



REPORT
3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100639410
Client Ref. No. PH-0160

Date: May 15, 2012

REPORT NO. 100639410CRT-112

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

XENM3 SA4 3 LED 63 350 NW UE
XENM3 SA5 3 LED 63 350 NW UE
XINM3 SA4 3 LED 63 350 NW UE
XINM3 SA5 3 LED 63 350 NW UE

LED DRIVER: 350mA 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 7, 2012

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SUMMARY:

Model No.:
XENM3 SA4 3 LED 63 350 NW UE
XENM3 SA5 3 LED 63 350 NW UE
XINM3 SA4 3 LED 63 350 NW UE
XINM3 SA5 3 LED 63 350 NW UE
Description: 63 LED optic unit containing an integrated specular metal reflector and flat glass lens. Utilizing 350mA Output Driver.

Criteria	Result
Total Lumen Output	5269
Input Voltage (V)	120.0
Total Power (W)	69.9
Luminaire Efficacy	75.0
Power Factor	0.993
Driver Output Current (A)	0.350
THD _A	9.6%

Additional Reporting

Test Room Ambient Conditions	24.5 C and 43% RH
Total Luminaire Stabilization Time	52 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	VBU
Yokogawa WT-230 Power Analyzer	91KA35031	12/31/12
High Speed Moving Mirror Goniophotometer	---	VBU
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 3 LED 63 350 NW UE
 XENM3 SA5 3 LED 63 350 NW UE
 XINM3 SA4 3 LED 63 350 NW UE
 XINM3 SA5 3 LED 63 350 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)
ITK3244	Horizontal	120.0	0.587	69.9	0.993	5269	75.0

Characteristics

IES Classification	Type II
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5269
Downward Total Efficiency	N.A.
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	75
Total Luminaire Watts	70
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	2823.927 (0H, 40V)
Max. Cd. (<90 Vert.)	2823.927 (0H, 40V)
Max. Cd. (At 90 Deg. Vert.)	0 (0.0%Lum)
Max. Cd. (80 to <90 Deg. Vert.)	550.791 (10.5%Lum)
Cutoff Classification (deprecated)	N.A. (absolute)

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	799.6	N.A.	15.2
FM (30-60)	1752.9	N.A.	33.3
FH (60-80)	828.1	N.A.	15.7
FVH (80-90)	42.7	N.A.	0.8
BL (0-30)	760.0	N.A.	14.4
BM (30-60)	747.0	N.A.	14.2
BH (60-80)	313.8	N.A.	6.0
BVH (80-90)	25.1	N.A.	0.5
UL (90-100)	0.0	N.A.	0.0
UH (100-180)	0.0	N.A.	0.0
Total	5269.2	N.A.	100.0
BUG Rating	B2-U0-G1		



RESULTS OF TESTS (cont'd)

