

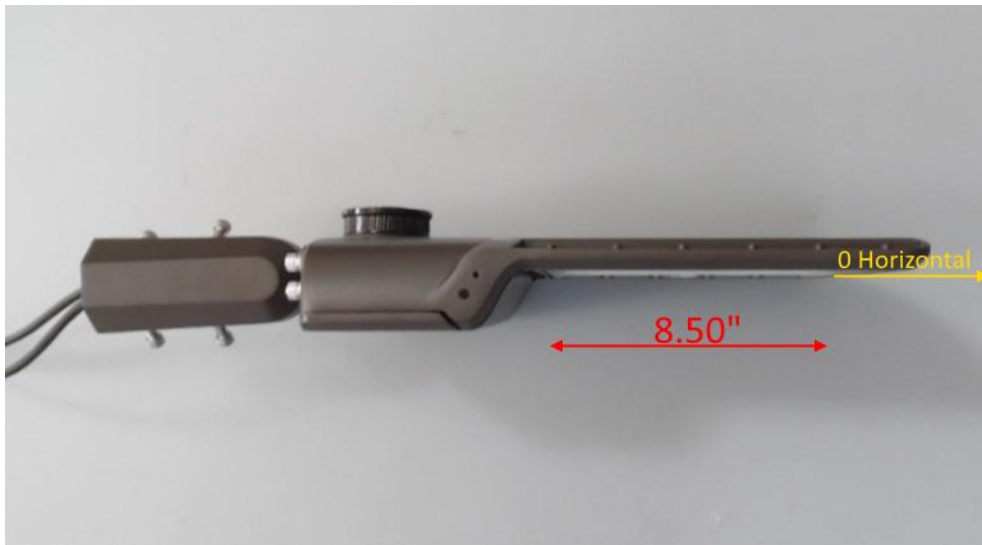


Report of Test

LLIA002251-007

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-150PCS-T5 - 70W Setting - 4000K Setting
Pole mounted, cast aluminum housing, white LED board with
frosted plastic enclosure with clear optic sections below LEDs.
364 white LEDs, 182 CW LEDs and 182 WW LEDs
One Sosen SS-160NH-E260BH LED driver



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

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	11720.3 Lumens
Input Current	0.5809 A	Total Efficacy	168.6 Lm/W
Input Power	69.51 W		
Frequency	60.00 Hz		
Power Factor	0.997	Roadway Type	Area Light
Current THD	5.1 %		

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

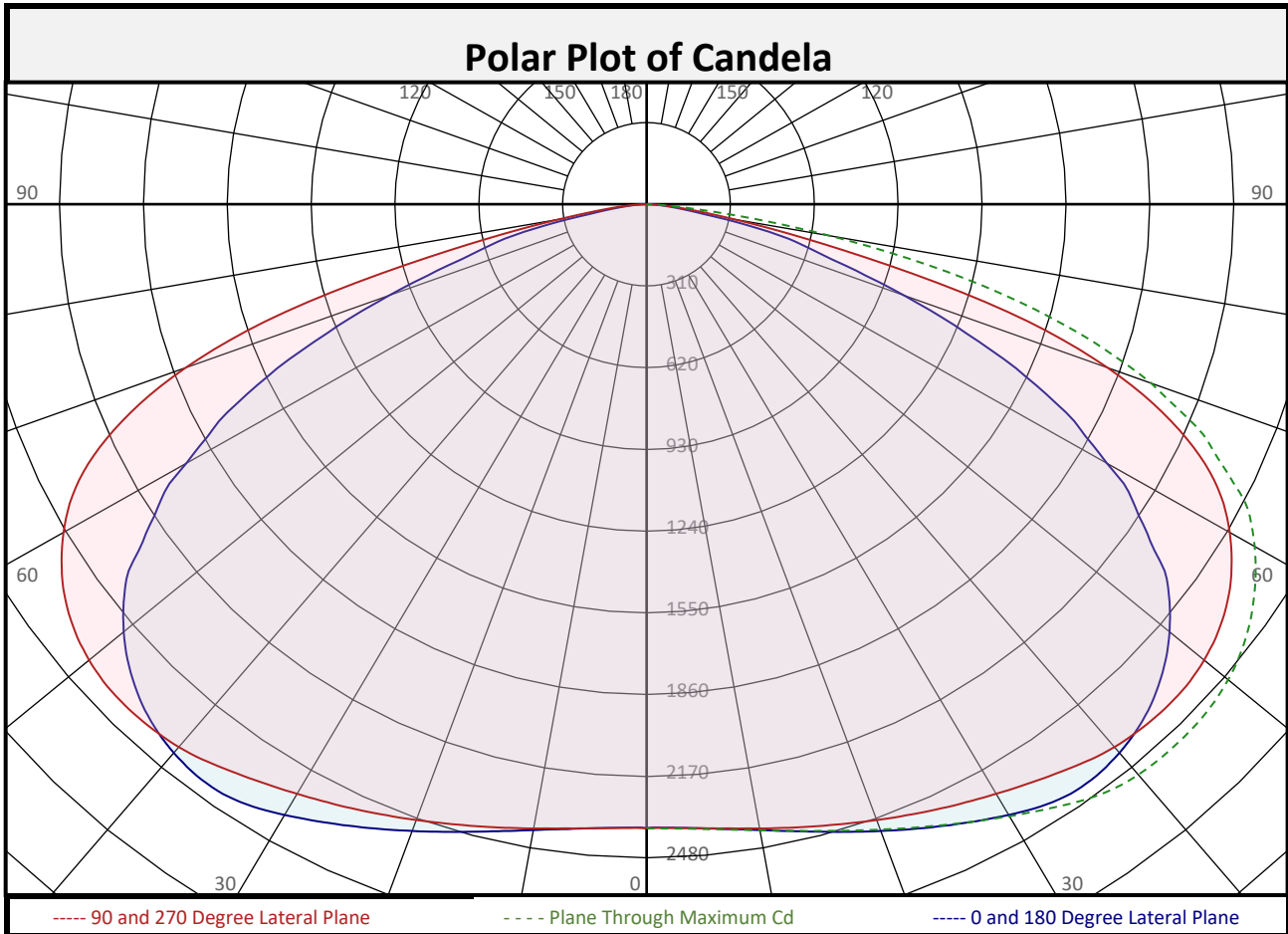
Test date: 11/08/2023
Report date: 11/10/2023

