



REPORT

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

Project No.: G101225483
Client Ref. No.: PH-0470

Date: March 25, 2014

REPORT NO. 101225483CHI-150

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

XGBM 5 LED HO CW

LED DRIVER: 530mA 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 500477014.

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: January 27, 2014

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SUMMARY:

Model No.:
XGBM 5 LED HO CW
Description: 176 LED luminaire with square die-formed aluminum housing and sealed optical grade flat glass lens, specular reflector, and two LED drivers delivering 530mA per LED.

<u>Criteria</u>	<u>Result</u>
Total Lumen Output	25464
Input Voltage (V)	120.0
Total Power (W)	300.0
Luminaire Efficacy	85
Power Factor	.998
Driver Output Current (A)	.528
THD _A	6.0%

Additional Reporting

Test Room Ambient Conditions	24.8°C and 6.0% RH
Total Luminaire Stabilization Time	41 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	4/30/2014

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.:
XGBM 5 LED HO CW

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)
ITK5073	Horizontal	120.0	2.505	300.0	.998	25464	85

Characteristics

IES Classification	Type VS
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	25464
Downward Total Efficiency	N.A.
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	300
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	8290 (25H, 60V)
Max. Cd. (<90 Vert.)	8290 (25H, 60V)
Max. Cd. (At 90 Deg. Vert.)	0 (0.0%Lum)
Max. Cd. (80 to <90 Deg. Vert.)	1578 (6.2%Lum)
Cutoff Classification (deprecated)	N.A. (absolute)

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	1195.8	N.A.	4.7
FM (30-60)	6693.2	N.A.	26.3
FH (60-80)	4647.0	N.A.	18.2
FVH(80-90)	195.8	N.A.	0.8
BL (0-30)	1195.8	N.A.	4.7
BM (30-60)	6693.2	N.A.	26.3
BH (60-80)	4647.0	N.A.	18.2
BVH(80-90)	195.8	N.A.	0.8
UL (90-100)	0.0	N.A.	0.0
UH (100-180)	0.0	N.A.	0.0
Total	25463.6	N.A.	100.0

