

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

PWW-10W-36IN-27K-XX

REPORT NUMBER

103597691CHI-039

ISSUE DATE

February 19, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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TEST REPORT

TEST OF ONE LINEAR LUMINAIRE

MODEL NO. PWW-10W-36IN-27K-XX
LED MODEL NO. LUMILED 2835
DRIVER MODEL NO. LTF TA60WD24LEDRE-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 PWW-10W-36IN-27K-XX. The sample was received by Intertek on February 3, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH02032020121245.

DATE OF TESTS

February 13, 2020 through February 13, 2020.

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SUMMARY

MODEL NO:	PWW-10W-36IN-27K-XX
DESCRIPTION:	Linear Luminaire

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	2195.0	2203.7
Input Power (W) @ 120 (VAC)	38.66	38.56
Lumen Efficacy (lm/W)	56.8	57.2
Input Power Factor () @ 120 (VAC)	0.938	0.940

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	36.39
Correlated Color Temperature (K)	2770
Color Rendering Index - Ra	91.9
Color Rendering - R9	58.4
DUV	-0.0015
Chromaticity Coordinate (x)	0.452
Chromaticity Coordinate (y)	0.405
Chromaticity Coordinate (u')	0.260
Chromaticity Coordinate (v')	0.524

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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
Pacific, AC Power Supply	118-ACX	CHI-0153	VBV	VBV
Labsphere Spectroradiometer	CDS1100	CHI0091	VBV	VBV
3 Meter Sphere	SPR600	CHI0088	VBV	VBV
Elgar AC Power Supply	CW1251	146112	VBV	VBV
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV
Newport Humidity Recorder	iTHX-SD	146382	4/17/2019	4/17/2020
Yokogawa Power Meter	WT1600	146769	4/3/2019	4/3/2020
Extech K Temperature Meter	SD200	CHI0207	4/3/2019	4/3/2020

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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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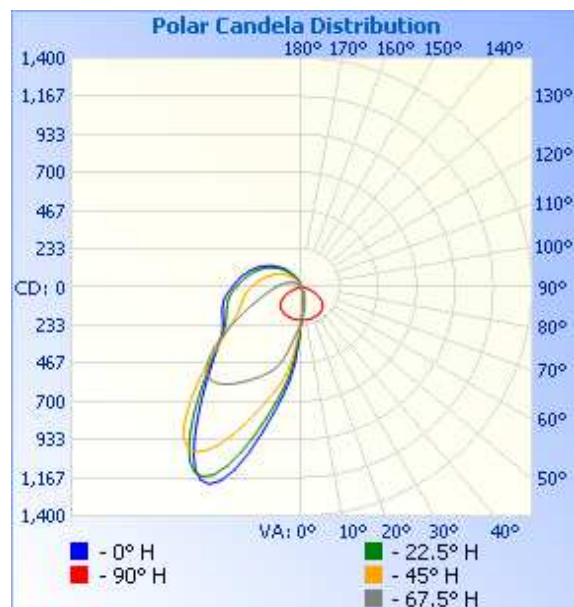
RESULTS OF TESTS

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)
AH02032020121245	Horizontal	119.9	342.2	38.56	0.940	2203.7	57.2

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	204	204	204	204	204
5	96	96	118	154	200
10	34	36	58	114	201
15	0	4	26	78	201
20	0	0	2	52	199
25	0	0	0	32	197
30	0	0	0	16	195
35	0	0	0	1	192
40	0	0	0	0	187
45	0	0	0	0	180
50	0	0	0	0	168
55	0	0	0	0	150
60	0	0	0	0	126
65	0	0	0	0	97
70	0	0	0	0	66
75	0	0	0	0	40
80	0	0	0	0	19
85	0	0	0	0	5
90	0	0	0	0	0



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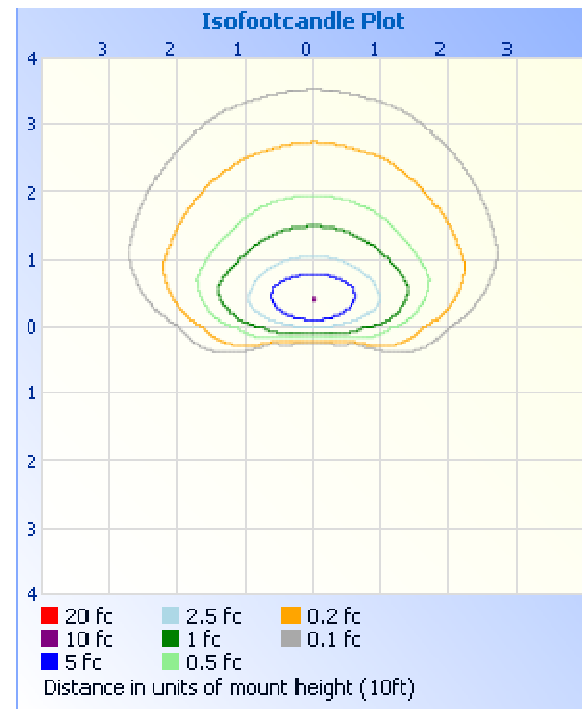
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RESULTS OF TESTS

