REPORT

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

Project No. G101518786 Date: December 18, 2014

REPORT NO. 101518786CHI-083

TEST OF ONE RECESSED LED DOWN LIGHT

MODEL NO. E4SF-LH83540AN
TRIM MODEL NO. E4SFB-OW
DRIVER MODEL NO. LTF DA30W750C40BF-0000

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 E4SF-LH83540AN. The sample was received by Intertek on December 11, 2014, in undamaged condition and one sample was tested as received. The sample designation was AH12112014042643.

DATE OF TEST: December 18, 2014

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SUMMARY

Model No.:	E4SF-LH83540AN
Description:	Recessed LED Down Light

Criteria	Result
Total Lumen Output (Lumens)	2454
Total Power (W)	33.57
Luminaire Efficacy (LPW)	73.1
Power Factor	0.992
Current ATHD %	7.86
Correlated Color Temperature (CCT - K)	3446
Color Rendering Index (CRI - Ra)	82.9
Color Rendering Index (CRI - R9)	7.4
DUV	0.000
Chromaticity Coordinate (x)	0.408
Chromaticity Coordinate (y)	0.392
Chromaticity Coordinate (u')	0.237
Chromaticity Coordinate (v')	0.512

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 measure 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)
AH12112014042643	UP	120.0	281.8	33.57	0.992	7.86	2454	73.1

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')
3446	82.9	7.4	0.000	0.408	0.392	0.237	0.512

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.155	440	13.06	530	22.78	620	32.35	710	3.982
355	0.157	445	19.15	535	23.41	625	30.48	715	3.431
360	0.143	450	25.13	540	23.9	630	28.43	720	2.961
365	0.142	455	25.26	545	24.51	635	26.33	725	2.545
370	0.124	460	19.29	550	25.24	640	24.08	730	2.185
375	0.117	465	14.17	555	26.11	645	21.88	735	1.879
380	0.111	470	11.05	560	27.23	650	19.72	740	1.627
385	0.113	475	8.868	565	28.56	655	17.69	745	1.407
390	0.121	480	7.86	570	30.17	660	15.75	750	1.229
395	0.156	485	8.069	575	31.69	665	13.88	755	1.066
400	0.204	490	9.142	580	33.24	670	12.24	760	0.932
405	0.309	495	10.91	585	34.6	675	10.75	765	0.806
410	0.524	500	13.15	590	35.55	680	9.401	770	0.698
415	0.923	505	15.49	595	36.1	685	8.195	775	0.604
420	1.65	510	17.62	600	36.31	690	7.113	780	0.528
425	3.003	515	19.48	605	36.03	695	6.182		
430	5.246	520	20.95	610	35.15	700	5.336		
435	8.584	525	22.03	615	33.94	705	4.613		

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:

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Report Reviewed By:

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Lighting Division

Attachment: None