BUG Rating B4-U0-G2



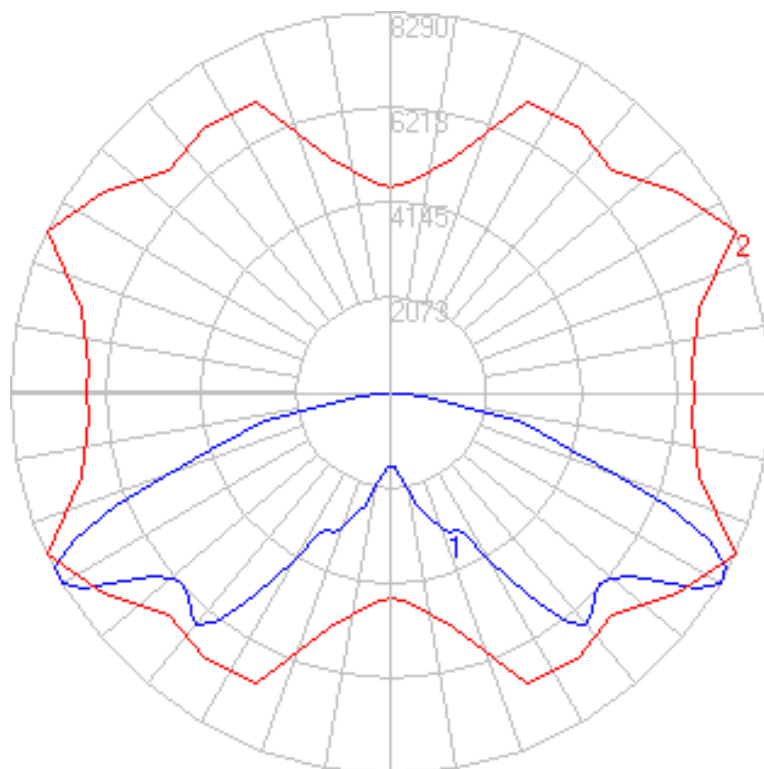
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	5	15	25	35	45	55	65	75	85	90
0	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
2.5	1633	1624	1623	1628	1623	1615	1619	1612	1610	1612	1622
5	1776	1778	1795	1800	1788	1774	1768	1735	1674	1642	1649
7.5	1782	1797	1844	1896	1951	1956	1905	1806	1725	1622	1615
10	2122	2137	2112	2142	2079	1999	2005	1935	1806	1711	1692
12.5	2492	2503	2491	2524	2442	2330	2229	2078	1911	1768	1752
15	2619	2598	2605	2650	2857	2983	2691	2226	1944	1731	1697
17.5	2815	2790	2793	2842	3192	3381	3045	2439	2073	1817	1784
20	2873	2838	2855	3137	3494	3510	3351	2725	2138	1869	1828
22.5	2961	2924	2913	3302	3717	3672	3468	3046	2297	1985	1940
25	3145	3085	2980	3305	3729	3767	3499	3252	2554	2262	2222
27.5	3599	3534	3388	3504	3596	3819	3615	3466	2882	2709	2682
30	4302	4227	4125	4112	3688	3721	3724	3810	3417	3216	3211
32.5	5128	5033	4968	4862	4202	3773	4003	4287	4114	3840	3820
35	5856	5771	5805	5611	4912	4194	4267	4898	4747	4350	4295
37.5	6200	6176	6309	6289	5726	4951	4774	5305	5061	4551	4465
40	6176	6197	6376	6598	6509	5987	5380	5397	5116	4520	4419
42.5	5926	5934	6085	6481	7083	7079	5953	5273	4963	4322	4212
45	5650	5652	5826	6262	7389	7911	6474	5177	4811	4114	4040
47.5	5447	5416	5662	6176	7511	8206	6915	5205	4685	3939	3905
50	5468	5424	5664	6265	7596	8082	7318	5298	4667	3914	3876
52.5	5763	5704	5795	6538	7584	7692	7461	5709	4655	4083	4020
55	6227	6171	6184	7129	7437	7253	7420	6289	4809	4354	4242
57.5	6496	6430	6616	7915	7430	6880	7255	6816	4997	4478	4353
60	6630	6604	6975	8290	7630	6834	7063	6989	5279	4589	4467
62.5	6260	6344	7080	8245	7688	7175	6738	6919	5472	4478	4311
65	5364	5521	6642	7622	7648	7431	6631	6355	5400	4149	3939
67.5	4407	4571	5972	6504	7325	7350	6533	5562	5122	3588	3360
70	3212	3396	4876	5295	6413	6745	6160	4560	4323	2622	2424
72.5	2296	2404	3642	4112	5168	5493	5070	3577	3397	1881	1694
75	1796	1925	2961	3359	3683	3804	3781	3089	2594	1539	1335
77.5	1209	1431	2369	2780	2606	2226	2570	2583	1996	1197	970
80	411	615	1322	1555	1417	1578	1391	1536	1311	630	399
82.5	197	349	766	668	555	558	626	609	773	329	148
85	90	193	333	280	146	106	115	226	273	161	71
87.5	32	57	72	48	42	38	36	36	46	52	29
90	0	0	0	0	0	0	0	0	0	0	0

RESULTS OF TESTS (cont'd)

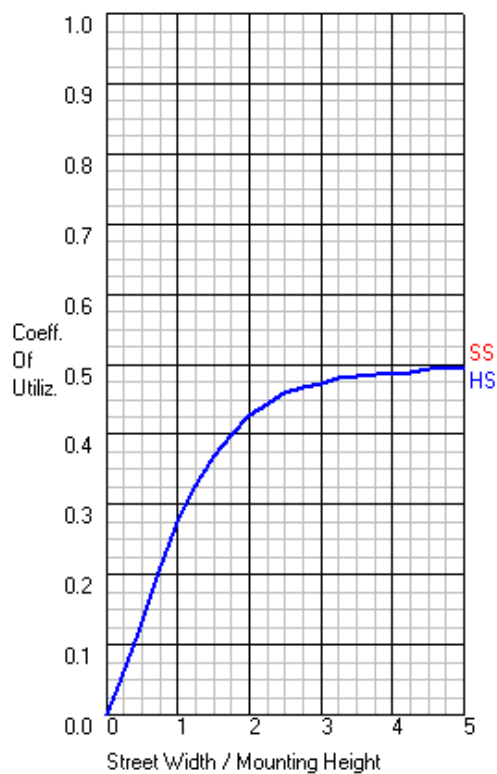
Polar Candela Distribution:





