

# VISUAL COMFORT & CO.

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

E4PSLRD-8309-W

### REPORT NUMBER

104206403CHI-114

### ISSUE DATE

July 24, 2020

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

TBD

© 2017 INTERTEK



**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

**TEST REPORT**

TEST OF ONE E4PSL 95DEG 300MA

MODEL NO. E4PSLRD-8309-W  
LED MODEL NO. BRIDGELUX BXRE-\*\*E2000-C-83  
DRIVER MODEL NO. ERP 255ESS015W300

RENDERED TO:

VISUAL COMFORT & CO.  
7400 LINDER AVE.  
SKOKIE IL 60077

**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-01040682-1.

**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 E4PSLRD-8309-W. The sample was received by Intertek on July 13, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH07132020091733-114.

**DATE OF TESTS**

July 16, 2020 through July 22, 2020.

**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

**TEST REPORT**

**SUMMARY**

<b>MODEL NO:</b>	E4PSLRD-8309-W
<b>DESCRIPTION:</b>	E4PSL 95deg 300mA

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1138.2	1135.6
Input Power (W) @ 120 (VAC)	11.55	11.57
Lumen Efficacy (lm/W)	98.5	98.2
Input Power Factor ( ) @ 120 (VAC)	0.981	0.983

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	16.61
Correlated Color Temperature (K)	3008
Color Rendering Index - Ra	82.1
Color Rendering - R9	7.5
DUV	0.0011
Chromaticity Coordinate (x)	0.438
Chromaticity Coordinate (y)	0.407
Chromaticity Coordinate (u')	0.250
Chromaticity Coordinate (v')	0.523

**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

**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	VBV	VBV
Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
Pacific, AC Power Supply	118-ACX	CHI0153	VBV	VBV
Labsphere Spectroradiometer	CDS-600	146923	VBV	VBV
2M Rotating Sphere	7660-ROT	146923	VBV	VBV
Omega thermometer	USB TC08	3QAH00261	4/7/2020	4/7/2021
Ametek DC Power Supply	XFR150-8	146846	VBV	VBV
Newport Humidity Recorder	iTHX-SD	146961	7/26/2019	7/26/2020
Yokogawa Power Meter	WT210	146880	10/2/2019	10/2/2020
Chroma Power Supply	61604	CHI0371	VBV	VBV

**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

**TEST REPORT**

**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.

**REPORT NO.: 104206403-114**

**TEST REPORT**

**REPORT DATE: July 24, 2020**

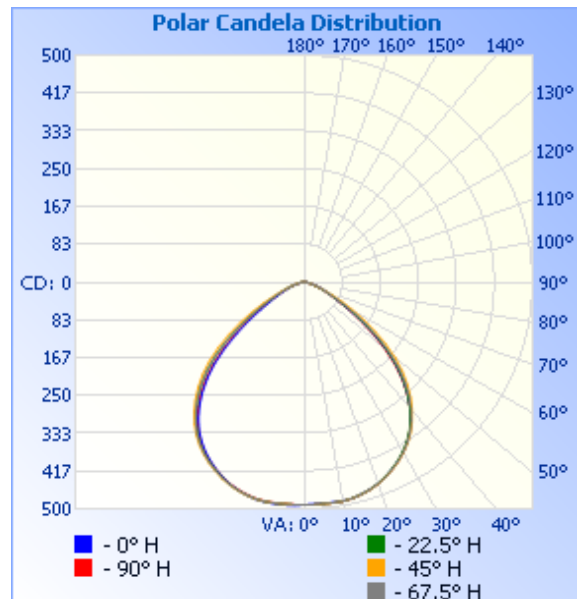
**RESULTS OF TESTS**

**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)
AH07132020091733-114	Base Up	120.1	98.1	11.57	0.983	1135.6	98.2

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	491	491	491	491	491
5	489	490	491	490	490
10	490	490	490	490	490
15	484	484	485	485	484
20	473	472	474	473	473
25	455	454	456	456	455
30	433	432	434	434	433
35	403	402	406	404	402
40	361	360	368	364	360
45	308	308	320	312	305
50	241	242	260	247	234
55	163	167	190	172	158
60	100	102	123	106	96
65	60	59	68	61	57
70	37	35	36	36	35
75	21	19	20	19	19
80	12	10	10	10	10
85	6	5	4	5	5
90	0	0	0	0	0



