



8165 E Kaiser Blvd. Anaheim, CA 92808
 p. 714.282.2270
 f. 714.676.5558

Report No: L011601301

Date: 1/6/2016



NVLAP LAB CODE 200927-0

Report No: L011601301
Prepared For: US Lighting Group
 34099 Melinz Pkwy, Unit E, Eastlake, OH 44095
Model Number: BH4-G110-65-C
Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is BH4-G110-65-C. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/4/16

Date of Tests: 1/5/16 - 1/6/16

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	US Lighting Group
Model Number:	BH4-G110-65-C
Driver Model Number:	N/A
Total Lumens:	3122.59
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.18
Input Power (W):	19.68
Input Power Factor:	0.90
Current ATHD @ 120V(%):	46%
Current ATHD @ 277V(%):	N/A
Efficacy:	159
Color Rendering Index (CRI):	85
Correlated Color Temperature (K):	5576
Chromaticity Coordinate x:	0.3308
Chromaticity Coordinate y:	0.3393
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:10
Off State Power(W):	0.00

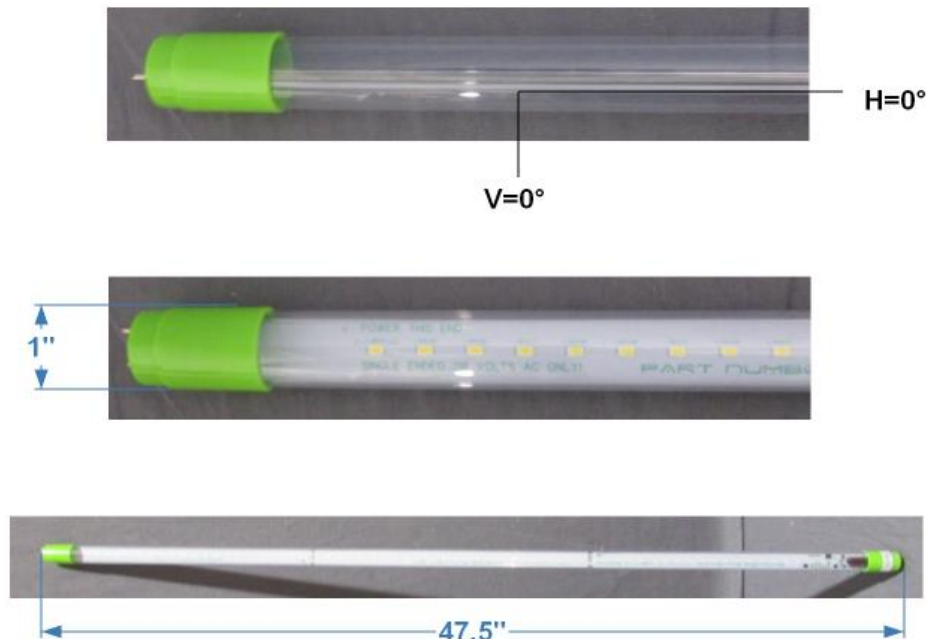
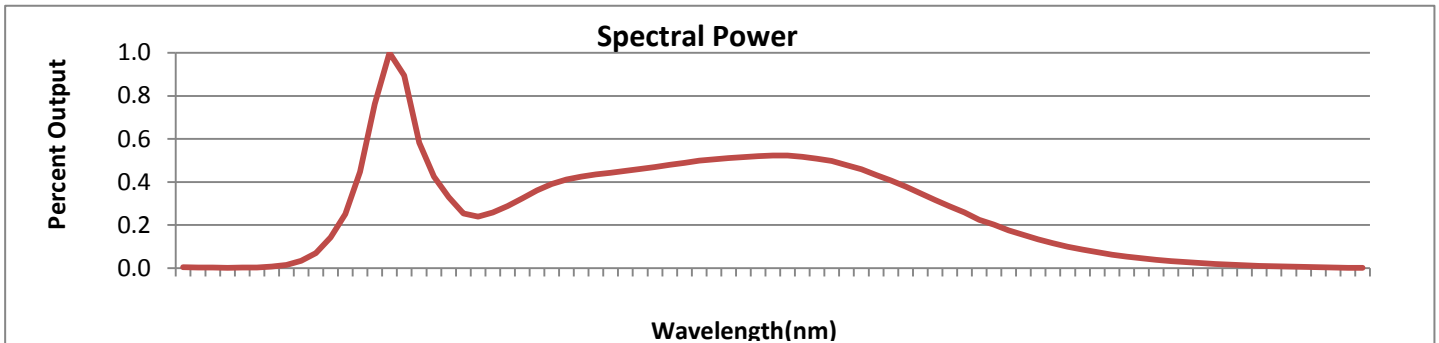