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	340.4	15.4
0-40	641.2	29.1
0-60	1210.2	54.9
60-90	561.0	25.5
70-100	479.5	21.8
90-120	324.3	14.7
0-90	1771.2	80.4
90-180	432.5	19.6
0-180	2203.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	24.1	1.1
10-20	100.0	4.5
20-30	216.3	9.8
30-40	300.8	13.7
40-50	305.7	13.9
50-60	263.2	11.9
60-70	215.4	9.8
70-80	185.3	8.4
80-90	160.4	7.3
90-100	133.9	6.1
100-110	108.4	4.9
110-120	82.0	3.7
120-130	56.1	2.5
130-140	32.8	1.5
140-150	15.0	0.7
150-160	4.1	0.2
160-170	0.2	0.0

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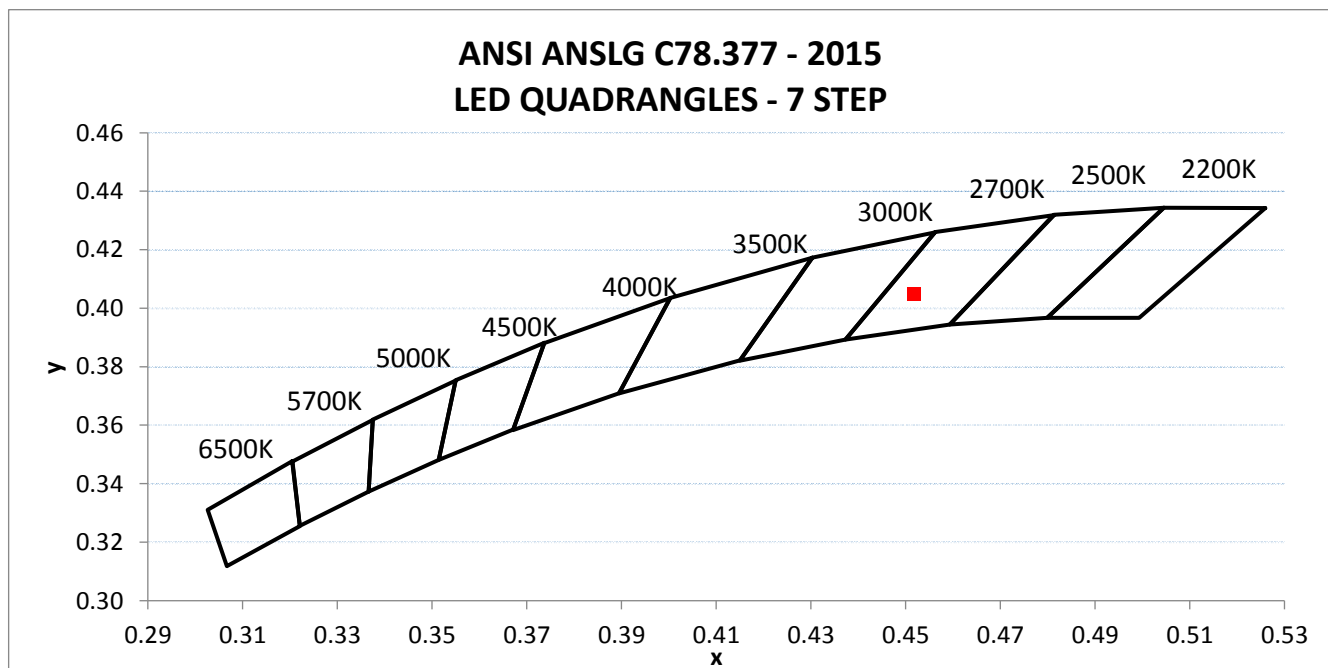
RESULTS OF TESTS

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 (%)
AH02032020121245	Horizontal	120.00	343.46	38.66	0.938	36.39

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
2195.0	56.8	2770	91.9	58.4	-0.0015

