



REPORT
3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100639410
Client Ref. No. PH-0148

Date: May 15, 2012

REPORT NO. 100639410CRT-099

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

XENM3 SA4 FT LED 63 450 NW UE
XENM3 SA5 FT LED 63 450 NW UE
XINM3 SA4 FT LED 63 450 NW UE
XINM3 SA5 FT LED 63 450 NW UE

LED DRIVER: 450mA 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 500380383.

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

DESCRIPTION OF SAMPLE: The submitted test sample was representative of a current production Sample and was received in good condition.

DATE OF TEST: May 3, 2012

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SUMMARY:

Model No.:
XENM3 SA4 FT LED 63 450 NW UE
XENM3 SA5 FT LED 63 450 NW UE
XINM3 SA4 FT LED 63 450 NW UE
XINM3 SA5 FT LED 63 450 NW UE
Description: 63 LED optic unit containing an integrated specular metal reflector and flat glass lens. Utilizing 450mA Output Driver.

Criteria	Result
Total Lumen Output	7131
Input Voltage (V)	120.0
Total Power (W)	90.4
Luminaire Efficacy	79
Power Factor	0.995
Driver Output Current (A)	0.448
THD _A	8.8%

Additional Reporting

Test Room Ambient Conditions	24.7 C and 42% RH
Total Luminaire Stabilization Time	47 Minutes

Measurement uncertainty budgets have been determined for applicable test methods and are available upon request.

EQUIPMENT LIST

Equipment Used	Equipment #	Cal. Due Date
Elgar CW1251P-V AC Power Source 0-300V	0943A02235	VBV
Yokogawa WT-230 Power Analyzer	91KA35031	12/31/12
High Speed Moving Mirror Goniophotometer	---	VBV
Temperature/Humidity Sensor/Stopwatch	25223-01	04/30/13

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

Photometric and Electrical Measurements – Distribution Method

XENM3 SA4 FT LED 63 450 NW UE							
XENM3 SA5 FT LED 63 450 NW UE							
XINM3 SA4 FT LED 63 450 NW UE							
XINM3 SA5 FT LED 63 450 NW UE							
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)
ITK3233	Horizontal	120.0	0.757	90.4	0.995	7131	79

Characteristics

IES Classification	Type III
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7131
Downward Total Efficiency	N.A.
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	90
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	3842.924 (23H, 64V)
Max. Cd. (<90 Vert.)	3842.924 (23H, 64V)
Max. Cd. (At 90 Deg. Vert.)	0 (0.0%Lum)
Max. Cd. (80 to <90 Deg. Vert.)	703.803 (9.9%Lum)
Cutoff Classification (deprecated)	N.A. (absolute)

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	869.5	N.A.	12.2
FM (30-60)	2406.8	N.A.	33.8
FH (60-80)	1756.2	N.A.	24.6
FVH (80-90)	70.8	N.A.	1.0
BL (0-30)	753.4	N.A.	10.6
BM (30-60)	963.7	N.A.	13.5
BH (60-80)	276.2	N.A.	3.9
BVH (80-90)	34.3	N.A.	0.5
UL (90-100)	0.0	N.A.	0.0
UH (100-180)	0.0	N.A.	0.0
Total	7130.9	N.A.	100.0
BUG Rating	B2-U0-G1		



