

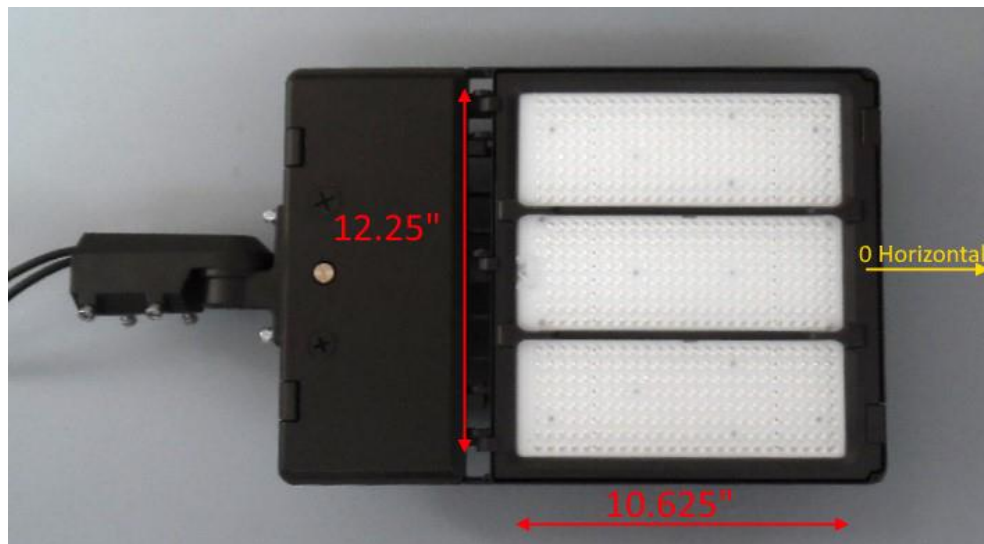


## Report of Test

LLIA002251-047

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-SWO - T4 Optics - 300W - 4000K Setting  
Pole mounted, cast aluminum housing, white LED board with  
frosted plastic enclosure with clear optic sections below each LED.  
576 white LEDs, 288 CW LEDs and 288 WW LEDs  
One Sosen SS-320NH-E260BH LED driver



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

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	42131.6 Lumens
Input Current	2.402 A	Total Efficacy	147.2 Lm/W
Input Power	286.3 W		
Frequency	60.00 Hz	Roadway Throw	Short
Power Factor	0.993	Roadway Type	Type IV
Current THD	9.4 %		

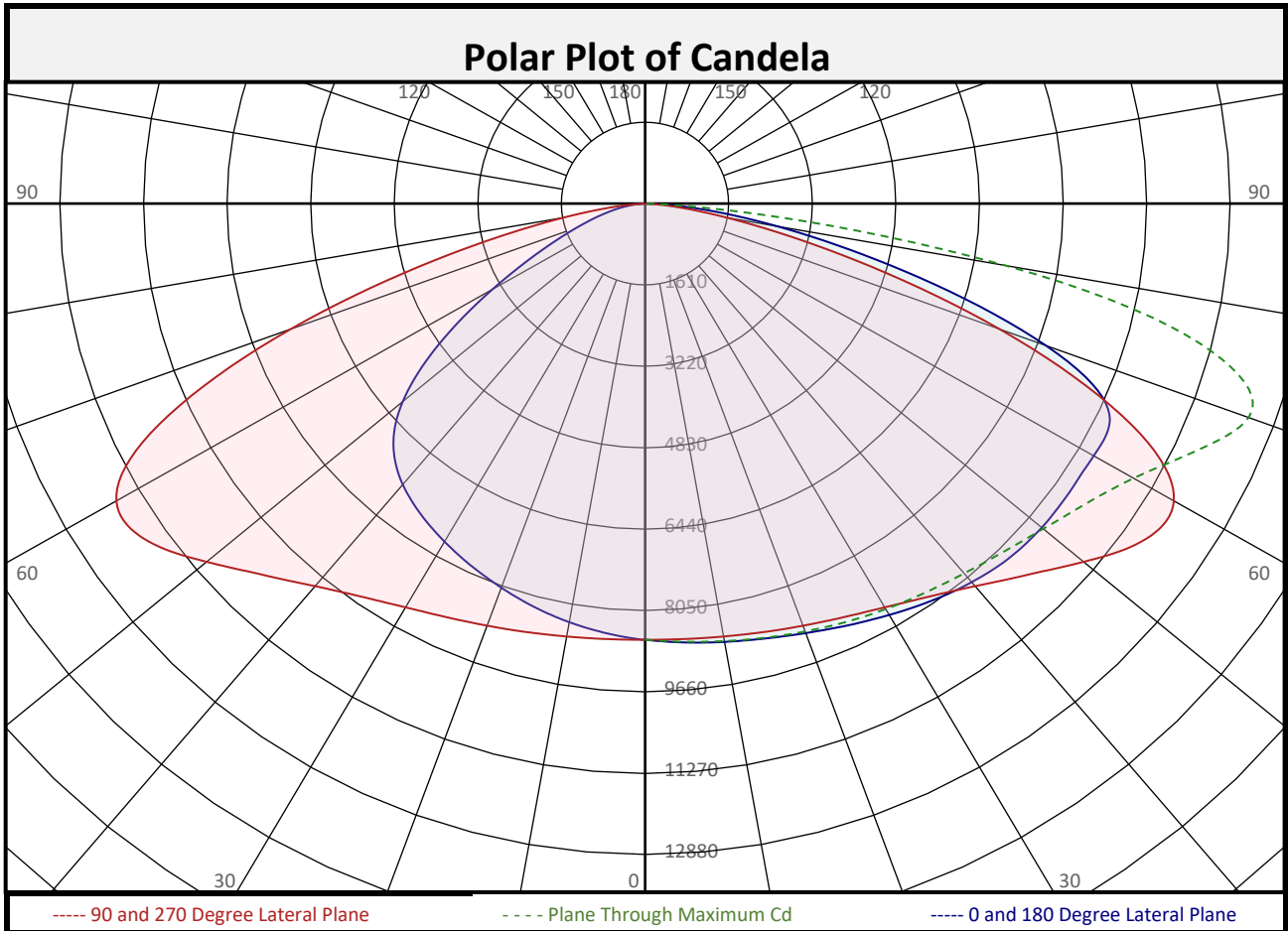
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 10/30/2023  
Report date: 10/31/2023

