

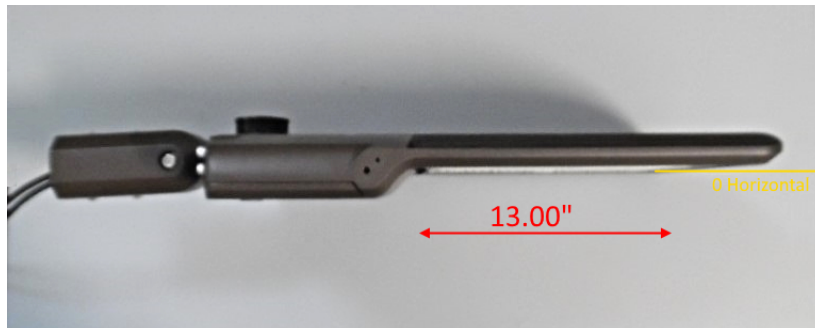


Report of Test

LLIA002251-023

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-480PCS-T5 -400W Setting - 4000K Setting
Pole mounted, cast aluminum housing, white LED board with
frosted plastic enclosure with clear optic sections below LEDs.
1120 white LEDs, 560 CW LEDs and 560 WW LEDs
Two Sosen SS-240NH-E260BH LED driver



Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	62842.7 Lumens
Input Current	3.276 A	Total Efficacy	160.1 Lm/W
Input Power	392.6 W		
Frequency	60.00 Hz		
Power Factor	0.999	Roadway Type	Area Light
Current THD	3.9 %		

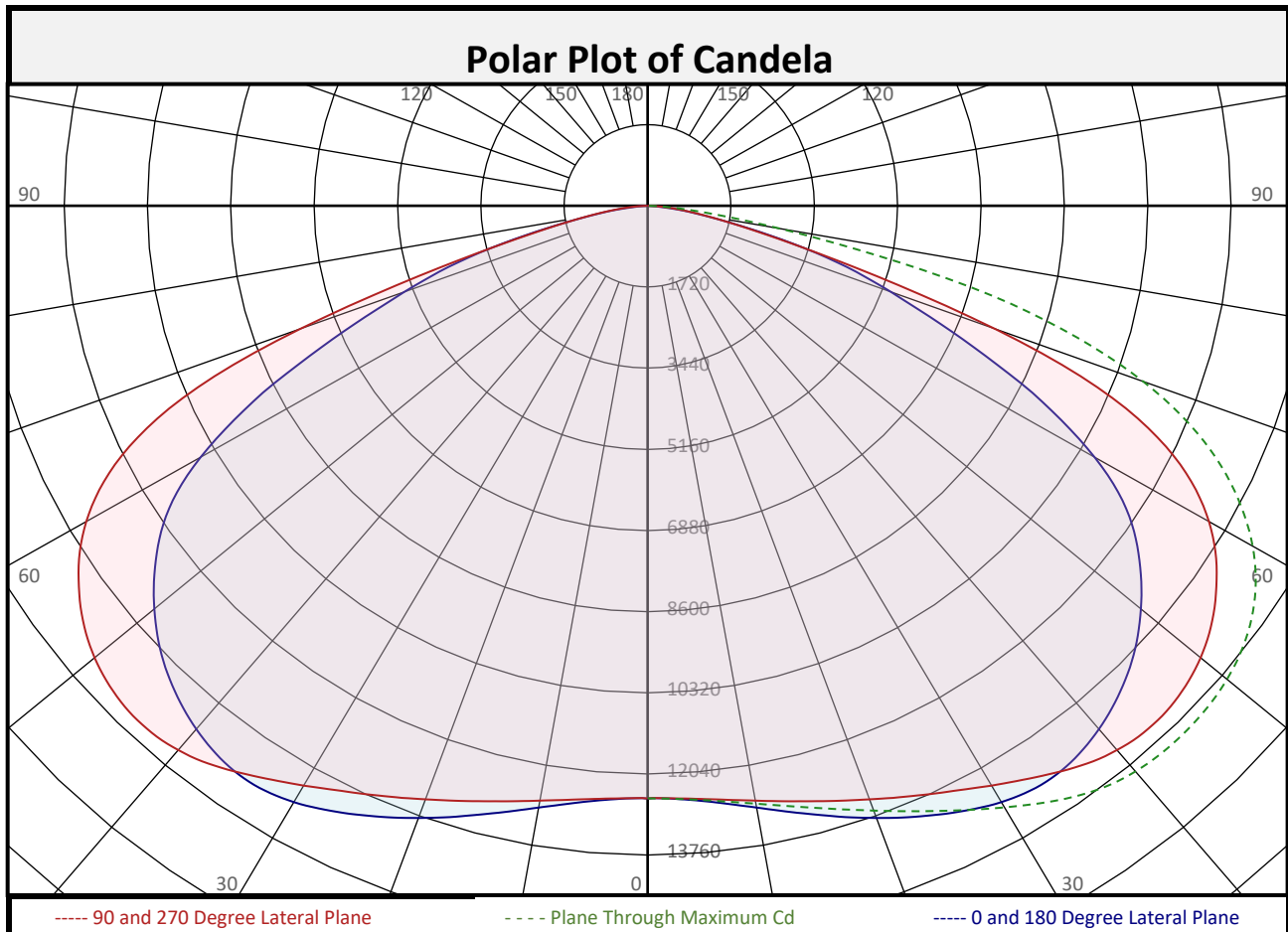
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/15/2023
Report date: 11/17/2023

