



REPORT

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

Project No.: G101617355

Date: August 18, 2014

Client Ref. No.: PH-0528

REPORT NO. 101617355CHI-185

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI24 LED HO NW **

LED DRIVER: 1050mA 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 HO NW **
Description: 192 LED luminaire comprised of a white painted metal housing and LED driver delivering 87.5mA per LED

<u>Criteria</u>	<u>Result</u>
Total Lumen Output	5270
Input Voltage (V)	120.0
Total Power (W)	57.8
Luminaire Efficacy	91
Power Factor	.990
Driver Output Current (A)	1.059
THD _A	6.1%

Additional Reporting

Test Room Ambient Conditions	24.5C and 27.8% RH
Total Luminaire Stabilization Time	37 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 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)
ITK5471	Horizontal	120.0	0.487	57.8	.990	5270	91

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5270
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
Total Luminaire Watts	57.8
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	1981	2026	2097
55	2006	2215	2339
65	2045	2500	2700
75	2067	3044	3386
85	2206	6200	11799

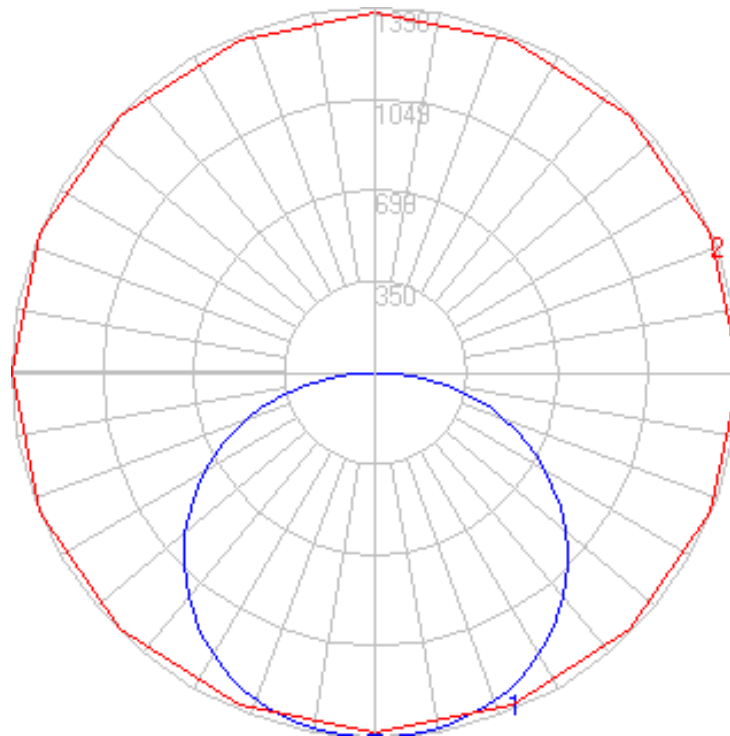
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	1385	1385	1385	1385	1385
2.5	1398	1395	1386	1377	1377
5	1396	1393	1385	1378	1377
7.5	1392	1390	1382	1377	1377
10	1386	1384	1378	1371	1370
12.5	1377	1376	1370	1358	1356
15	1367	1367	1355	1344	1341
17.5	1353	1354	1339	1328	1325
20	1338	1338	1320	1310	1308
22.5	1320	1318	1301	1292	1290
25	1299	1296	1279	1273	1272
27.5	1274	1271	1256	1252	1253
30	1248	1243	1232	1230	1232
32.5	1219	1214	1208	1208	1212
35	1188	1183	1181	1185	1190
37.5	1156	1149	1154	1161	1168
40	1120	1113	1125	1138	1147
42.5	1082	1076	1095	1115	1126
45	1042	1037	1066	1092	1103
47.5	1000	997	1035	1069	1081
50	956	956	1006	1045	1057
52.5	909	912	976	1018	1030
55	856	869	945	988	998
57.5	805	825	911	951	965
60	753	780	875	915	930
62.5	699	734	832	876	892
65	643	687	786	835	849
67.5	585	640	742	790	804
70	527	593	693	743	754
72.5	466	542	643	692	705
75	398	486	586	639	652
77.5	335	430	527	576	589
80	271	367	459	502	519
82.5	207	297	381	495	561
85	143	218	402	660	765
87.5	77	183	556	798	862
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	514.83	N.A.	9.80
0-30	1106.99	N.A.	21.00
0-40	1849.15	N.A.	35.10
0-60	3507.19	N.A.	66.60
0-80	4849.68	N.A.	92.00
0-90	5269.5	N.A.	100.00
10-90	5137.48	N.A.	97.50
20-40	1334.33	N.A.	25.30
20-50	2158.79	N.A.	41.00
40-70	2413.64	N.A.	45.80
60-80	1342.48	N.A.	25.50
70-80	586.88	N.A.	11.10
80-90	419.83	N.A.	8.00
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	5269.5	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	132.03
10-20	382.80
20-30	592.16
30-40	742.17
40-50	824.47
50-60	833.57
60-70	755.61
70-80	586.88
80-90	419.83
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 that reads "Beverly Blake". The signature is written in a cursive style.

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.

Engineering Team Lead
Lighting Division

Attachment: None