

## Report of Test

**LLIA001528-004**

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: WP/80W/PCTS/BZ/PC - 60W and 4000K Setting  
Surface mounted wall pack, cast aluminum housing, formed white enamel  
metal reflector, clear prismatic glass lens.  
528 LEDs, 264 cool white and 264 warm white LEDs  
One Fahold FT-75E-054B LED driver



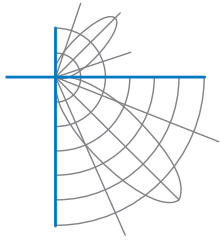
Prepared For:  
Topaz Lighting Corp  
925 Waverly Avenue  
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	7938.0 Lumens
Input Current	0.4606 A	Total Efficacy	144.2 Lm/W
Input Power	55.04 W		
Frequency	60.00 Hz		
Power Factor	0.996	Roadway Type	Area Light
Current THD	6.0 %	IES BUG Rating	B2 - U3 - G3

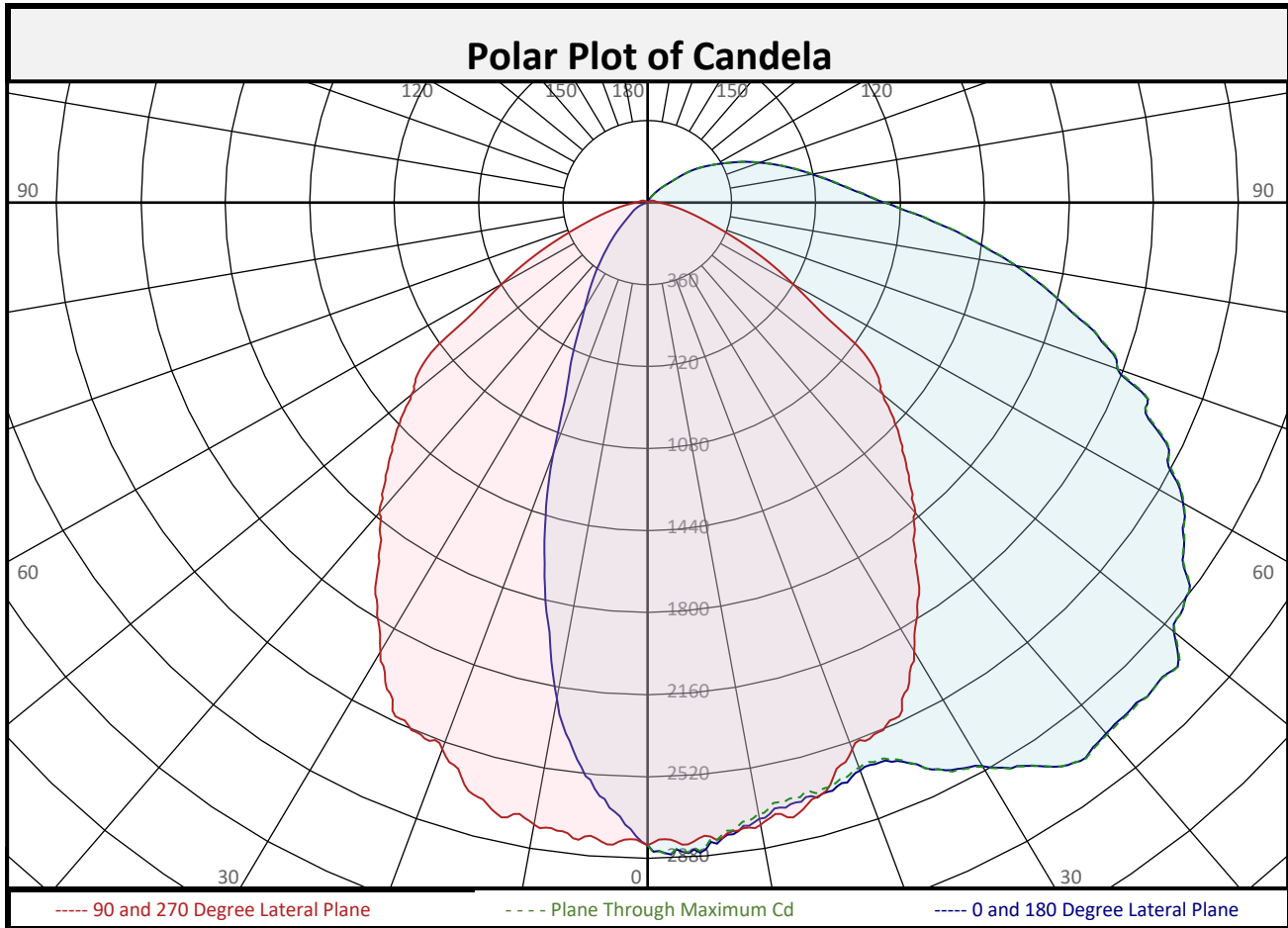
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 09/01/2021  
Report date: 09/01/2021