Signed: _____

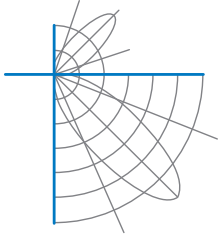


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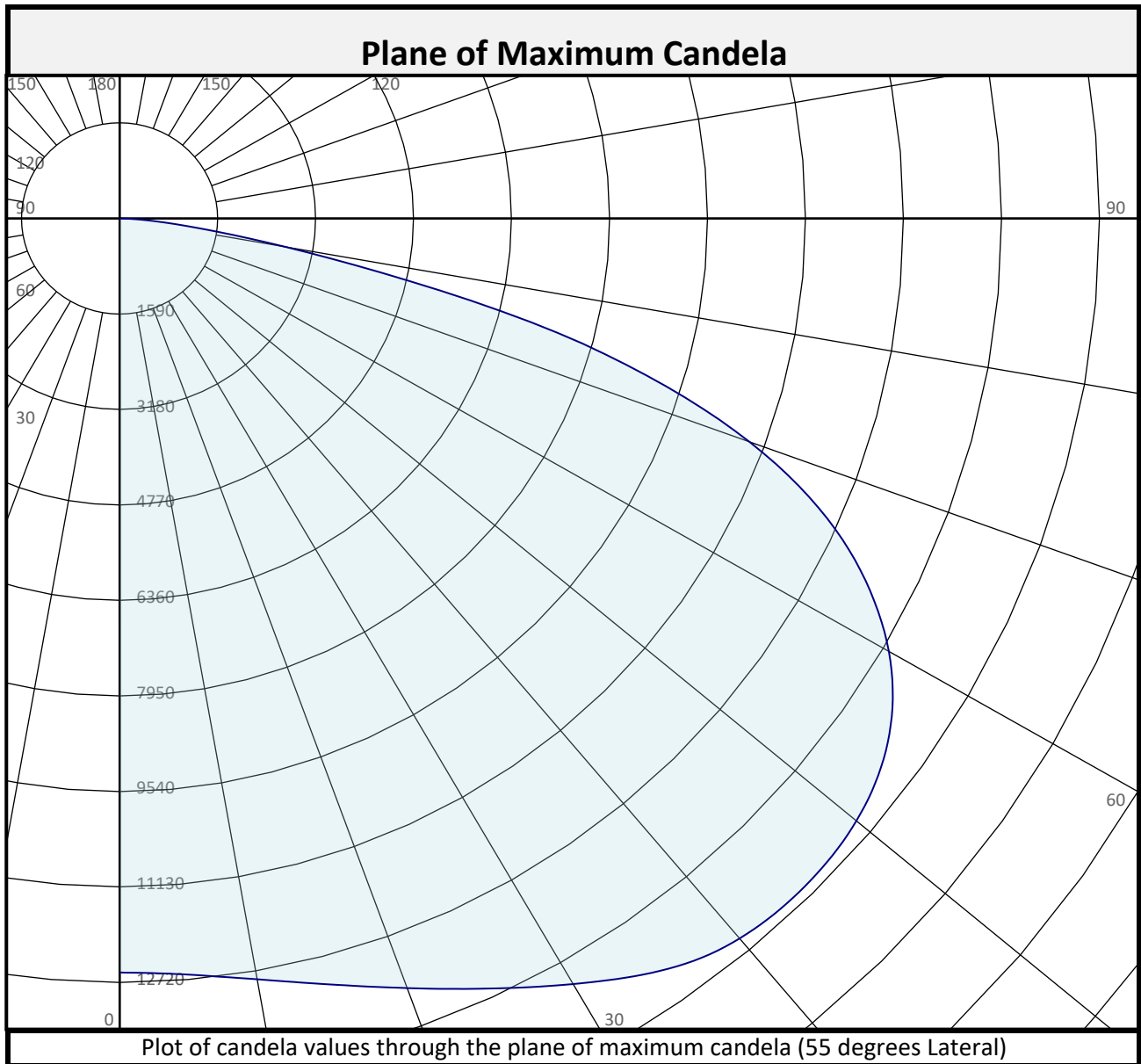


