REPORT

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

Project No. G101560042 Date: March 10, 2014

REPORT NO. 101560042CHI-001

TEST OF ONE LED SURFACE MOUNT SQUARE

MODEL NO. SCL 122A5
LED MODEL NO. CREE CXA2540-0000-000NOHW250F
DRIVER MODEL NO. AC-60CD1.05UVTS

RENDERED TO

ESCO LIGHTING, INC.
3254 N. KILBOURN
CHICAGO, IL 60641

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 500512810.

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

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number SCL 122A5. The sample was received by Intertek on February 27, 2014, in undamaged condition and one sample was tested as received. The sample designation was 02272014020511.

DATES OF TESTS: February 28, 2014

SUMMARY

Model No.:	SCL 122A5
Description:	LED Surface Mount Square

Criteria	Result
Total Lumen Output (Lumens)	7035
Total Power (W)	95.09
Luminaire Efficacy (LPW)	73.98
Power Factor	0.997

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date
Yokogawa Power Meter	WT210	146919	09/06/13	09/06/14
Omega Newport Thermometer	DPI8-C24	146920	12/04/13	12/04/14
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Hygrometer	iServer	146956	01/02/14	01/02/15
Elgar, AC Power Supply	CW1251P	146918	VBU	VBU
Cole-Parmer Triple Timer	94440-00	CHI0041	06/20/13	06/20/14

TEST METHODS

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

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.

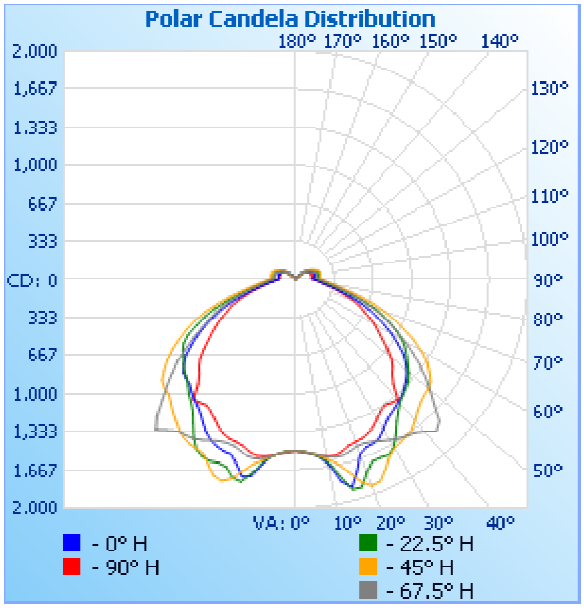
RESULTS OF TEST

Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – 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 (Lumens Per Watt)
02272014020511	UP	120.0	794.9	95.09	0.997	7035	73.98

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	1500	1500	1500	1500	1500
5	1533	1531	1528	1525	1532
10	1644	1623	1596	1574	1572
15	1881	1903	1739	1594	1556
20	1626	1798	1921	1551	1511
25	1582	1724	1835	1567	1485
30	1515	1692	1703	1621	1405
35	1431	1520	1673	1671	1342
40	1385	1401	1603	1734	1369
45	1330	1349	1525	1754	1176
50	1256	1273	1494	1513	1076
55	1137	1171	1407	1312	916
60	955	1064	1256	1091	784
65	774	900	1031	881	647
70	600	720	814	691	525
75	410	495	586	501	385
80	282	340	395	352	276
85	208	256	288	264	204
90	160	203	225	207	157
95	155	193	212	187	140
100	165	203	217	187	143
105	171	207	221	186	145
110	168	197	213	179	145
115	156	178	195	162	138
120	142	155	170	144	127
125	124	129	142	127	115
130	102	102	109	107	96
135	81	77	60	86	52
140	60	53	37	58	41
145	35	26	24	7	6
150	16	14	3	22	26
155	13	3	3	4	13

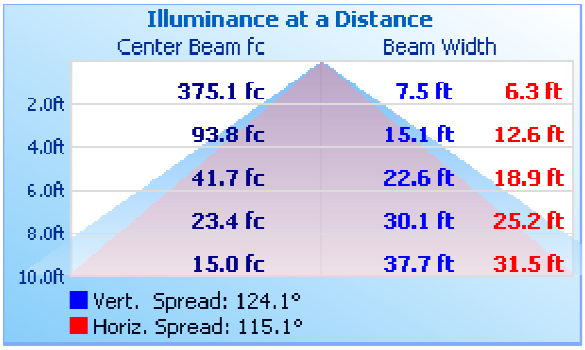


RESULTS OF TEST (cont'd)