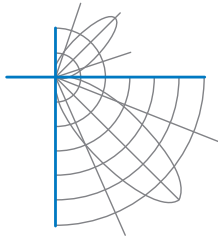
Signed: \_\_\_\_\_



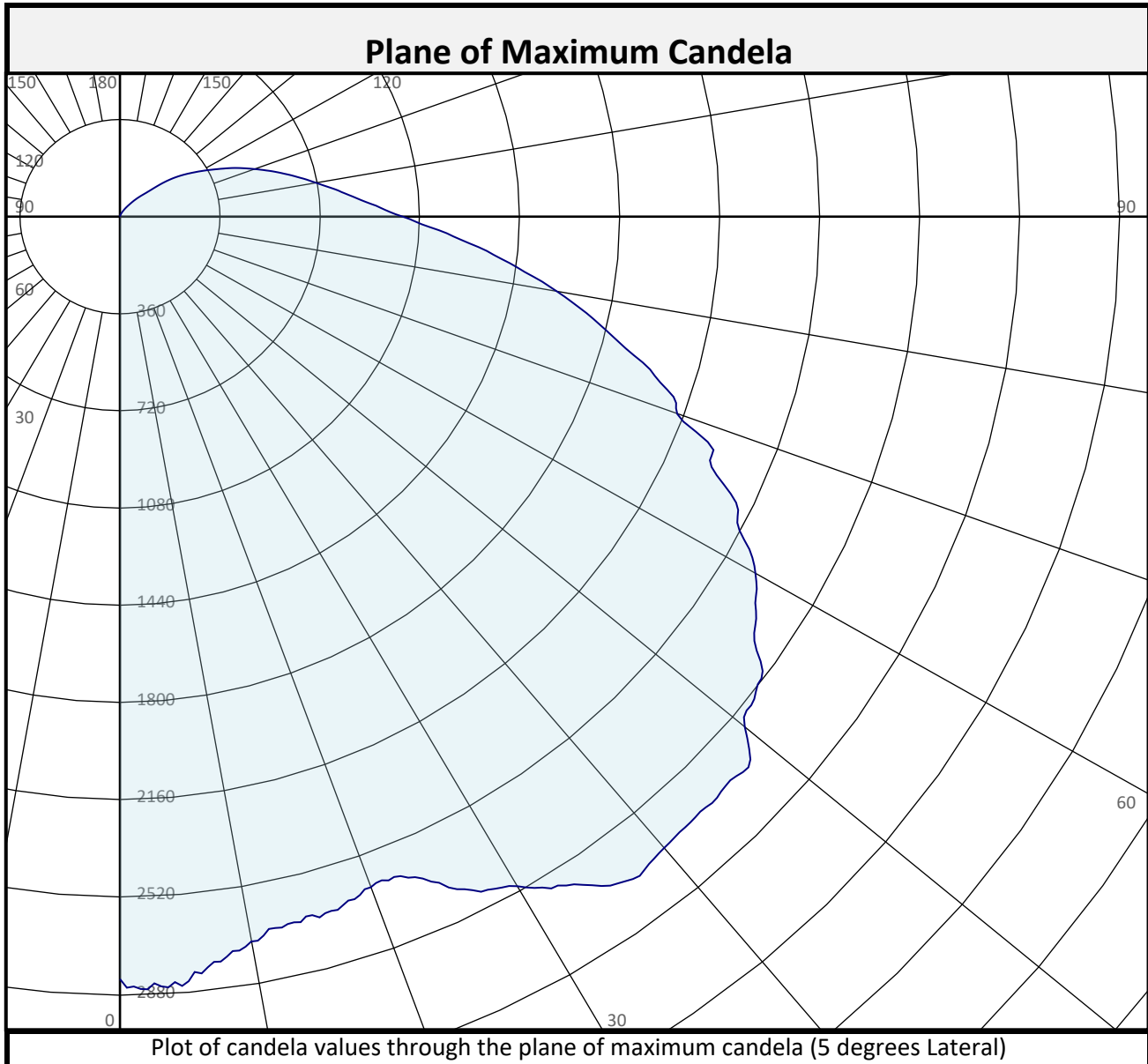
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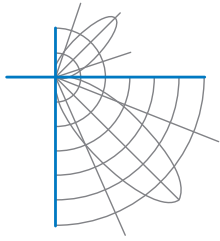
Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	258.4	3.3%		90-100	283.7	3.6%		0-20	938.9	11.8%
10-20	680.5	8.6%		100-110	185.2	2.3%		0-30	1867	23.5%
20-30	928.1	11.7%		110-120	113.3	1.4%		0-40	2944	37.1%
30-40	1077	13.6%		120-130	59.1	0.7%		0-60	5171	65.1%
40-50	1136	14.3%		130-140	23.5	0.3%		0-80	6807	85.8%
50-60	1092	13.8%		140-150	8.0	0.1%		10-90	7005	88.2%
60-70	934.1	11.8%		150-160	1.9	0.0%		20-50	3141	39.6%
70-80	701.8	8.8%		160-170	0.2	0.0%		40-90	4319	54.4%
80-90	455.7	5.7%		170-180	0.0	0.0%		60-90	2092	26.4%
0-90	7263	91.5%		90-180	675.0	8.5%		0-180	7938	100.0%



