



REPORT
3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100639410
Client Ref. No. PH-0152

Date: May 15, 2012

REPORT NO. 100639410CRT-104

TEST OF ONE LED LUMINAIRE

FIXTURE CATALOG NO.

XENM3 SA4 5 LED 63 350 NW UE
XENM3 SA5 5 LED 63 350 NW UE
XINM3 SA4 5 LED 63 350 NW UE
XINM3 SA5 5 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 8, 2012

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SUMMARY:

Model No.:
XENM3 SA4 5 LED 63 350 NW UE
XENM3 SA5 5 LED 63 350 NW UE
XINM3 SA4 5 LED 63 350 NW UE
XINM3 SA5 5 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	4481
Input Voltage (V)	120.0
Total Power (W)	69.9
Luminaire Efficacy	64
Power Factor	0.993
Driver Output Current (A)	0.351
THD _A	9.6%

Additional Reporting

Test Room Ambient Conditions	24.6 C and 45% 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	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 5 LED 63 350 NW UE							
XENM3 SA5 5 LED 63 350 NW UE							
XINM3 SA4 5 LED 63 350 NW UE							
XINM3 SA5 5 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)
ITK3245	Horizontal	120.0	0.586	69.9	0.993	4481	64

Characteristics

IES Classification	Type VS
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4481
Downward Total Efficiency	N.A.
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	64
Total Luminaire Watts	70
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	1360.272 (45H, 50V)
Max. Cd. (<90 Vert.)	1360.272 (45H, 50V)
Max. Cd. (At 90 Deg. Vert.)	0 (0.0%Lum)
Max. Cd. (80 to <90 Deg. Vert.)	389.078 (8.7%Lum)
Cutoff Classification (deprecated)	N.A. (absolute)

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	239.0	N.A.	5.3
FM (30-60)	1148.4	N.A.	25.6
FH (60-80)	805.1	N.A.	18.0
FVH (80-90)	47.8	N.A.	1.1
BL (0-30)	239.0	N.A.	5.3
BM (30-60)	1148.4	N.A.	25.6
BH (60-80)	805.1	N.A.	18.0
BVH (80-90)	47.8	N.A.	1.1
UL (90-100)	0.0	N.A.	0.0
UH (100-180)	0.0	N.A.	0.0
Total	4480.6	N.A.	100.0
BUG Rating	B2-U0-G1		

