For the Scope of
Accreditation Under
NVLAP Lab Code 600186-0

PURE EDGE LIGHTING

TEST REPORT

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

MODEL NUMBER
FN-LRF7-5W-36-30K

REPORT NUMBER
104373788CHI-006

ISSUE DATE
August 25, 2020

REVISION DATE
None

DOCUMENT CONTROL NUMBER
TBD

545 E. Algonquin Rd
Arlington Heights, IL 60005
Telephone: (847) 439-5667
www.intertek.com

REPORT NO.: 104373788CHI-006

TEST REPORT **REPORT DATE: April 25, 2020**

TEST OF ONE LINEAR LED

MODEL NO. FN-LRF7-5W-36-30K
LED MODEL NO. LIANGAN/ LA-D2835P927M-3E2-00302
DRIVER MODEL NO. HUARUI/DR-24V-2000-60D

RENDERED TO:

PURE EDGE LIGHTING
1718 W. FULLERTON AVE.
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-01087644-1.

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 FN-LRF7-5W-36-30K. The sample was received by Intertek on August 4, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH08042020023951-006.

DATE OF TESTS

August 7, 2020 through August 16, 2020.

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TEST REPORT **REPORT DATE: April 25, 2020**

SUMMARY

MODEL NO:	FN-LRF7-5W-36-30K
DESCRIPTION:	LINEAR LED

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	854.3	810.7
Input Power (W) @ 120 (VAC)	16.12	16.12
Lumen Efficacy (lm/W)	53.0	50.3
Input Power Factor ( ) @ 120 (VAC)	0.976	0.975

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	15.15
Correlated Color Temperature (K)	2693
Color Rendering Index - Ra	92.8
Color Rendering - R9	57.9
DUV	0.0012
Chromaticity Coordinate (x)	0.459
Chromaticity Coordinate (y)	0.408
Chromaticity Coordinate (u')	0.263
Chromaticity Coordinate (v')	0.526

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TEST REPORT

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
Omega Thermometer	DPI8-C24	146920	10/3/2019	10/3/2020
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
Pacific, AC Power Supply	118-ACX	CHI0153	VBU	VBU
Labsphere 2M Sphere & Spectroradiometer	CDS1100	146137	VBU	VBU
Elgar AC Power Supply	CW1251M	146113	VBU	VBU
Sorenson DC Power Supply	XFR150-8	146847	VBU	VBU
Yokogawa Power Analyzer	WT1600	146767	4/6/2020	4/6/2021
Omega Temperature	MDSi8	146873	7/2/2020	7/2/2021
Newport Humidity Recorder	iTHX-SD	CHI0452	10/11/2019	10/11/2020

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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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TEST REPORT

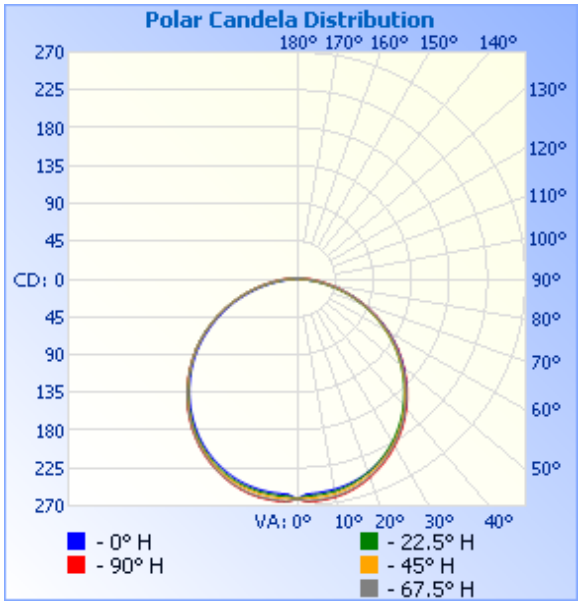
RESULTS OF TESTS

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)
AH08042020023951-006	Base Up	120.1	137.7	16.12	0.975	810.7	50.3