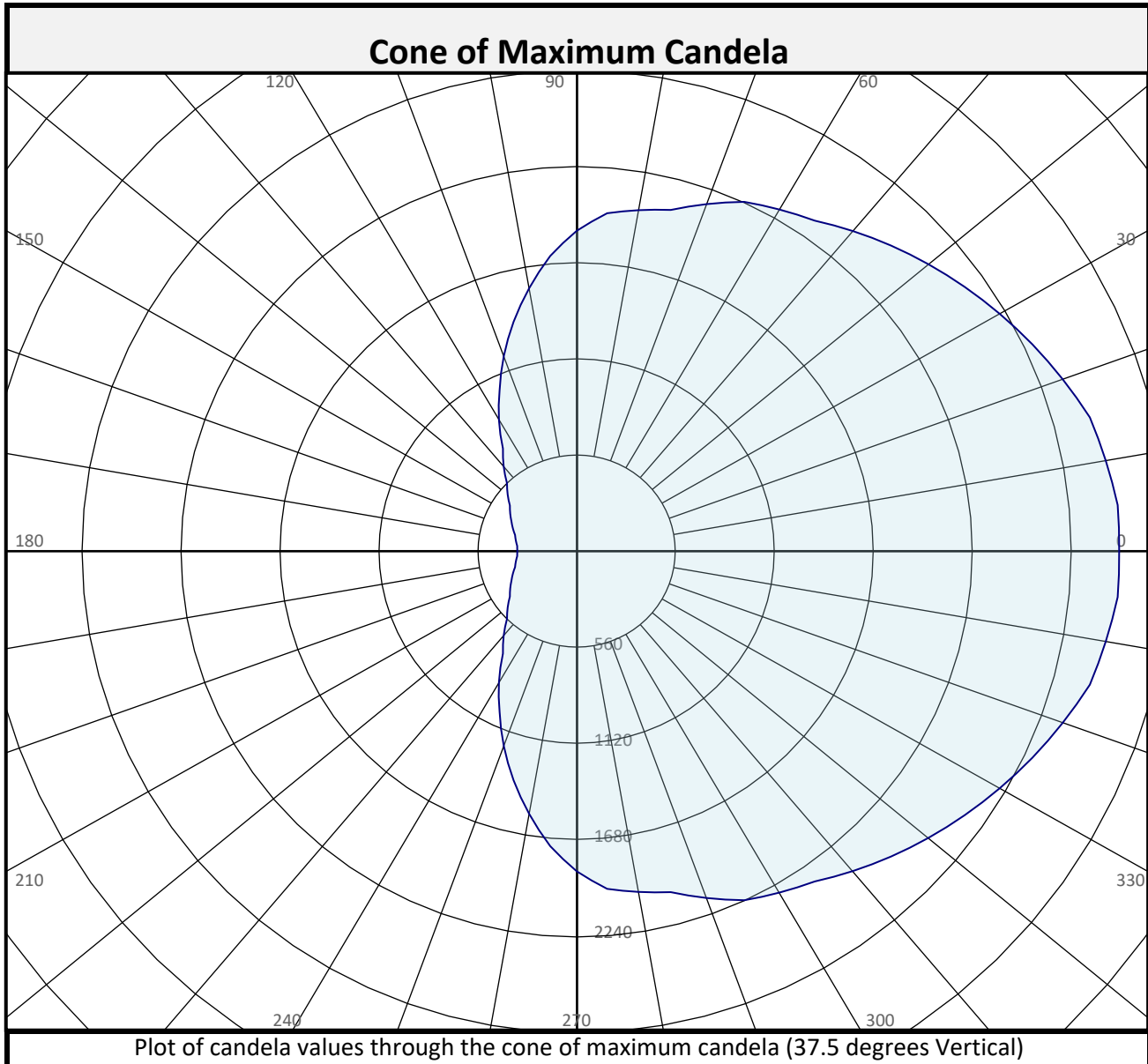
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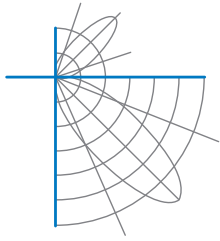
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	5784.9	72.9%	662.9	8.4%	6447.8	81.2%
House Side	1478.2	18.6%	12.1	0.2%	1490.3	18.8%
<b>Total</b>	<b>7263.1</b>	<b>91.5%</b>	<b>675.0</b>	<b>8.5%</b>	<b>7938.0</b>	<b>100.0%</b>



