



REPORT

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

Project No. G101518786

Date: August 12, 2014

REPORT NO. 101518786CHI-046C

TEST OF ONE LED RECESSED LUMINAIRE

MODEL NO. EMO11L-LH8302ANB
LED MODEL NO. CITIZEN CLU024-1203B8-303M1A2
DRIVER MODEL NO. LTF DA18W440C

RENDERED TO

GENERATION BRANDS
7400 LINDER AVE
SKOKIE, IL 60077

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 500506211.

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 EMO11L-LH8302ANB. The sample was received by Intertek on July 29, 2014, in undamaged condition and one sample was tested as received. The sample designation was 07292014113320.

DATE OF TEST: August 12, 2014



SUMMARY

Model No.:	EMO11L-LH8302ANB
Description:	LED Recessed Luminaire

Criteria	Result
Total Lumen Output (Lumens)	1250
Total Power (W)	19.50
Luminaire Efficacy (LPW)	64.1
Power Factor	0.926
Current ATHD %	21.14
Correlated Color Temperature (CCT - K)	2960
Color Rendering Index (CRI - Ra)	81.3
Color Rendering Index (CRI - R9)	0.1
DUV	0.001
Chromaticity Coordinate (x)	0.442
Chromaticity Coordinate (y)	0.409
Chromaticity Coordinate (u')	0.251
Chromaticity Coordinate (v')	0.524

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU
3 Meter Sphere	SPR600	CHI0088	VBU	VBU
Elgar AC Power Supply	CW1251M	146112	VBU	VBU
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
Newport Thermohygrometer	iTHX-SD	146382	07/02/14	07/02/15
Yokogawa Power Meter	WT1600	146768	01/16/14	01/16/15
Omega Temperature Meter	MDSi8	146139	04/02/14	04/02/15

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 Three Meter Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each sample.

Ambient temperature was measured at a position inside the sphere. Each sample was operated on the client provided driver at the rated input 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.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.



RESULTS OF TEST

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

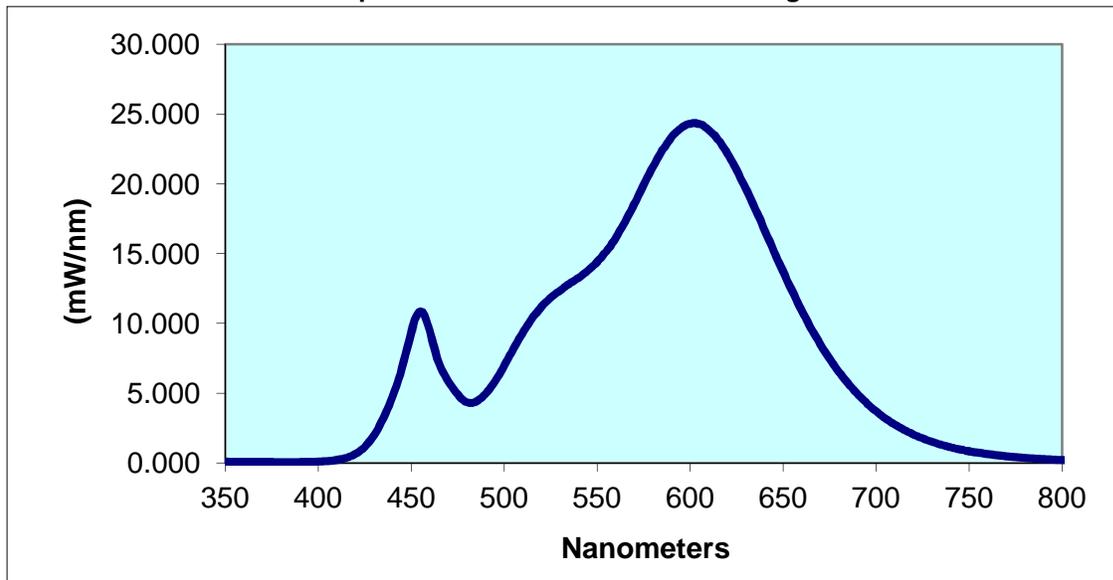
Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Current ATHD (%)	Luminous Flux (Lumens)	Lumen Efficacy (LPW)
07292014113320	UP	120.0	175.3	19.50	0.926	21.14	1250	64.1

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')
2960	81.3	0.1	0.001	0.442	0.409	0.251	0.524

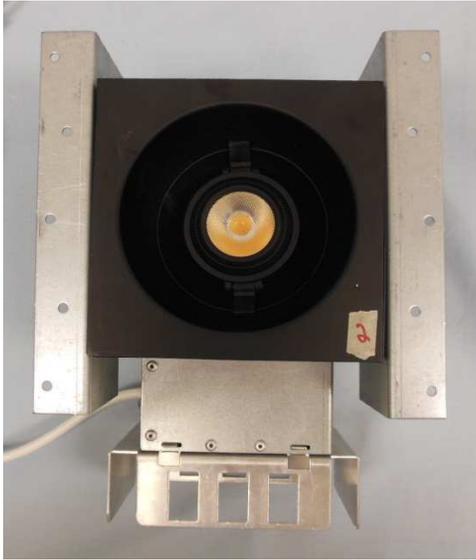
Spectral Distribution over Visible Wavelengths

nm	mW/nm								
350	0.075	440	4.773	530	12.35	620	22.17	710	2.747
355	0.083	445	6.799	535	12.82	625	20.97	715	2.362
360	0.076	450	9.374	540	13.26	630	19.63	720	2.035
365	0.072	455	10.86	545	13.79	635	18.19	725	1.753
370	0.064	460	9.415	550	14.41	640	16.67	730	1.504
375	0.066	465	7.118	555	15.18	645	15.16	735	1.296
380	0.061	470	5.818	560	16.14	650	13.68	740	1.116
385	0.056	475	4.899	565	17.27	655	12.27	745	0.963
390	0.06	480	4.34	570	18.58	660	10.9	750	0.837
395	0.071	485	4.408	575	19.91	665	9.638	755	0.725
400	0.087	490	4.962	580	21.25	670	8.495	760	0.633
405	0.128	495	5.833	585	22.44	675	7.445	765	0.547
410	0.207	500	6.959	590	23.36	680	6.512	770	0.472
415	0.355	505	8.175	595	23.97	685	5.68	775	0.409
420	0.637	510	9.333	600	24.31	690	4.922	780	0.355
425	1.151	515	10.36	605	24.3	695	4.273		
430	1.973	520	11.19	610	23.87	700	3.691		
435	3.21	525	11.85	615	23.16	705	3.182		

Spectral Data Over Visible Wavelengths



PICTURE (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:



Tim Quigley
Engineer
Lighting Division

Attachment: None

Report Reviewed By:



Joe Schledorn
Engineering Team Lead
Lighting Division