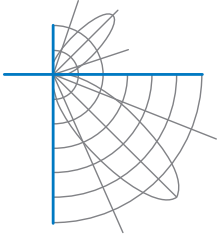
Signed: \_\_\_\_\_



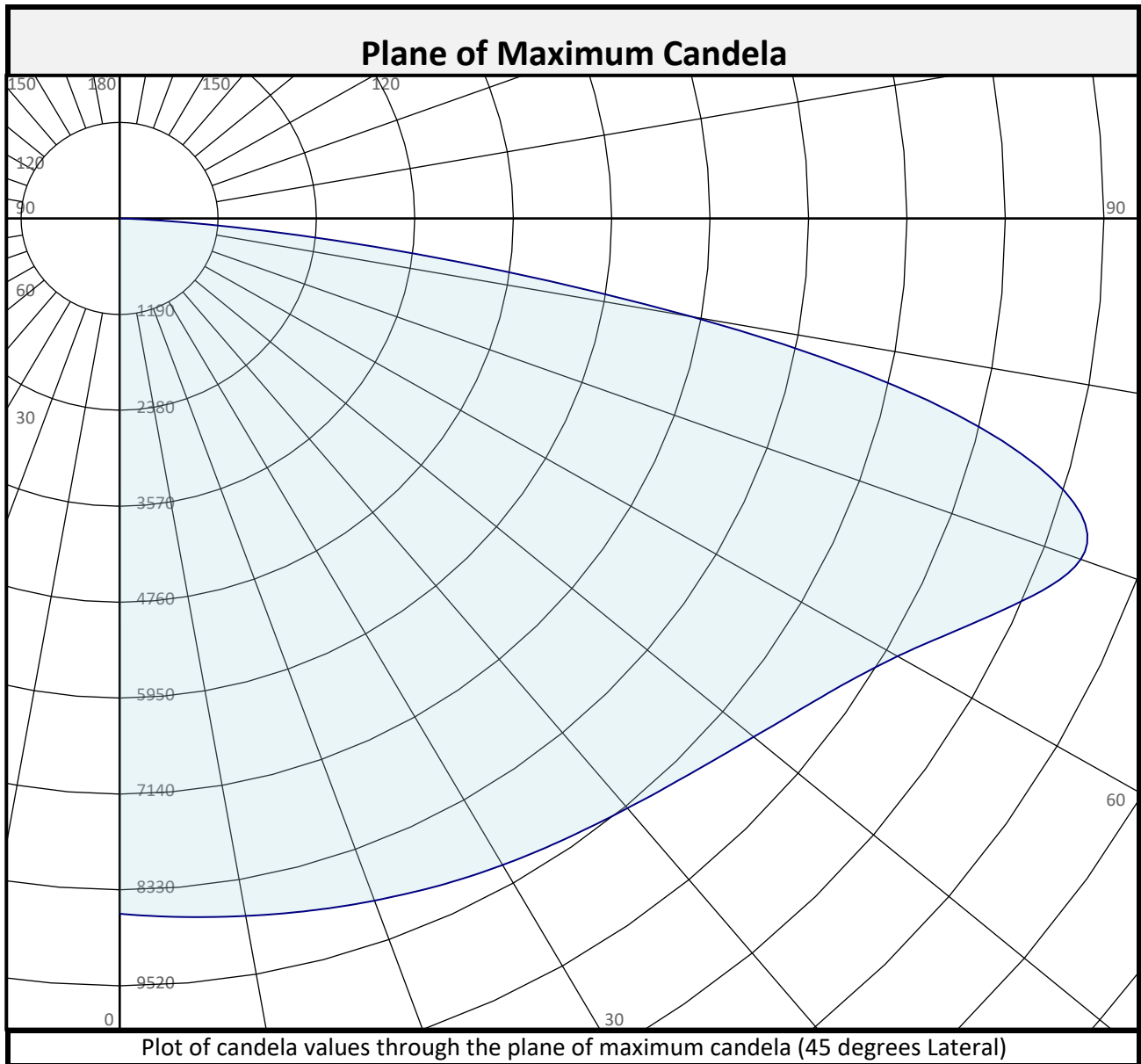
Report of Test  
LLIA002251-047



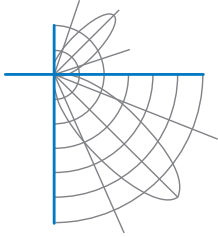
Zonal Flux Summary								
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	825.0	2.0%	90-100	0.0	0.0%	0-20	3286	7.8%
10-20	2461	5.8%	100-110	0.0	0.0%	0-30	7351	17.4%
20-30	4065	9.6%	110-120	0.0	0.0%	0-40	12982	30.8%
30-40	5631	13.4%	120-130	0.0	0.0%	0-60	28437	67.5%