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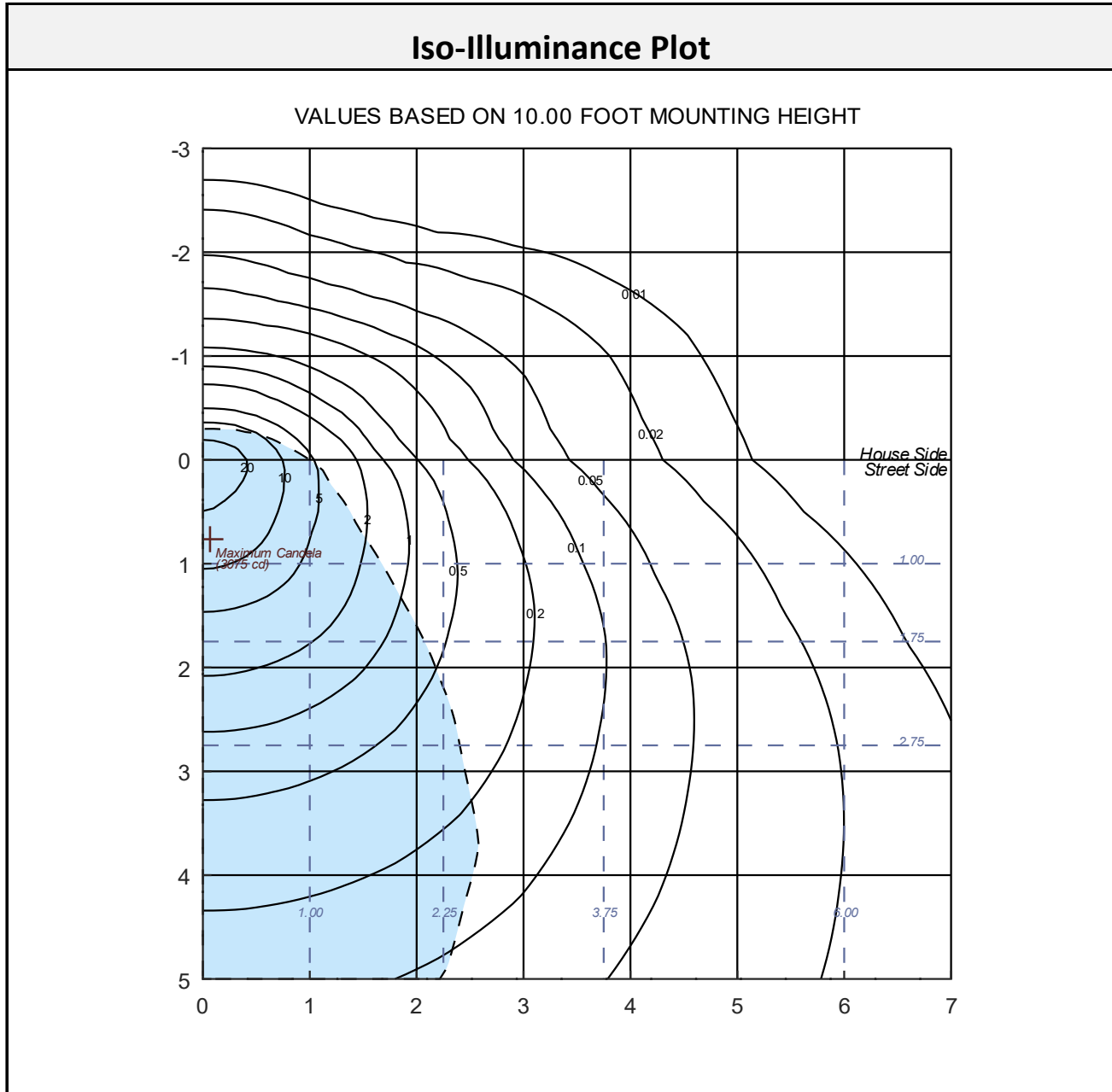


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	5784.9	72.9%	662.9	8.4%	6447.8	81.2%
House Side	1478.2	18.6%	12.1	0.2%	1490.3	18.8%
<b>Total</b>	<b>7263.1</b>	<b>91.5%</b>	<b>675.0</b>	<b>8.5%</b>	<b>7938.0</b>	<b>100.0%</b>

