



REPORT
3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100639410
Client Ref. No. PH-0156

Date: May 15, 2012

REPORT NO. 100639410CRT-108

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

XENM3 SA4 2 LED 63 450 NW UE
XENM3 SA5 2 LED 63 450 NW UE
XINM3 SA4 2 LED 63 450 NW UE
XINM3 SA5 2 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 7, 2012

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SUMMARY:

Model No.:
XENM3 SA4 2 LED 63 450 NW UE
XENM3 SA5 2 LED 63 450 NW UE
XINM3 SA4 2 LED 63 450 NW UE
XINM3 SA5 2 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	6534
Input Voltage (V)	120.0
Total Power (W)	90.7
Luminaire Efficacy	72.0
Power Factor	0.995
Driver Output Current (A)	0.448
THD _A	8.6%

Additional Reporting

Test Room Ambient Conditions	24.2 C and 45% RH
Total Luminaire Stabilization Time	53 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 2 LED 63 450 NW UE			
				XENM3 SA5 2 LED 63 450 NW UE			
				XINM3 SA4 2 LED 63 450 NW UE			
				XINM3 SA5 2 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)
ITK3240	Horizontal	120.0	0.760	90.7	0.995	6534	72.0

Characteristics

IES Classification	Type II
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6534
Downward Total Efficiency	N.A.
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
Total Luminaire Watts	91
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	3612.458 (54H, 42.5V)
Max. Cd. (<90 Vert.)	3612.458 (54H, 42.5V)
Max. Cd. (At 90 Deg. Vert.)	0 (0.0%Lum)
Max. Cd. (80 to <90 Deg. Vert.)	374.944 (5.7%Lum)
Cutoff Classification (deprecated)	N.A. (absolute)

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	620.4	N.A.	9.5
FM (30-60)	2423.3	N.A.	37.1
FH (60-80)	918.8	N.A.	14.1
FVH (80-90)	20.6	N.A.	0.3
BL (0-30)	499.8	N.A.	7.6
BM (30-60)	1473.6	N.A.	22.6
BH (60-80)	561.4	N.A.	8.6
BVH (80-90)	15.7	N.A.	0.2
UL (90-100)	0.0	N.A.	0.0
UH (100-180)	0.0	N.A.	0.0
Total	6533.6	N.A.	100.0
BUG Rating	B2-U0-G2		



RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

	0	5	15	25	35	45	54	55	65	75	85	90
0	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212
2.5	1214	1208	1208	1213	1214	1214	1217	1216	1216	1209	1213	1210
5	1210	1204	1205	1210	1213	1213	1217	1217	1219	1213	1216	1211
7.5	1234	1228	1226	1227	1224	1220	1221	1220	1221	1214	1217	1213
10	1263	1257	1255	1254	1254	1245	1238	1237	1234	1225	1231	1227
12.5	1311	1304	1299	1294	1288	1276	1269	1266	1260	1255	1268	1267
15	1367	1360	1352	1343	1332	1313	1301	1298	1294	1287	1310	1310
17.5	1431	1423	1409	1394	1378	1360	1339	1335	1330	1319	1325	1320
20	1517	1505	1484	1458	1432	1415	1381	1377	1367	1341	1340	1351
22.5	1653	1639	1609	1561	1523	1495	1464	1454	1405	1359	1361	1382
25	1806	1792	1755	1696	1645	1584	1574	1565	1481	1388	1400	1419
27.5	1935	1920	1885	1827	1778	1717	1657	1648	1565	1450	1471	1487
30	1996	1983	1965	1923	1927	1915	1795	1773	1721	1623	1690	1705
32.5	1887	1891	1919	1948	2090	2137	2059	2037	1996	2004	2125	2051
35	1615	1629	1691	1836	2220	2455	2438	2429	2413	2481	2393	2382
37.5	1420	1424	1442	1583	2185	2817	2931	2946	2836	2699	2547	2504
40	1327	1315	1325	1411	1978	3095	3412	3421	3082	2763	2537	2475
42.5	1236	1228	1242	1344	1908	3031	3612	3606	3201	2741	2471	2401
43	1205	1201	1216	1282	1926	2951	3610	3612	3217	2726	2541	2360
45	1140	1144	1168	1313	1997	2760	3520	3545	3233	2696	2368	2273
47.5	1052	1056	1092	1316	2084	2596	3156	3248	3224	2623	2250	2151
50	958	964	1007	1339	2141	2480	2719	2826	3184	2600	2215	2119
52.5	852	858	947	1371	2112	2317	2483	2554	3203	2657	2285	2196
55	735	743	926	1434	1955	2131	2451	2515	3172	2824	2465	2346
57.5	492	511	792	1447	1718	1945	2485	2568	3094	2993	2597	2443
60	222	239	451	1095	1453	1804	2490	2586	2963	2954	2519	2362
62.5	90	103	223	475	1029	1749	2428	2506	2815	2737	2309	2168
65	56	64	146	224	549	1623	2263	2314	2640	2523	2046	1907
67.5	36	41	106	156	414	1228	1956	2004	2375	2236	1798	1690
70	26	29	83	116	355	937	1376	1458	1958	1871	1580	1475
72.5	22	25	52	94	247	664	832	879	1450	1425	1181	1091
75	19	21	37	82	188	362	549	577	849	1018	898	811
77.5	15	16	27	51	129	205	255	282	494	696	623	595
80	11	11	17	27	51	83	91	99	266	375	325	320
82.5	9	9	12	14	18	24	27	29	88	181	160	146
85	7	6	8	8	10	12	13	13	17	39	51	51
87.5	5	5	5	4	5	5	5	5	6	6	6	6
90	0	0	0	0	0	0	0	0	0	0	0	0

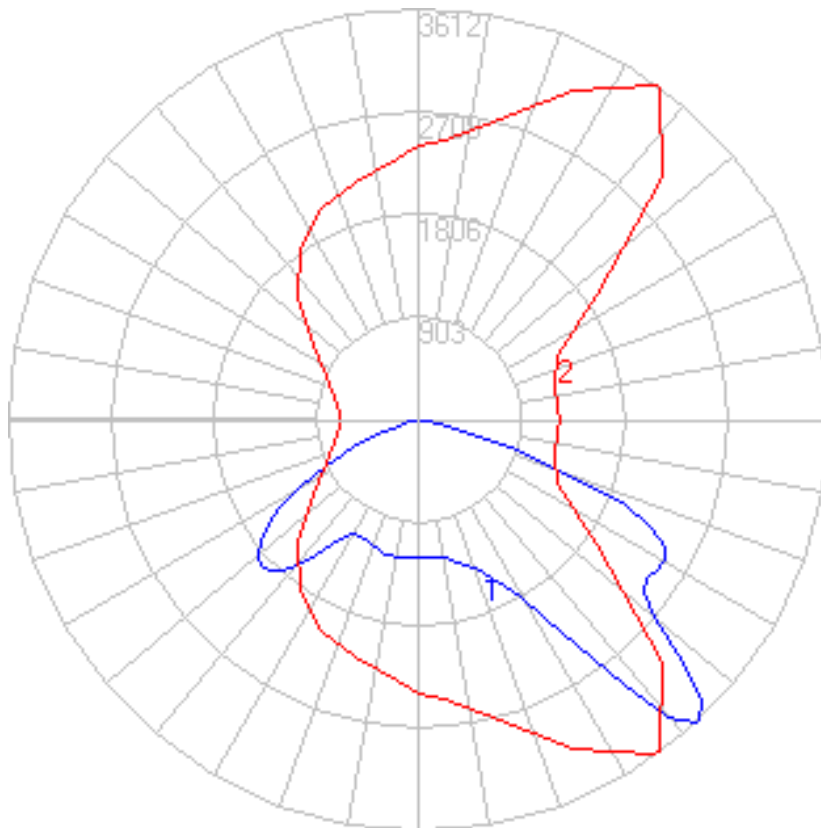


RESULTS OF TESTS (cont'd)