40-50	7149	17.0%	130-140	0.0	0.0%	0-80	41220	97.8%
50-60	8305	19.7%	140-150	0.0	0.0%	10-90	41307	98.0%
60-70	8000	19.0%	150-160	0.0	0.0%	20-50	16845	40.0%
70-80	4784	11.4%	160-170	0.0	0.0%	40-90	29150	69.2%
80-90	911.7	2.2%	170-180	0.0	0.0%	60-90	13695	32.5%
0-90	42132	100.0%	90-180	0.0	0.0%	0-180	42132	100.0%



Report of Test  
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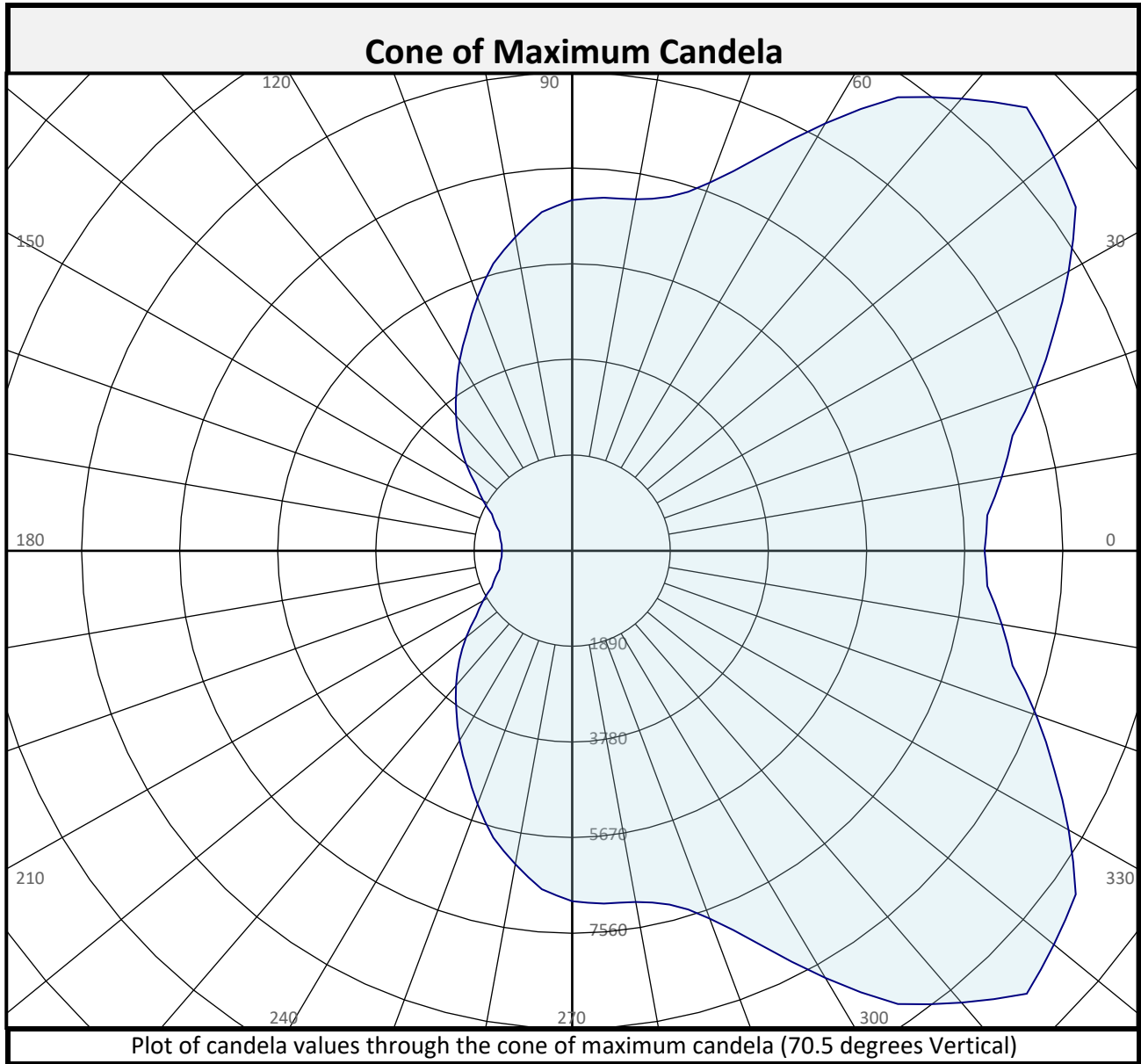