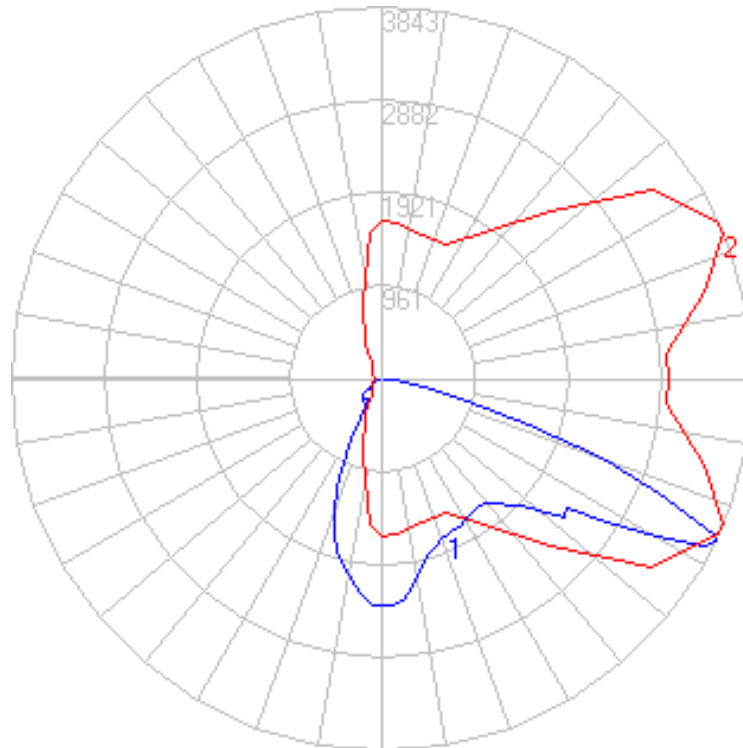
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	5	15	23	25	35	45	55	65	75	85	90
0.0	2351	2351	2351	2351	2351	2351	2351	2351	2351	2351	2351	2351
2.5	2365	2358	2353	2350	2359	2356	2355	2353	2353	2352	2350	2347
5.0	2314	2310	2310	2313	2322	2326	2331	2340	2340	2346	2347	2343
7.5	2203	2200	2208	2223	2233	2254	2278	2305	2322	2337	2337	2337
10.0	2063	2063	2072	2094	2106	2145	2197	2251	2304	2331	2344	2340
12.5	1946	1943	1943	1959	1979	2031	2098	2188	2280	2343	2370	2367
15.0	1853	1850	1850	1874	1889	1932	1998	2110	2239	2356	2416	2414
17.5	1796	1797	1793	1814	1821	1856	1905	2021	2181	2359	2455	2471
20.0	1764	1764	1761	1773	1784	1811	1851	1953	2134	2371	2516	2521
22.5	1746	1745	1745	1751	1758	1781	1814	1916	2131	2425	2621	2615
25.0	1728	1730	1727	1733	1739	1764	1796	1901	2161	2525	2790	2771
27.5	1713	1713	1713	1722	1727	1751	1787	1911	2191	2609	2916	2897
30.0	1677	1682	1688	1701	1709	1749	1809	1961	2211	2641	3057	3054
32.5	1656	1656	1658	1668	1683	1755	1875	2033	2224	2599	3075	3072
35.0	1647	1649	1646	1653	1667	1778	1953	2110	2209	2500	3067	3063
37.5	1656	1652	1647	1655	1679	1836	2036	2161	2167	2379	2940	2978
40.0	1698	1695	1667	1680	1707	1938	2134	2160	2109	2239	2714	2807
42.5	1755	1754	1740	1754	1784	2015	2209	2127	2040	2100	2512	2608
45.0	1796	1787	1789	1847	1893	2084	2187	2067	1977	2022	2401	2500
47.5	1886	1863	1821	1944	2006	2178	2107	1997	1932	1952	2293	2394
50.0	2078	2066	2040	2109	2137	2218	2066	1920	1893	1925	2227	2316
52.5	2045	2036	2097	2364	2414	2224	2028	1877	1880	1923	2196	2277
55.0	2308	2263	2154	2335	2408	2385	2000	1877	1884	1926	2145	2247
57.5	2751	2706	2645	2744	2705	2338	2103	1895	1866	1911	2007	2116
60.0	3048	3004	3099	3283	3211	2545	2173	1901	1800	1848	1872	1971
62.5	3210	3184	3497	3749	3680	3051	2215	1934	1686	1725	1685	1733
64.0	2955	2948	3457	3843	3834	3397	2452	1848	1538	1539	1619	1638
65.0	2793	2804	3331	3777	3812	3509	2582	1868	1550	1533	1532	1556
67.5	2230	2239	2684	3094	3252	3645	3018	1886	1408	1370	1337	1376
70.0	1578	1596	1968	2422	2609	3082	3061	2116	1315	1111	994	1029
72.5	913	882	1095	1595	1779	2325	2476	2200	1165	843	860	848
75.0	464	479	593	910	985	1342	1619	1724	1126	707	713	719
77.5	240	246	304	521	584	690	866	1131	999	523	514	512
80.0	129	130	156	234	258	302	385	626	704	430	331	319
82.5	81	81	88	106	108	127	160	243	353	285	187	183
85.0	66	63	64	67	75	69	87	115	130	147	118	114
87.5	54	58	55	58	63	54	57	61	63	63	61	64
90.0	0	0	0	0	0	0	0	0	0	0	0	0