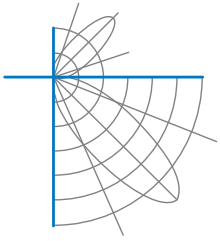


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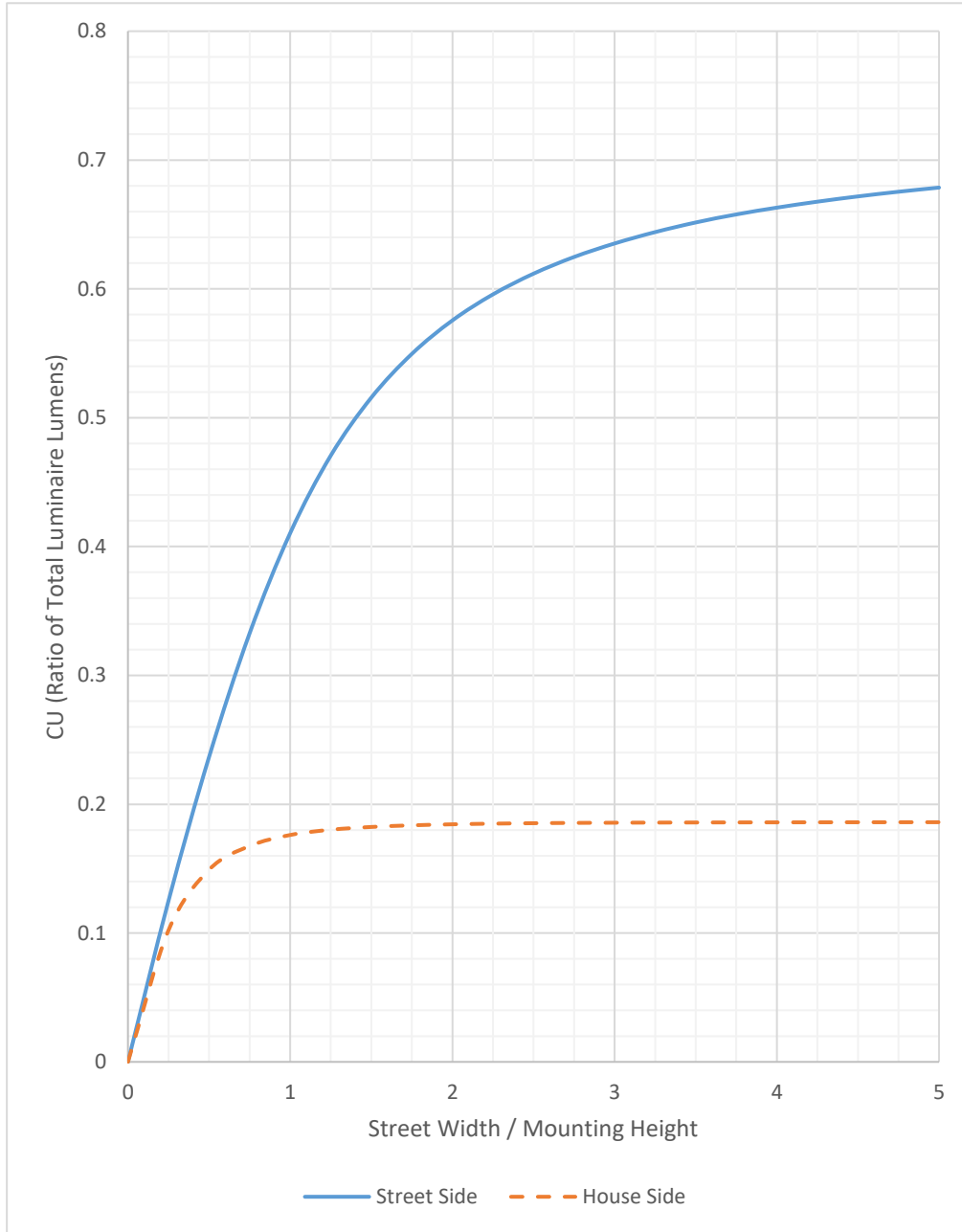


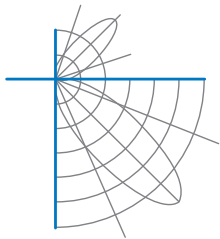
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 10.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



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### Coefficients of Utilization Plot

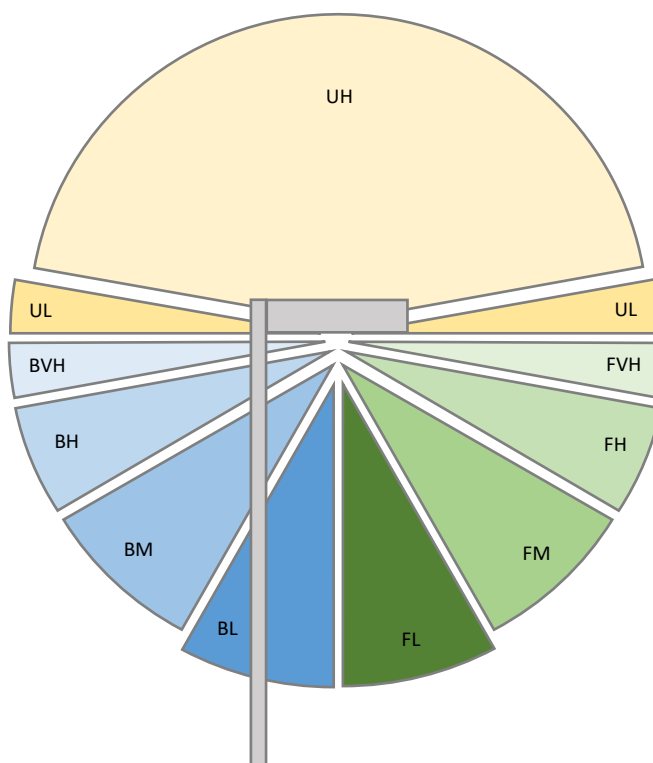




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#### LCS Tables and Bug Classification