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	25189.6	59.8%	0.0	0.0%	25189.6	59.8%
House Side	16942.0	40.2%	0.0	0.0%	16942.0	40.2%
<b>Total</b>	<b>42131.6</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>42131.6</b>	<b>100.0%</b>

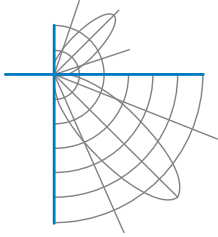


Report of Test

LLIA002251-047

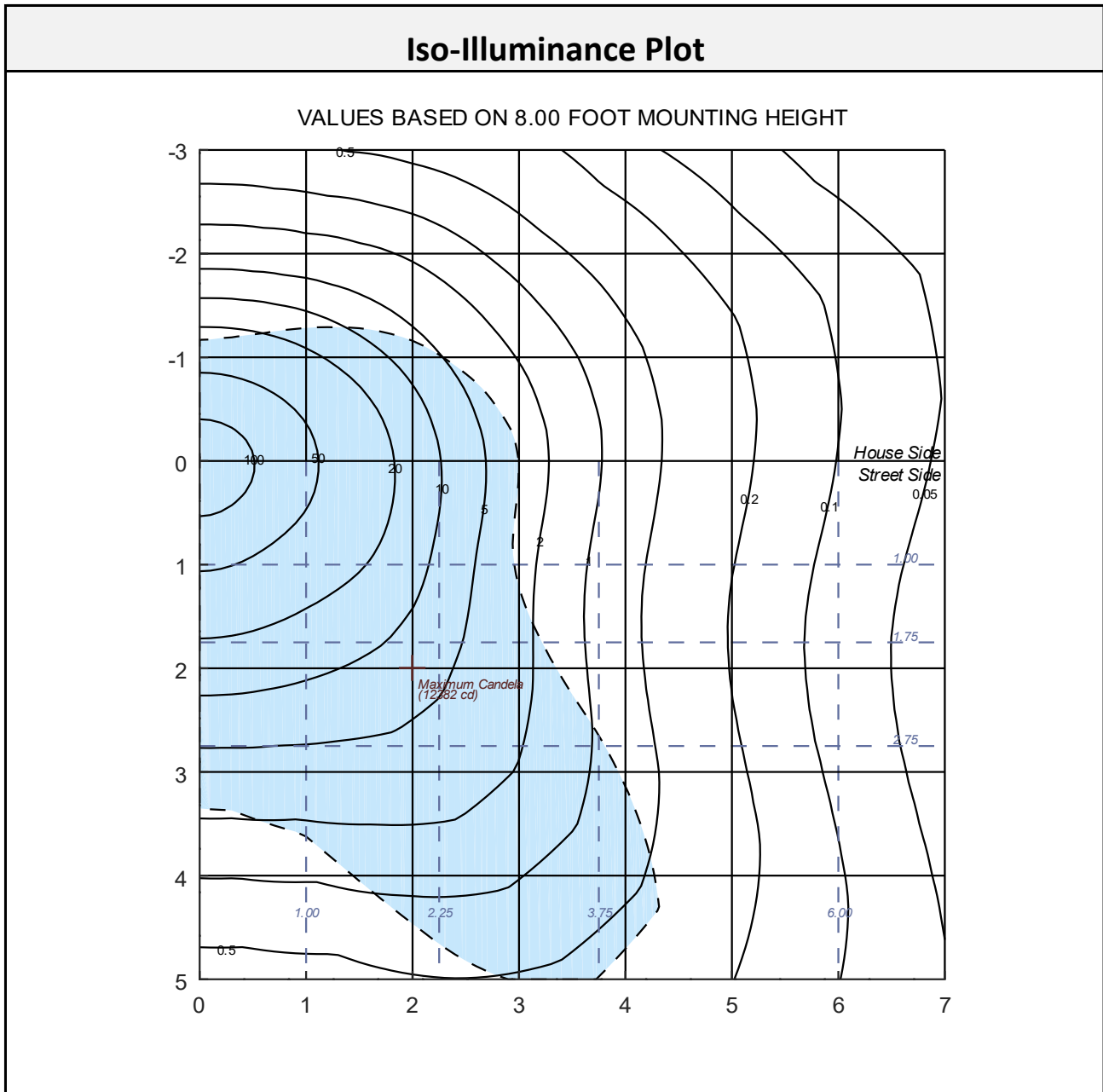


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	25189.6	59.8%	0.0	0.0%	25189.6	59.8%
House Side	16942.0	40.2%	0.0	0.0%	16942.0	40.2%
<b>Total</b>	<b>42131.6</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>42131.6</b>	<b>100.0%</b>