REPORT NO.: 104206403-114

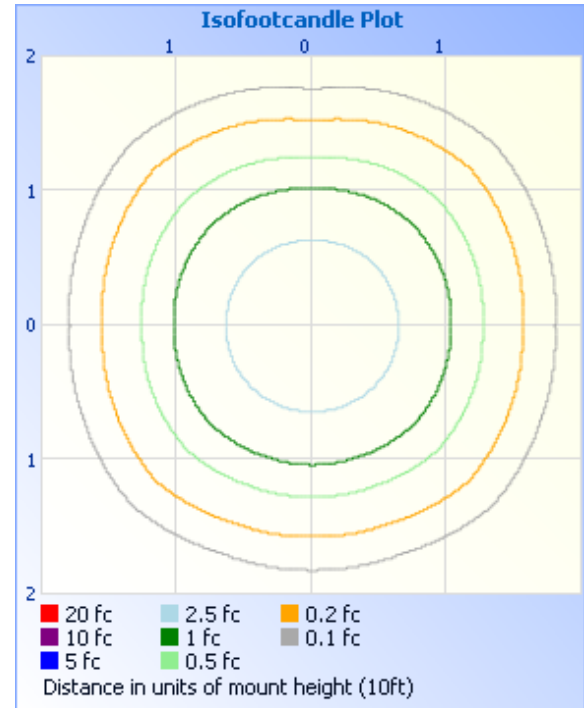
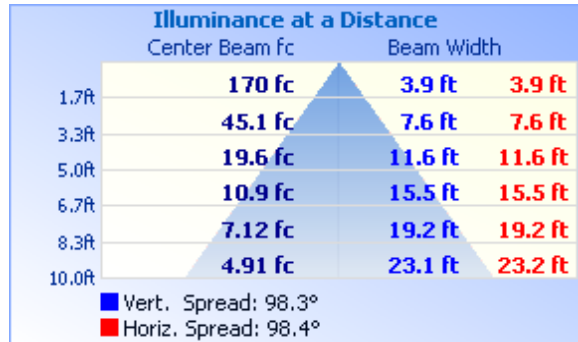
REPORT DATE: July 24, 2020

TEST REPORT

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	394.1	34.7
0-40	646.4	56.9
0-60	1042.9	91.8
60-90	92.7	8.2
70-100	27.4	2.4
90-120	0.0	0.0
0-90	1135.6	100.0
90-180	0.0	0.0
0-180	1135.6	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	46.8	4.1
10-20	136.9	12.1
20-30	210.3	18.5
30-40	252.3	22.2
40-50	239.7	21.1
50-60	156.8	13.8
60-70	65.2	5.7
70-80	22.0	1.9
80-90	5.4	0.5

REPORT NO.: 104206403-114

REPORT DATE: July 24, 2020

TEST REPORT

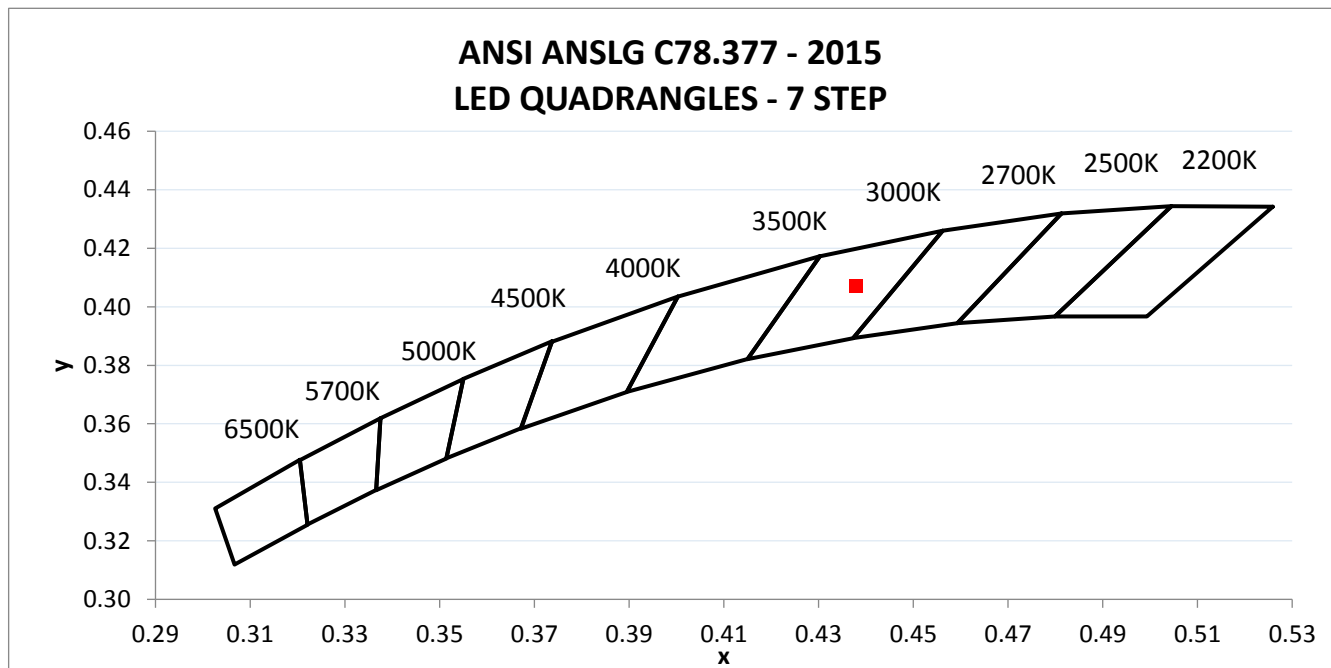
RESULTS OF TESTS

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 (%)
AH07132020091733-114	Base Up	120.03	98.09	11.55	0.981	16.61