#### Back Light

BL - Back Low (0°-30°)	748.5 Lm
BM - Back Mid (30°-60°)	616.8 Lm
BH - Back High (60°-80°)	101.0 Lm
BVH - Back Very High (80°-90°)	11.8 Lm

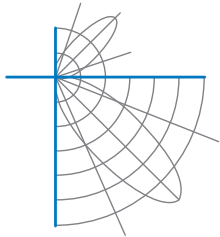
#### Forward Light

FL - Forward Low (0°-30°)	1118.5 Lm
FM - Forward Mid (30°-60°)	2687.6 Lm
FH - Forward High (60°-80°)	1535.0 Lm
FVH - Forward Very High (80°-90°)	443.9 Lm

#### Uplight

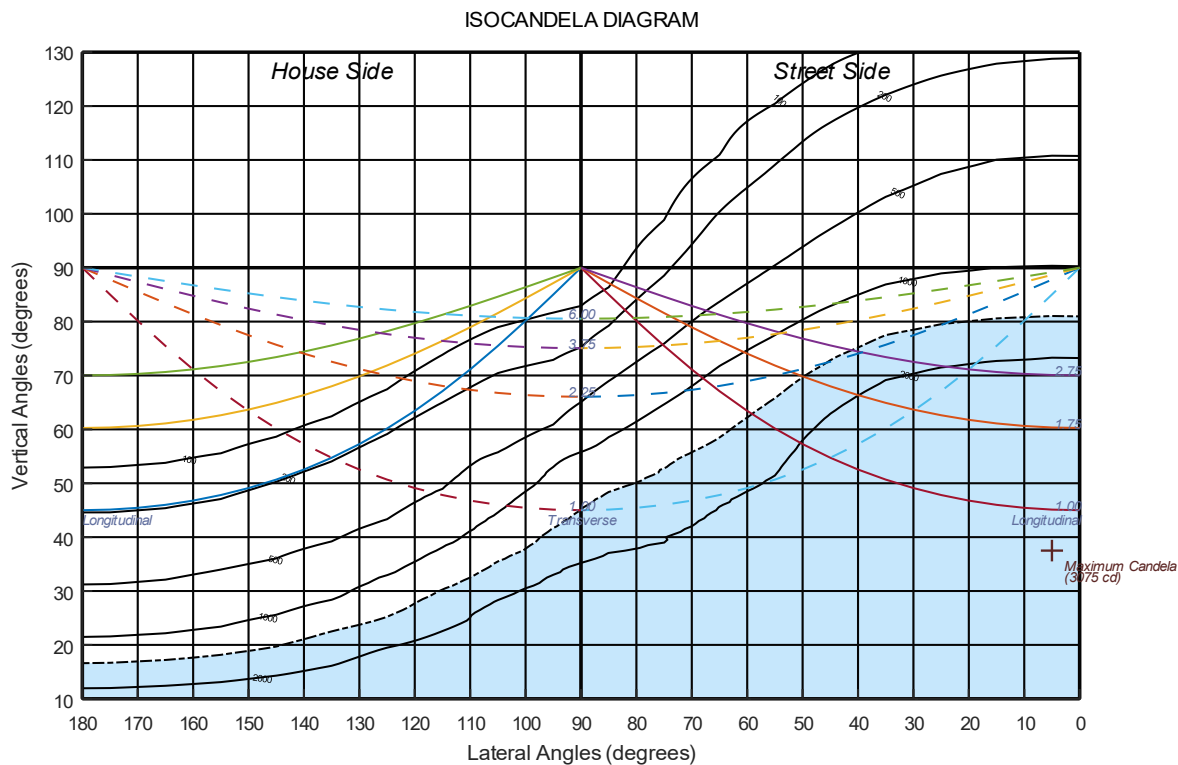
UL - Upward Low (90°-100°)	283.7 Lm
UH - Upward High (100°-180°)	391.2 Lm

BUG Ratings: B2 - U3 - G3



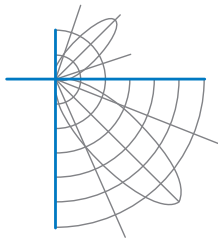
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**Iso-Candela Plot**



Half-max Candela Contour Line



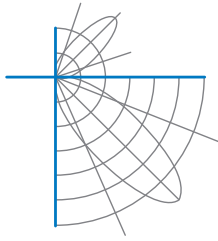


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Luminous Intensity (Candela) Table

