



REPORT

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

Project No.: G101617355

Date: August 18, 2014

Client Ref. No.: PH-0533

REPORT NO. 101617355CHI-183

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI22 LED HO WW **

LED DRIVER: 1250mA 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: March 05, 2014

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SUMMARY:

Model No.:
SLI22 LED HO WW **
Description: 2X2 luminaire comprised of a rolled steel housing with 96 LEDs and electronic driver delivering 104.2mA per LED.

<u>Criteria</u>	<u>Result</u>
Total Lumen Output	2973
Input Voltage (V)	120.0
Total Power (W)	34.6
Luminaire Efficacy	86
Power Factor	.960
Driver Output Current (A)	1.275
THD _A	15.2%

Additional Reporting

Test Room Ambient Conditions	24.7C and 9.0% RH
Total Luminaire Stabilization Time	48 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.:
SLI22 LED HO 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)
ITK5235	Horizontal	120.0	0.300	34.6	.960	2973	86

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2973
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	34.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.38
Spacing Criterion (Diagonal)	1.50
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	2.00 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	2198	2315	2464
55	2231	2526	2765
65	2265	2856	3225
75	2368	3397	4093
85	2684	5830	11444

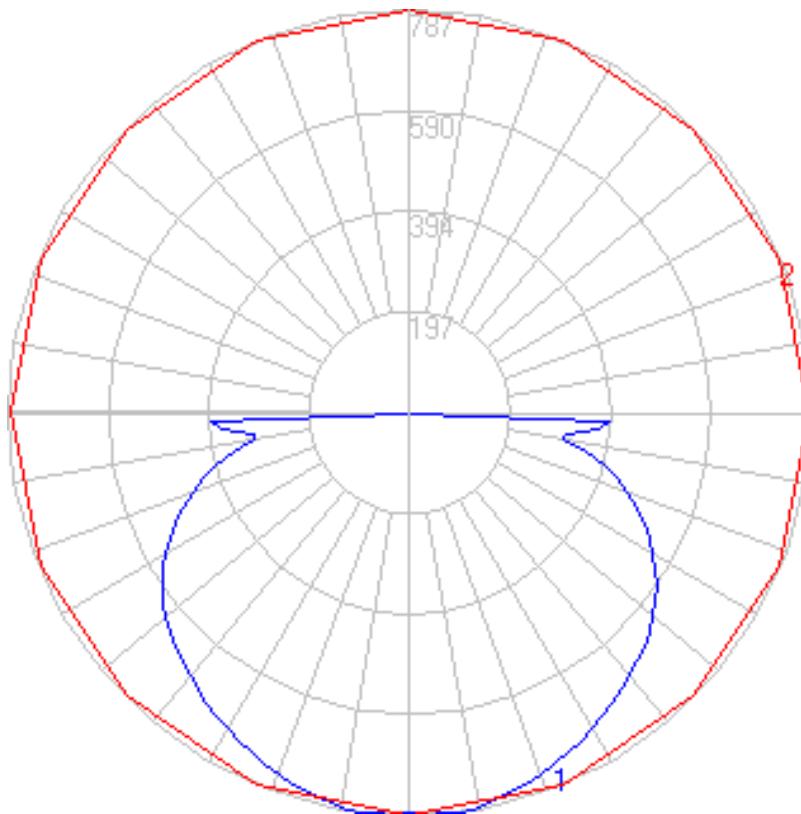
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	784	784	784	784	784
2.5	783	784	784	786	787
5	783	783	784	786	787
7.5	781	781	784	786	787
10	777	778	782	784	784
12.5	771	774	778	778	777
15	765	768	771	770	769
17.5	757	761	762	761	761
20	748	753	752	752	752
22.5	737	742	741	742	742
25	725	729	728	732	733
27.5	713	716	716	722	723
30	698	701	703	711	714
32.5	681	683	689	701	703
35	664	665	674	689	692
37.5	645	646	658	676	680
40	624	626	643	664	669
42.5	602	605	626	651	659
45	578	583	609	638	648
47.5	554	560	592	626	636
50	529	535	574	612	623
52.5	503	512	557	597	608
55	476	486	539	580	590
57.5	448	461	519	560	571
60	419	435	498	539	551
62.5	388	409	475	516	530
65	356	382	449	492	507
67.5	325	355	422	466	481
70	293	327	393	437	454
72.5	261	297	362	407	424
75	228	266	327	374	394
77.5	195	230	289	336	355
80	158	193	246	285	308
82.5	124	151	194	264	307
85	87	102	189	320	371
87.5	47	71	207	332	392
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	292.07	N.A.	9.80
0-30	629.01	N.A.	21.20
0-40	1052.84	N.A.	35.40
0-60	2002.74	N.A.	67.40
0-80	2770.57	N.A.	93.20
0-90	2973.11	N.A.	100.00
10-90	2898.32	N.A.	97.50
20-40	760.76	N.A.	25.60
20-50	1232.76	N.A.	41.50
40-70	1383.7	N.A.	46.50
60-80	767.83	N.A.	25.80
70-80	334.04	N.A.	11.20
80-90	202.54	N.A.	6.80
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	2973.11	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	74.79
10-20	217.29
20-30	336.93
30-40	423.83
40-50	472.00
50-60	477.90
60-70	433.80
70-80	334.04
80-90	202.54
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	106	100	94	89	103	97	92	88	93	89	85	89	86	82	85	82	80	78
2	95	85	77	70	92	83	76	69	79	73	68	76	71	66	73	68	64	62
3	86	74	64	57	83	72	63	56	69	61	55	66	59	54	63	58	53	51
4	78	64	55	47	75	63	54	47	60	52	46	58	51	45	56	50	45	42
5	71	57	47	40	69	56	47	40	54	46	39	52	44	39	50	43	38	36
6	66	51	41	34	64	50	41	34	48	40	34	47	39	34	45	38	33	31
7	61	46	37	30	59	45	36	30	44	36	30	42	35	30	41	34	29	27
8	56	42	33	27	55	41	33	27	40	32	26	39	31	26	37	31	26	24
9	53	38	30	24	51	38	29	24	37	29	24	36	29	23	34	28	23	21
10	49	35	27	22	48	35	27	21	34	26	21	33	26	21	32	26	21	19

PHOTOGRAPH(S)



Report Reviewed By:

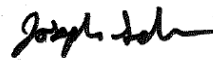
Beverly Blake



LSI INDUSTRIES, INC.

Report Reviewed By:

Joe Schledorn



Engineering Team Lead
Lighting Division

Attachment: None