



REPORT

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

Project No.: G101617355

Client Ref. No.: PH-0532

Date: August 18, 2014

REPORT NO. 101617355CHI-182

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI22 LED HO NW **

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 04, 2014

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SUMMARY:

Model No.:
SLI22 LED HO NW **
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	3083
Input Voltage (V)	120.0
Total Power (W)	34.6
Luminaire Efficacy	89
Power Factor	.961
Driver Output Current (A)	1.275
THD _A	14.8%

Additional Reporting

Test Room Ambient Conditions	24.4C and 7.0% RH
Total Luminaire Stabilization Time	49 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 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)
ITK5228	Horizontal	120.0	0.301	34.6	.961	3083	89

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3083
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
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	2300	2418	2566
55	2330	2634	2883
65	2379	2984	3346
75	2483	3532	4248
85	2684	4843	10056

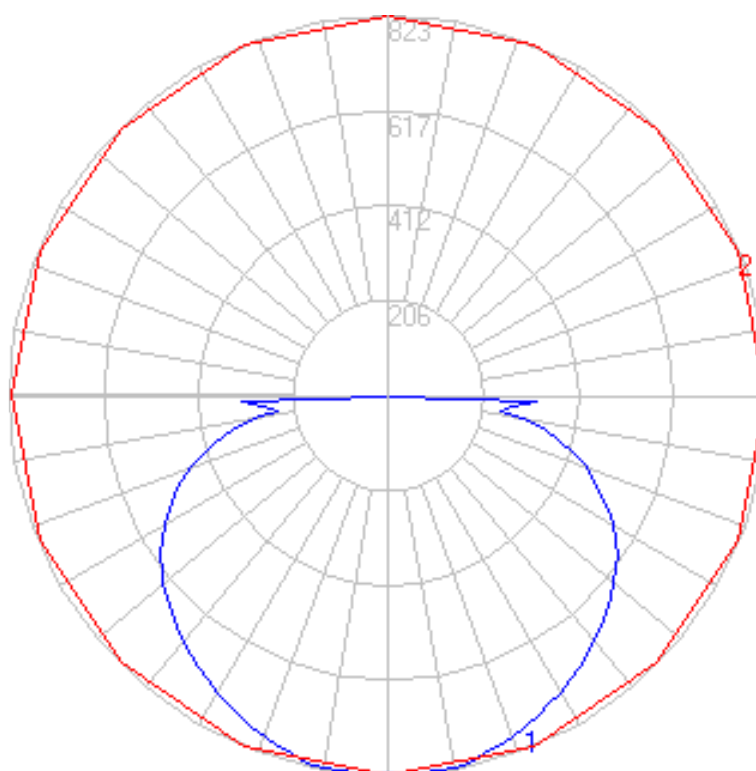
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	820	820	820	820	820
2.5	819	820	821	823	823
5	819	819	821	822	823
7.5	817	818	820	822	823
10	813	814	818	819	820
12.5	808	810	813	814	813
15	801	804	805	805	804
17.5	793	797	796	796	795
20	783	787	786	787	786
22.5	773	776	774	776	777
25	759	763	762	765	766
27.5	746	749	749	755	757
30	730	732	735	744	746
32.5	713	715	720	732	735
35	693	695	705	720	722
37.5	673	675	689	707	710
40	652	653	672	693	699
42.5	629	632	656	680	687
45	605	608	636	666	675
47.5	580	585	617	652	663
50	554	560	599	637	649
52.5	527	534	581	621	634
55	497	509	562	604	615
57.5	467	482	541	582	593
60	437	455	520	560	572
62.5	405	427	495	536	549
65	374	399	469	511	526
67.5	342	371	437	484	500
70	309	342	408	455	473
72.5	275	310	375	421	441
75	239	277	340	387	409
77.5	205	241	301	348	367
80	167	201	256	295	314
82.5	130	156	202	242	272
85	87	104	157	272	326
87.5	45	52	201	319	370
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	305.50	N.A.	9.90
0-30	657.91	N.A.	21.30
0-40	1100.89	N.A.	35.70
0-60	2091.99	N.A.	67.90
0-80	2891.22	N.A.	93.80
0-90	3083.08	N.A.	100.00
10-90	3004.84	N.A.	97.50
20-40	795.38	N.A.	25.80
20-50	1288.16	N.A.	41.80
40-70	1442.96	N.A.	46.80
60-80	799.22	N.A.	25.90
70-80	347.37	N.A.	11.30
80-90	191.86	N.A.	6.20
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	3083.08	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	78.24
10-20	227.26
20-30	352.41
30-40	442.97
40-50	492.78
50-60	498.33
60-70	451.86
70-80	347.37
80-90	191.86
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	95	90	103	98	93	88	93	89	85	89	86	83	86	83	80	78
2	95	85	77	71	92	83	76	70	80	73	68	76	71	66	73	69	65	62
3	86	74	65	57	83	72	64	57	69	62	56	66	60	54	64	58	53	51
4	78	65	55	47	76	63	54	47	61	53	46	58	51	46	56	50	45	43
5	72	57	48	40	69	56	47	40	54	46	40	52	45	39	50	44	39	36
6	66	51	42	35	64	50	41	35	48	40	34	47	39	34	45	39	34	31
7	61	46	37	30	59	46	37	30	44	36	30	42	35	30	41	34	29	27
8	57	42	33	27	55	41	33	27	40	32	27	39	32	26	38	31	26	24
9	53	39	30	24	51	38	30	24	37	29	24	36	29	24	35	28	24	22
10	49	36	27	22	48	35	27	22	34	27	21	33	26	21	32	26	21	19

PHOTOGRAPH(S)



Report Reviewed By:

Beverly Blake

A handwritten signature in black ink that reads "Beverly Blake". The script is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

LSI INDUSTRIES, INC.

Report Reviewed By:

Joe Schledorn

A handwritten signature in black ink that reads "Joe Schledorn". The signature is written in a cursive style, with the first letters of the first and last names being capitalized and prominent.

Engineering Team Lead
Lighting Division

Attachment: None