Signed: _____



Report of Test

LLIA002251-007

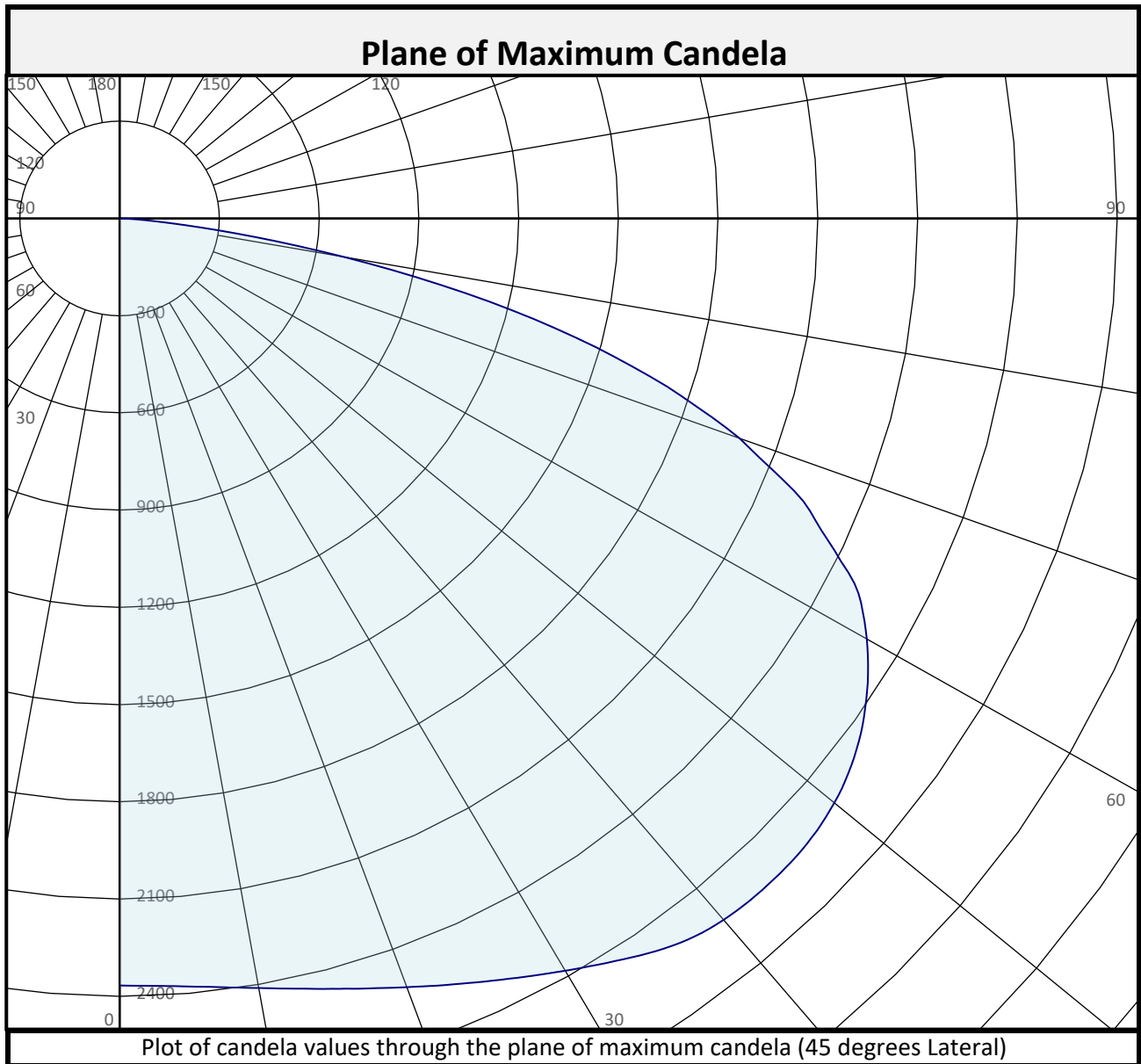


Zonal Flux Summary

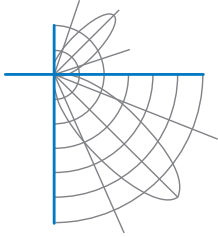
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	228.2	1.9%	90-100	0.0	0.0%	0-20	927.3	7.9%
10-20	699.1	6.0%	100-110	0.0	0.0%	0-30	2126	18.1%
20-30	1199	10.2%	110-120	0.0	0.0%	0-40	3837	32.7%
30-40	1711	14.6%	120-130	0.0	0.0%	0-60	8276	70.6%
40-50	2128	18.2%	130-140	0.0	0.0%	0-80	11535	98.4%
50-60	2311	19.7%	140-150	0.0	0.0%	10-90	11492	98.1%
60-70	2070	17.7%	150-160	0.0	0.0%	20-50	5038	43.0%
70-80	1189	10.1%	160-170	0.0	0.0%	40-90	7883	67.3%
80-90	185.6	1.6%	170-180	0.0	0.0%	60-90	3444	29.4%
0-90	11720	100.0%	90-180	0.0	0.0%	0-180	11720	100.0%