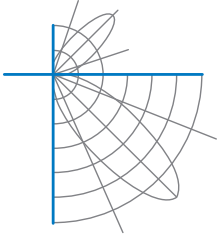


## Report of Test

LLIA002251-047

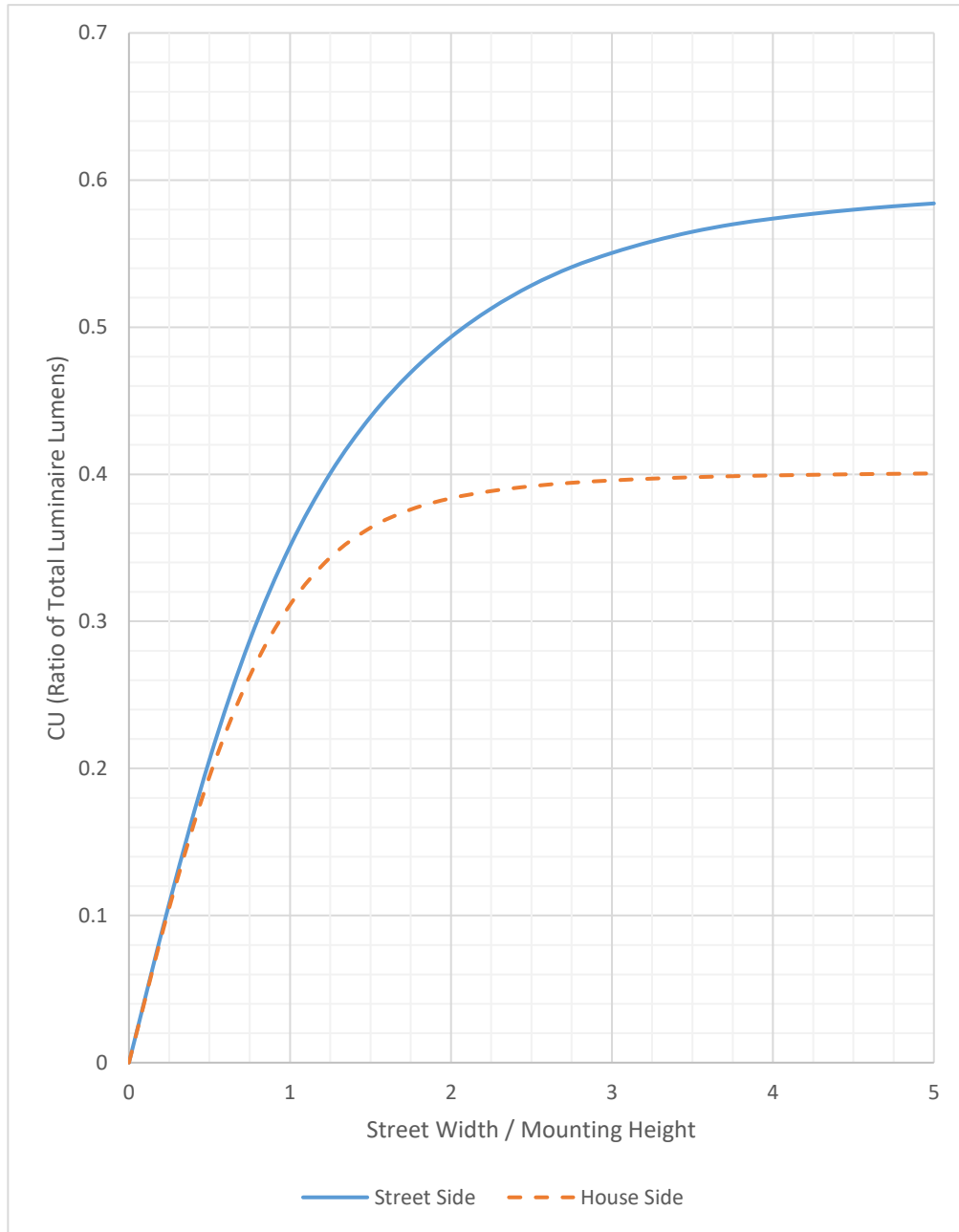


The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



## Report of Test LLIA002251-047

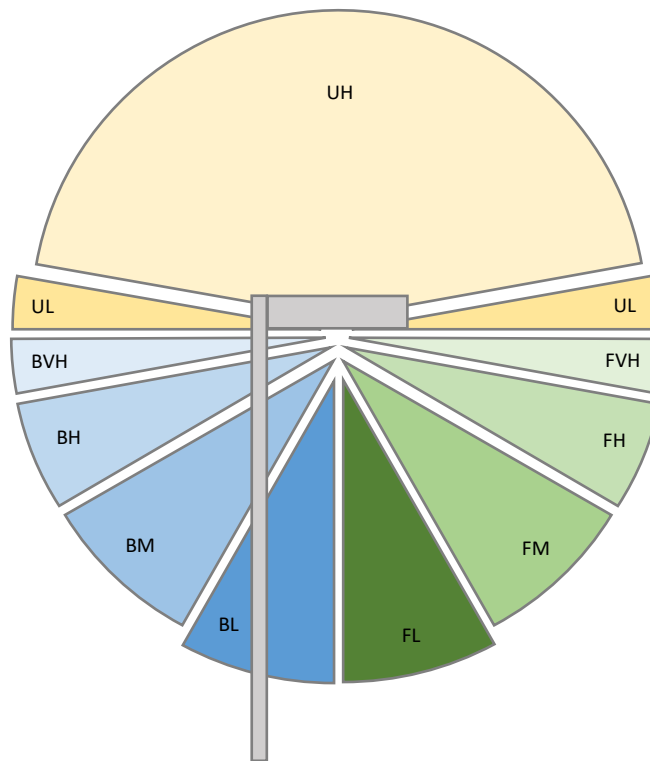
### Coefficients of Utilization Plot





## Report of Test LLIA002251-047

### LCS Tables and Bug Classification



#### Back Light

BL - Back Low (0°-30°)	3556.2 Lm
BM - Back Mid (30°-60°)	9428.5 Lm
BH - Back High (60°-80°)	3799.0 Lm
BVH - Back Very High (80°-90°)	158.4 Lm

