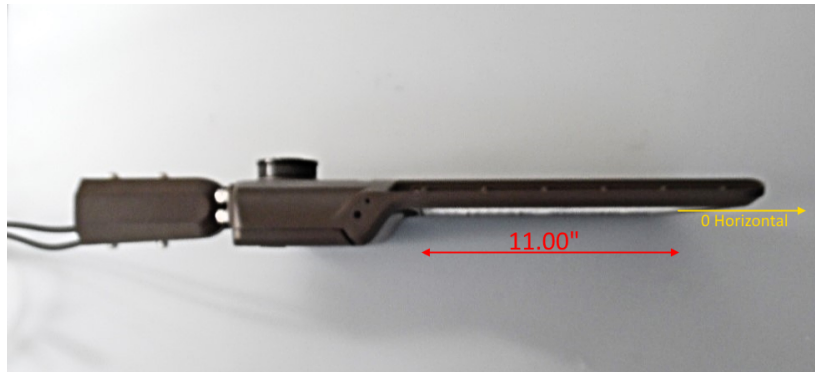


Report of Test

LLIA002251-010

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-T3 - 200W Setting - 4000K Setting
Pole mounted, cast aluminum housing, white LED board with
frosted plastic enclosure with clear optic sections below LEDs.
728 white LEDs, 364 CW LEDs and 364 WW LEDs
One Sosen SS-320NH-E260BH LED driver



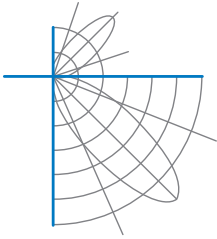
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	32078.4 Lumens
Input Current	1.632 A	Total Efficacy	165.5 Lm/W
Input Power	193.8 W		
Frequency	60.00 Hz	Roadway Throw	Medium
Power Factor	0.990	Roadway Type	Type III
Current THD	11.0 %		

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

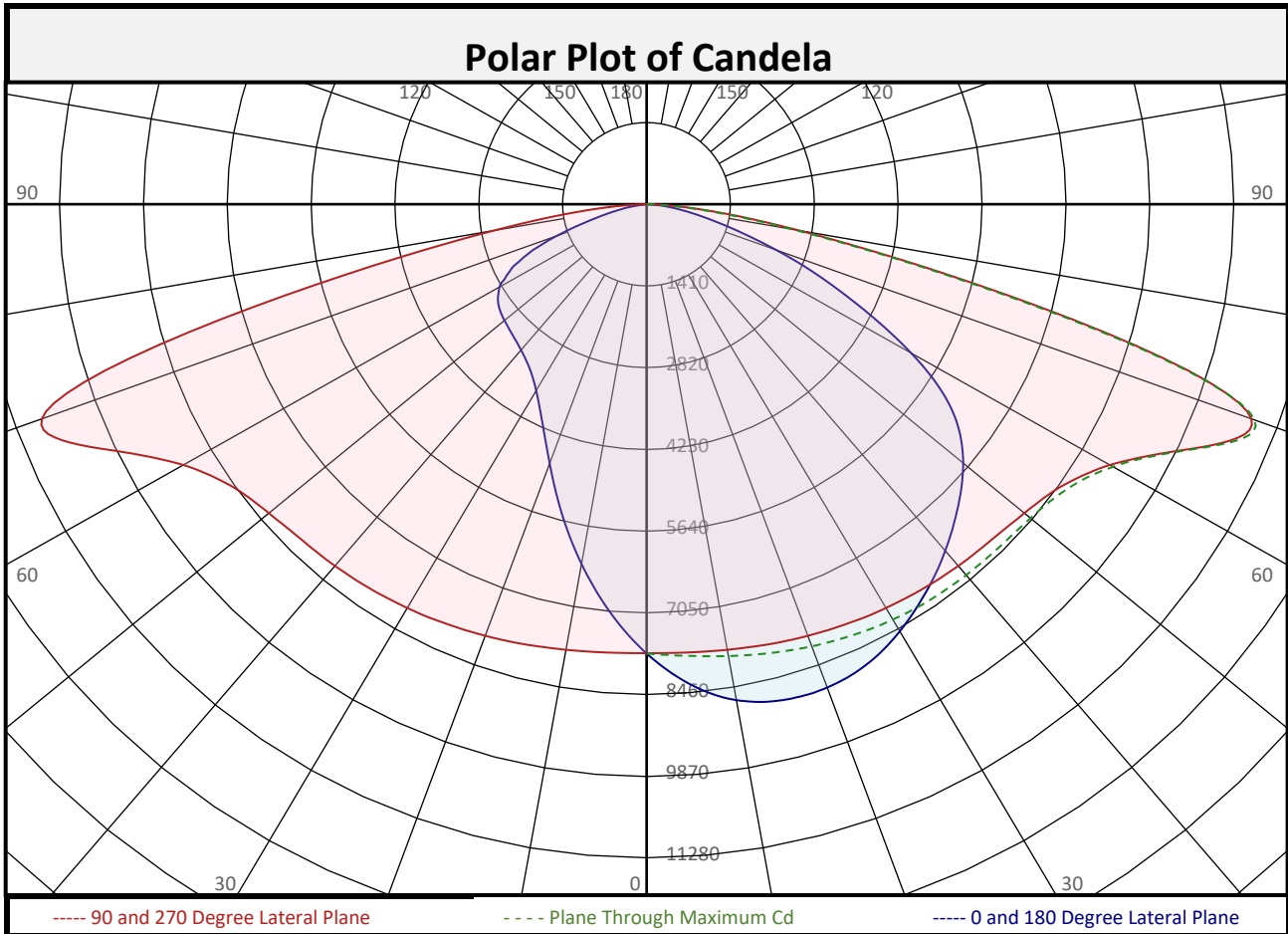
Test date: 11/28/2023
Report date: 12/04/2023