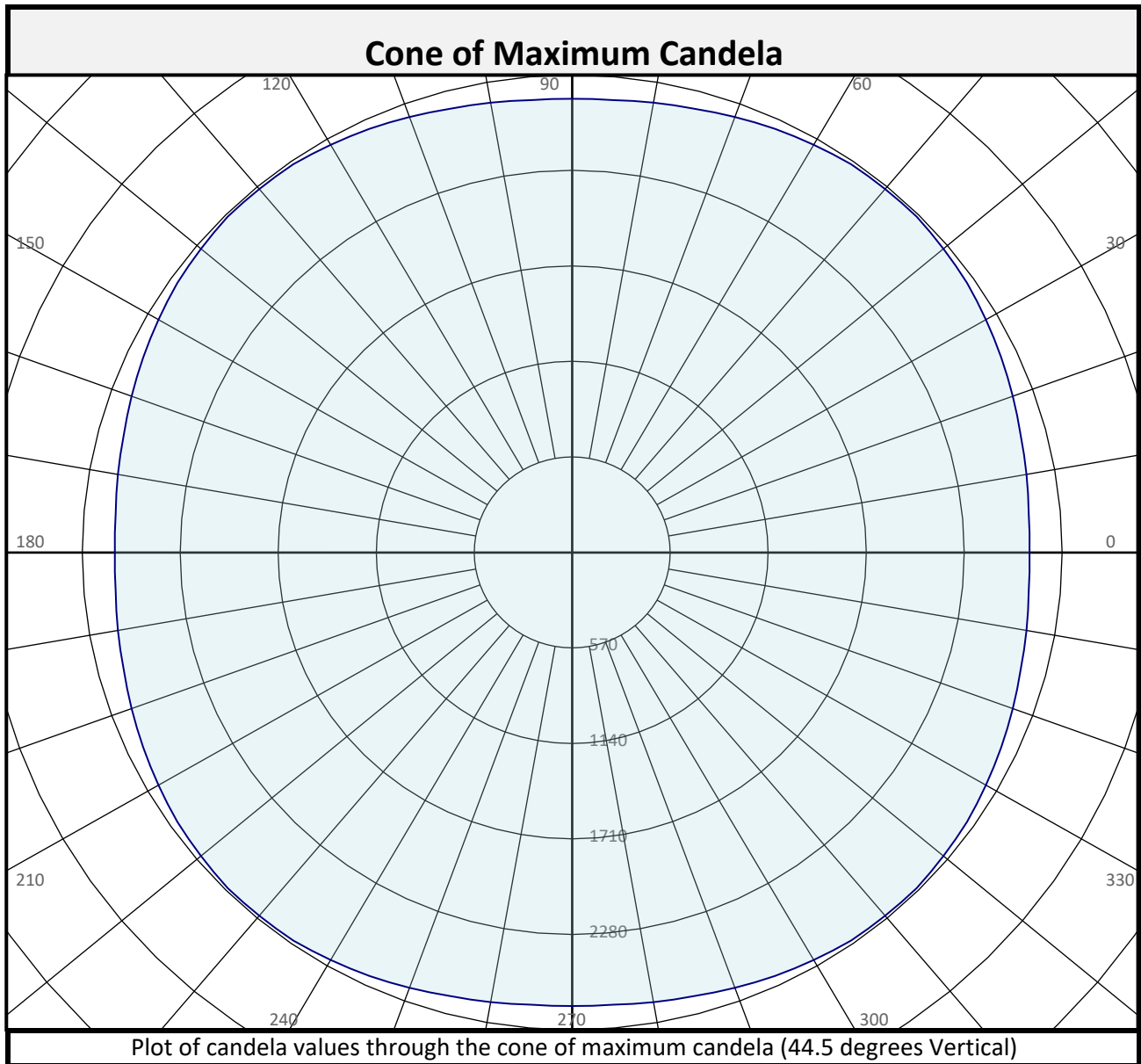
Report of Test
LLIA002251-007



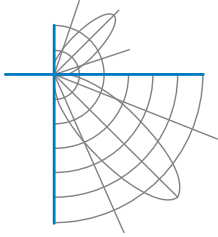
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	5860.2	50.0%	0.0	0.0%	5860.2	50.0%