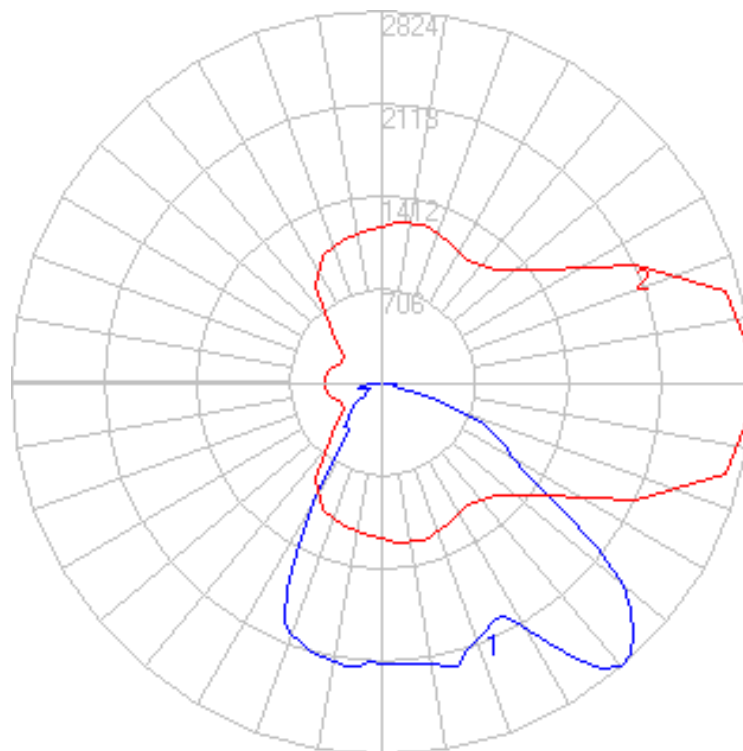
Intensity (Candlepower) Summary

	0	5	15	25	35	45	55	65	75	85	90
0	2134	2134	2134	2134	2134	2134	2134	2134	2134	2134	2134
2.5	2146	2135	2129	2135	2134	2129	2130	2130	2131	2127	2123
5	2151	2140	2137	2141	2139	2131	2133	2127	2126	2125	2121
7.5	2160	2150	2145	2147	2142	2133	2132	2123	2119	2116	2114
10	2178	2165	2159	2160	2150	2132	2120	2112	2104	2098	2097
12.5	2207	2194	2183	2173	2151	2126	2115	2102	2088	2076	2071
15	2224	2212	2201	2191	2156	2121	2096	2066	2041	2017	2005
17.5	2135	2127	2132	2145	2153	2105	2047	1997	1935	1885	1874
20	2074	2065	2064	2068	2092	2054	1971	1879	1784	1708	1690
22.5	2043	2032	2031	2022	1994	1934	1826	1699	1605	1527	1504
25	1998	1987	1989	1979	1897	1752	1624	1523	1480	1408	1383
27.5	1995	1979	1952	1915	1777	1541	1432	1408	1394	1333	1310
30	2133	2111	2042	1899	1623	1362	1293	1325	1344	1301	1272
32.5	2339	2317	2222	1975	1500	1236	1201	1269	1323	1302	1267
35	2560	2531	2427	2073	1455	1160	1151	1236	1312	1304	1259
37.5	2740	2715	2611	2136	1464	1155	1123	1219	1282	1274	1225
40	2824	2800	2710	2127	1498	1215	1125	1192	1235	1231	1179
42.5	2791	2770	2683	2023	1529	1302	1138	1146	1199	1193	1138
45	2688	2670	2557	1858	1545	1386	1160	1108	1189	1183	1131
47.5	2557	2545	2377	1682	1525	1450	1206	1101	1223	1209	1137
50	2394	2387	2158	1532	1480	1472	1274	1147	1253	1227	1167
52.5	2062	2063	1831	1394	1426	1439	1340	1198	1274	1285	1216
55	1651	1655	1424	1220	1338	1360	1380	1270	1330	1356	1299
57.5	1314	1321	1075	1004	1159	1288	1406	1389	1384	1442	1359
60	1131	1136	845	797	934	1225	1448	1487	1362	1430	1344
62.5	1044	1056	743	675	767	1207	1485	1500	1296	1320	1264
65	936	939	657	638	761	1190	1443	1464	1231	1232	1199
67.5	826	812	600	599	848	1161	1326	1416	1197	1165	1144
70	693	657	544	601	900	1123	1163	1310	1052	972	986
72.5	386	371	387	515	824	1004	983	1050	929	836	830
75	84	84	109	314	622	764	762	875	737	607	590
77.5	52	51	86	237	317	465	594	691	636	470	455
80	39	37	61	151	213	222	342	551	505	322	318
82.5	85	74	51	58	70	100	123	211	215	128	118
85	98	80	59	67	38	22	29	57	88	78	63
87.5	12	11	11	12	9	7	7	8	9	8	8
90	0	0	0	0	0	0	0	0	0	0	0

RESULTS OF TESTS (cont'd)

	95	105	115	125	135	145	155	165	175	180
0	2134	2134	2134	2134	2134	2134	2134	2134	2134	2134
2.5	2126	2133	2136	2145	2142	2132	2136	2138	2134	2128
5	2127	2135	2133	2140	2145	2143	2155	2162	2163	2158
7.5	2123	2131	2139	2150	2167	2181	2190	2192	2184	2176
10	2105	2113	2122	2149	2150	2151	2160	2165	2159	2155
12.5	2073	2086	2119	2129	2120	2117	2135	2144	2142	2138
15	2013	2041	2077	2092	2091	2086	2103	2119	2118	2115
17.5	1883	1936	1980	2022	2042	2048	2063	2074	2069	2066
20	1699	1760	1826	1903	1968	2001	2005	2023	2044	2048
22.5	1514	1562	1613	1724	1851	1936	1976	1967	1961	1957
25	1389	1411	1414	1518	1693	1854	1847	1773	1740	1731
27.5	1313	1317	1295	1341	1520	1665	1595	1460	1412	1399
30	1272	1257	1221	1229	1321	1379	1268	1107	1055	1043
32.5	1263	1224	1170	1158	1116	1046	927	774	717	710
35	1254	1203	1137	1086	915	747	621	527	497	493
37.5	1220	1174	1102	1006	724	510	418	419	433	435
40	1174	1131	1066	884	557	361	344	410	442	446
42.5	1135	1095	1026	747	418	305	335	396	418	423
45	1114	1068	959	620	332	299	315	341	353	359
47.5	1109	1038	870	495	311	295	275	298	311	316
50	1134	1027	770	394	321	267	239	264	279	282
52.5	1194	1058	697	360	308	243	211	239	260	262
55	1279	1108	668	370	276	229	194	220	231	233
57.5	1323	1166	681	392	259	225	175	164	165	168
60	1318	1176	694	380	243	200	137	128	130	140
62.5	1253	1094	663	332	223	155	122	119	128	137
65	1191	963	592	291	184	128	122	108	116	120
67.5	1134	829	458	250	153	118	112	99	112	114
70	982	635	328	202	145	108	117	114	122	125
72.5	823	462	230	176	132	119	113	110	123	126
75	580	325	150	144	124	113	131	138	189	195
77.5	445	169	116	103	99	157	210	138	147	151
80	306	83	76	70	110	131	102	87	94	101
82.5	102	47	39	49	55	64	79	98	106	119
85	44	22	23	18	24	36	54	78	75	76
87.5	7	6	7	7	8	11	15	23	25	20
90	0	0	0	0	0	0	0	0	0	0

