PURE EDGE LIGHTING

TEST REPORT

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

MODEL NUMBER
FJ-PST-NF-1-30K-SN

REPORT NUMBER
103597691CHI-024

ISSUE DATE
January 24, 2019

REVISION DATE
None

DOCUMENT CONTROL NUMBER
TBD

545 E. Algonquin Rd
Arlington Heights, IL 60005
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REPORT NO.: 103597691CHI-024

TEST REPORT **REPORT DATE: January 24, 2019**

TEST OF ONE FAST JACK/RAIL

MODEL NO. FJ-PST-NF-1-30K-SN
LED MODEL NO. LUXEON M/B61402202
DRIVER MODEL NO. MAGNITUDE/SR-612

RENDERED TO:

PURE EDGE LIGHTING
1718 WEST FULLERTON
CHICAGO, IL 60614

AUTHORIZATION
The testing performed was authorized by signed quote number Qu-00901421-0.

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 FJ-PST-NF-1-30K-SN. The sample was received by Intertek on January 17, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH01172019034846-024.

DATE OF TESTS
January 23, 2019 through January 24, 2019.

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SUMMARY

MODEL NO:	FJ-PST-NF-1-30K-SN
DESCRIPTION:	fast jack/rail

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	517.2	516.8
Input Power (W) @ 120 (VAC)	9.13	8.860
Lumen Efficacy (lm/W)	56.6	58.3
Input Power Factor @ 120 (VAC)	0.653	0.673

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	70.72
Correlated Color Temperature (K)	3024
Color Rendering Index - Ra	94.3
Color Rendering - R9	76.6
DUV	0.0013
Chromaticity Coordinate (x)	0.433
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.250
Chromaticity Coordinate (v')	0.519

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/9/2018	7/9/2019
Omega Newport Thermometer	DPI8-C24	146920	10/4/2018	10/4/2019
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146379	4/16/2018	4/16/2019
Pacific, AC power supply	118-ACX	CHI0358	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	4/5/2018	4/5/2019
Omega Temperature	MDSi8	146873	7/10/2018	7/10/2019
Newport Thermohygrometer	iTHX-M	146961	4/16/2018	4/16/2019
Yokogawa Power Analyzer	WT230	146454	10/2/2018	10/2/2019
Staco Variac	3PN2210B	146360	VBU	VBU

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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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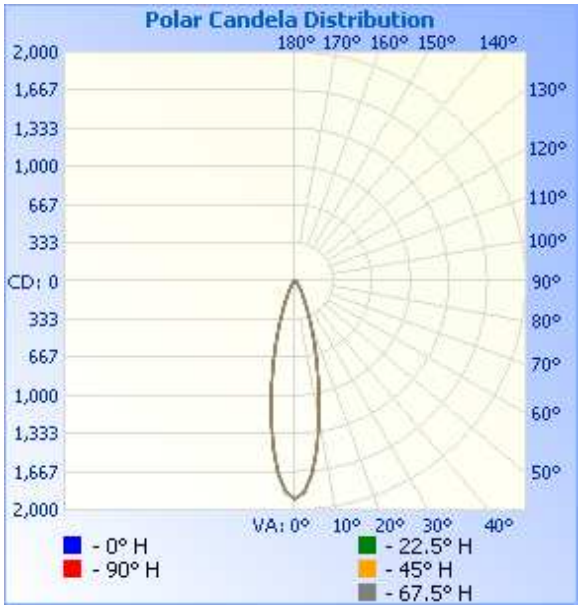
RESULTS OF TESTS

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)
AH01172019034846-024	Base Up	120.1	109.5	8.860	0.673	516.8	58.3

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	1902	1902	1902	1902	1902
5	1688	1698	1688	1684	1683
10	1201	1205	1203	1201	1194
15	729	724	720	723	724
20	398	390	384	388	390
25	210	202	194	199	205
30	120	110	104	110	116
35	73	65	59	64	69
40	45	39	35	39	42
45	28	25	22	24	26
50	18	16	15	16	17
55	12	11	10	10	11
60	6	6	6	6	6
65	3	3	2	2	2
70	2	2	2	2	2
75	1	1	1	1	1
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0



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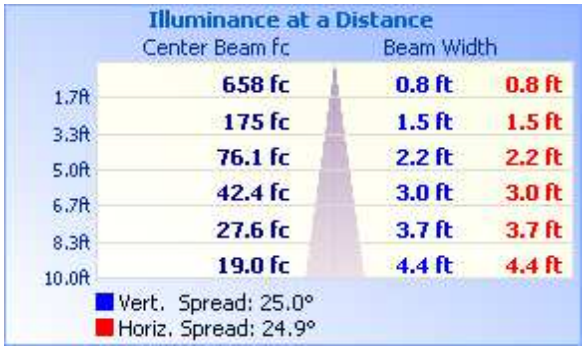
RESULTS OF TESTS