House Side	5860.2	50.0%	0.0	0.0%	5860.2	50.0%
Total	11720.3	100.0%	0.0	0.0%	11720.3	100.0%



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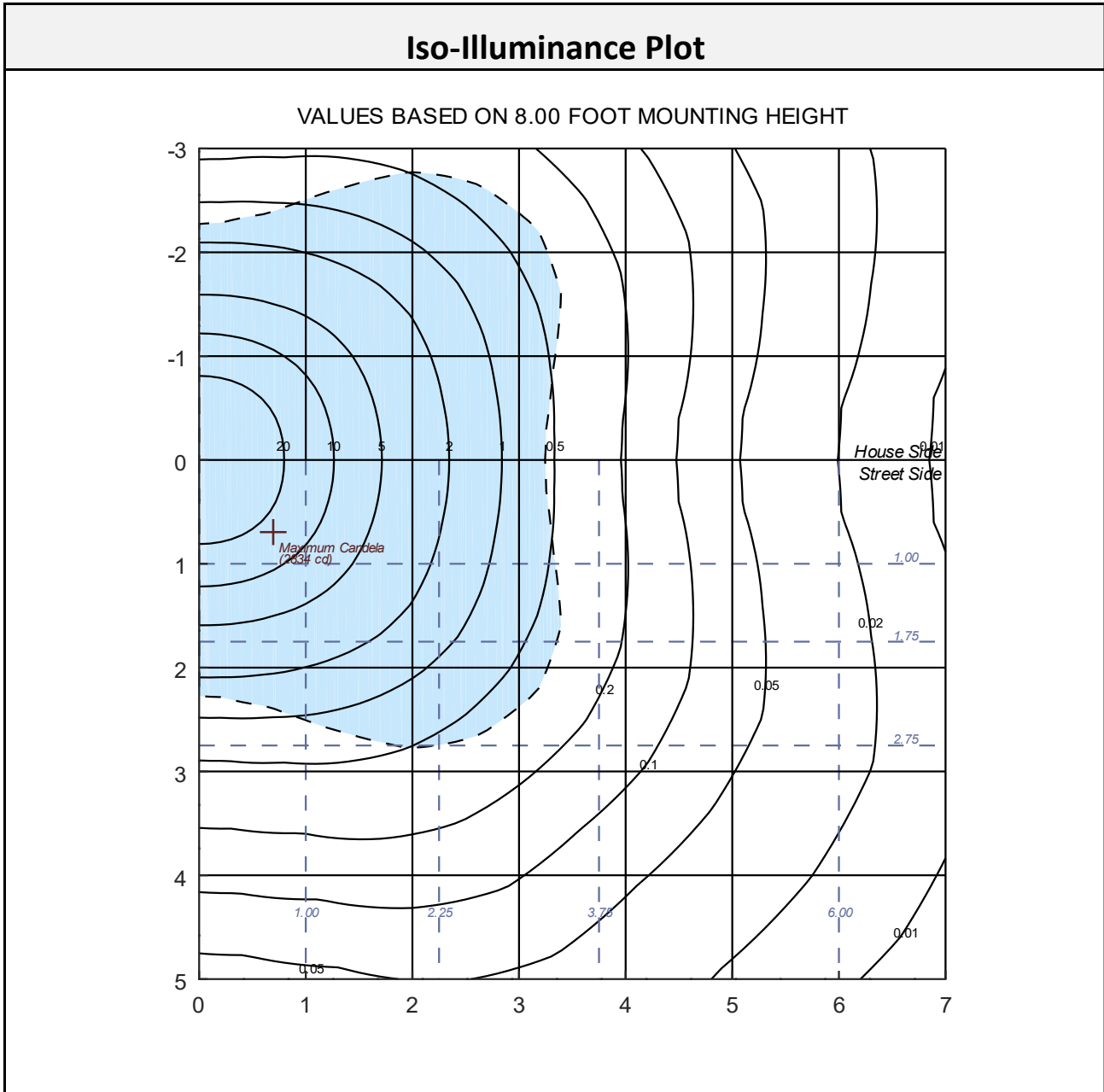