Signed: _____



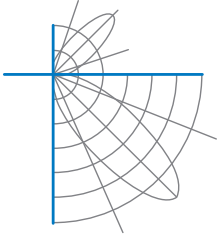
Report of Test

LLIA002251-010

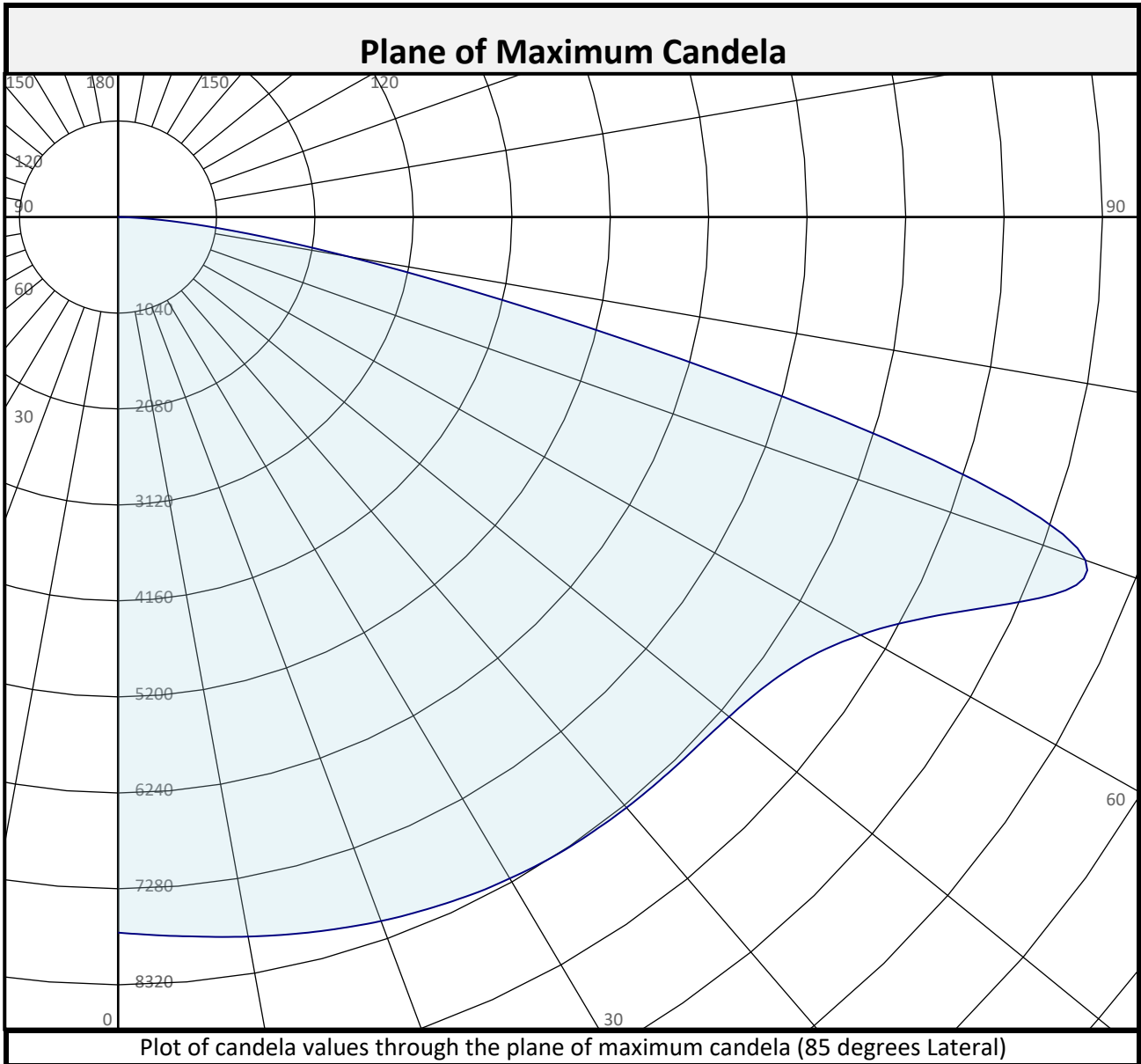


Zonal Flux Summary

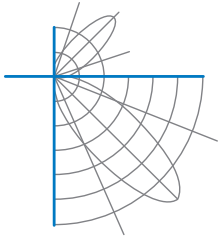
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	736.2	2.3%	90-100	0.0	0.0%	0-20	2866	8.9%
10-20	2130	6.6%	100-110	0.0	0.0%	0-30	6200	19.3%
20-30	3334	10.4%	110-120	0.0	0.0%	0-40	10535	32.8%
30-40	4335	13.5%	120-130	0.0	0.0%	0-60	21418	66.8%
40-50	5137	16.0%	130-140	0.0	0.0%	0-80	31347	97.7%
50-60	5746	17.9%	140-150	0.0	0.0%	10-90	31342	97.7%
60-70	5939	18.5%	150-160	0.0	0.0%	20-50	12806	39.9%
70-80	3991	12.4%	160-170	0.0	0.0%	40-90	21544	67.2%
80-90	731.0	2.3%	170-180	0.0	0.0%	60-90	10660	33.2%
0-90	32078	100.0%	90-180	0.0	0.0%	0-180	32078	100.0%