RESULTS OF TESTS (cont'd)

CU Graph:

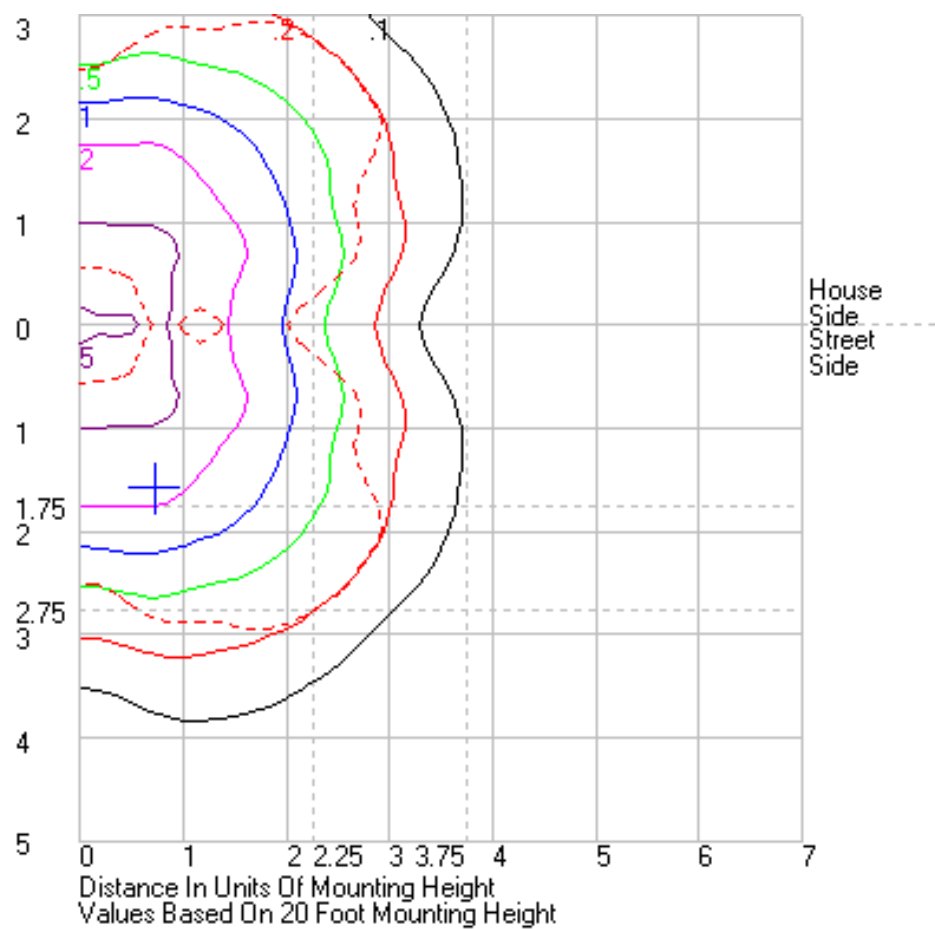


Flux Distribution

	Lumens	Percent Of Luminaire
Downward Street Side	12731.8	50.0
Downward House Side	12731.8	50.0
Downward Total	25463.6	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	25463.6	100.0

RESULTS OF TESTS (cont'd)

Isolines:





PHOTOGRAPH(S)



Report Reviewed By:

Beverly Blake

A handwritten signature in black ink that reads "Beverly Blake".

LSI INDUSTRIES, INC.

Report Reviewed By:

Joe Schledorn

A handwritten signature in black ink that reads "Joe Schledorn".

Project Engineer
Lighting Division

Attachment: None