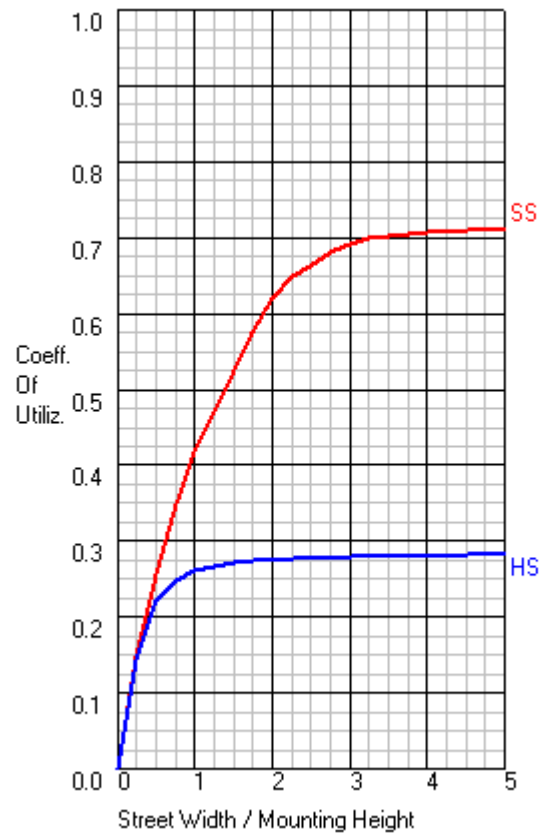
	95	105	115	125	135	145	155	165	175	180
0.0	2351	2351	2351	2351	2351	2351	2351	2351	2351	2351
2.5	2344	2344	2346	2349	2347	2346	2346	2349	2344	2347
5.0	2341	2334	2323	2316	2298	2278	2266	2260	2250	2257
7.5	2332	2314	2280	2251	2218	2188	2167	2155	2143	2143
10.0	2332	2295	2233	2190	2139	2094	2058	2042	2022	2024
12.5	2350	2281	2190	2122	2052	1988	1949	1928	1910	1916
15.0	2398	2277	2151	2052	1964	1898	1853	1812	1790	1790
17.5	2449	2298	2119	1986	1878	1795	1713	1640	1593	1593
20.0	2488	2301	2087	1919	1789	1644	1503	1393	1336	1327
22.5	2552	2304	2049	1866	1667	1441	1249	1116	1047	1039
25.0	2662	2346	2046	1806	1509	1207	984	834	755	737
27.5	2802	2407	2084	1749	1321	978	723	575	506	494
30.0	2868	2456	2113	1662	1149	771	497	382	337	320
32.5	2895	2455	2093	1539	985	584	349	274	253	243
35.0	2874	2413	1977	1367	804	482	291	231	220	210
37.5	2810	2340	1818	1155	633	433	288	217	210	204
40.0	2671	2229	1611	915	524	436	320	223	205	207
42.5	2492	2087	1376	665	488	445	343	229	202	204
45.0	2391	1955	1138	478	484	395	294	229	202	207
47.5	2296	1823	919	383	452	347	283	234	193	198
50.0	2227	1677	717	349	392	328	276	217	148	150
52.5	2176	1541	562	313	343	292	238	141	97	99
55.0	2136	1442	472	282	316	234	190	111	84	87
57.5	2034	1324	442	249	268	160	151	111	90	99
60.0	1878	1162	428	232	186	130	144	108	97	99
62.5	1664	973	415	213	138	147	124	105	100	99
64.0	1517	792	406	186	136	144	123	100	93	96
65.0	1471	782	394	177	141	145	120	108	96	96
67.5	1267	596	326	151	141	138	105	97	87	81
70.0	969	430	229	145	133	123	100	85	76	84
72.5	747	307	147	139	126	111	91	73	67	72
75.0	550	225	133	124	112	94	76	70	67	69
77.5	373	175	126	112	94	72	67	67	66	69
80.0	253	108	127	94	70	63	63	61	57	57
82.5	148	82	103	73	70	55	61	54	57	69
85.0	85	70	72	58	61	61	60	57	60	54
87.5	57	55	57	55	52	58	57	58	55	60
90.0	0	0	0	0	0	0	0	0	0	0