	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	2821	2821	2821	2821	2821	2821	2821	2821	2821	2821	2821
	2.5	2843	2840	2825	2820	2828	2834	2825	2821	2830	2819	2808
	5	2851	2840	2830	2838	2845	2861	2835	2832	2819	2811	2790
	7.5	2797	2780	2773	2804	2814	2795	2852	2840	2831	2813	2783
	10	2747	2724	2748	2763	2759	2776	2786	2819	2813	2810	2774
	12.5	2721	2695	2724	2692	2724	2732	2755	2771	2787	2799	2764
	15	2698	2676	2690	2707	2696	2701	2700	2760	2769	2747	2712
	17.5	2688	2672	2687	2673	2666	2668	2673	2683	2712	2682	2642
	20	2653	2641	2646	2654	2636	2639	2610	2596	2638	2602	2555
	22.5	2651	2641	2643	2621	2629	2586	2549	2560	2590	2580	2527
	25	2722	2720	2685	2634	2571	2547	2535	2558	2562	2554	2499
	27.5	2809	2816	2761	2678	2563	2502	2552	2501	2483	2470	2408
	30	2857	2861	2812	2731	2604	2548	2498	2462	2385	2349	2278
	32.5	2933	2935	2879	2751	2641	2544	2447	2389	2270	2223	2147
	35	3024	3024	2941	2798	2670	2547	2384	2313	2172	2111	2015
	37.5	3072	3075	3008	2848	2682	2517	2350	2244	2057	1975	1866
	40	3043	3049	3002	2875	2708	2490	2291	2139	1995	1893	1780
	42.5	3035	3040	2982	2874	2713	2477	2234	2091	1880	1776	1654
	45	3038	3041	2974	2865	2700	2446	2177	2013	1799	1676	1539
	47.5	3040	3043	2972	2854	2671	2397	2108	1950	1714	1576	1433
	50	2931	2937	2928	2857	2658	2351	2037	1870	1628	1457	1316
	52.5	2886	2887	2848	2778	2624	2313	1971	1772	1549	1391	1236
	55	2794	2799	2788	2721	2567	2265	1903	1670	1468	1273	1093
	57.5	2709	2716	2681	2619	2494	2202	1829	1575	1343	1060	856
	60	2639	2643	2609	2538	2399	2111	1750	1484	1211	925	724
	62.5	2506	2515	2500	2439	2309	2015	1662	1390	1098	803	611
	65	2416	2427	2401	2320	2200	1913	1570	1292	983	682	503
	67.5	2309	2307	2253	2211	2080	1802	1466	1188	860	563	402
	70	2133	2136	2137	2078	1956	1687	1356	1078	743	457	318
	72.5	2033	2040	2014	1945	1820	1553	1240	965	634	367	253
75	1880	1886	1876	1804	1675	1422	1120	850	534	294	204	
77.5	1741	1745	1716	1655	1537	1291	999	738	444	235	164	
80	1596	1599	1573	1510	1383	1151	882	634	369	186	131	
82.5	1441	1444	1419	1363	1240	1021	774	540	308	146	104	
85	1293	1297	1274	1213	1101	897	676	458	257	114	82	
87.5	1145	1149	1129	1074	969	787	587	388	215	90	65	
90	1014	1018	1003	951	860	696	512	331	181	72	52	

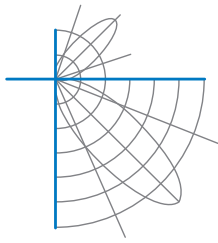


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Luminous Intensity (Candela) Table

	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	1014	1018	1003	951	860	696	512	331	181	72	52
	92.5	918	923	909	862	771	619	449	287	154	61	45
	95	838	843	831	784	696	551	400	256	130	52	40
	97.5	775	779	766	716	629	493	359	229	109	46	37
	100	715	718	705	656	569	442	318	204	93	41	34
	102.5	662	664	651	602	514	395	280	177	81	38	32
	105	610	613	599	548	461	350	246	151	70	36	30
	107.5	561	563	549	498	413	310	216	126	62	33	28
	110	513	515	501	451	370	277	191	106	54	31	26
	112.5	468	469	455	407	332	248	169	92	49	28	24
	115	422	422	408	362	299	222	148	82	44	26	22
	117.5	377	377	364	321	264	193	125	71	38	23	20
	120	337	336	323	282	228	165	103	60	33	20	18
	122.5	299	298	286	246	195	139	86	51	29	18	15
	125	264	262	248	209	165	117	73	43	24	15	12
	127.5	226	223	206	173	138	100	63	37	20	12	10
	130	178	176	163	139	114	84	53	31	16	10	8
	132.5	136	135	129	114	94	68	44	25	13	8	7
	135	111	111	106	95	78	56	36	21	11	6	5
	137.5	92	92	88	78	63	46	31	18	8	5	4
	140	74	74	71	63	51	38	26	15	6	4	3
	142.5	58	58	56	49	40	31	21	11	4	3	1
	145	46	46	45	40	32	25	17	8	3	1	1
	147.5	37	37	35	32	26	19	12	5	2	1	0
	150	29	29	27	24	20	15	9	3	1	0	0
	152.5	22	22	21	18	15	11	6	1	0	0	0
	155	17	17	16	14	11	7	3	0	0	0	0
	157.5	13	13	12	11	8	5	1	0	0	0	0
	160	9	9	9	7	5	2	0	0	0	0	0
	162.5	6	6	5	4	2	0	0	0	0	0	0
165	3	3	2	1	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	