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	261	261	261	261	261
5	256	258	261	264	265
10	254	256	259	262	263
15	250	252	255	258	259
20	245	245	248	250	251
25	237	236	238	240	242
30	226	224	227	229	230
35	214	211	214	215	216
40	199	196	198	199	201
45	182	179	180	182	184
50	164	161	162	163	165
55	144	141	142	144	145
60	124	121	122	123	124
65	102	99	100	102	103
70	80	77	79	80	81
75	58	55	57	59	60
80	36	34	37	39	41
85	17	16	21	23	25
90	3	6	10	13	15
95	0	3	5	7	8
100	0	2	4	5	5
105	0	2	3	4	4
110	0	2	3	3	3
115	0	1	3	3	3
120	0	1	2	3	3
125	0	1	2	3	2
130	0	1	2	2	2
135	0	1	2	2	2
140	0	0	1	2	2
145	0	0	1	2	2
150	0	0	1	1	1
155	0	0	1	1	1
160	0	0	0	1	0



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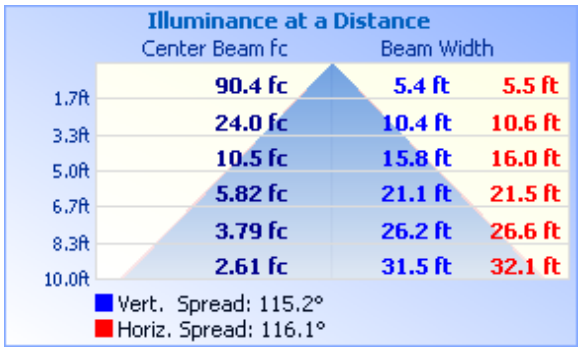
RESULTS OF TESTS

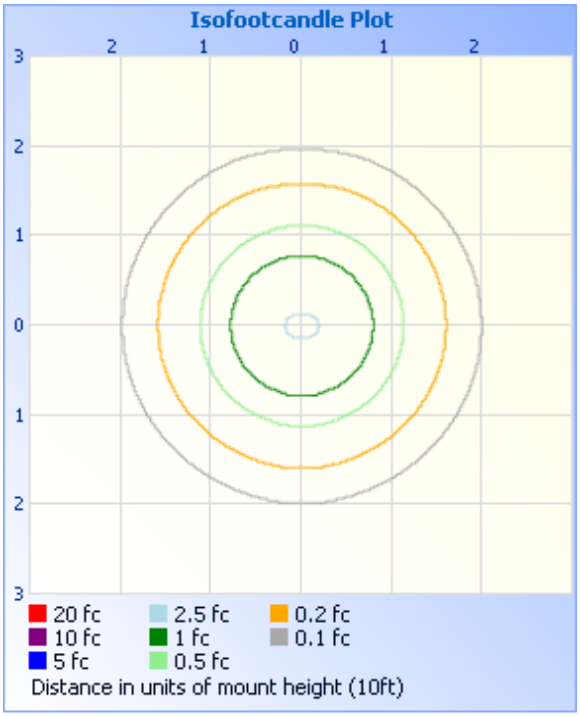
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft

ILLUMINANCE - CONE OF LIGHT



ISOILLUMINATION PLOT



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	206.9	25.5
0-40	340.8	42.0
0-60	609.5	75.2
60-90	186.8	23.0
70-100	92.4	11.4
90-120	11.3	1.4
0-90	796.2	98.2
90-180	14.5	1.8
0-180	810.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	24.9	3.1
10-20	72.0	8.9
20-30	110.0	13.6
30-40	133.9	16.5
40-50	140.1	17.3
50-60	128.6	15.9
60-70	100.7	12.4
70-80	61.9	7.6
80-90	24.2	3.0
90-100	6.3	0.8
100-110	2.9	0.4
110-120	2.0	0.2
120-130	1.4	0.2
130-140	0.9	0.1
140-150	0.6	0.1
150-160	0.3	0.0
160-170	0.1	0.0