#### Forward Light

FL - Forward Low (0°-30°)	3794.7 Lm
FM - Forward Mid (30°-60°)	11657.2 Lm
FH - Forward High (60°-80°)	8984.4 Lm
FVH - Forward Very High (80°-90°)	753.3 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)

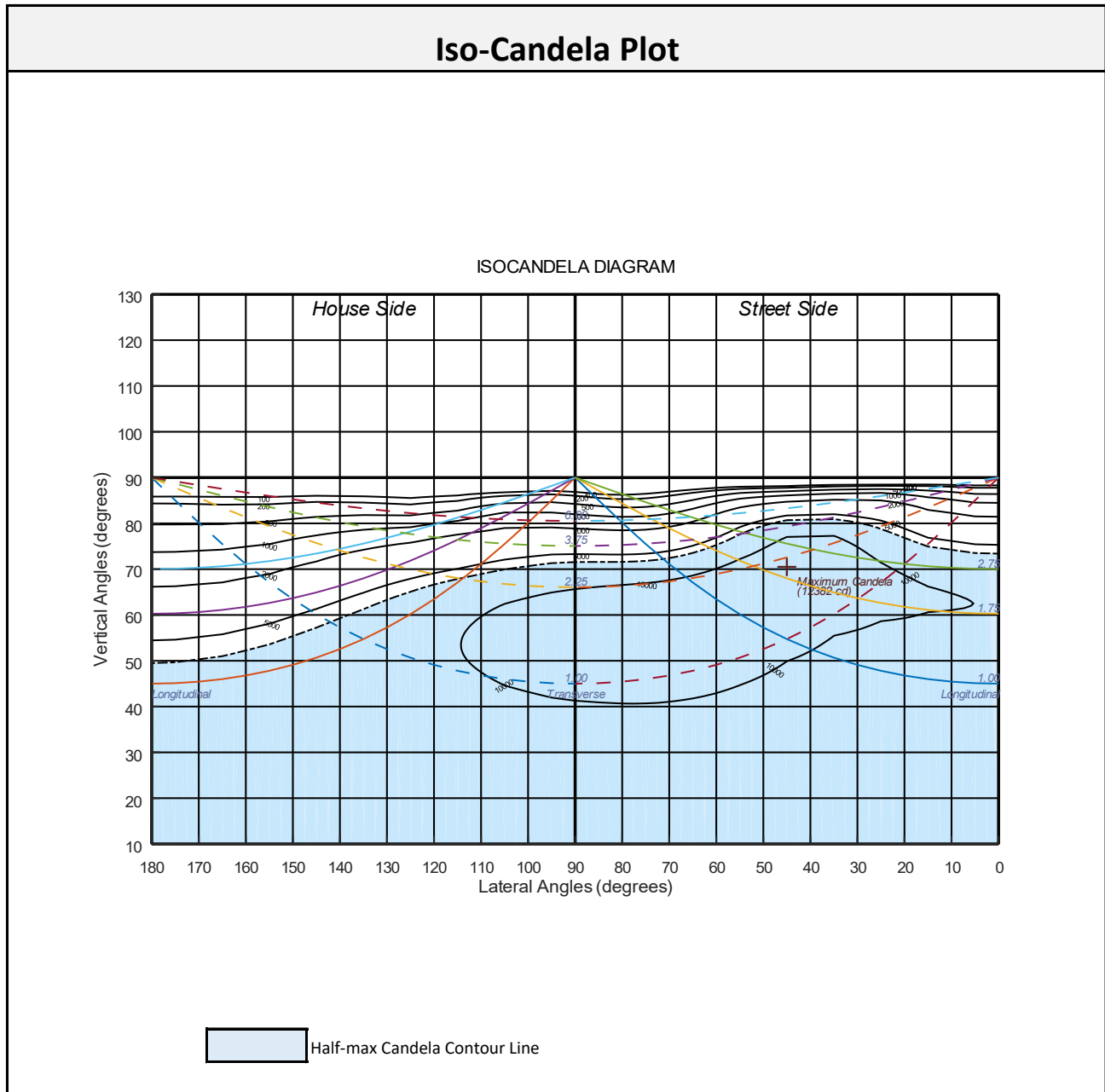
B5 - U0 - G5



# Report of Test

## LLIA002251-047

### Iso-Candela Plot







## Report of Test

LLIA002251-047

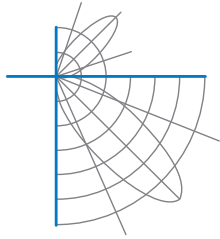
Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	0	5	15	25	35	45	55	57.5	60	62.5	65	67.5	70	72.5	75	
0	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	
2.5	8670	8671	8670	8670	8667	8661	8653	8651	8651	8647	8646	8646	8644	8641	8641	
5	8713	8714	8712	8712	8707	8699	8689	8685	8682	8679	8678	8674	8671	8667	8665	
7.5	8757	8756	8755	8754	8749	8741	8728	8723	8722	8717	8712	8709	8706	8702	8698	
10	8804	8801	8801	8800	8793	8786	8774	8769	8766	8762	8756	8753	8749	8743	8738	
12.5	8851	8849	8848	8849	8842	8837	8824	8820	8816	8811	8808	8802	8797	8789	8785	
15	8906	8905	8904	8903	8895	8890	8876	8874	8872	8866	8860	8856	8850	8844	8839	
17.5	8970	8968	8964	8960	8951	8947	8936	8933	8931	8926	8920	8916	8910	8904	8897	
20	9042	9040	9033	9024	9012	9006	8998	8997	8993	8987	8985	8982	8976	8969	8962	
22.5	9120	9118	9106	9090	9075	9067	9066	9064	9063	9058	9056	9053	9048	9041	9033	
25	9208	9201	9185	9160	9138	9134	9135	9138	9137	9135	9134	9132	9127	9122	9113	
27.5	9299	9293	9269	9230	9200	9197	9212	9216	9219	9218	9222	9220	9218	9212	9205	
30	9397	9392	9355	9301	9261	9262	9292	9303	9308	9312	9317	9319	9319	9317	9310	
32.5	9496	9490	9441	9372	9319	9327	9381	9394	9406	9418	9428	9432	9435	9436	9433	
35	9596	9586	9526	9439	9378	9396	9476	9499	9520	9537	9553	9566	9573	9577	9575	
37.5	9692	9677	9607	9502	9435	9470	9585	9617	9647	9673	9697	9717	9730	9741	9743	
