



REPORT

LSI INDUSTRIES, INC. 10000 ALLIANCE ROAD CINCINNATI, OH 45242

Project No.: G101617355

Date: June 25, 2014

Client Ref. No.: PH-0526

REPORT NO. 101617355CHI-084

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI24 LED SS NW

LED DRIVER: 1670mA Electronic Driver

RENDERED TO

LSI INDUSTRIES INCORPORATED
10000 ALLIANCE ROAD
CINCINNATI, OH 45242

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number 500518865.

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-79-08: Electrical and Photometric Measurements of Solid-State Lighting Products
IESNA TM-15-11: Luminaire Classification System for Outdoor Luminaires
ANSI C82.77-2002: Harmonic Emission Limits (Power Factor and THD-A)

DESCRIPTION OF SAMPLE: The submitted test sample was representative of a current production sample and was received in good condition.

DATE OF TEST: April 25, 2014

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SUMMARY:

Model No.:
SLI24 LED SS NW
Description: 192 LED luminaire comprised of a white painted metal housing and LED driver delivering 69.6mA per LED.

<u>Criteria</u>	<u>Result</u>
Total Lumen Output	4184
Input Voltage (V)	120.1
Total Power (W)	43.9
Luminaire Efficacy	95
Power Factor	.977
Driver Output Current (A)	1.656
THD _A	8.2%

Additional Reporting

Test Room Ambient Conditions	24.5C and 25.6% RH
Total Luminaire Stabilization Time	59 Minutes

Measurement uncertainty budgets have been determined for applicable test methods and are available upon request.

EQUIPMENT LIST

<u>Equipment Used</u>	<u>Equipment #</u>	<u>Cal. Due Date</u>
Elgar CW1251P-V AC Power Source 0-300V	0943A02235	VBV
Yokogawa WT-230 Power Analyzer	91KA35031	12/31/2014
High Speed Moving Mirror Goniophotometer	NA	VBV
General DTH04 Temperature/Humidity	25223-01	4/30/2015

Photometric and Electrical measurements – Distribution Method

A Type C High Speed Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for the test 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 per LM-79-08 requirements. Electrical measurements including voltage, current, and power were measured using the Yokogawa Power Analyzer.

Some graphics were created using Lighting Analysts Photometric Toolbox Professional Edition software.



RESULTS OF TESTS

Model No.:
SLI24 LED SS NW

Photometric and Electrical Measurements – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage (VAC)	Input Current (A)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
ITK5470	Horizontal	120.1	0.374	43.9	.977	4184	95

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4184
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	43.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.34
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	2.00 ft
Luminous Height	0.00 ft

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1570	1610	1665
55	1601	1758	1854
65	1622	1988	2144
75	1662	2425	2685
85	1712	4827	9192