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TEST REPORT

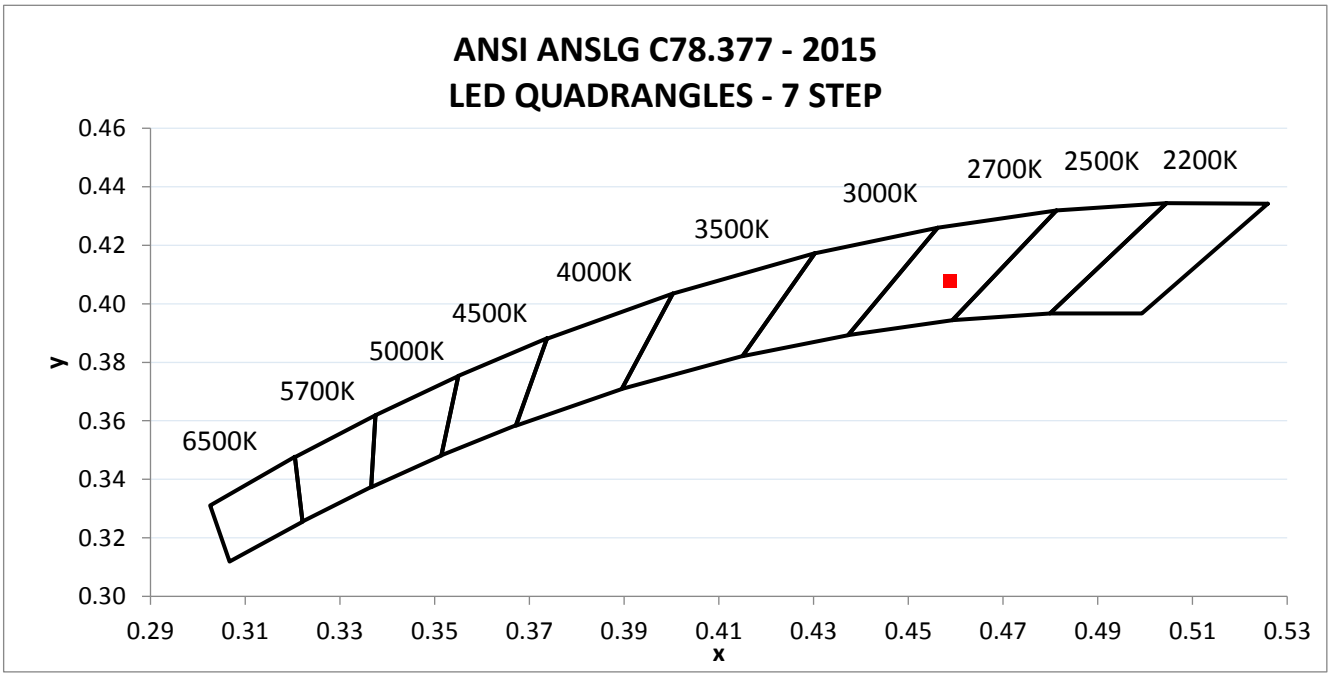
RESULTS OF TESTS

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 (%)
AH08042020023951-006	Base Up	119.96	137.78	16.12	0.976	15.15

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
854.3	53.0	2693	92.8	57.9	0.0012