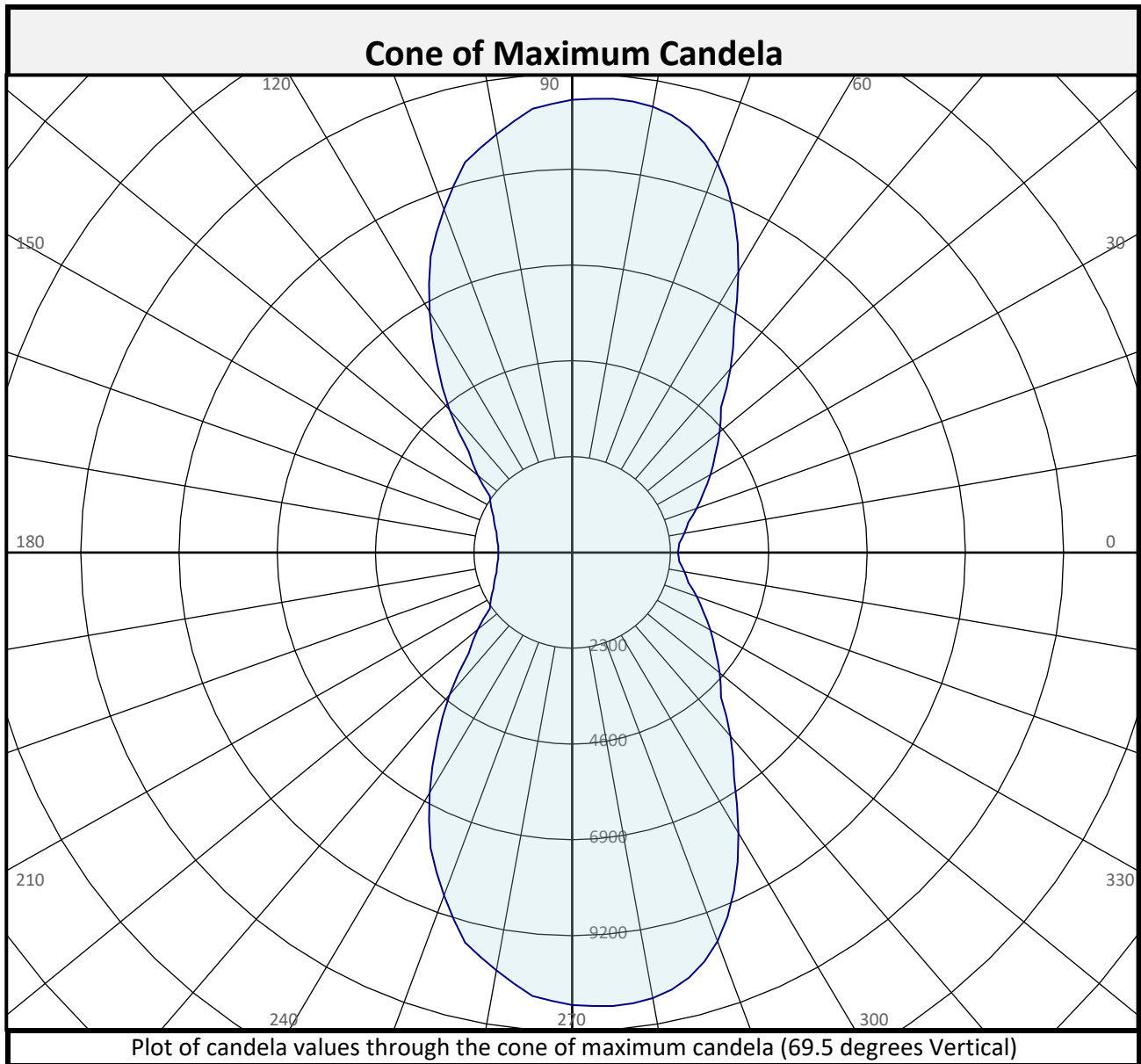
Report of Test
LLIA002251-010



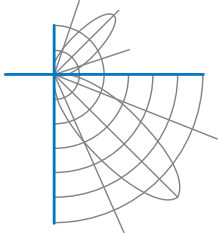
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	18906.9	58.9%	0.0	0.0%	18906.9	58.9%
House Side	13171.4	41.1%	0.0	0.0%	13171.4	41.1%
Total	32078.4	100.0%	0.0	0.0%	32078.4	100.0%