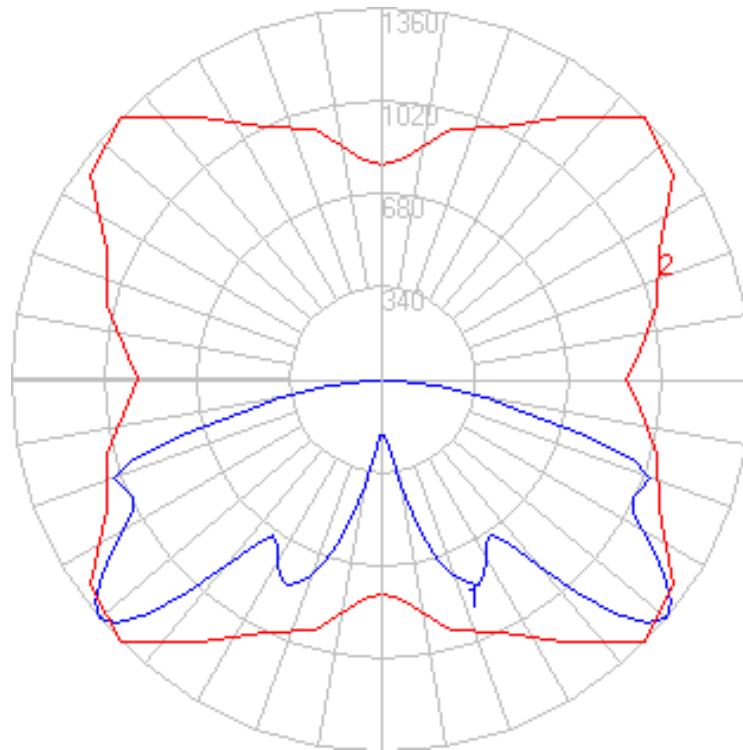


RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary

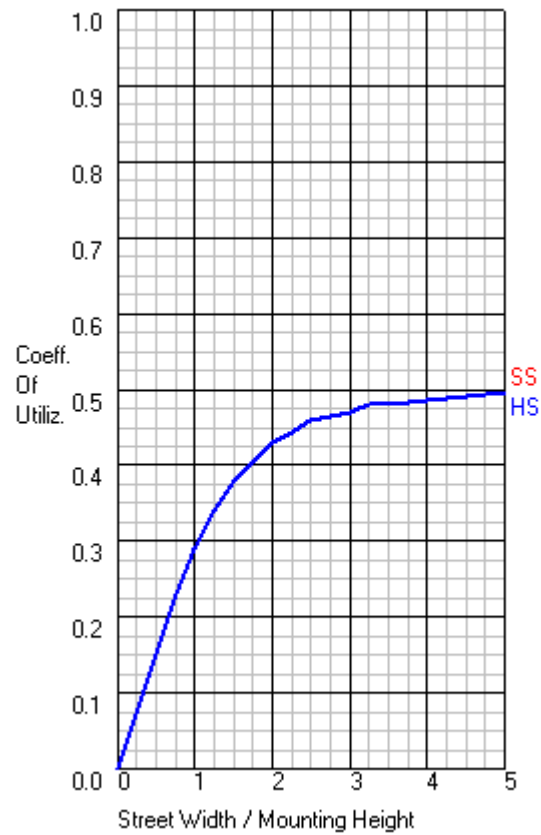
	0	5	15	25	35	45	55	65	75	85	90
0	205	205	205	205	205	205	205	205	205	205	205
2.5	210	209	208	208	207	207	206	205	206	205	205
5	261	260	260	259	254	248	240	233	229	226	226
7.5	321	319	321	322	314	306	296	280	264	255	254
10	372	372	383	396	397	391	373	345	308	284	281
12.5	453	453	483	492	508	504	465	405	344	300	296
15	506	512	566	601	634	612	543	462	379	310	300
17.5	553	558	620	685	727	695	623	509	412	316	301
20	557	569	630	721	762	761	709	587	461	346	325
22.5	560	579	656	740	778	808	777	679	499	362	332
25	530	556	666	746	774	831	812	680	514	378	348
27.5	518	538	646	729	764	811	790	702	561	422	393
30	577	588	656	720	735	763	782	754	675	536	507
32.5	657	662	721	743	706	714	804	852	786	654	626
35	746	755	803	798	730	696	864	939	964	858	820
37.5	844	864	921	887	788	766	915	1102	1111	962	929
40	925	957	1026	991	893	894	1009	1213	1160	972	934
42.5	960	1006	1094	1086	1028	1055	1123	1209	1105	918	883
45	938	990	1108	1145	1145	1207	1186	1118	1047	894	863
47.5	917	969	1075	1125	1245	1323	1179	1060	1013	861	830
50	895	938	1044	1115	1306	1360	1168	1020	950	810	785
52.5	867	900	1002	1106	1338	1329	1169	984	906	783	758
55	844	873	959	1111	1305	1257	1155	996	901	794	758
57.5	839	874	953	1119	1242	1180	1138	1045	925	808	775
60	876	908	966	1159	1170	1101	1109	1115	984	832	795
62.5	914	943	1017	1200	1113	1037	1077	1173	1039	872	838
65	858	881	1003	1194	1089	1012	1047	1174	1068	899	863
67.5	657	683	849	1066	1062	1031	1006	1122	1049	876	851
70	505	528	702	836	956	1047	972	1007	965	790	764
72.5	420	440	589	660	786	960	923	798	752	587	562
75	350	368	471	534	634	746	748	635	644	502	484
77.5	236	257	342	435	501	522	560	533	497	412	393
80	105	126	191	290	346	384	389	374	311	242	216
82.5	54	66	104	149	176	197	188	155	125	72	56
85	34	40	67	76	63	49	44	63	58	28	21
87.5	14	15	20	20	16	15	13	14	14	11	9
90	0	0	0	0	0	0	0	0	0	0	0

Polar Candela Distribution:



RESULTS OF TESTS (cont'd)

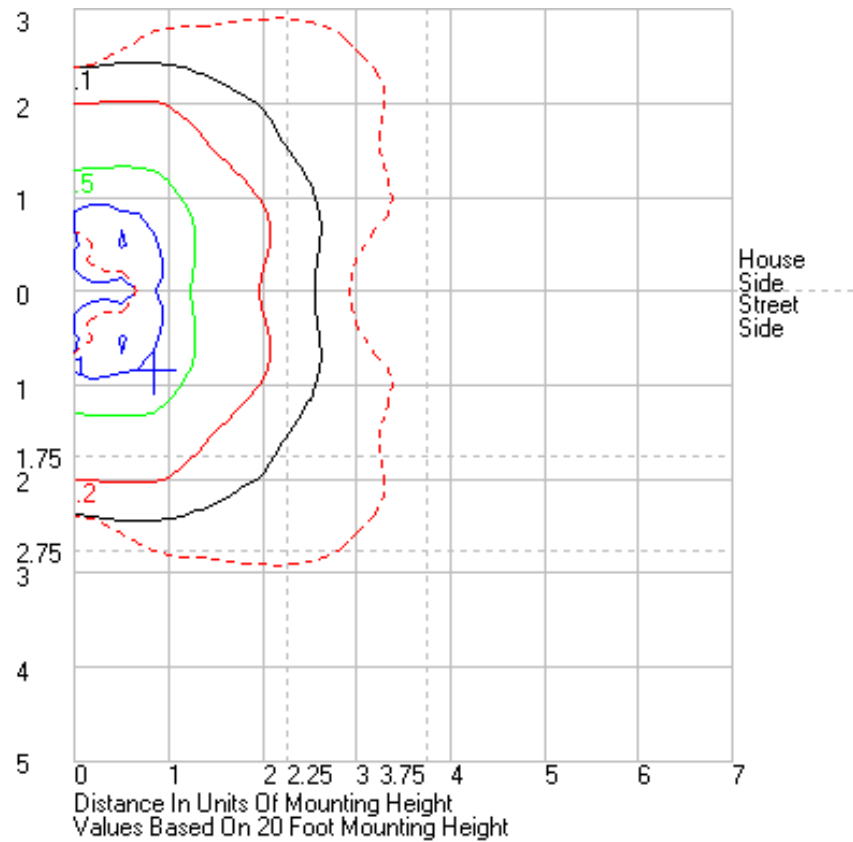
CU Graph:



Flux Distribution

	Lumens	Percent Of Luminaire
Downward Street Side	2240.3	50.0
Downward House Side	2240.3	50.0
Downward Total	4480.6	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	4480.6	100.0

Isolines:





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Commercial & Electrical

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Lighting Division

Attachment: None