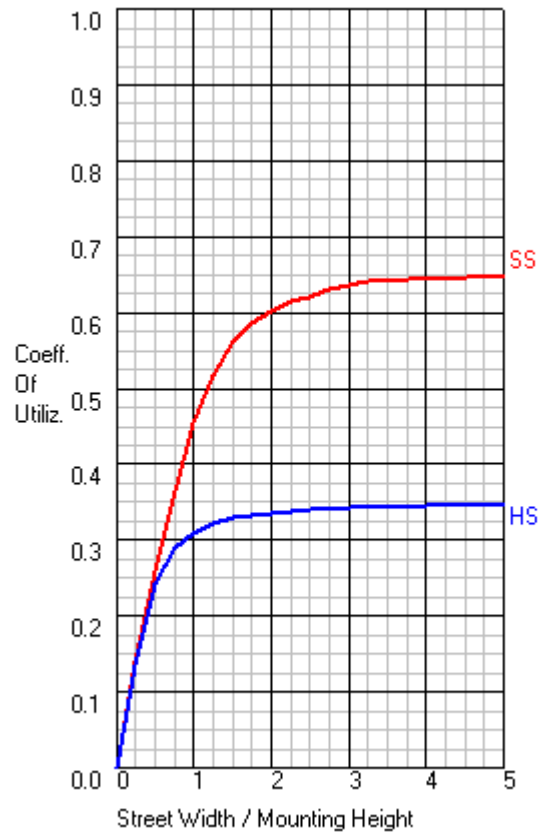
Polar Candela Distribution:





RESULTS OF TESTS (cont'd)

CU Graph:

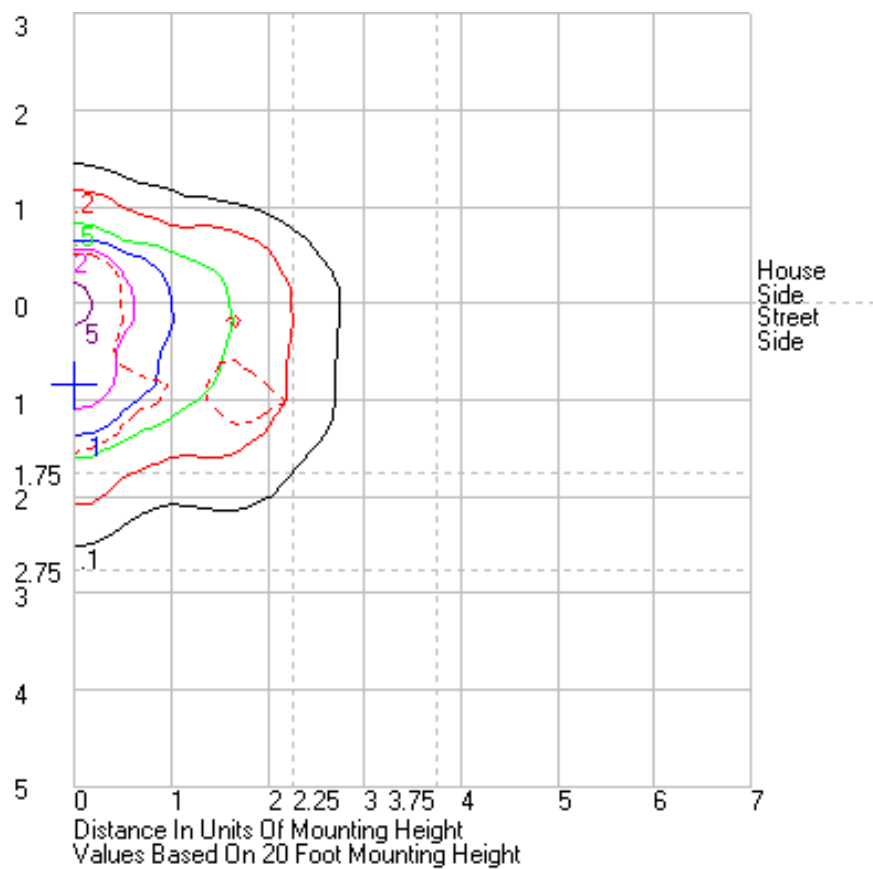


Flux Distribution

	Lumens	Percent Of Luminaire
Downward Street Side	3423.3	65.0
Downward House Side	1846.0	35.0
Downward Total	5269.3	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	5269.3	100.0

RESULTS OF TESTS (cont'd)

Isolines:





Tested By:

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Commercial & Electrical

David Ellis

Senior Project Engineer
Lighting Division

Attachment: None