Report of Test
LLIA002251-010

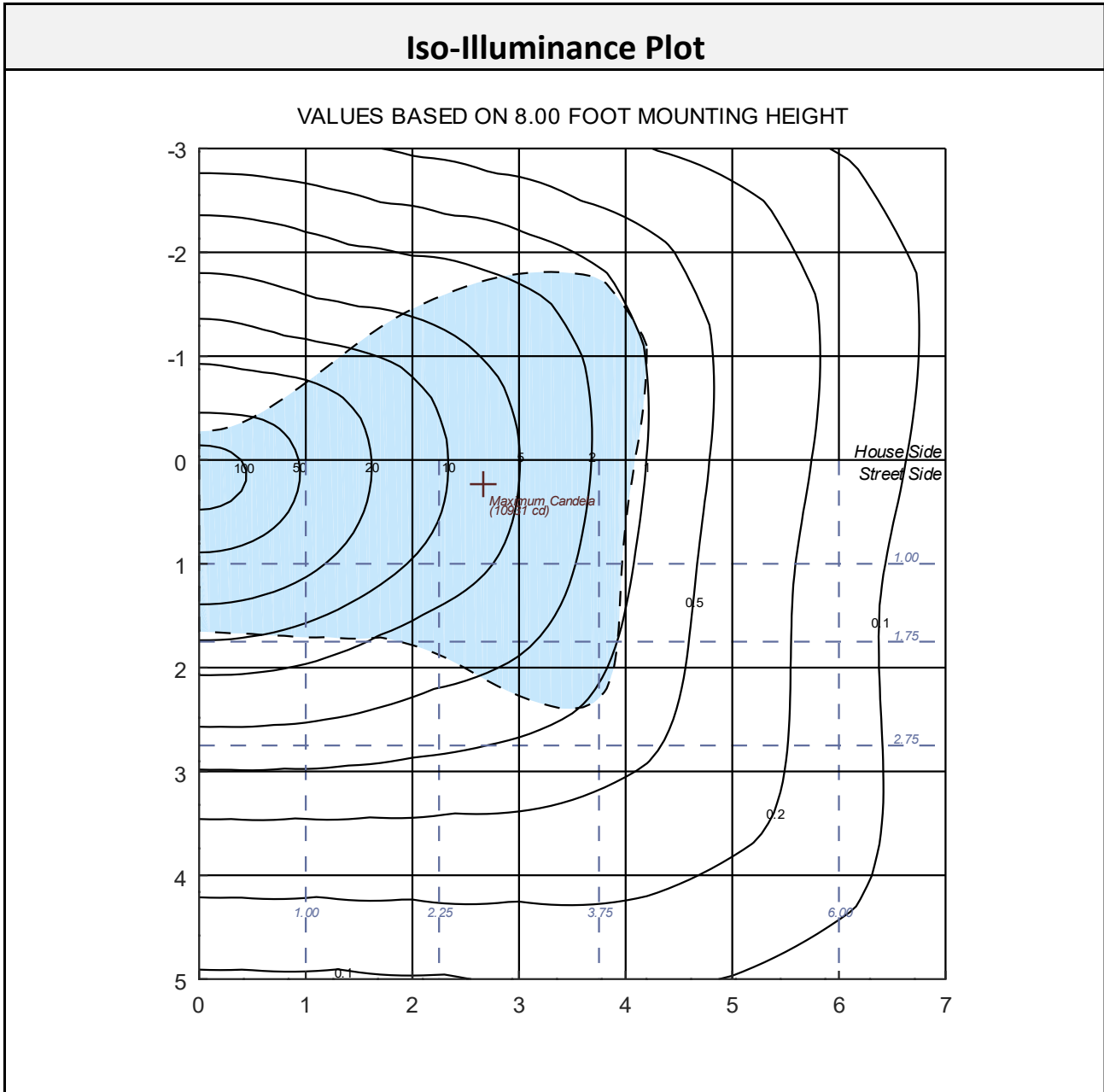


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	18906.9	58.9%	0.0	0.0%	18906.9	58.9%
House Side	13171.4	41.1%	0.0	0.0%	13171.4	41.1%
Total	32078.4	100.0%	0.0	0.0%	32078.4	100.0%