	95	105	115	125	135	145	155	165	175	180
0	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212
2.5	1211	1212	1214	1219	1214	1212	1208	1207	1200	1201
5	1213	1213	1214	1218	1211	1209	1203	1201	1194	1194
7.5	1214	1213	1213	1216	1209	1206	1197	1194	1187	1188
10	1228	1225	1225	1221	1206	1200	1189	1185	1177	1178
12.5	1267	1255	1245	1232	1204	1189	1176	1167	1160	1163
15	1314	1295	1258	1227	1191	1175	1153	1140	1130	1133
17.5	1325	1307	1266	1208	1176	1153	1122	1104	1094	1097
20	1363	1323	1238	1188	1162	1132	1097	1082	1070	1072
22.5	1384	1328	1209	1168	1156	1108	1080	1064	1052	1055
25	1411	1328	1210	1160	1117	1094	1064	1046	1035	1039
27.5	1476	1380	1249	1163	1094	1083	1051	1024	1014	1018
30	1666	1509	1319	1165	1080	1062	1026	1010	993	997
32.5	1980	1759	1480	1220	1084	1033	1004	996	977	980
35	2307	2017	1691	1361	1106	1019	1001	981	956	960
37.5	2410	2156	1871	1544	1192	1051	994	951	931	934
40	2384	2191	1986	1716	1339	1085	960	910	878	881
42.5	2312	2156	2056	1831	1509	1127	907	785	715	710
43	2265	2135	2066	1856	1549	1151	950	723	646	641
45	2188	2081	2079	1899	1634	1204	767	576	495	486
47.5	2076	2005	2026	1917	1722	1202	588	363	287	278
50	2050	1933	1971	1868	1683	1025	412	204	149	145
52.5	2118	1942	1931	1809	1373	693	272	166	119	114
55	2248	2061	1942	1735	958	387	199	160	108	103
57.5	2311	2214	2037	1562	539	242	168	170	110	104
60	2234	2252	2150	1330	332	203	170	175	113	111
62.5	2053	2133	2135	1100	309	194	180	132	117	120
65	1815	1920	1845	883	297	202	198	135	116	119
67.5	1600	1674	1354	671	265	223	225	156	94	96
70	1412	1436	913	422	216	227	197	174	62	63
72.5	1030	1078	643	263	171	162	154	184	37	35
75	792	740	399	187	115	110	105	112	26	25
77.5	607	494	226	108	64	110	59	38	17	15
80	329	222	89	59	46	76	43	31	10	8
82.5	136	58	42	40	30	37	21	14	7	7
85	51	17	19	18	13	16	8	8	5	5
87.5	6	5	6	5	5	5	5	4	4	4
90	0	0	0	0	0	0	0	0	0	0

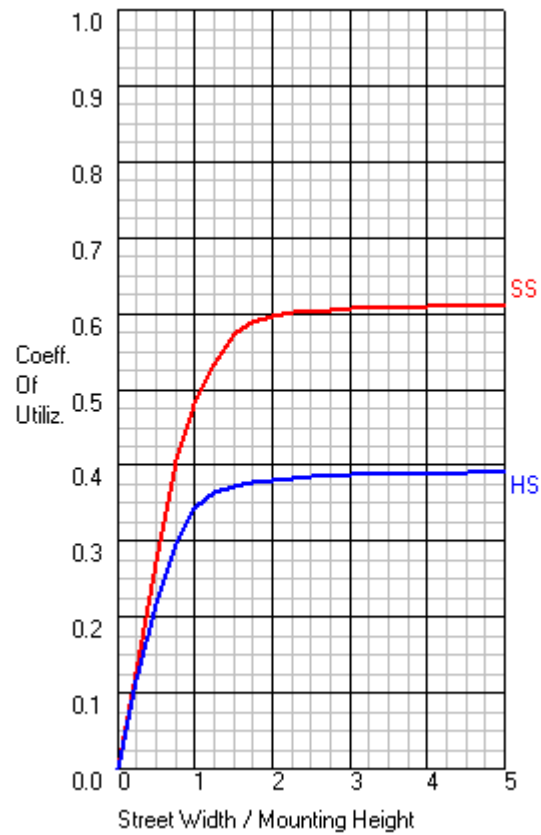
RESULTS OF TESTS (cont'd)