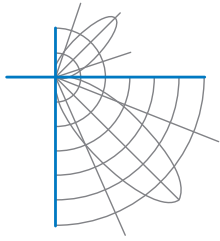


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Luminous Intensity (Candela) Table

	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	2821	2821	2821	2821	2821	2821	2821	2821	2821	2821	2821
	2.5	2808	2797	2789	2770	2741	2728	2717	2709	2704	2699	2697
	5	2790	2783	2747	2716	2679	2678	2623	2608	2590	2590	2583
	7.5	2783	2775	2709	2660	2611	2547	2515	2484	2442	2432	2426
	10	2774	2750	2663	2578	2506	2432	2359	2309	2260	2221	2219
	12.5	2764	2724	2610	2492	2396	2284	2174	2066	1990	1936	1931
	15	2712	2663	2557	2452	2286	2108	1924	1830	1750	1702	1698
	17.5	2642	2586	2466	2327	2136	1906	1725	1592	1508	1455	1445
	20	2555	2488	2338	2166	1951	1730	1513	1361	1255	1191	1178
	22.5	2527	2444	2227	2004	1738	1538	1318	1089	967	916	909
	25	2499	2403	2150	1854	1552	1308	1054	881	805	777	772
	27.5	2408	2299	2046	1733	1366	1079	871	752	677	641	638
	30	2278	2170	1894	1557	1226	884	737	634	565	539	537
	32.5	2147	2037	1715	1360	1042	752	621	543	489	466	465
	35	2015	1889	1569	1201	858	659	530	471	423	401	400
	37.5	1866	1725	1382	1034	729	559	462	408	362	339	337
	40	1780	1630	1241	876	621	476	403	345	304	284	282
	42.5	1654	1496	1110	753	527	413	344	288	251	236	236
	45	1539	1369	979	641	450	358	292	237	206	194	193
	47.5	1433	1249	853	550	392	306	245	194	167	156	155
50	1316	1117	731	469	344	263	204	158	136	125	125	
52.5	1236	1027	640	404	300	222	168	128	110	103	103	
55	1093	865	536	359	259	187	136	105	92	88	87	
57.5	856	654	430	321	223	154	110	86	78	77	77	
60	724	535	362	280	187	125	89	70	66	67	67	
62.5	611	443	311	237	154	99	70	57	55	56	56	
65	503	365	274	200	124	77	55	44	44	46	46	
67.5	402	301	240	167	99	59	41	33	34	35	35	
70	318	249	206	137	78	45	30	23	22	22	22	
72.5	253	206	172	112	60	33	19	12	9	8	8	
75	204	171	141	90	48	24	9	0	0	0	0	
77.5	164	142	114	71	35	15	4	0	0	0	0	
80	131	116	90	55	25	10	3	0	0	0	0	
82.5	104	92	71	42	19	8	2	0	0	0	0	
85	82	72	56	34	15	6	1	0	0	0	0	
87.5	65	56	45	27	12	5	1	0	0	0	0	
90	52	47	37	23	10	5	0	0	0	0	0	

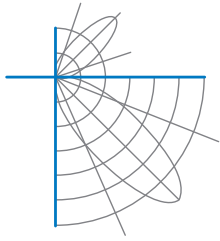


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Luminous Intensity (Candela) Table

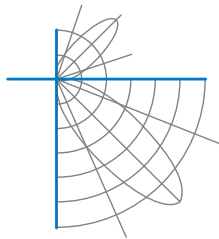
	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	52	47	37	23	10	5	0	0	0	0	0
	92.5	45	40	31	19	9	4	0	0	0	0	0
	95	40	35	27	16	8	3	0	0	0	0	0
	97.5	37	32	23	14	7	3	0	0	0	0	0
	100	34	29	21	12	6	2	0	0	0	0	0
	102.5	32	27	19	10	5	2	0	0	0	0	0
	105	30	25	17	8	4	1	0	0	0	0	0
	107.5	28	23	15	7	4	1	0	0	0	0	0
	110	26	21	13	6	3	0	0	0	0	0	0
	112.5	24	19	11	5	2	0	0	0	0	0	0
	115	22	18	9	5	2	0	0	0	0	0	0
	117.5	20	16	8	4	1	0	0	0	0	0	0
	120	18	14	7	3	1	0	0	0	0	0	0
	122.5	15	12	6	3	1	0	0	0	0	0	0
	125	12	10	5	2	0	0	0	0	0	0	0
	127.5	10	8	4	1	0	0	0	0	0	0	0
	130	8	6	3	1	0	0	0	0	0	0	0
	132.5	7	5	2	0	0	0	0	0	0	0	0
	135	5	4	1	0	0	0	0	0	0	0	0
	137.5	4	2	0	0	0	0	0	0	0	0	0
	140	3	1	0	0	0	0	0	0	0	0	0
	142.5	1	0	0	0	0	0	0	0	0	0	0
	145	1	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	



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**Additional Pictures of Test Subject**





## Report of Test

### LLIA001528-004

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-31-95 and LM-10-96.

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

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-75-01.

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.