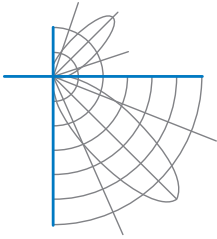


Report of Test

LLIA002251-010

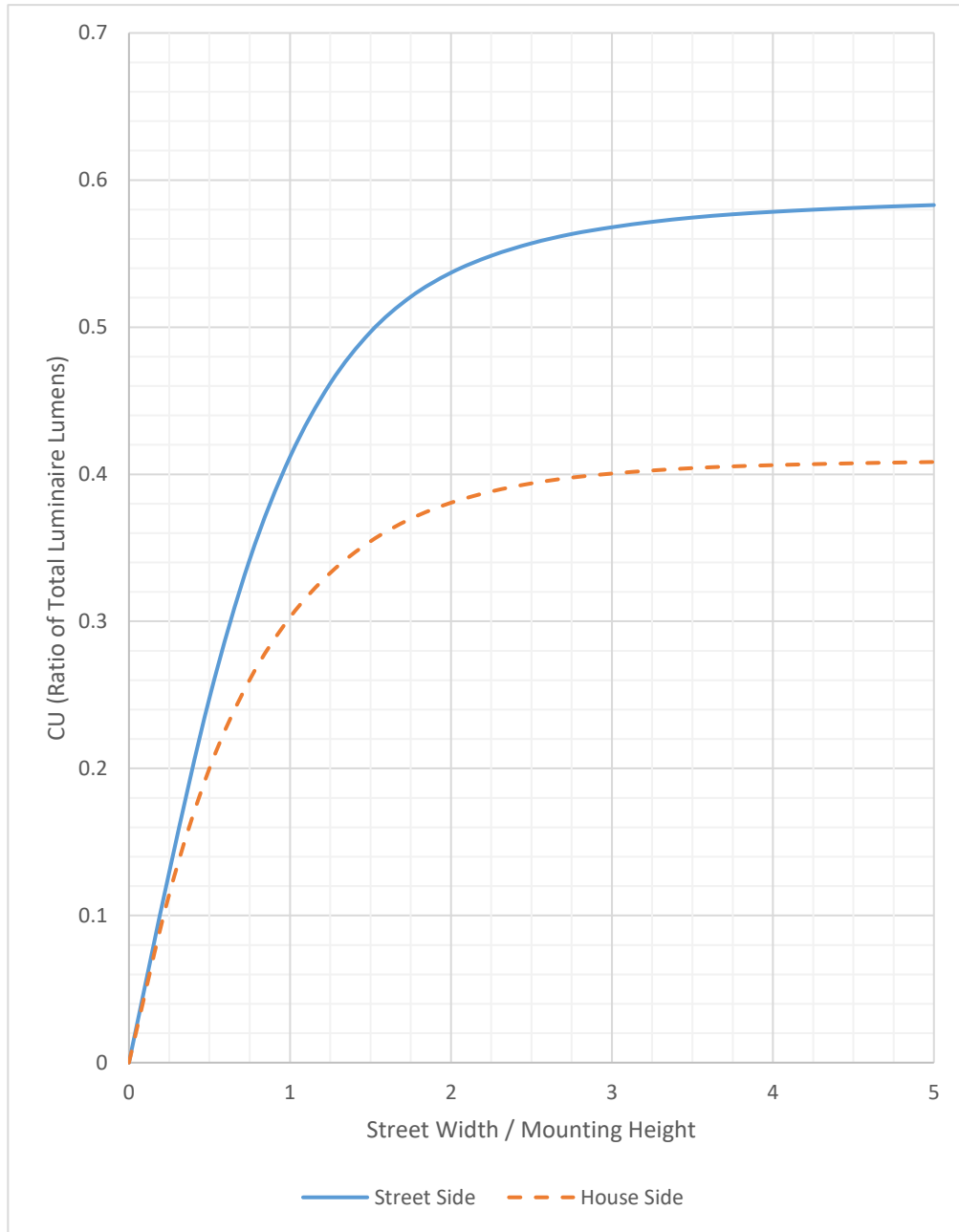


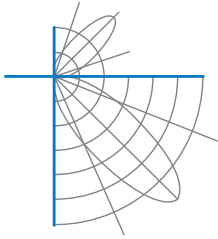
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test LLIA002251-010

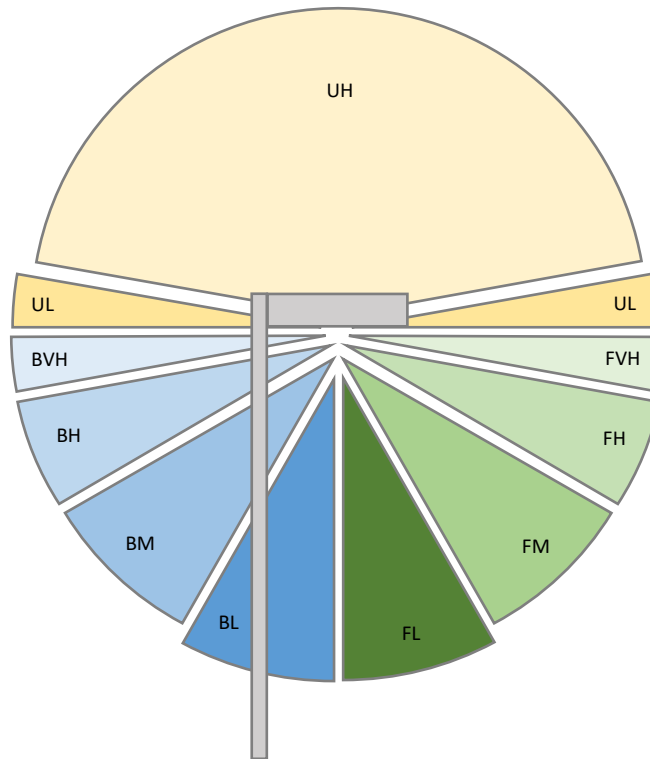
Coefficients of Utilization Plot





Report of Test
LLIA002251-010

LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	2565.9 Lm
BM - Back Mid (30°-60°)	5945.5 Lm
BH - Back High (60°-80°)	4384.0 Lm
BVH - Back Very High (80°-90°)	276.1 Lm