Polar Candela Distribution:



RESULTS OF TESTS (cont'd)

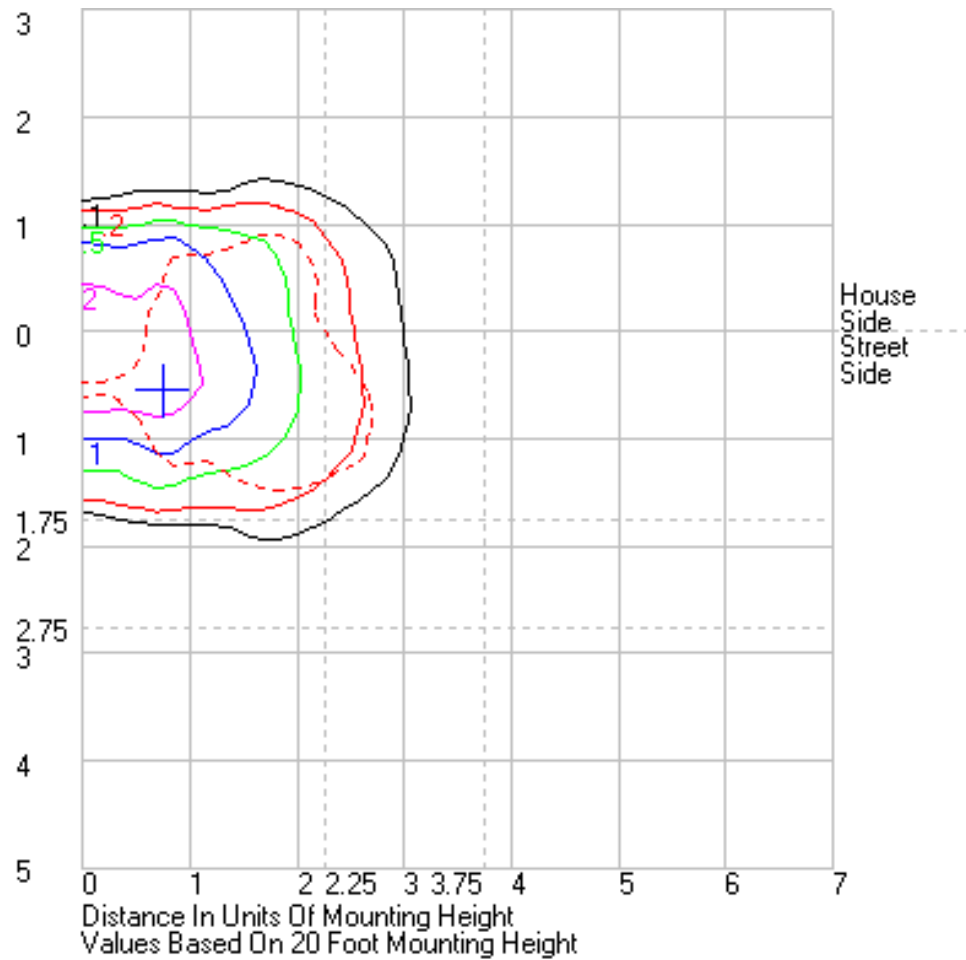
CU Graph:



Flux Distribution

	Lumens	Percent Of Luminaire
Downward Street Side	3983.2	61.0
Downward House Side	2550.5	39.0
Downward Total	6533.7	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	6533.7	100.0

Isolines:





Tested By:

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Attachment: None