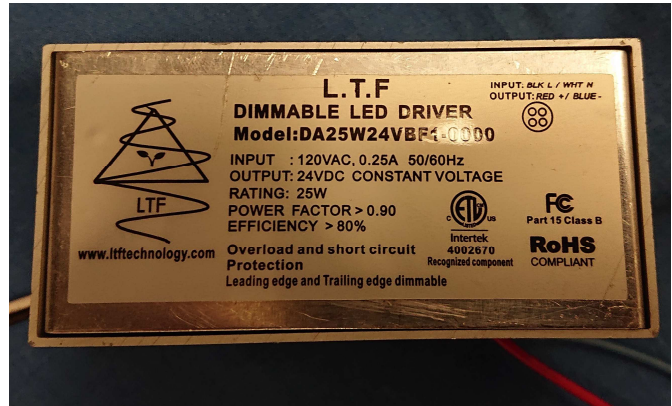
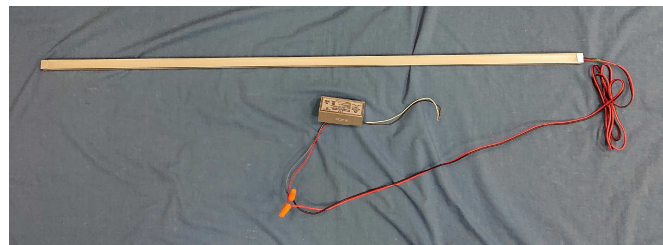
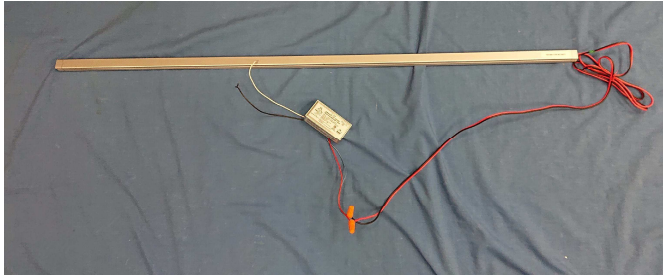
End Of Test Results

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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:

Jeffrey 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				