Zonal Flux Summary

Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	1215	1.9%	90-100	0.0	0.0%	0-20	4982	7.9%
10-20	3767	6.0%	100-110	0.0	0.0%	0-30	11536	18.4%
20-30	6553	10.4%	110-120	0.0	0.0%	0-40	20953	33.3%
30-40	9418	15.0%	120-130	0.0	0.0%	0-60	45188	71.9%
40-50	11642	18.5%	130-140	0.0	0.0%	0-80	62052	98.7%
50-60	12593	20.0%	140-150	0.0	0.0%	10-90	61627	98.1%
60-70	11134	17.7%	150-160	0.0	0.0%	20-50	27613	43.9%
70-80	5730	9.1%	160-170	0.0	0.0%	40-90	41890	66.7%
80-90	790.7	1.3%	170-180	0.0	0.0%	60-90	17654	28.1%
0-90	62843	100.0%	90-180	0.0	0.0%	0-180	62843	100.0%



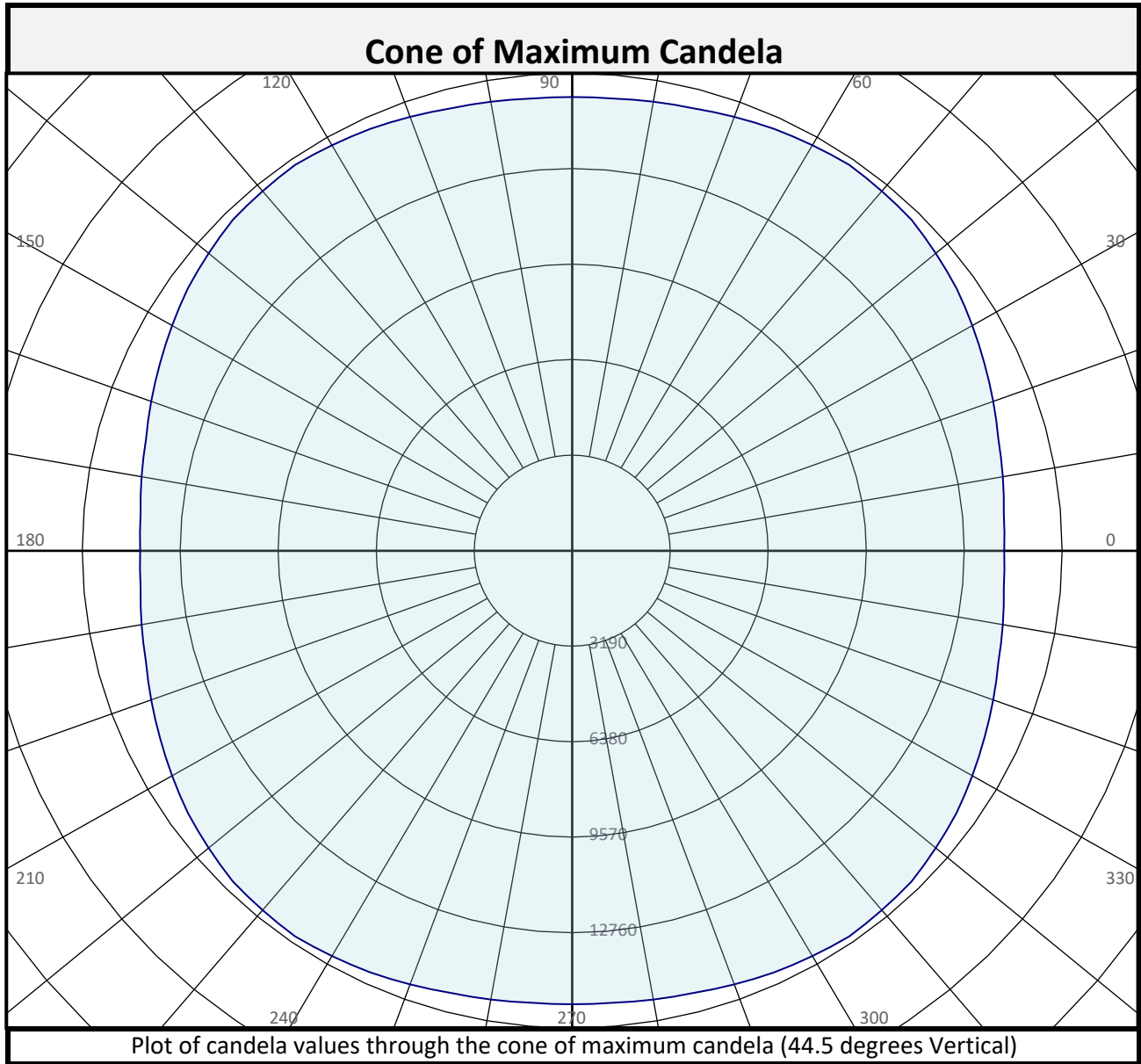
Report of Test
LLIA002251-023



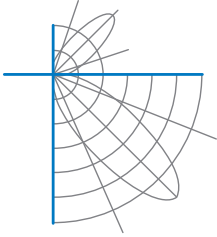
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	31421.4	50.0%	0.0	0.0%	31421.4	50.0%
House Side	31421.4	50.0%	0.0	0.0%	31421.4	50.0%
Total	62842.7	100.0%	0.0	0.0%	62842.7	100.0%



