



REPORT

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

Project No.: G101617355

Client Ref. No.: PH-0529

Date: August 18, 2014

REPORT NO. 101617355CHI-186

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

SLI24 LED HO WW **

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 30, 2014

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SUMMARY:

Model No.:
SLI24 LED HO WW **
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	5035
Input Voltage (V)	120.0
Total Power (W)	57.8
Luminaire Efficacy	87
Power Factor	.990
Driver Output Current (A)	1.060
THD _A	6.1%

Additional Reporting

Test Room Ambient Conditions	24.0C and 31.7% RH
Total Luminaire Stabilization Time	32 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 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)
ITK5492	Horizontal	120.0	0.487	57.8	.990	5035	87

Characteristics

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5035
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
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)	1.50
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	1897	1941	2009
55	1922	2121	2240
65	1959	2392	2580
75	1989	2919	3246
85	2128	5059	11012



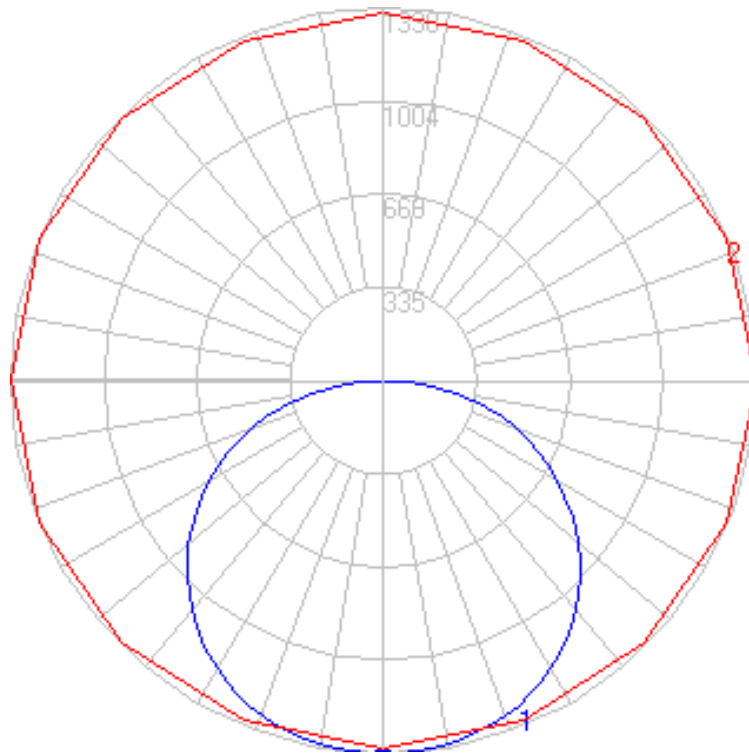
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	22.5	45	67.5	90
0	1326	1326	1326	1326	1326
2.5	1338	1336	1326	1319	1319
5	1336	1334	1325	1319	1319
7.5	1332	1331	1323	1318	1318
10	1327	1325	1319	1314	1312
12.5	1319	1318	1312	1301	1299
15	1308	1309	1299	1288	1284
17.5	1295	1297	1283	1272	1270
20	1280	1282	1265	1256	1253
22.5	1263	1264	1246	1238	1237
25	1241	1242	1226	1220	1219
27.5	1220	1218	1204	1200	1201
30	1195	1192	1181	1180	1182
32.5	1168	1164	1157	1158	1162
35	1138	1134	1132	1136	1141
37.5	1107	1101	1105	1114	1120
40	1073	1067	1078	1091	1099
42.5	1036	1031	1049	1069	1078
45	998	994	1021	1047	1057
47.5	958	955	993	1025	1036
50	916	916	964	1001	1014
52.5	866	876	935	976	988
55	820	834	905	946	956
57.5	772	790	872	910	924
60	721	747	838	876	891
62.5	670	703	797	840	855
65	616	658	752	800	811
67.5	561	614	709	757	767
70	505	569	663	711	722
72.5	445	520	615	663	675
75	383	466	562	610	625
77.5	322	410	503	551	564
80	261	352	439	475	485
82.5	200	284	356	418	456
85	138	208	328	594	714
87.5	76	156	555	782	841
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	493.09	N.A.	9.80
0-30	1060.55	N.A.	21.10
0-40	1771.9	N.A.	35.20
0-60	3360.56	N.A.	66.70
0-80	4645.6	N.A.	92.30
0-90	5035.05	N.A.	100.00
10-90	4908.65	N.A.	97.50
20-40	1278.81	N.A.	25.40
20-50	2068.92	N.A.	41.10
40-70	2312.25	N.A.	45.90
60-80	1285.05	N.A.	25.50
70-80	561.45	N.A.	11.20
80-90	389.45	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	5035.05	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Zonal Lumen Summary

Zone	Lumens
0-10	126.40
10-20	366.69
20-30	567.46
30-40	711.36
40-50	790.11
50-60	798.54
60-70	723.59
70-80	561.45
80-90	389.45
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	75	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