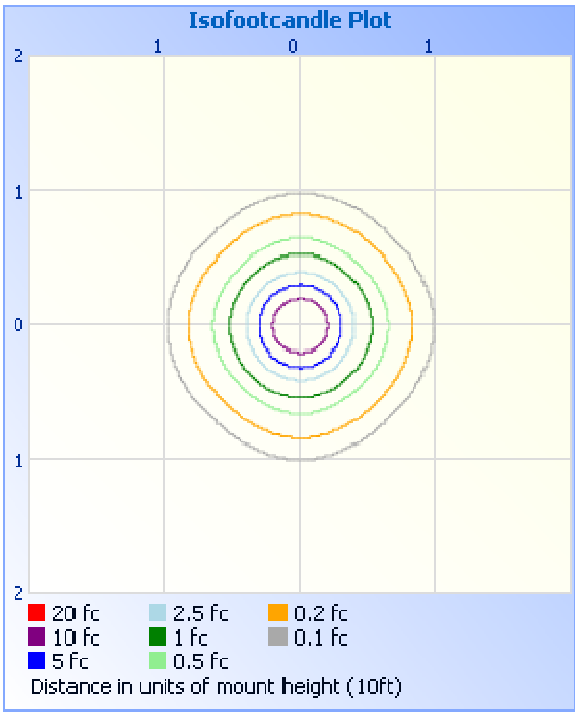
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft

ILLUMINANCE - CONE OF LIGHT



ISOILLUMINATION PLOT



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	441.5	85.4
0-40	483.6	93.6
0-60	512.9	99.2
60-90	4.0	0.8
70-100	1.0	0.2
90-120	0.0	0.0
0-90	516.8	100.0
90-180	0.0	0.0
0-180	516.8	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	144.4	27.9
10-20	199.9	38.7
20-30	97.2	18.8
30-40	42.1	8.1
40-50	19.8	3.8
50-60	9.5	1.8
60-70	3.0	0.6
70-80	0.9	0.2
80-90	0.1	0.0

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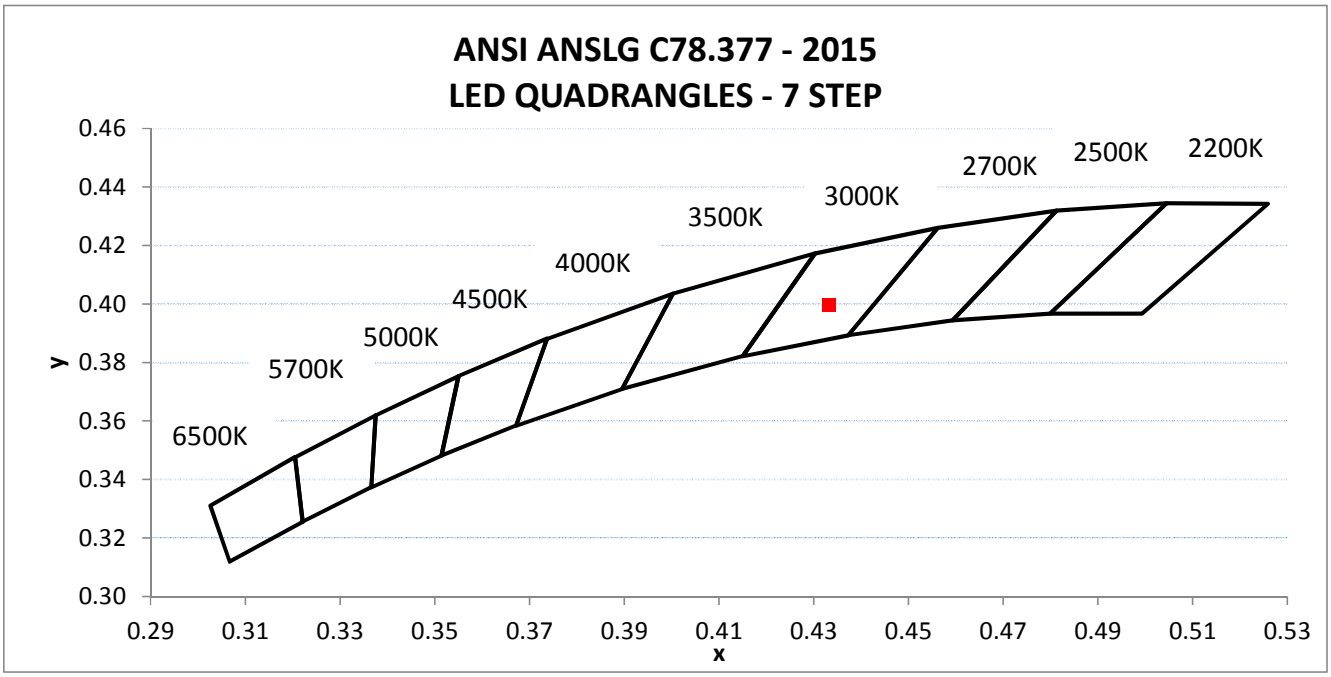
RESULTS OF TESTS