40	9778	9761	9684	9564	9493	9551	9712	9754	9797	9832	9863	9892	9915	9932	9941	
42.5	9856	9841	9753	9624	9555	9645	9855	9912	9968	10016	10061	10097	10128	10153	10168	
45	9916	9900	9810	9681	9625	9749	10023	10100	10169	10231	10285	10332	10368	10401	10421	
47.5	9952	9938	9852	9733	9699	9869	10220	10315	10397	10473	10541	10597	10644	10685	10713	
50	9972	9961	9885	9781	9777	10007	10442	10555	10657	10751	10831	10901	10956	11008	11042	
52.5	9973	9964	9905	9831	9870	10170	10695	10832	10954	11065	11163	11242	11308	11364	11403	
55	9971	9962	9921	9883	9978	10356	10981	11144	11284	11410	11514	11603	11676	11728	11764	
57.5	9961	9959	9942	9954	10118	10580	11304	11482	11635	11761	11863	11939	11997	12037	12060	
60	9977	9977	9984	10065	10302	10862	11650	11817	11952	12058	12129	12174	12195	12196	12184	
62.5	9993	9998	10057	10227	10548	11226	11961	12085	12164	12200	12196	12165	12114	12042	11964	
65	9867	9887	10079	10424	10892	11641	12131	12141	12090	11986	11835	11662	11483	11309	11154	
67.5	9319	9372	9805	10540	11343	12071	11960	11729	11438	11095	10723	10375	10069	9804	9609	
70	8221	8302	9008	10343	11775	12367	11174	10643	10084	9523	8990	8525	8148	7849	7654	
72.5	6752	6836	7712	9642	11937	12189	9823	9060	8317	7632	7022	6521	6131	5841	5651	
75	5182	5261	6154	8442	11397	11289	8107	7207	6390	5678	5085	4624	4286	4038	3887	
77.5	3764	3823	4622	6974	9827	9610	6267	5347	4568	3944	3453	3085	2821	2632	2515	
80	2581	2620	3292	5411	7277	7034	4365	3621	3005	2522	2153	1889	1698	1563	1484	
82.5	1623	1645	2175	3690	4456	4136	2602	2163	1780	1465	1218	1029	893	798	739	
85	851	865	1246	2004	2134	1767	1174	980	805	648	519	423	349	296	260	
87.5	253	253	394	497	425	286	206	170	137	109	84	67	53	43	36	
90	0	0	0	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.