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	5860.2	50.0%	0.0	0.0%	5860.2	50.0%
House Side	5860.2	50.0%	0.0	0.0%	5860.2	50.0%
Total	11720.3	100.0%	0.0	0.0%	11720.3	100.0%

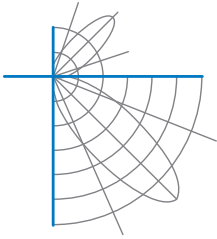


Report of Test

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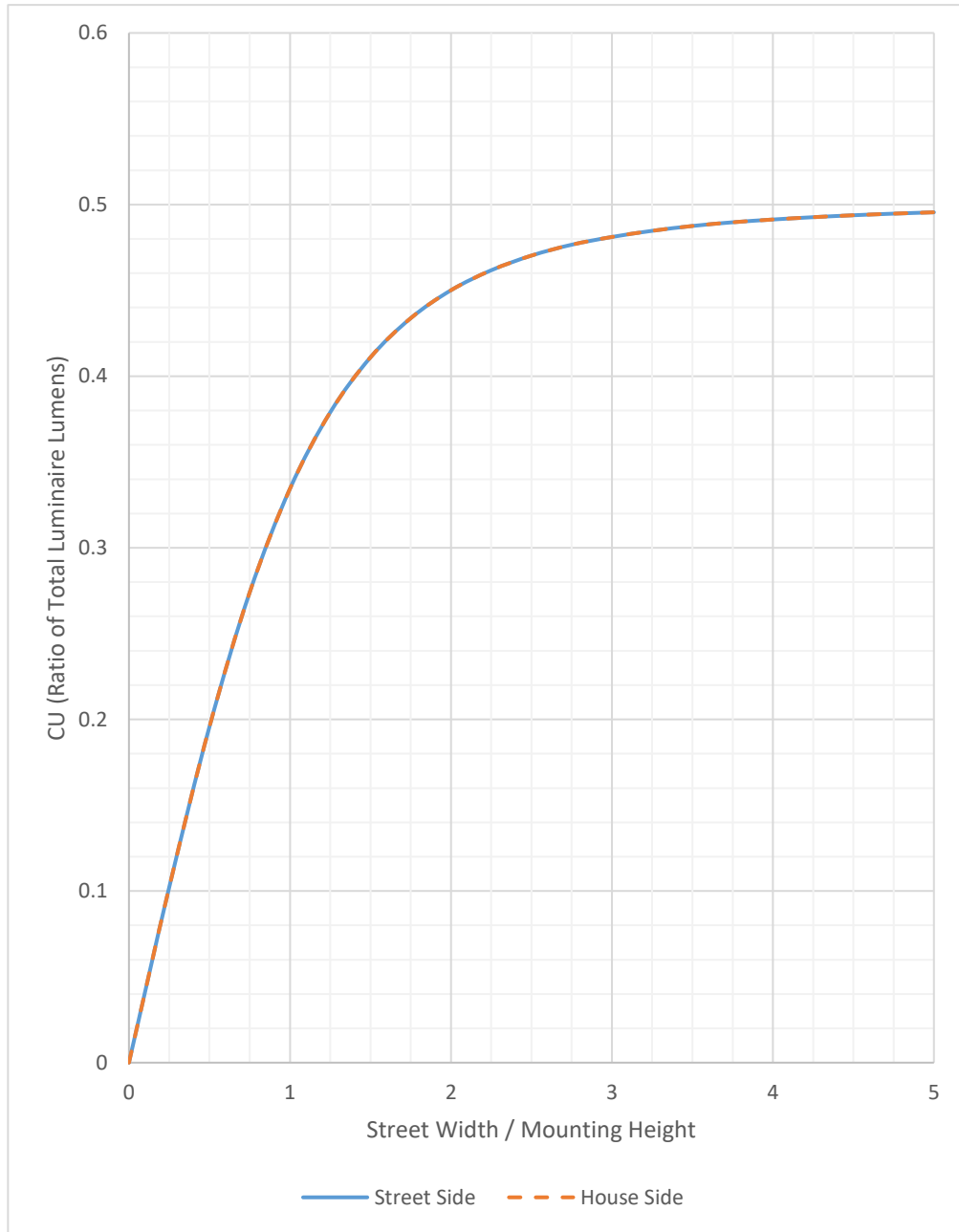


