



REPORT

545 E. Algonquin Rd., Arlington Heights, IL 60005

Project No. G102235195

Date: October 21, 2015

REPORT NO. 102235195CHI-015

TEST OF ONE LED EYELID TRIM STEP LIGHT

MODEL NO. MPORT-12VAC-EL-SS
LED MODEL NO. LUMILEDS LUXEON T

RENDERED TO

EDGE LIGHTING
1718 W. FULLERTON AVE
CHICAGO, IL 60614

TEST: Electrical and Photometric tests as required to the IESNA test standard.

STATEMENT OF LIMITATION: 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-00595093-1.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI NEMA ANSLG C78.377: 2012: Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number MPORT-12VAC-EL-SS. The sample was received by Intertek on October 8, 2015, in undamaged condition and one sample was tested as received. The sample designation was AH10082015032735-15.

DATES OF TESTS: October 15, 2015 through October 21, 2015.

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SUMMARY

Model No.:	MPORT-12VAC-EL-SS
Description:	LED Eyelid Trim Step Light

Criteria	Result	
	Sphere	Goniometer
Total Lumen Output (Lumens)	23.67	24.50
Total Power (W)	2.866	2.878
Luminaire Efficacy (LPW)	8.26	8.51

Criteria	Result
Power Factor	0.974
Current ATHD %	17.66
Correlated Color Temperature (CCT - K)	2907
Color Rendering Index (CRI - Ra)	93.9
Color Rendering Index (CRI - R9)	60.3
DUV	0.002
Chromaticity Coordinate (x)	0.447
Chromaticity Coordinate (y)	0.414
Chromaticity Coordinate (u')	0.253
Chromaticity Coordinate (v')	0.527

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/14/15	07/14/16	10/21/15
Omega Thermometer	DPI8-C24	146920	10/09/15	10/09/16	10/21/15
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU	10/21/15
Newport Hygrometer	iServer	146956	01/06/15	01/06/16	10/21/15
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU	10/21/15
Labsphere 2M Sphere & Spectroradiation	CDS600	146137	VBU	VBU	10/15/15
Elgar AC Power Supply	CW1251M	146113	VBU	VBU	10/15/15
Sorenson DC Power Supply	XFR150-8	146847	VBU	VBU	10/15/15
Yokogawa Power Analyzer	WT1600	146770	04/07/15	04/07/16	10/15/15
Omega Temperature	MDSi8	146873	07/09/15	07/09/16	10/15/15
Newport Thermohygrometer	iTHX-M	146382	07/09/15	07/09/16	10/15/15

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 Labsphere Model CDS 1100 CCD Array Spectroradiometer and Two Meter or Ten Foot 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. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa 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 LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

RESULTS OF TEST

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) - Integrating Sphere Method

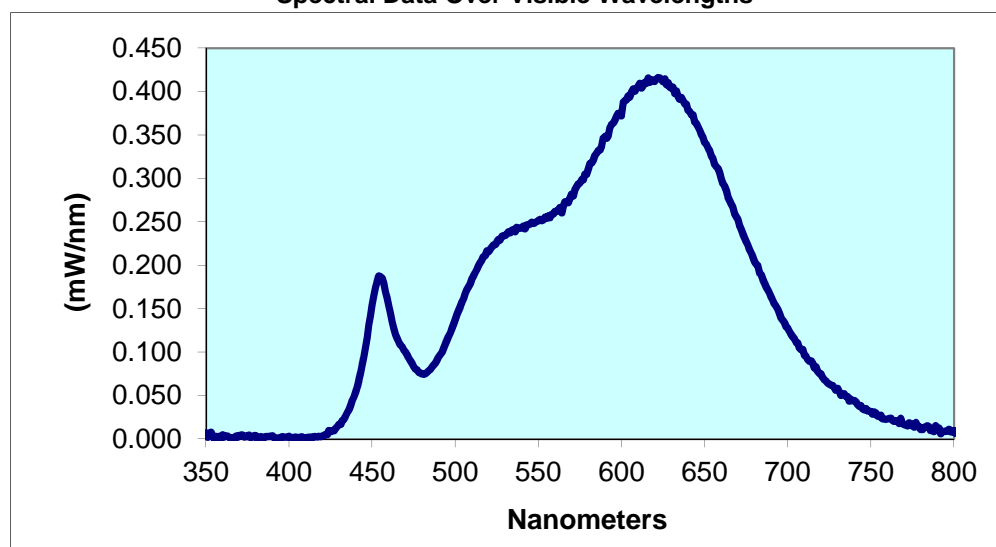
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH10082015032735-15	Up	120.0	24.52	2.866	0.974	17.66	23.67	8.26

Correlated Color Temperature (K)	CRI -Ra	CRI -R9	DUV	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
2907	93.9	60.3	0.002	0.447	0.414	0.253	0.527