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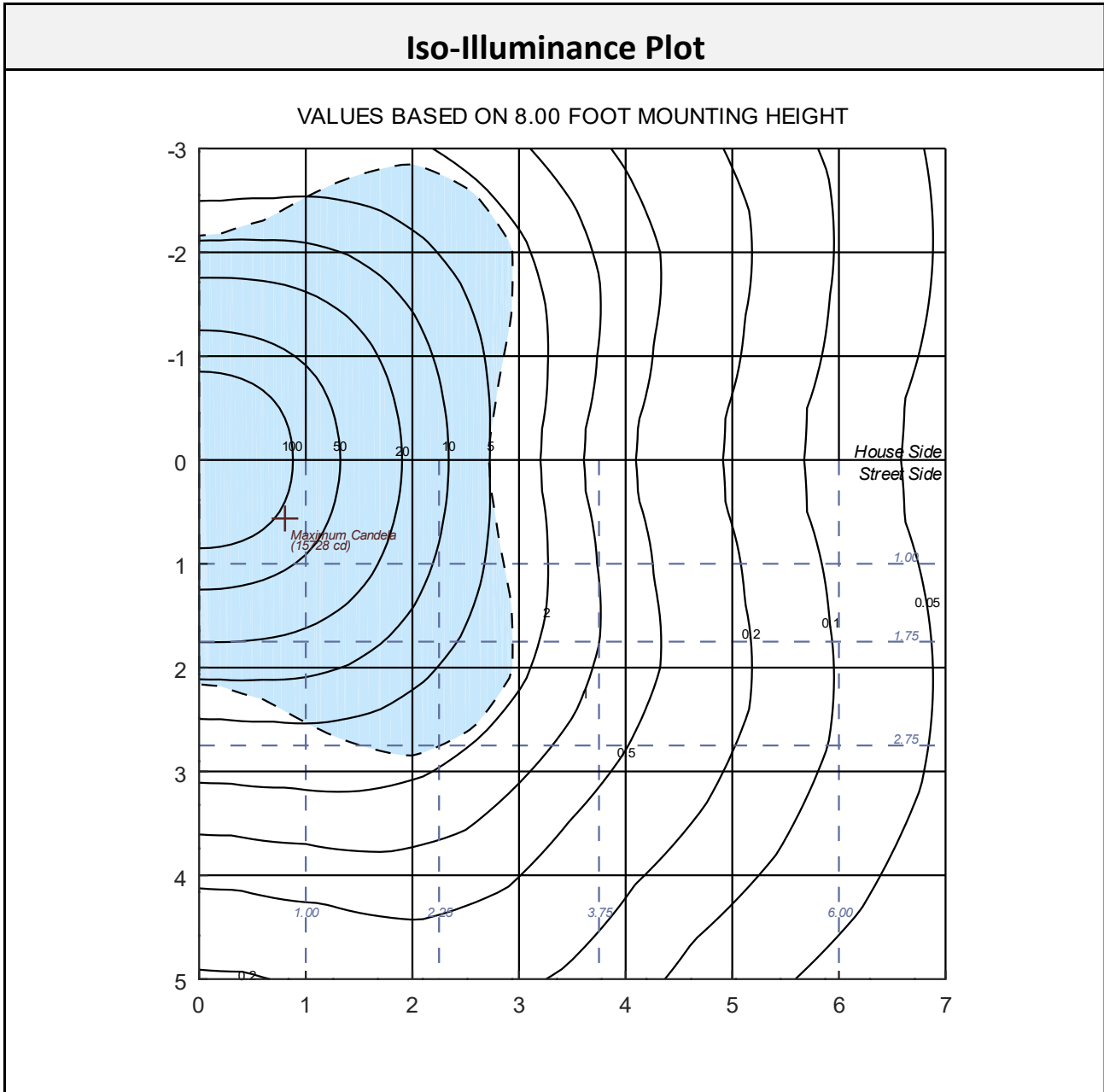


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	31421.4	50.0%	0.0	0.0%	31421.4	50.0%
House Side	31421.4	50.0%	0.0	0.0%	31421.4	50.0%
Total	62842.7	100.0%	0.0	0.0%	62842.7	100.0%

