



Report of Test

LLIA002251-038

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-SWO - T3 Optics - 200W - 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	30562.2 Lumens
Input Current	1.628 A	Total Efficacy	158.1 Lm/W
Input Power	193.3 W		
Frequency	60.00 Hz	Roadway Throw	Medium
Power Factor	0.989	Roadway Type	Type III
Current THD	11.6 %		

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

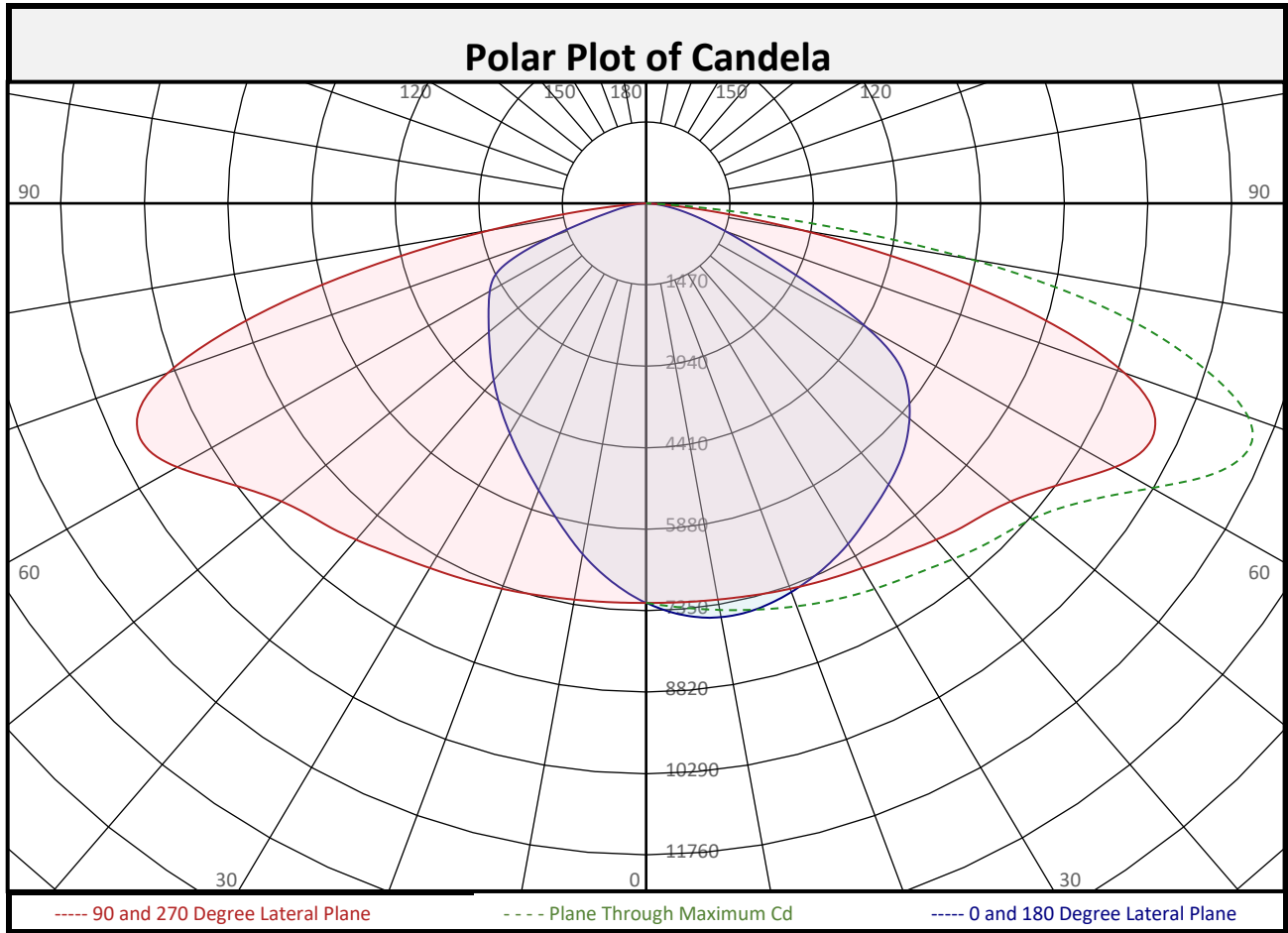
Test date: 10/26/2023
Report date: 10/27/2023