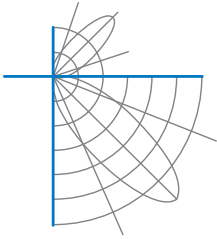
Forward Light

FL - Forward Low (0°-30°)	3634.0 Lm
FM - Forward Mid (30°-60°)	9272.6 Lm
FH - Forward High (60°-80°)	5545.4 Lm
FVH - Forward Very High (80°-90°)	454.9 Lm

Uplight

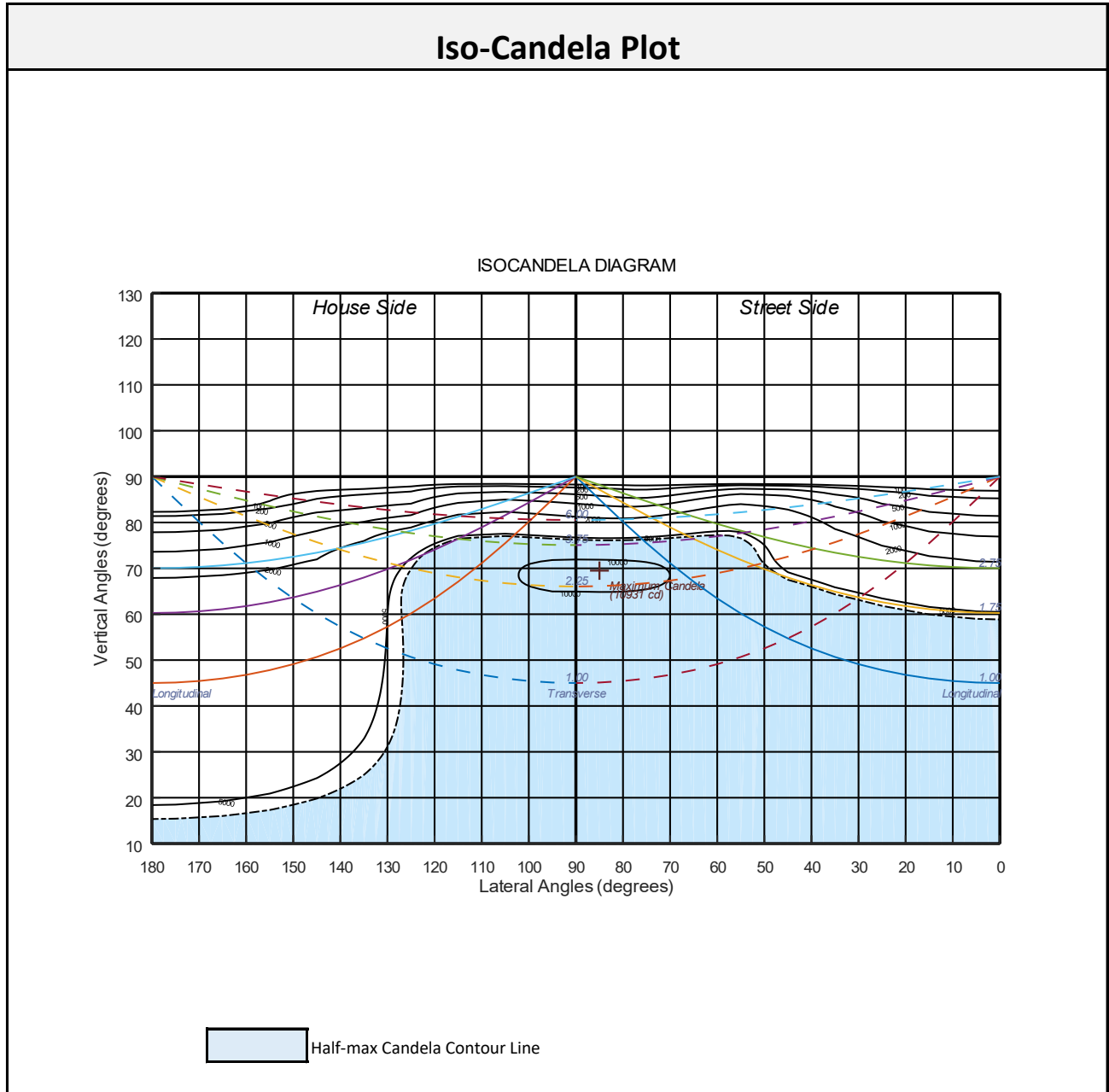
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

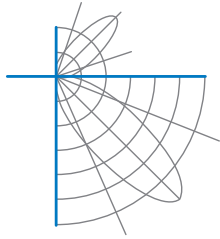
BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV) B4 - U0 - G4
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS) B4 - U0 - G3