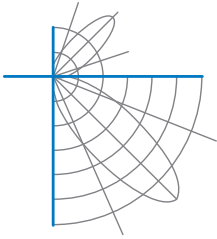


Report of Test

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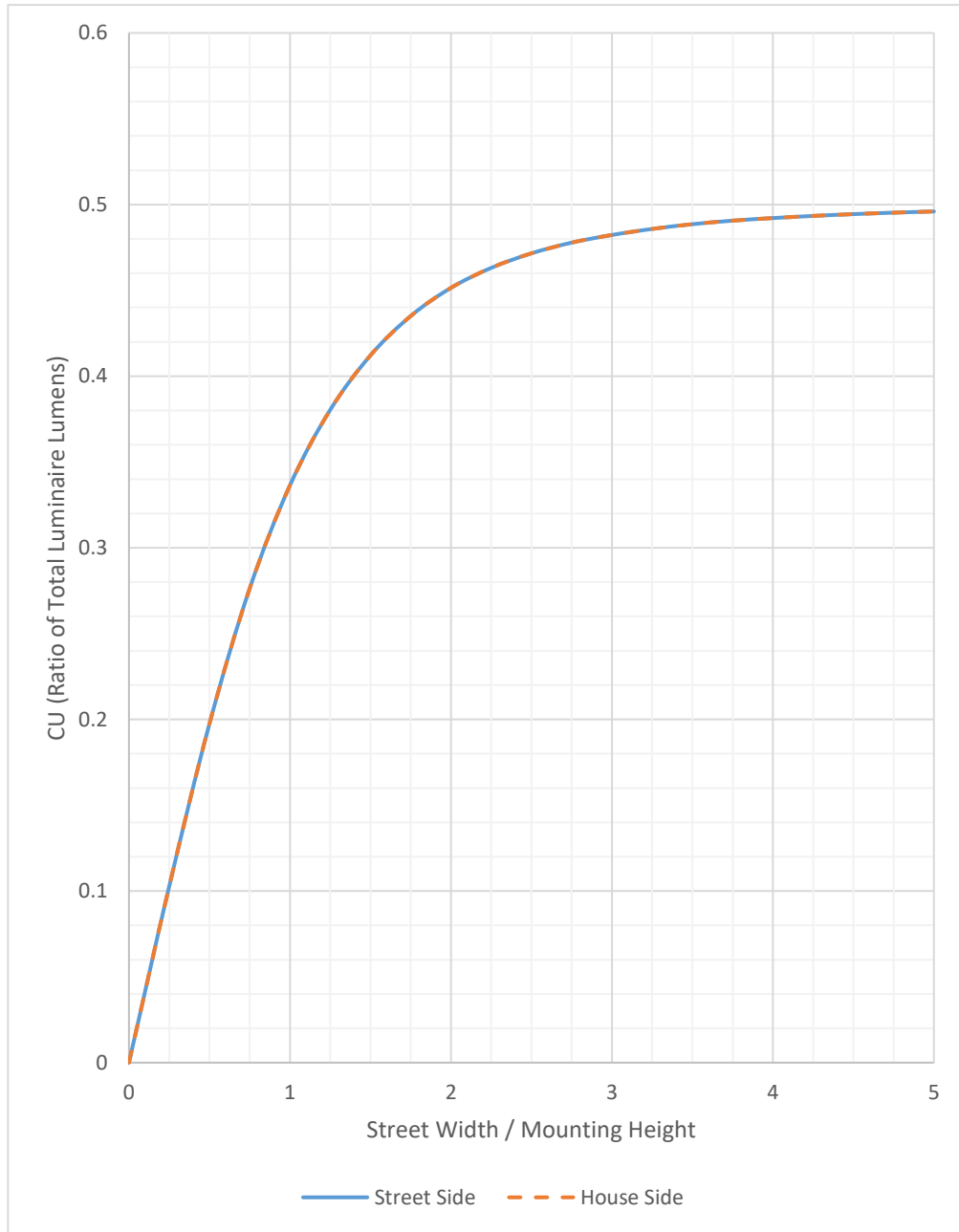


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



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Coefficients of Utilization Plot

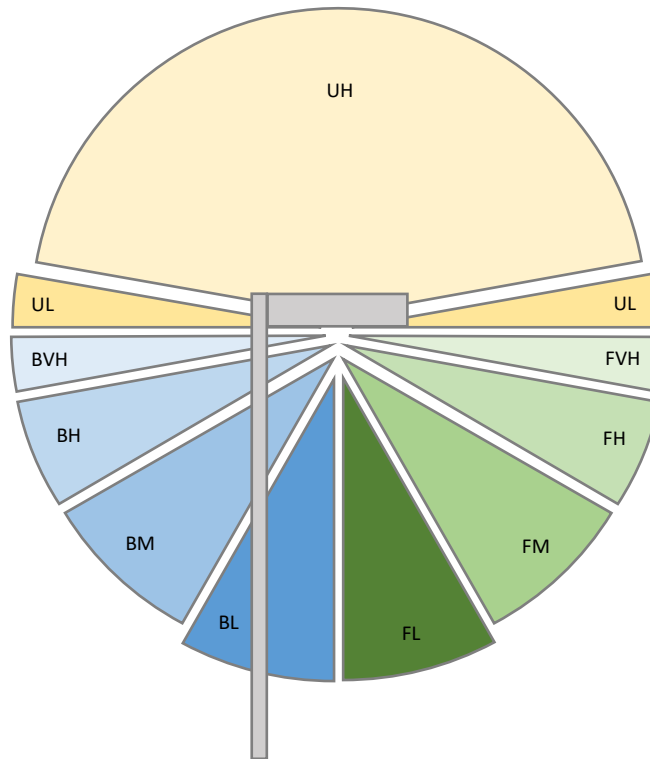




Report of Test

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LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	5767.8 Lm
BM - Back Mid (30°-60°)	16826.3 Lm
BH - Back High (60°-80°)	8431.9 Lm
BVH - Back Very High (80°-90°)	395.3 Lm