FIG.1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



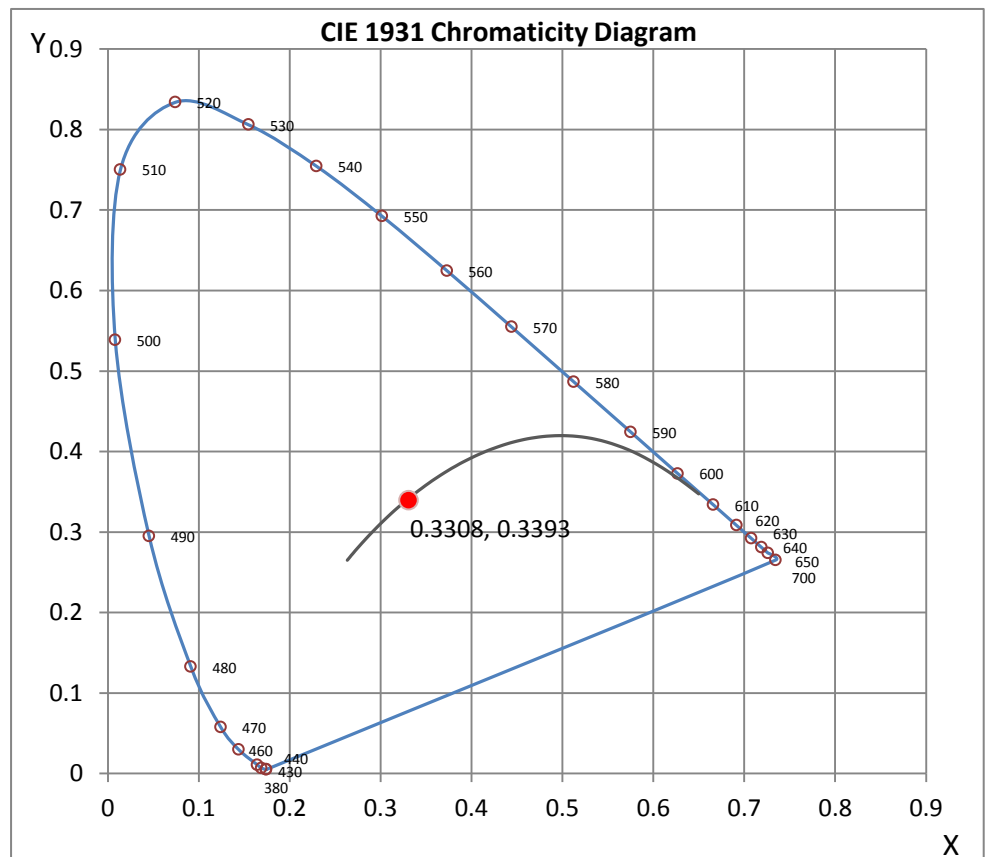
Wavelength	W/m ² nm	440	0.1989	510	0.1826	580	0.2320	650	0.0995	720	0.0124
380	0.0020	450	0.4441	520	0.1935	590	0.2299	660	0.0780	730	0.0087
390	0.0009	460	0.2586	530	0.2005	600	0.2212	670	0.0596	740	0.0059
400	0.0009	470	0.1467	540	0.2087	610	0.2037	680	0.0442	750	0.0040
410	0.0029	480	0.1060	550	0.2171	620	0.1809	690	0.0327	760	0.0024
420	0.0150	490	0.1278	560	0.2245	630	0.1543	700	0.0238	770	0.0011
430	0.0629	500	0.1603	570	0.2290	640	0.1274	710	0.0172	780	0.0002

CRI & CCT

x	0.3308
y	0.3393
u'	0.2064
v'	0.4764
CRI	84.70
CCT	5576
Duv	-0.00015

R Values

R1	83.69
R2	89.82
R3	92.91
R4	84.96
R5	84.43
R6	84.55
R7	87.37
R8	70.09
R9	13.96
R10	75.21
R11	84.86
R12	63.99
R13	85.79
R14	96.09



*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Released by:



Jeff Ahn
Engineering Manager

Test Report Reviewed by:



Steve Kang
Quality Assurance