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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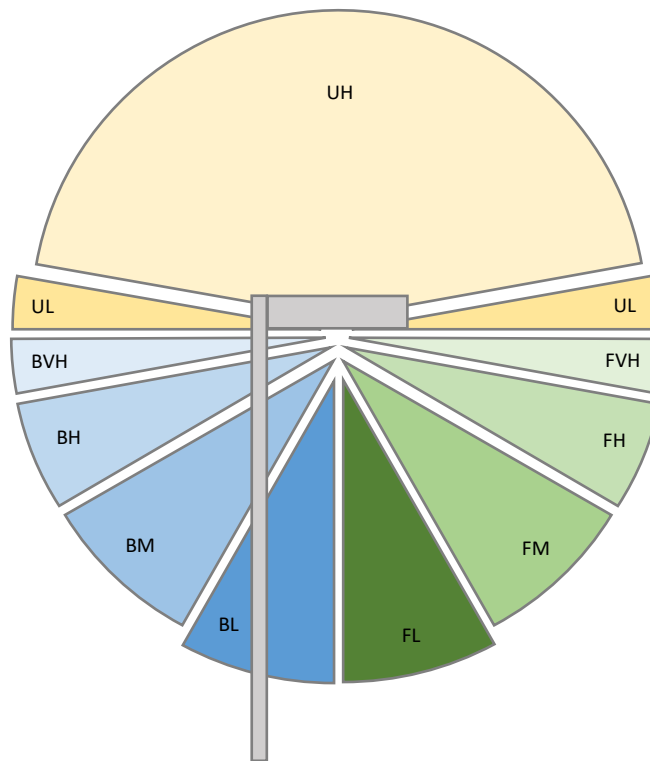
Coefficients of Utilization Plot





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LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	1063.0 Lm
BM - Back Mid (30°-60°)	3075.1 Lm
BH - Back High (60°-80°)	1629.3 Lm
BVH - Back Very High (80°-90°)	92.8 Lm

Forward Light

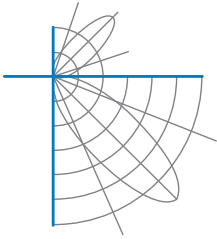
FL - Forward Low (0°-30°)	1063.0 Lm
FM - Forward Mid (30°-60°)	3075.1 Lm
FH - Forward High (60°-80°)	1629.3 Lm
FVH - Forward Very High (80°-90°)	92.8 Lm