Forward Light

FL - Forward Low (0°-30°)	5767.8 Lm
FM - Forward Mid (30°-60°)	16826.3 Lm
FH - Forward High (60°-80°)	8431.9 Lm
FVH - Forward Very High (80°-90°)	395.3 Lm

Uplight

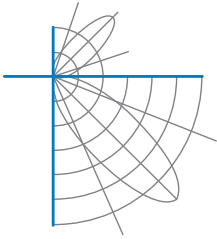
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV)

B5 - U0 - G5

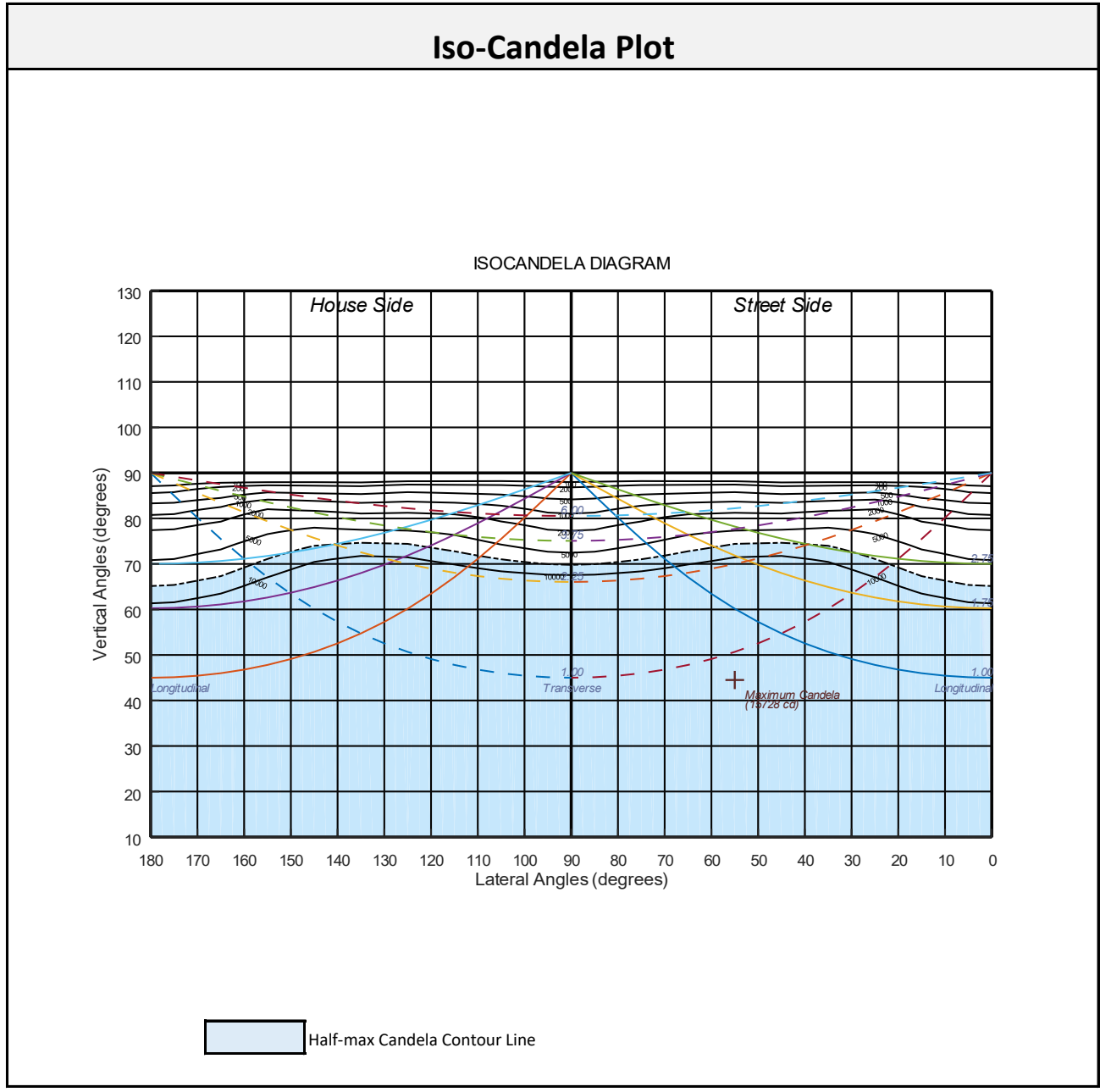
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS)