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 (%)
AH01172019034846-024	Base Up	119.97	116.67	9.13	0.653	70.72

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
517.2	56.6	3024	94.3	76.6	0.0013

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.433	0.400	0.250	0.519



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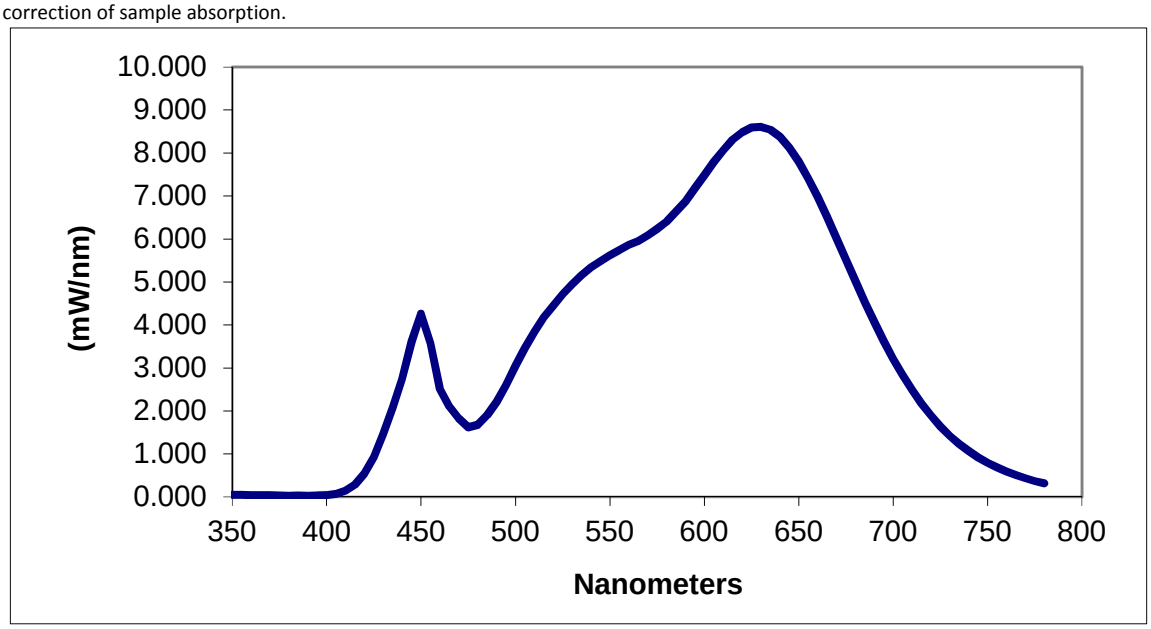
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.053	460	2.523	570	6.087	680	5.022
355	0.048	465	2.107	575	6.234	685	4.532
360	0.045	470	1.833	580	6.407	690	4.069
365	0.042	475	1.623	585	6.634	695	3.629
370	0.041	480	1.679	590	6.876	700	3.213
375	0.036	485	1.901	595	7.183	705	2.841
380	0.032	490	2.214	600	7.483	710	2.491
385	0.033	495	2.607	605	7.789	715	2.175
390	0.029	500	3.054	610	8.066	720	1.894
395	0.034	505	3.464	615	8.311	725	1.643
400	0.045	510	3.843	620	8.483	730	1.422
405	0.076	515	4.181	625	8.594	735	1.235
410	0.148	520	4.451	630	8.608	740	1.069
415	0.290	525	4.718	635	8.545	745	0.922
420	0.542	530	4.946	640	8.379	750	0.796
425	0.929	535	5.156	645	8.123	755	0.688
430	1.463	540	5.342	650	7.799	760	0.597
435	2.085	545	5.487	655	7.414	765	0.509
440	2.745	550	5.623	660	6.977	770	0.436
445	3.613	555	5.745	665	6.518	775	0.374
450	4.266	560	5.863	670	6.014	780	0.321
455	3.573	565	5.955	675	5.524		

*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
Engineer
Lighting Division

Report Reviewed By:

Hector Huitron
Associate Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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