Report of Test
LLIA002251-010

Iso-Candela Plot





Report of Test

LLIA002251-010

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	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755
2.5	8045	8057	8046	8028	8006	7972	7936	7924	7911	7898	7887	7875	7863	7848	7837
5	8307	8317	8302	8271	8233	8176	8105	8086	8066	8041	8020	7998	7974	7949	7925
7.5	8524	8535	8517	8483	8433	8363	8269	8243	8214	8180	8153	8121	8087	8051	8016
10	8685	8695	8680	8648	8598	8522	8415	8385	8353	8315	8278	8238	8196	8152	8108
12.5	8793	8801	8791	8766	8726	8656	8547	8512	8478	8436	8396	8350	8304	8250	8199
15	8854	8863	8861	8845	8818	8759	8656	8621	8588	8544	8502	8450	8402	8342	8283
17.5	8879	8892	8893	8891	8878	8833	8744	8713	8679	8636	8593	8542	8489	8429	8364
20	8873	8885	8894	8909	8912	8885	8811	8783	8750	8712	8670	8619	8566	8503	8436
22.5	8834	8846	8867	8897	8924	8915	8860	8834	8804	8768	8729	8678	8626	8565	8496
25	8758	8774	8803	8859	8914	8930	8891	8868	8842	8810	8773	8725	8673	8613	8546
27.5	8649	8665	8708	8790	8876	8925	8907	8887	8866	8836	8804	8758	8710	8652	8586
30	8511	8529	8583	8691	8815	8903	8908	8895	8876	8849	8820	8781	8735	8681	8615
32.5	8353	8372	8439	8572	8733	8860	8897	8887	8876	8851	8824	8788	8746	8696	8633
35	8182	8201	8278	8433	8631	8801	8871	8867	8859	8843	8816	8785	8749	8698	8643
37.5	8004	8019	8107	8279	8510	8722	8831	8835	8832	8820	8799	8770	8736	8692	8639
40	7810	7828	7921	8112	8373	8627	8778	8789	8793	8788	8773	8749	8719	8678	8630
42.5	7612	7629	7725	7935	8224	8518	8713	8736	8747	8747	8741	8721	8694	8657	8614
45	7404	7422	7524	7746	8067	8397	8640	8673	8692	8700	8696	8682	8665	8632	8598
47.5	7189	7209	7312	7550	7902	8272	8560	8602	8634	8652	8655	8647	8636	8610	8581
50	6953	6974	7088	7347	7729	8143	8479	8534	8577	8604	8617	8621	8614	8595	8576
52.5	6668	6692	6829	7122	7547	8010	8404	8474	8531	8570	8597	8610	8614	8608	8598
55	6305	6335	6505	6848	7339	7873	8341	8430	8505	8564	8607	8638	8655	8664	8667
57.5	5804	5838	6060	6478	7058	7713	8289	8409	8515	8600	8672	8723	8763	8789	8805
60	5143	5183	5453	5950	6639	7465	8236	8406	8561	8696	8808	8896	8963	9012	9047
62.5	4394	4437	4731	5271	6017	7014	8123	8381	8619	8829	9008	9153	9268	9350	9409
65	3662	3704	4005	4550	5260	6308	7802	8187	8556	8895	9194	9445	9644	9798	9906
67.5	2994	3037	3339	3886	4551	5468	7167	7691	8223	8734	9202	9615	9959	10227	10429
70	2345	2384	2683	3261	3976	4817	6476	7052	7659	8271	8852	9390	9857	10222	10497
72.5	1759	1790	2039	2608	3436	4459	6101	6607	7106	7589	8057	8477	8816	9051	9213
75	1289	1313	1501	1985	2845	4173	5843	6182	6440	6629	6758	6835	6852	6815	6765
77.5	924	941	1075	1462	2250	3682	5148	5310	5327	5247	5099	4921	4722	4536	4383
80	634	645	742	1040	1678	2947	4026	4040	3896	3682	3437	3195	2969	2778	2625
82.5	407	414	482	701	1177	2100	2755	2681	2510	2296	2065	1847	1657	1512	1405
85	216	221	262	403	700	1270	1538	1429	1285	1136	983	845	733	645	590
87.5	67	69	82	125	215	380	439	400	352	300	256	220	190	169	159
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

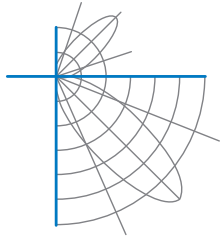
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.

North America (issuing laboratory)