B5 - U0 - G4



Report of Test
LLIA002251-023

Iso-Candela Plot





Report of Test

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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	0	5	15	25	35	45	55	65	75	85	90	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	12556	12556	12556	12556	12556	12556	12556	12556	12556	12556	12556
	2.5	12572	12583	12584	12583	12584	12583	12579	12577	12572	12572	12564
	5	12652	12662	12663	12657	12653	12647	12639	12631	12625	12622	12613
	7.5	12779	12789	12782	12776	12766	12750	12738	12721	12708	12702	12693
	10	12943	12951	12944	12932	12912	12889	12865	12837	12815	12804	12795
	12.5	13139	13143	13135	13122	13097	13059	13022	12981	12944	12928	12920
	15	13349	13356	13348	13332	13303	13260	13205	13147	13094	13065	13059
	17.5	13577	13580	13579	13564	13532	13481	13412	13332	13264	13223	13215
	20	13800	13803	13809	13803	13778	13723	13639	13536	13447	13388	13381
	22.5	14018	14023	14041	14049	14037	13981	13886	13762	13642	13570	13562
	25	14227	14237	14267	14297	14304	14257	14149	14000	13854	13765	13754
	27.5	14421	14435	14481	14542	14576	14539	14430	14257	14081	13973	13954
	30	14587	14602	14670	14770	14839	14830	14721	14528	14328	14200	14185
	32.5	14689	14712	14810	14956	15081	15114	15017	14810	14586	14441	14417
	35	14707	14731	14865	15071	15266	15361	15293	15083	14848	14687	14663
	37.5	14629	14656	14829	15096	15364	15531	15516	15318	15076	14912	14894
	40	14480	14510	14714	15040	15382	15616	15651	15476	15232	15079	15056
	42.5	14272	14308	14540	14930	15341	15642	15716	15540	15299	15157	15144
	45	14009	14048	14317	14771	15254	15620	15727	15540	15284	15152	15143
	47.5	13685	13726	14034	14560	15123	15562	15694	15477	15197	15071	15058
50	13287	13340	13692	14290	14938	15453	15606	15351	15038	14911	14898	
52.5	12828	12881	13288	13961	14697	15285	15452	15152	14796	14661	14652	
55	12297	12363	12817	13577	14398	15046	15216	14860	14465	14331	14319	
57.5	11620	11701	12256	13132	14030	14719	14876	14468	14045	13919	13913	
60	10649	10754	11502	12588	13585	14292	14413	13961	13511	13382	13378	
62.5	9398	9523	10461	11892	13015	13735	13807	13306	12809	12655	12648	
65	7947	8084	9188	10992	12321	13036	13058	12462	11869	11634	11610	
67.5	6545	6676	7765	9781	11463	12148	12104	11353	10572	10114	10046	
70	5354	5466	6432	8466	10236	11046	10876	9925	8758	7811	7644	
72.5	4310	4416	5305	7123	8804	9492	9299	8094	6532	5174	4961	
75	3104	3208	4134	5810	7191	7558	7351	6065	4411	3189	3049	
77.5	1966	2044	2839	4490	5376	5016	4815	4160	2819	2007	1924	
80	1172	1219	1720	3076	3247	2725	2739	2488	1758	1275	1224	
82.5	660	692	1002	1797	1542	1318	1412	1320	1069	778	745	
85	242	258	414	668	628	576	661	604	541	417	394	
87.5	76	84	135	163	156	144	189	182	178	148	139	
90	0	0	0	0	0	0	0	0	0	0	0	



Report of Test

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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	0	5	15	25	35	45	55	65	75	85	90	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	