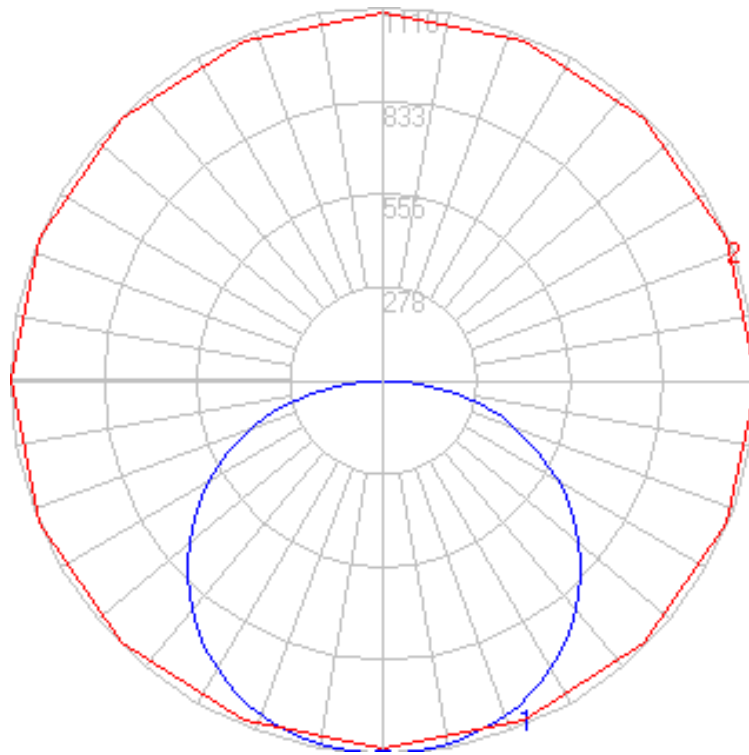
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	1100	1100	1100	1100	1100
2.5	1110	1109	1101	1094	1094
5	1108	1107	1100	1094	1094
7.5	1105	1104	1098	1093	1093
10	1100	1100	1095	1089	1088
12.5	1093	1094	1088	1078	1077
15	1085	1086	1077	1067	1065
17.5	1074	1076	1063	1054	1053
20	1062	1063	1049	1040	1039
22.5	1048	1048	1033	1025	1025
25	1031	1030	1016	1010	1010
27.5	1012	1010	998	994	994
30	992	988	978	978	978
32.5	969	964	959	960	961
35	945	939	938	942	944
37.5	919	912	915	922	926
40	889	884	893	903	910
42.5	858	855	870	885	893
45	826	824	847	867	876
47.5	793	793	822	848	859
50	758	760	799	829	840
52.5	721	725	775	808	819
55	683	691	750	784	791
57.5	643	655	723	756	765
60	601	618	694	728	737
62.5	554	583	661	697	707
65	510	547	625	662	674
67.5	464	511	589	627	639
70	417	472	552	588	601
72.5	369	431	510	549	562
75	320	387	467	508	517
77.5	269	341	418	459	464
80	219	292	364	399	406
82.5	162	238	301	383	431
85	111	175	313	525	596
87.5	59	143	451	632	685
90	0	0	0	0	0

RESULTS OF TESTS (cont'd)

Polar Candela Distribution:



RESULTS OF TESTS (cont'd)

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	408.90	N.A.	9.80
0-30	879.22	N.A.	21.00
0-40	1468.54	N.A.	35.10
0-60	2785.29	N.A.	66.60
0-80	3851.98	N.A.	92.10
0-90	4183.73	N.A.	100.00
10-90	4078.86	N.A.	97.50
20-40	1059.64	N.A.	25.30
20-50	1714.31	N.A.	41.00
40-70	1917.04	N.A.	45.80
60-80	1066.69	N.A.	25.50
70-80	466.40	N.A.	11.10
80-90	331.75	N.A.	7.90
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	4183.73	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	104.86
10-20	304.03
20-30	470.32
30-40	589.33
40-50	654.66
50-60	662.09
60-70	600.29
70-80	466.40
80-90	331.75
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



RESULTS OF TESTS (cont'd)

Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	105	99	94	89	102	97	92	87	92	88	84	88	85	82	85	82	79	77
2	94	85	76	69	92	83	75	69	79	72	67	75	70	65	72	68	64	61
3	85	73	64	56	83	71	63	56	68	61	55	65	59	54	63	57	53	50
4	78	64	54	47	75	63	53	46	60	52	46	58	51	45	55	49	44	42
5	71	57	47	40	69	56	46	39	53	45	39	51	44	38	49	43	38	36
6	65	51	41	34	63	50	41	34	48	40	34	46	39	33	45	38	33	31
7	61	46	37	30	59	45	36	30	44	35	30	42	35	29	41	34	29	27
8	56	42	33	26	55	41	32	26	40	32	26	38	31	26	37	31	26	24
9	53	38	30	24	51	38	29	24	36	29	23	35	28	23	34	28	23	21
10	49	35	27	21	48	35	27	21	34	26	21	33	26	21	32	25	21	19

PHOTOGRAPH(S)



Report Reviewed By:

Beverly Blake

A handwritten signature in black ink, reading "Beverly Blake".

LSI INDUSTRIES, INC.

Report Reviewed By:

Joe Schledorn

A handwritten signature in black ink, reading "Joe Schledorn".

Project Engineer
Lighting Division

Attachment: None