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.459	0.408	0.263	0.526



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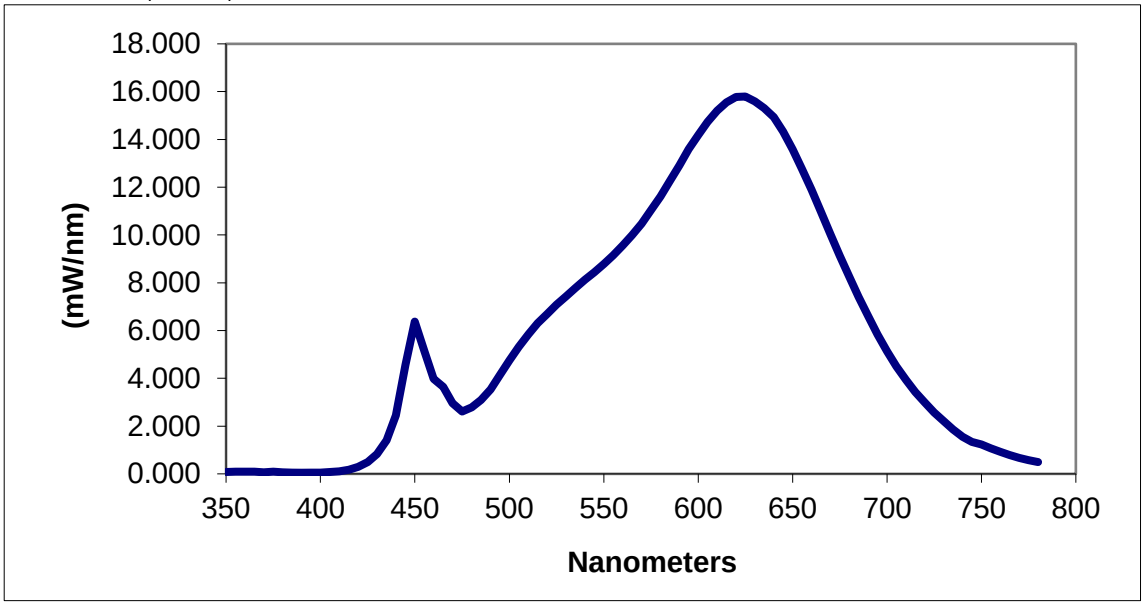
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.078	460	3.983	570	10.472	680	8.244
355	0.094	465	3.645	575	11.038	685	7.400
360	0.096	470	2.956	580	11.613	690	6.596
365	0.091	475	2.607	585	12.257	695	5.845
370	0.070	480	2.783	590	12.914	700	5.134
375	0.089	485	3.098	595	13.588	705	4.501
380	0.059	490	3.538	600	14.190	710	3.936
385	0.051	495	4.133	605	14.730	715	3.427
390	0.049	500	4.756	610	15.205	720	2.984
395	0.052	505	5.313	615	15.556	725	2.574
400	0.057	510	5.838	620	15.775	730	2.209
405	0.074	515	6.309	625	15.795	735	1.863
410	0.103	520	6.698	630	15.584	740	1.558
415	0.172	525	7.084	635	15.307	745	1.337
420	0.289	530	7.432	640	14.939	750	1.225
425	0.495	535	7.775	645	14.331	755	1.066
430	0.834	540	8.128	650	13.583	760	0.921
435	1.403	545	8.437	655	12.761	765	0.786
440	2.447	550	8.782	660	11.890	770	0.674
445	4.566	555	9.149	665	10.976	775	0.578
450	6.372	560	9.568	670	10.029	780	0.494
455	5.139	565	9.986	675	9.132		

*Without correction of sample absorption.



End Of Test Results

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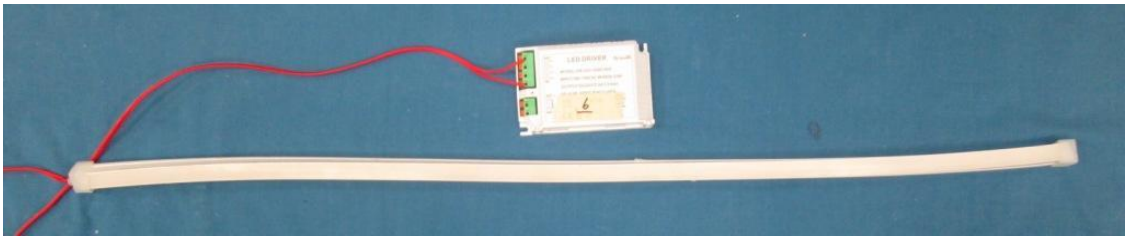
TEST REPORT

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:

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

Jeff Davis
N.A. Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

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