Report of Test

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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	12556	12556	12556	12556	12556	12556	12556	12556	12556	12556	12556
	2.5	12564	12572	12572	12577	12579	12583	12584	12583	12584	12583	12572
	5	12613	12622	12625	12631	12639	12647	12653	12657	12663	12662	12652
	7.5	12693	12702	12708	12721	12738	12750	12766	12776	12782	12789	12779
	10	12795	12804	12815	12837	12865	12889	12912	12932	12944	12951	12943
	12.5	12920	12928	12944	12981	13022	13059	13097	13122	13135	13143	13139
	15	13059	13065	13094	13147	13205	13260	13303	13332	13348	13356	13349
	17.5	13215	13223	13264	13332	13412	13481	13532	13564	13579	13580	13577
	20	13381	13388	13447	13536	13639	13723	13778	13803	13809	13803	13800
	22.5	13562	13570	13642	13762	13886	13981	14037	14049	14041	14023	14018
	25	13754	13765	13854	14000	14149	14257	14304	14297	14267	14237	14227
	27.5	13954	13973	14081	14257	14430	14539	14576	14542	14481	14435	14421
	30	14185	14200	14328	14528	14721	14830	14839	14770	14670	14602	14587
	32.5	14417	14441	14586	14810	15017	15114	15081	14956	14810	14712	14689
	35	14663	14687	14848	15083	15293	15361	15266	15071	14865	14731	14707
	37.5	14894	14912	15076	15318	15516	15531	15364	15096	14829	14656	14629
	40	15056	15079	15232	15476	15651	15616	15382	15040	14714	14510	14480
	42.5	15144	15157	15299	15540	15716	15642	15341	14930	14540	14308	14272
	45	15143	15152	15284	15540	15727	15620	15254	14771	14317	14048	14009
	47.5	15058	15071	15197	15477	15694	15562	15123	14560	14034	13726	13685
50	14898	14911	15038	15351	15606	15453	14938	14290	13692	13340	13287	
52.5	14652	14661	14796	15152	15452	15285	14697	13961	13288	12881	12828	
55	14319	14331	14465	14860	15216	15046	14398	13577	12817	12363	12297	
57.5	13913	13919	14045	14468	14876	14719	14030	13132	12256	11701	11620	
60	13378	13382	13511	13961	14413	14292	13585	12588	11502	10754	10649	
62.5	12648	12655	12809	13306	13807	13735	13015	11892	10461	9523	9398	
65	11610	11634	11869	12462	13058	13036	12321	10992	9188	8084	7947	
67.5	10046	10114	10572	11353	12104	12148	11463	9781	7765	6676	6545	
70	7644	7811	8758	9925	10876	11046	10236	8466	6432	5466	5354	
72.5	4961	5174	6532	8094	9299	9492	8804	7123	5305	4416	4310	
75	3049	3189	4411	6065	7351	7558	7191	5810	4134	3208	3104	
77.5	1924	2007	2819	4160	4815	5016	5376	4490	2839	2044	1966	
80	1224	1275	1758	2488	2739	2725	3247	3076	1720	1219	1172	
82.5	745	778	1069	1320	1412	1318	1542	1797	1002	692	660	
85	394	417	541	604	661	576	628	668	414	258	242	
87.5	139	148	178	182	189	144	156	163	135	84	76	
90	0	0	0	0	0	0	0	0	0	0	0	



Report of Test

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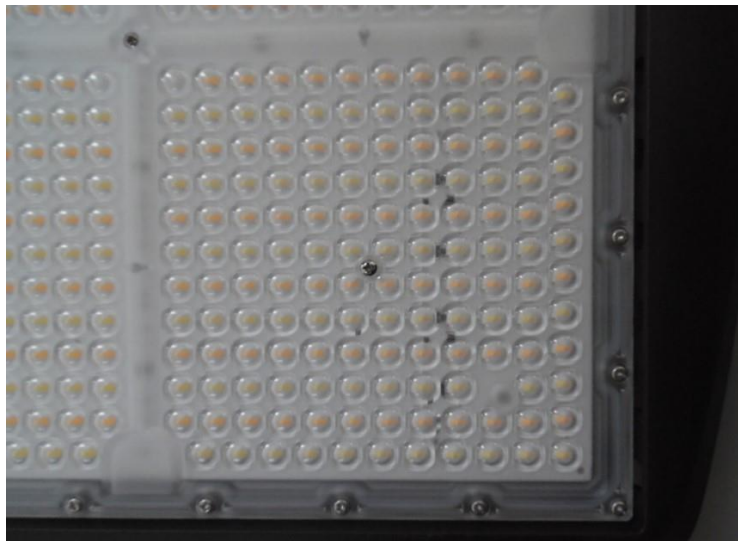
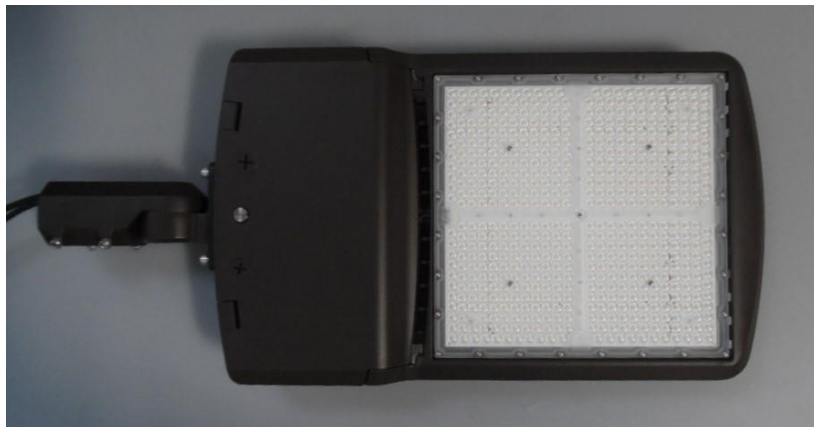
Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	



Report of Test
LLIA002251-023

Additional Pictures of Test Subject





Report of Test

LLIA002251-023

Test Distance 9.5 m
Ambient Temperature 25.5 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-19. Format of reports and angular increments based on IES LM-31-20 and LM-10-20.

The luminous intensity values, and other derived quantities, contained in this report are based on absolute data.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the IES C-Type spherical coordinate system as defined in IES LM-75-19.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with † are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.

The device under test emits no detectable uplight, as defined by ANSI/IES LM-31-20. For the purpose of this report, certain non-zero uplight readings, attributable to instrument artifacts, have been assigned a zero value.