**North America (issuing laboratory)**

**Australasia & S.E. Asia**



## Report of Test

LLIA002251-047

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	77.5	80	82.5	85	90	95	105	115	125	135	145	155	165	175	180	
0	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	8626	
2.5	8639	8637	8637	8637	8631	8624	8618	8608	8602	8595	8590	8588	8583	8580	8583	
5	8663	8660	8656	8653	8645	8633	8618	8599	8583	8567	8552	8543	8533	8528	8531	
7.5	8693	8689	8683	8679	8665	8651	8626	8595	8567	8539	8513	8494	8478	8469	8471	
10	8733	8723	8717	8711	8694	8676	8640	8595	8555	8514	8473	8442	8417	8405	8406	
12.5	8779	8768	8760	8751	8729	8708	8661	8602	8545	8488	8431	8387	8352	8333	8334	
15	8830	8818	8809	8798	8774	8750	8689	8617	8539	8464	8387	8328	8282	8257	8257	
17.5	8887	8876	8864	8851	8826	8798	8724	8634	8536	8441	8342	8265	8207	8175	8173	
20	8951	8940	8929	8911	8885	8852	8766	8657	8538	8416	8297	8198	8130	8091	8087	
22.5	9024	9011	8997	8981	8950	8914	8814	8688	8542	8392	8251	8132	8050	8004	7996	
25	9103	9091	9075	9059	9028	8983	8872	8725	8553	8372	8205	8064	7968	7916	7909	
27.5	9195	9183	9165	9153	9116	9070	8943	8772	8569	8356	8160	7997	7884	7824	7818	
30	9300	9289	9276	9263	9221	9171	9030	8834	8595	8344	8116	7929	7798	7730	7722	
32.5	9424	9414	9402	9382	9348	9293	9136	8910	8629	8339	8073	7859	7709	7633	7621	
35	9569	9562	9551	9532	9495	9440	9265	9003	8676	8339	8034	7787	7615	7526	7515	
37.5	9740	9736	9724	9708	9672	9612	9420	9115	8736	8343	7990	7707	7510	7408	7396	
40	9943	9942	9929	9917	9879	9819	9604	9248	8806	8350	7941	7614	7389	7273	7256	
42.5	10177	10178	10171	10160	10123	10054	9812	9401	8883	8351	7877	7499	7238	7099	7080	
45	10436	10442	10437	10427	10389	10319	10037	9565	8961	8339	7788	7348	7038	6872	6850	
47.5	10729	10738	10736	10729	10691	10607	10277	9723	9020	8293	7651	7135	6764	6561	6532	
50	11059	11075	11076	11069	11023	10923	10520	9856	9029	8188	7442	6834	6382	6127	6093	
52.5	11426	11438	11438	11427	11367	11239	10742	9933	8948	7984	7132	6413	5864	5560	5519	
55	11783	11791	11780	11756	11660	11488	10875	9903	8749	7650	6700	5859	5220	4885	4842	
57.5	12062	12046	12018	11970	11828	11609	10846	9707	8399	7175	6124	5176	4490	4154	4113	
60	12151	12105	12042	11966	11758	11469	10578	9289	7860	6554	5416	4408	3739	3434	3397	
62.5	11874	11775	11671	11557	11285	10940	9972	8606	7119	5796	4613	3628	3031	2783	2753	
65	11013	10880	10754	10627	10324	9955	8957	7630	6211	4948	3801	2914	2426	2238	2215	
67.5	9467	9345	9250	9161	8925	8596	7616	6379	5174	4070	3037	2298	1927	1791	1775	
70	7535	7452	7408	7382	7274	7044	6164	5047	4102	3238	2379	1796	1525	1429	1418	
72.5	5558	5510	5502	5520	5537	5433	4780	3863	3105	2473	1832	1389	1195	1131	1124	
75	3815	3793	3808	3847	3920	3939	3559	2891	2269	1803	1370	1054	924	882	877	
77.5	2459	2445	2460	2496	2590	2659	2523	2018	1440	1218	982	770	687	666	664	
80	1448	1444	1467	1504	1594	1684	1672	1153	808	761	653	538	486	483	483	
82.5	713	711	737	779	872	969	967	548	386	418	392	323	300	312	314	
85	241	237	249	281	359	427	369	189	131	163	174	145	146	155	156	
87.5	31	28	28	30	47	60	41	27	21	22	20	17	12	6	4	
90	0	0	0	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.

**North America (issuing laboratory)**

**Australasia & S.E. Asia**



## Report of Test

LLIA002251-047

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	0	5	15	25	35	45	55	57.5	60	62.5	65	67.5	70	72.5	75	
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	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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LLIA002251-047

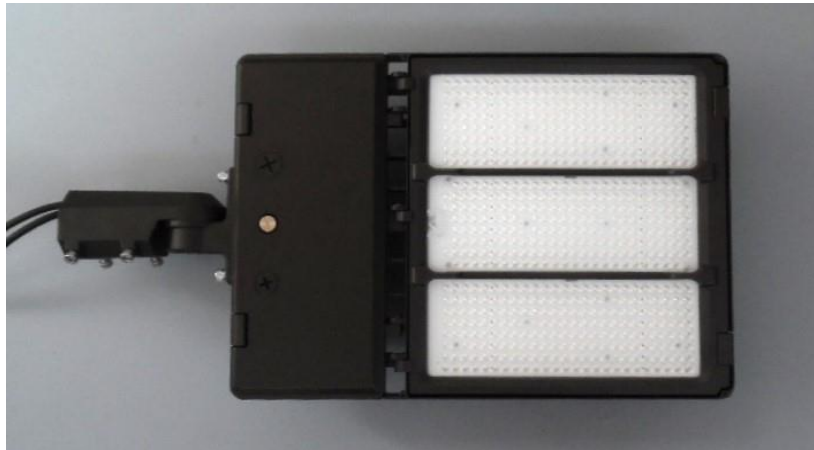
Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	77.5	80	82.5	85	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	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Report of Test  
LLIA002251-047

**Additional Pictures of Test Subject**





## Report of Test

### LLIA002251-047

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.