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.007	440	0.054	530	0.234	620	0.412	710	0.096
355	0.000	445	0.094	535	0.241	625	0.412	715	0.087
360	0.005	450	0.154	540	0.244	630	0.404	720	0.075
365	0.001	455	0.187	545	0.247	635	0.391	725	0.063
370	0.004	460	0.154	550	0.251	640	0.379	730	0.058
375	0.003	465	0.116	555	0.254	645	0.363	735	0.049
380	0.004	470	0.100	560	0.262	650	0.341	740	0.044
385	0.001	475	0.084	565	0.268	655	0.323	745	0.035
390	0.004	480	0.075	570	0.282	660	0.300	750	0.031
395	0.002	485	0.080	575	0.295	665	0.275	755	0.026
400	0.003	490	0.094	580	0.311	670	0.253	760	0.023
405	0.001	495	0.114	585	0.329	675	0.227	765	0.021
410	0.001	500	0.138	590	0.348	680	0.204	770	0.017
415	0.003	505	0.161	595	0.364	685	0.184	775	0.015
420	0.003	510	0.184	600	0.372	690	0.164	780	0.011
425	0.008	515	0.203	605	0.394	695	0.145		
430	0.017	520	0.216	610	0.406	700	0.128		
435	0.031	525	0.227	615	0.410	705	0.111		

Spectral Data Over Visible Wavelengths



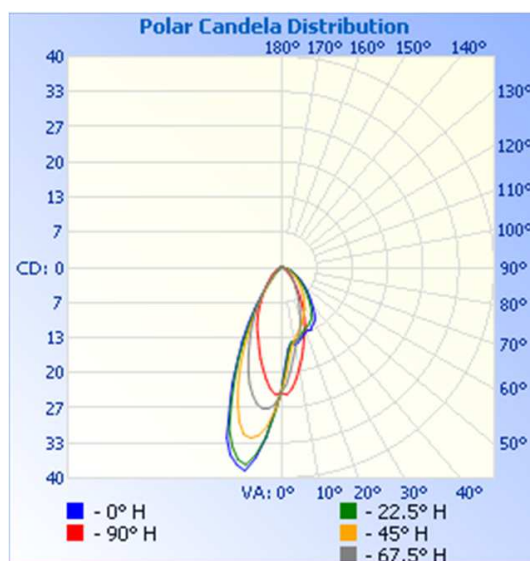
RESULTS OF TEST (cont'd)

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH10082015032735-15	Up	120.0	24.58	2.878	0.976	24.50	8.51

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	24	24	24	24	24
5	16	16	17	20	23
10	15	14	14	15	20
15	14	14	13	13	16
20	13	13	11	10	13
25	13	12	10	8	10
30	12	11	9	6	8
35	11	10	8	5	6
40	9	8	6	4	4
45	7	7	5	3	3
50	6	5	4	3	2
55	5	4	3	2	1
60	4	3	3	2	1
65	3	3	2	1	1
70	2	2	1	1	0
75	1	1	1	1	0
80	1	1	1	0	0
85	1	1	0	0	0
90	1	0	0	0	0

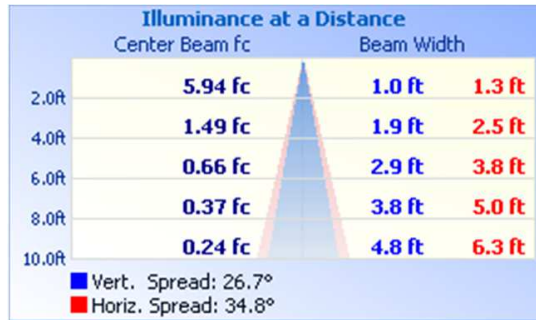


RESULTS OF TEST (cont'd)

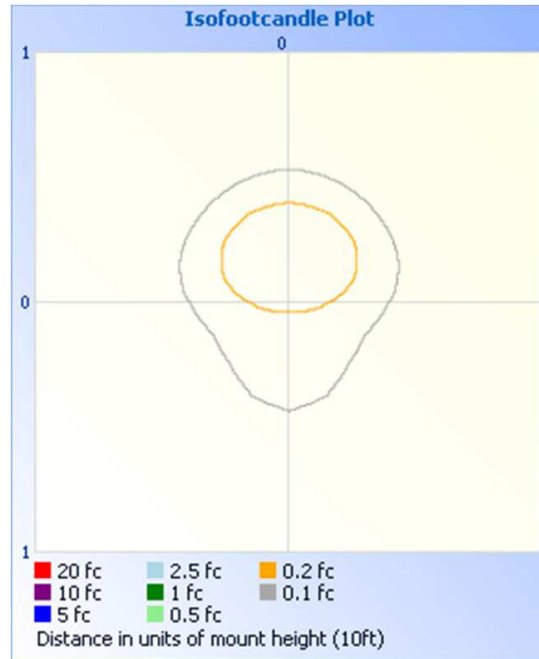
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	14.0	57.4
0-40	18.2	74.6
0-60	22.6	92.3
60-90	1.9	7.6
0-90	24.4	99.9
90-180	0.0	0.1
0-180	24.5	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	2.3	9.2
10-20	5.8	23.7
20-30	6.0	24.5
30-40	4.2	17.2
40-50	2.6	10.7
50-60	1.7	7.0
60-70	1.1	4.4
70-80	0.6	2.3
80-90	0.2	1.0

PICTURES (not to scale)



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.

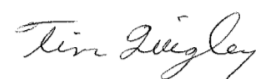
In Charge Of Tests:



Vladimir Kozak
Senior Associate Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley
Engineer
Lighting Division