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Report of Test

LLIA002251-010

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	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755	7755
2.5	7824	7811	7801	7786	7752	7733	7673	7620	7572	7529	7489	7456	7437	7428	7423	7423
5	7901	7874	7851	7824	7766	7716	7601	7491	7388	7293	7209	7139	7095	7073	7066	7066
7.5	7981	7945	7909	7869	7783	7707	7534	7363	7201	7048	6916	6805	6735	6698	6690	6690
10	8065	8014	7969	7918	7807	7705	7471	7241	7015	6802	6617	6466	6366	6313	6303	6303
12.5	8146	8087	8029	7969	7833	7705	7417	7122	6829	6557	6317	6124	5991	5924	5914	5914
15	8222	8156	8087	8019	7865	7709	7367	7010	6652	6317	6020	5782	5618	5534	5522	5522
17.5	8296	8223	8147	8069	7895	7717	7324	6906	6485	6083	5728	5440	5245	5146	5134	5134
20	8364	8284	8201	8119	7925	7728	7287	6814	6329	5862	5445	5113	4892	4782	4767	4767
22.5	8422	8341	8253	8163	7957	7741	7258	6734	6190	5654	5177	4806	4567	4454	4439	4439
25	8473	8389	8301	8205	7985	7754	7236	6669	6068	5465	4931	4531	4282	4168	4154	4154
27.5	8514	8432	8342	8246	8020	7777	7226	6619	5964	5295	4709	4288	4037	3927	3915	3915
30	8544	8465	8376	8276	8046	7796	7226	6588	5879	5146	4514	4076	3829	3728	3717	3717
32.5	8565	8491	8402	8305	8072	7821	7236	6573	5812	5017	4342	3895	3660	3572	3561	3561
35	8578	8505	8420	8328	8100	7843	7256	6571	5759	4905	4193	3741	3526	3452	3443	3443
37.5	8582	8513	8431	8341	8126	7870	7284	6585	5720	4808	4062	3615	3424	3362	3355	3355
40	8576	8516	8438	8356	8150	7903	7322	6608	5692	4725	3949	3512	3344	3292	3287	3287
42.5	8570	8510	8441	8366	8171	7937	7373	6645	5672	4650	3853	3432	3285	3239	3233	3233
45	8555	8501	8442	8376	8195	7980	7436	6692	5659	4586	3770	3369	3239	3195	3191	3191
47.5	8544	8501	8455	8391	8234	8033	7515	6756	5655	4527	3698	3318	3201	3160	3155	3155
50	8550	8517	8479	8426	8291	8109	7614	6836	5659	4473	3633	3273	3167	3128	3122	3122
52.5	8582	8559	8529	8489	8373	8212	7752	6942	5671	4420	3567	3228	3129	3093	3089	3089
55	8660	8651	8628	8600	8500	8367	7939	7090	5695	4364	3494	3171	3079	3047	3042	3042
57.5	8809	8810	8801	8777	8705	8588	8216	7300	5732	4297	3407	3095	3002	2971	2967	2967
60	9064	9074	9071	9058	8997	8922	8618	7591	5780	4213	3292	2985	2889	2861	2858	2858
62.5	9448	9469	9476	9470	9436	9403	9141	7904	5828	4098	3134	2838	2690	2656	2653	2653
65	9977	10017	10036	10039	10017	10010	9598	8079	5831	3935	2936	2585	2474	2412	2402	2402
67.5	10569	10651	10688	10691	10641	10549	9752	8008	5712	3720	2622	2283	2146	2084	2077	2077
70	10686	10802	10860	10874	10820	10640	9661	7799	5440	3348	2293	1944	1747	1656	1641	1641
72.5	9324	9401	9459	9495	9557	9543	9139	7548	4923	2861	1919	1543	1297	1190	1179	1179
75	6713	6697	6688	6704	6836	7043	7391	6522	3906	2245	1506	1105	888	821	813	813
77.5	4261	4195	4168	4167	4285	4525	5046	4669	2644	1612	1092	761	595	543	536	536
80	2513	2462	2453	2476	2595	2784	3194	2888	1549	1034	730	487	376	342	338	338
82.5	1338	1325	1347	1393	1512	1649	1928	1646	777	575	462	258	139	83	80	80
85	573	593	631	675	764	849	998	806	381	298	208	91	22	0	0	0
87.5	159	171	183	196	219	243	300	270	130	85	63	34	7	0	1	1
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

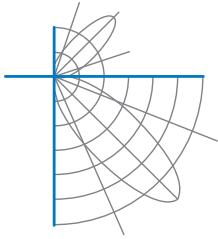
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.

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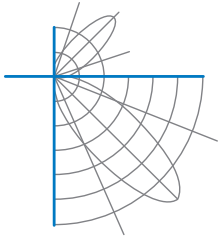


Report of Test

LLIA002251-010

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	

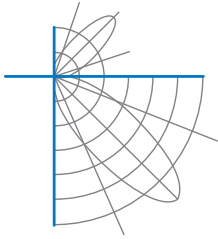


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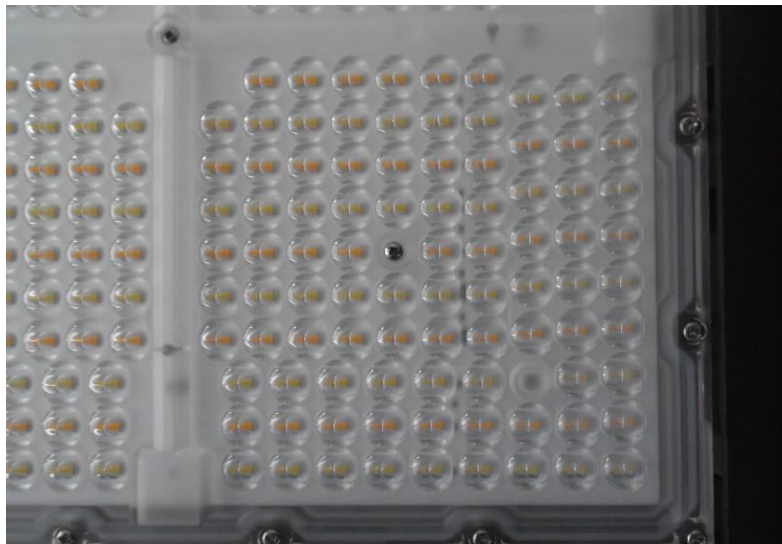
Luminous Intensity (Candela) Table

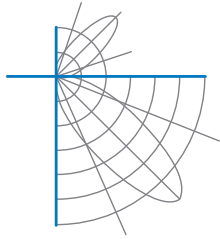
	Lateral (C-Plane) Angles															
	77.5	80	82.5	85	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	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	



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 25.4 °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.