Polar Candela Distribution:



RESULTS OF TESTS (cont'd)

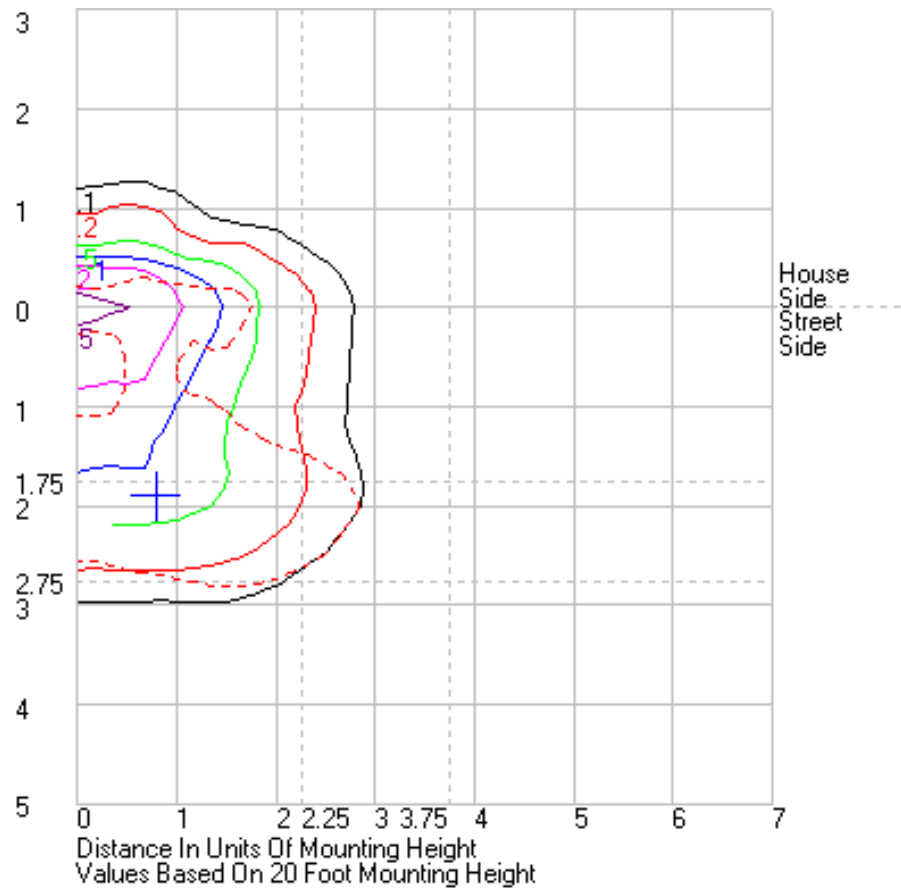
CU Graph:



Flux Distribution

	Lumens	Percent Of Luminaire
Downward Street Side	5103.4	71.6
Downward House Side	2027.6	28.4
Downward Total	7131.0	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	7131.0	100.0

Isolines:





Tested By:

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Report Reviewed By:

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Commercial & Electrical

David Ellis

Senior Project Engineer
Lighting Division

Attachment: None