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1138.2	98.5	3008	82.1	7.5	0.0011

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.438	0.407	0.250	0.523





**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

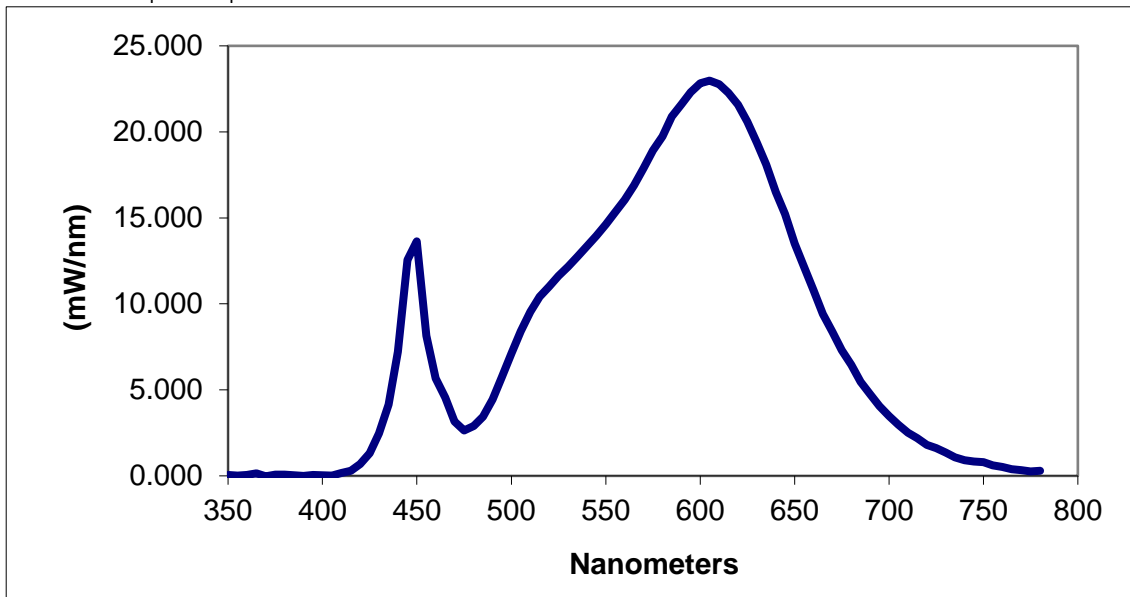
**TEST REPORT**

**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	0.052	460	5.679	570	17.896	680	6.459
355	0.013	465	4.565	575	18.917	685	5.472
360	0.055	470	3.152	580	19.739	690	4.746
365	0.144	475	2.644	585	20.887	695	4.055
370	-0.027	480	2.906	590	21.596	700	3.473
375	0.066	485	3.436	595	22.296	705	2.965
380	0.075	490	4.452	600	22.818	710	2.510
385	0.032	495	5.738	605	22.978	715	2.190
390	-0.003	500	7.116	610	22.762	720	1.794
395	0.048	505	8.399	615	22.267	725	1.616
400	0.030	510	9.550	620	21.584	730	1.346
405	0.009	515	10.421	625	20.587	735	1.083
410	0.172	520	11.008	630	19.362	740	0.905
415	0.287	525	11.632	635	18.094	745	0.836
420	0.693	530	12.159	640	16.501	750	0.794
425	1.324	535	12.732	645	15.220	755	0.604
430	2.465	540	13.350	650	13.507	760	0.512
435	4.152	545	13.952	655	12.156	765	0.390
440	7.210	550	14.621	660	10.792	770	0.325
445	12.547	555	15.329	665	9.408	775	0.265
450	13.641	560	16.052	670	8.375	780	0.292
455	8.138	565	16.885	675	7.312		

\*Without correction of sample absorption.



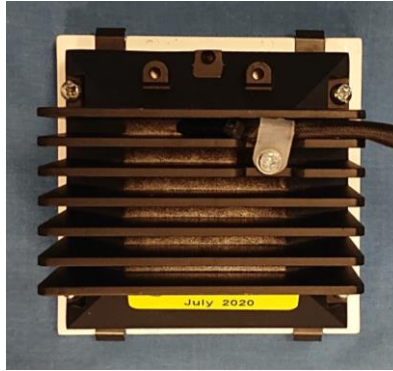
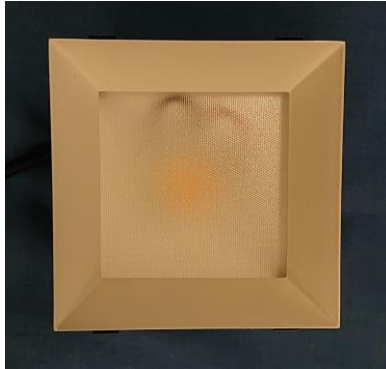
**End Of Test Results**

**REPORT NO.: 104206403-114**

**REPORT DATE: July 24, 2020**

**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:

*Ian Smith*

Ian Smith  
Engineer  
Lighting Division

Report Reviewed By:

*Jeff Davis*

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				