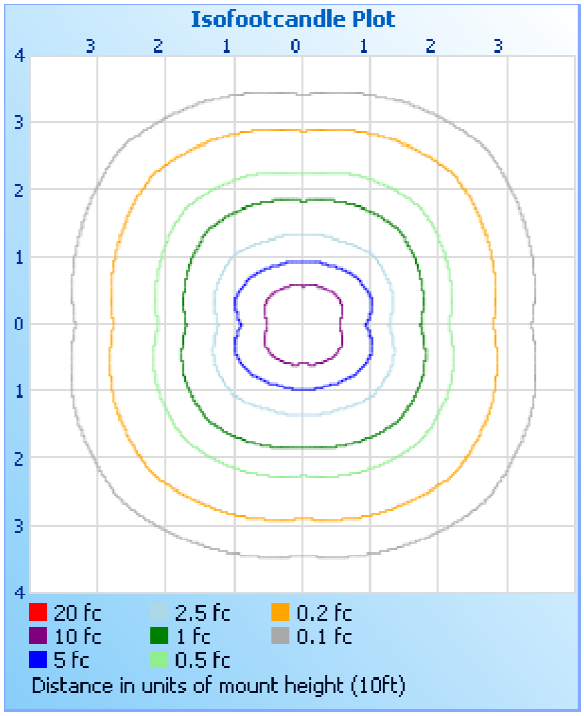
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	1398	19.9
0-40	2382	33.9
0-60	4590	65.2
60-90	1691	24.0
0-90	6281	89.3
90-180	753.8	10.7
0-180	7035	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	148.3	2.1
10-20	481.4	6.8
20-30	768.2	10.9
30-40	984.6	14.0
40-50	1120	15.9
50-60	1088	15.5
60-70	873.1	12.4
70-80	533.7	7.6
80-90	284.5	4.0
90-100	202.8	2.9
100-110	197.7	2.8
110-120	164.4	2.3
120-130	112.8	1.6
130-140	57.4	0.8
140-150	15.8	0.2
150-160	2.7	0.0

RESULTS OF TEST (cont'd)

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.16	1.16	1.16	1.16	1.13	1.13	1.13	0.89	1.05	1.05	1.05	0.98	0.98	0.98	0.92	0.92	0.92	0.89
1	1.05	1.00	0.95	0.91	1.01	0.96	0.92	0.73	0.90	0.86	0.83	0.84	0.81	0.79	0.79	0.77	0.75	0.72
2	0.95	0.86	0.78	0.72	0.91	0.83	0.76	0.60	0.78	0.72	0.67	0.73	0.68	0.64	0.68	0.64	0.61	0.58
3	0.86	0.75	0.66	0.59	0.82	0.72	0.64	0.50	0.68	0.61	0.55	0.63	0.58	0.53	0.59	0.55	0.51	0.48
4	0.78	0.66	0.56	0.49	0.75	0.63	0.55	0.42	0.60	0.52	0.47	0.56	0.50	0.45	0.53	0.47	0.43	0.40
5	0.71	0.58	0.49	0.42	0.69	0.56	0.48	0.36	0.53	0.45	0.40	0.50	0.43	0.38	0.47	0.41	0.37	0.34
6	0.66	0.52	0.43	0.36	0.63	0.50	0.42	0.31	0.48	0.40	0.34	0.45	0.38	0.33	0.42	0.37	0.32	0.30
7	0.61	0.47	0.38	0.31	0.58	0.45	0.37	0.28	0.43	0.35	0.30	0.41	0.34	0.29	0.38	0.33	0.28	0.26
8	0.56	0.42	0.34	0.28	0.54	0.41	0.33	0.25	0.39	0.32	0.27	0.37	0.30	0.26	0.35	0.29	0.25	0.23
9	0.53	0.39	0.30	0.25	0.50	0.38	0.30	0.22	0.36	0.29	0.24	0.34	0.28	0.23	0.32	0.27	0.22	0.20
10	0.49	0.36	0.28	0.22	0.47	0.35	0.27	0.20	0.33	0.26	0.21	0.31	0.25	0.21	0.30	0.24	0.20	0.18

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:

Mark Razvi
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Lighting Division

Report Reviewed By:

Joe Schledorn
Project Engineer
Lighting Division

Attachment: None