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.452	0.405	0.260	0.524



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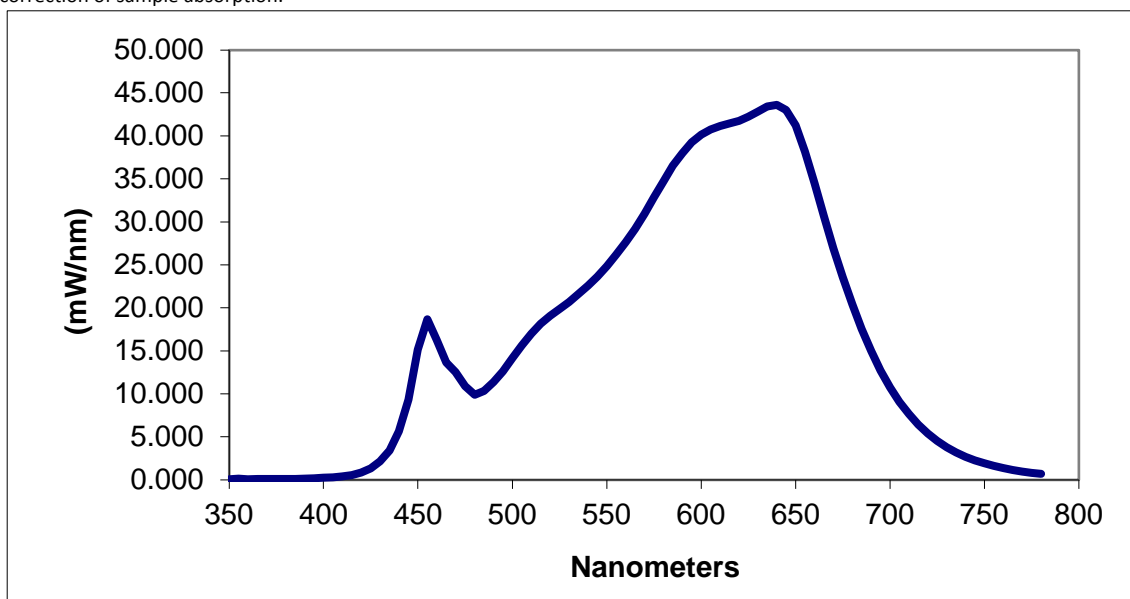
TEST REPORT

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	0.085	460	16.281	570	30.963	680	20.407
355	0.136	465	13.658	575	32.850	685	17.556
360	0.083	470	12.540	580	34.725	690	14.985
365	0.108	475	10.884	585	36.536	695	12.708
370	0.123	480	9.908	590	37.977	700	10.759
375	0.112	485	10.340	595	39.268	705	9.086
380	0.106	490	11.370	600	40.133	710	7.647
385	0.121	495	12.594	605	40.745	715	6.416
390	0.144	500	14.158	610	41.157	720	5.392
395	0.199	505	15.637	615	41.457	725	4.526
400	0.246	510	16.988	620	41.757	730	3.804
405	0.302	515	18.146	625	42.219	735	3.185
410	0.402	520	19.091	630	42.806	740	2.688
415	0.567	525	19.873	635	43.429	745	2.256
420	0.860	530	20.691	640	43.619	750	1.922
425	1.328	535	21.606	645	42.996	755	1.628
430	2.154	540	22.584	650	41.210	760	1.378
435	3.402	545	23.624	655	38.179	765	1.150
440	5.653	550	24.844	660	34.474	770	0.980
445	9.347	555	26.180	665	30.674	775	0.824
450	15.132	560	27.625	670	26.910	780	0.714
455	18.674	565	29.174	675	23.603		

*Without correction of sample absorption.



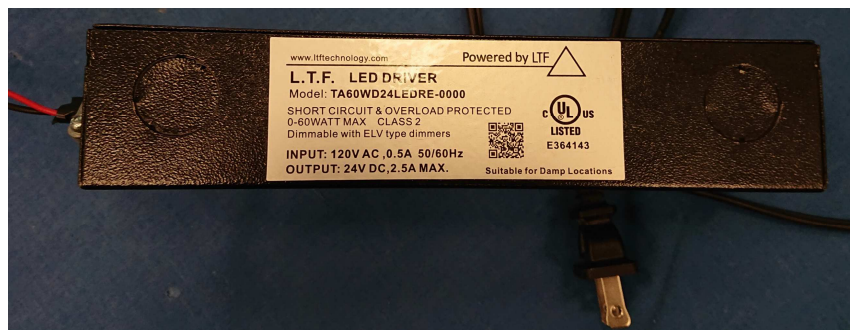
End Of Test Results

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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				