



REPORT

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

Project No.: G101617355

Client Ref. No.: PH-0527

Date: August 18, 2014

REPORT NO. 101617355CHI-184

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI24 LED SS WW **

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 30, 2014

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SUMMARY:

Model No.:
SLI24 LED SS WW **
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	4004
Input Voltage (V)	120.1
Total Power (W)	43.7
Luminaire Efficacy	92
Power Factor	.976
Driver Output Current (A)	1.656
THD _A	8.2%

Additional Reporting

Test Room Ambient Conditions	24.0C and 30.4% RH
Total Luminaire Stabilization Time	65 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 WW **

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)
ITK5491	Horizontal	120.1	0.373	43.7	.976	4004	92

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4004
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	43.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.34
Spacing Criterion (Diagonal)	1.50
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	1506	1546	1603
55	1533	1687	1783
65	1555	1908	2064
75	1594	2322	2581
85	1681	3840	8545

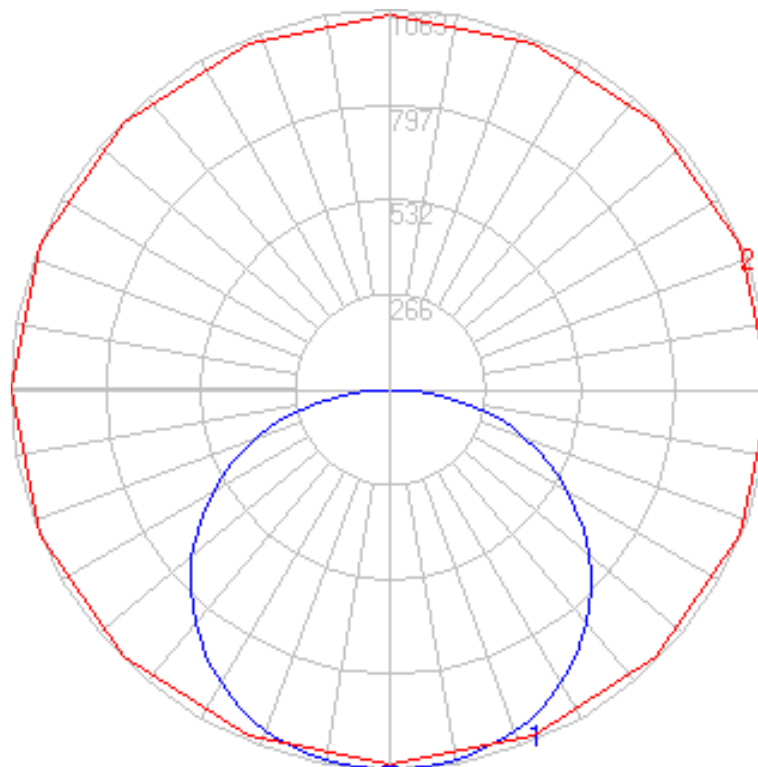
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	1054	1054	1054	1054	1054
2.5	1063	1062	1054	1048	1048
5	1062	1060	1054	1049	1049
7.5	1059	1058	1052	1049	1049
10	1054	1054	1049	1045	1044
12.5	1048	1048	1043	1035	1034
15	1039	1040	1033	1024	1023
17.5	1029	1031	1020	1012	1010
20	1018	1019	1006	999	998
22.5	1004	1004	991	985	983
25	988	987	975	971	969
27.5	970	968	957	956	955
30	951	947	939	940	940
32.5	929	925	920	922	924
35	904	901	900	904	908
37.5	879	875	879	886	891
40	852	849	858	868	875
42.5	823	820	836	851	859
45	792	791	813	833	843
47.5	760	760	789	816	826
50	727	729	767	797	808
52.5	691	696	744	777	786
55	654	663	720	755	761
57.5	614	628	694	726	736
60	572	594	667	698	709
62.5	531	559	635	669	680
65	489	525	600	637	649
67.5	445	489	564	602	613
70	400	452	529	566	575
72.5	354	413	489	529	537
75	307	371	447	489	497
77.5	259	327	400	440	448
80	205	280	350	379	384
82.5	157	229	283	324	349
85	109	166	249	470	554
87.5	59	119	438	622	670
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	392.09	N.A.	9.80
0-30	843.38	N.A.	21.10
0-40	1409.09	N.A.	35.20
0-60	2673.47	N.A.	66.80
0-80	3696.83	N.A.	92.30
0-90	4003.64	N.A.	100.00
10-90	3903.13	N.A.	97.50
20-40	1017.00	N.A.	25.40
20-50	1645.72	N.A.	41.10
40-70	1840.47	N.A.	46.00
60-80	1023.36	N.A.	25.60
70-80	447.26	N.A.	11.20
80-90	306.81	N.A.	7.70
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	4003.64	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	100.51
10-20	291.58
20-30	451.29
30-40	565.71
40-50	628.72
50-60	635.66
60-70	576.10
70-80	447.26
80-90	306.81
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	103	97	92	87	92	88	84	88	85	82	85	82	79	77
2	95	85	76	70	92	83	75	69	79	73	67	76	70	65	72	68	64	61
3	85	73	64	56	83	72	63	56	68	61	55	66	59	54	63	57	53	50
4	78	64	54	47	75	63	54	46	60	52	46	58	51	45	55	49	44	42
5	71	57	47	40	69	56	46	39	54	45	39	51	44	38	50	43	38	36
6	66	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	27	55	41	32	26	40	32	26	38	31	26	37	31	26	24
9	53	38	30	24	51	38	29	24	37	29	24	35	28	23	34	28	23	21
10	49	35	27	21	48	35	27	21	34	26	21	33	26	21	32	26	21	19

PHOTOGRAPH(S)



Report Reviewed By:

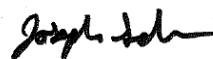
Beverly Blake



LSI INDUSTRIES, INC.

Report Reviewed By:

Joe Schledorn



Engineering Team Lead
Lighting Division

Attachment: None