Uplight

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

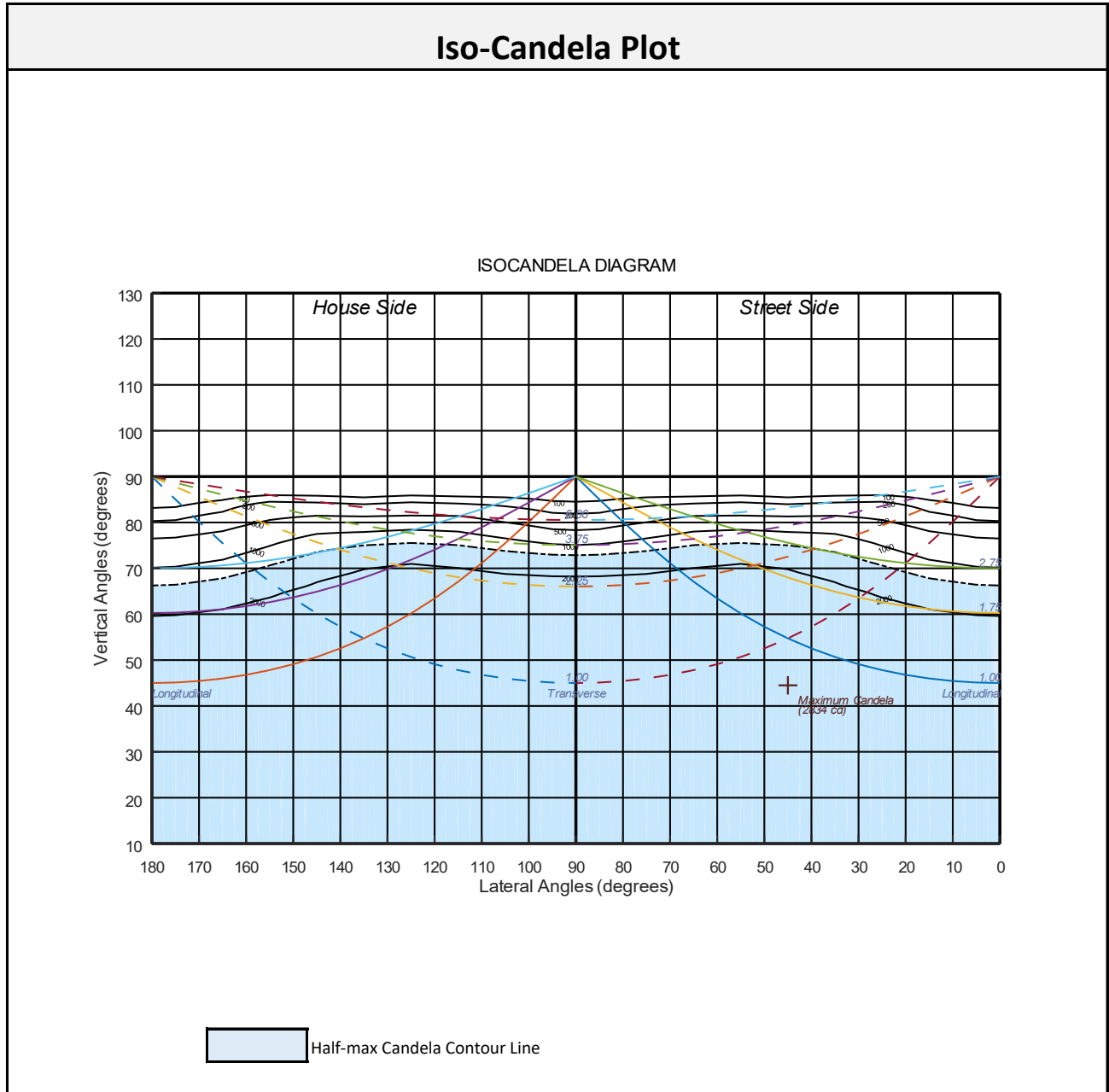
BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV) B3 - U0 - G3

BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS) B3 - U0 - G1



Report of Test
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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	
0	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367
2.5	2367	2368	2371	2371	2371	2371	2371	2371	2369	2369	2369	2369
5	2377	2377	2380	2380	2380	2379	2379	2379	2377	2377	2376	2376
7.5	2391	2392	2394	2395	2394	2393	2392	2392	2390	2389	2388	2388
10	2411	2412	2414	2415	2413	2412	2410	2409	2406	2404	2404	2404
12.5	2435	2437	2438	2439	2437	2435	2432	2429	2426	2422	2423	2423
15	2464	2466	2467	2467	2466	2461	2457	2452	2447	2443	2442	2442
17.5	2497	2498	2500	2500	2497	2492	2485	2477	2470	2464	2463	2463
20	2530	2532	2535	2536	2532	2525	2515	2504	2494	2486	2486	2486
22.5	2566	2568	2572	2573	2569	2561	2548	2533	2520	2510	2509	2509
25	2602	2603	2609	2613	2609	2599	2583	2564	2547	2534	2533	2533
27.5	2639	2640	2648	2654	2651	2639	2619	2597	2575	2559	2557	2557
30	2676	2678	2687	2696	2695	2681	2658	2631	2604	2584	2583	2583
32.5	2709	2712	2723	2737	2738	2725	2699	2667	2634	2611	2609	2609
35	2731	2733	2749	2768	2778	2769	2742	2705	2666	2641	2637	2637
37.5	2733	2735	2756	2785	2805	2806	2783	2741	2698	2669	2665	2665
40	2718	2721	2747	2783	2814	2826	2810	2769	2724	2694	2689	2689
42.5	2691	2696	2727	2771	2812	2833	2824	2784	2738	2707	2702	2702
45	2651	2657	2694	2748	2800	2833	2829	2790	2742	2710	2708	2708
47.5	2594	2602	2644	2712	2779	2825	2829	2790	2738	2707	2706	2706
50	2524	2531	2581	2661	2745	2806	2819	2778	2724	2695	2691	2691
52.5	2433	2442	2501	2596	2697	2774	2796	2753	2697	2669	2664	2664
55	2292	2306	2402	2518	2636	2728	2758	2712	2653	2626	2622	2622
57.5	2143	2155	2239	2397	2562	2668	2705	2656	2594	2567	2564	2564
60	1964	1979	2097	2250	2451	2595	2637	2583	2516	2492	2489	2489
62.5	1782	1796	1891	2084	2304	2505	2551	2490	2419	2395	2393	2393
65	1545	1564	1690	1910	2140	2351	2444	2374	2289	2259	2255	2255
67.5	1277	1298	1452	1697	1957	2195	2306	2217	2111	2070	2065	2065
70	1015	1035	1197	1480	1744	1984	2089	2008	1878	1820	1814	1814
72.5	765	783	941	1238	1517	1727	1821	1743	1589	1493	1478	1478
75	595	609	728	991	1261	1419	1487	1425	1238	1052	1019	1019
77.5	417	431	553	798	1000	1065	1147	1075	853	632	602	602
80	213	224	332	554	692	686	728	702	505	345	329	329
82.5	119	125	192	357	378	351	381	368	269	181	172	172
85	60	63	96	163	150	126	153	135	122	91	87	87
87.5	21	22	26	30	31	29	35	34	33	31	31	31
90	0	0	0	0	0	0	0	0	0	0	0	0

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.



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	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367
	2.5	2369	2369	2369	2371	2371	2371	2371	2371	2371	2368	2367
	5	2376	2377	2377	2379	2379	2379	2380	2380	2380	2377	2377
	7.5	2388	2389	2390	2392	2392	2393	2394	2395	2394	2392	2391
	10	2404	2404	2406	2409	2410	2412	2413	2415	2414	2412	2411
	12.5	2423	2422	2426	2429	2432	2435	2437	2439	2438	2437	2435
	15	2442	2443	2447	2452	2457	2461	2466	2467	2467	2466	2464
	17.5	2463	2464	2470	2477	2485	2492	2497	2500	2500	2498	2497
	20	2486	2486	2494	2504	2515	2525	2532	2536	2535	2532	2530
	22.5	2509	2510	2520	2533	2548	2561	2569	2573	2572	2568	2566
	25	2533	2534	2547	2564	2583	2599	2609	2613	2609	2603	2602
	27.5	2557	2559	2575	2597	2619	2639	2651	2654	2648	2640	2639
	30	2583	2584	2604	2631	2658	2681	2695	2696	2687	2678	2676
	32.5	2609	2611	2634	2667	2699	2725	2738	2737	2723	2712	2709
	35	2637	2641	2666	2705	2742	2769	2778	2768	2749	2733	2731
	37.5	2665	2669	2698	2741	2783	2806	2805	2785	2756	2735	2733
	40	2689	2694	2724	2769	2810	2826	2814	2783	2747	2721	2718
	42.5	2702	2707	2738	2784	2824	2833	2812	2771	2727	2696	2691
	45	2708	2710	2742	2790	2829	2833	2800	2748	2694	2657	2651
	47.5	2706	2707	2738	2790	2829	2825	2779	2712	2644	2602	2594
50	2691	2695	2724	2778	2819	2806	2745	2661	2581	2531	2524	
52.5	2664	2669	2697	2753	2796	2774	2697	2596	2501	2442	2433	
55	2622	2626	2653	2712	2758	2728	2636	2518	2402	2306	2292	
57.5	2564	2567	2594	2656	2705	2668	2562	2397	2239	2155	2143	
60	2489	2492	2516	2583	2637	2595	2451	2250	2097	1979	1964	
62.5	2393	2395	2419	2490	2551	2505	2304	2084	1891	1796	1782	
65	2255	2259	2289	2374	2444	2351	2140	1910	1690	1564	1545	
67.5	2065	2070	2111	2217	2306	2195	1957	1697	1452	1298	1277	
70	1814	1820	1878	2008	2089	1984	1744	1480	1197	1035	1015	
72.5	1478	1493	1589	1743	1821	1727	1517	1238	941	783	765	
75	1019	1052	1238	1425	1487	1419	1261	991	728	609	595	
77.5	602	632	853	1075	1147	1065	1000	798	553	431	417	
80	329	345	505	702	728	686	692	554	332	224	213	
82.5	172	181	269	368	381	351	378	357	192	125	119	
85	87	91	122	135	153	126	150	163	96	63	60	
87.5	31	31	33	34	35	29	31	30	26	22	21	
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
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Additional Pictures of Test Subject





Report of Test

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Test Distance 9.5 m
Ambient Temperature 25.0 °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.