Signed: _____



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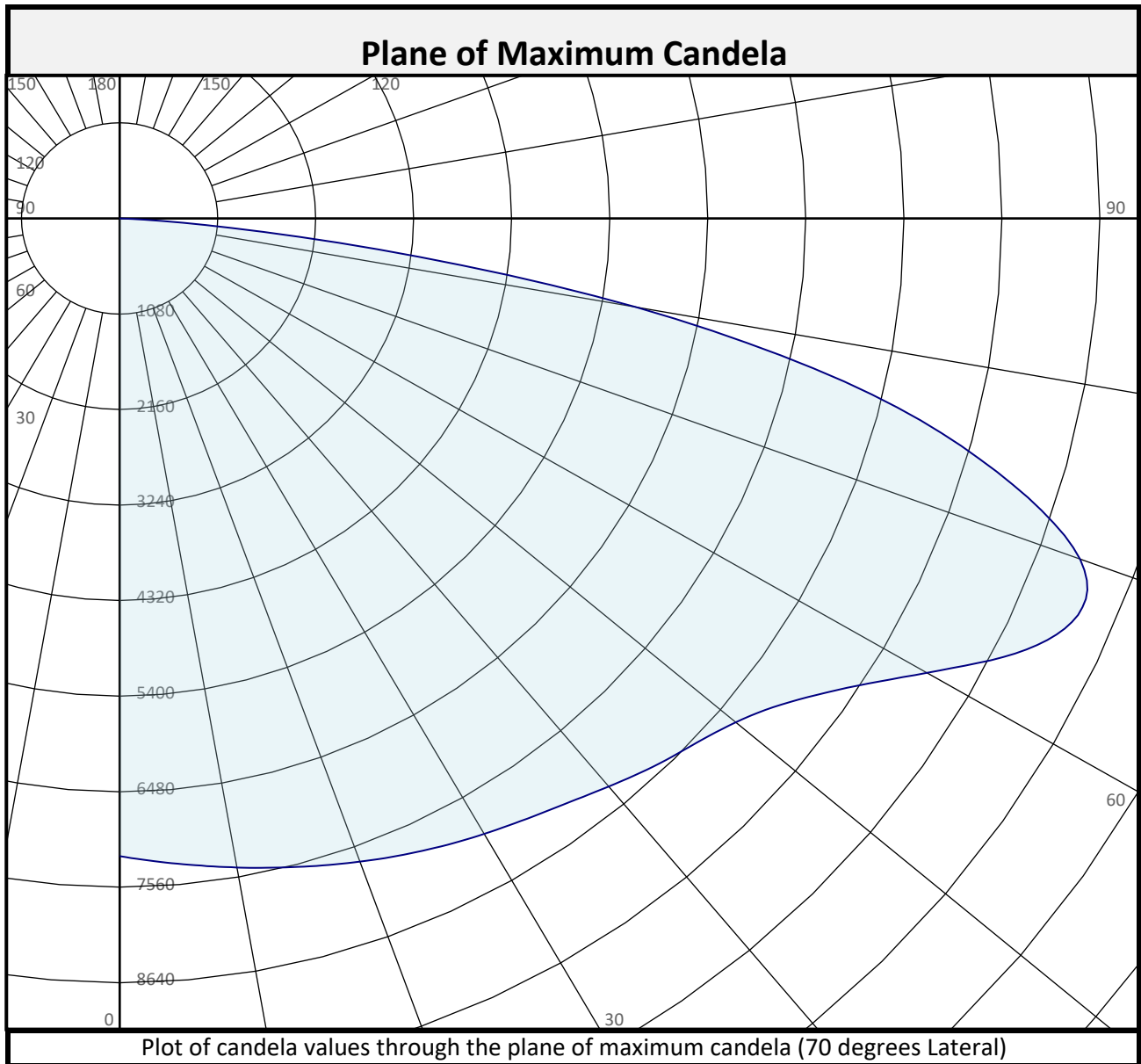


Zonal Flux Summary

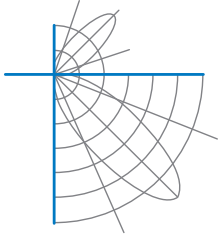
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	685.1	2.2%	90-100	0.0	0.0%	0-20	2676	8.8%
10-20	1991	6.5%	100-110	0.0	0.0%	0-30	5825	19.1%
20-30	3149	10.3%	110-120	0.0	0.0%	0-40	9965	32.6%
30-40	4140	13.5%	120-130	0.0	0.0%	0-60	20600	67.4%
40-50	4973	16.3%	130-140	0.0	0.0%	0-80	29986	98.1%
50-60	5661	18.5%	140-150	0.0	0.0%	10-90	29877	97.8%
60-70	5774	18.9%	150-160	0.0	0.0%	20-50	12262	40.1%
70-80	3613	11.8%	160-170	0.0	0.0%	40-90	20597	67.4%
80-90	575.8	1.9%	170-180	0.0	0.0%	60-90	9963	32.6%
0-90	30562	100.0%	90-180	0.0	0.0%	0-180	30562	100.0%



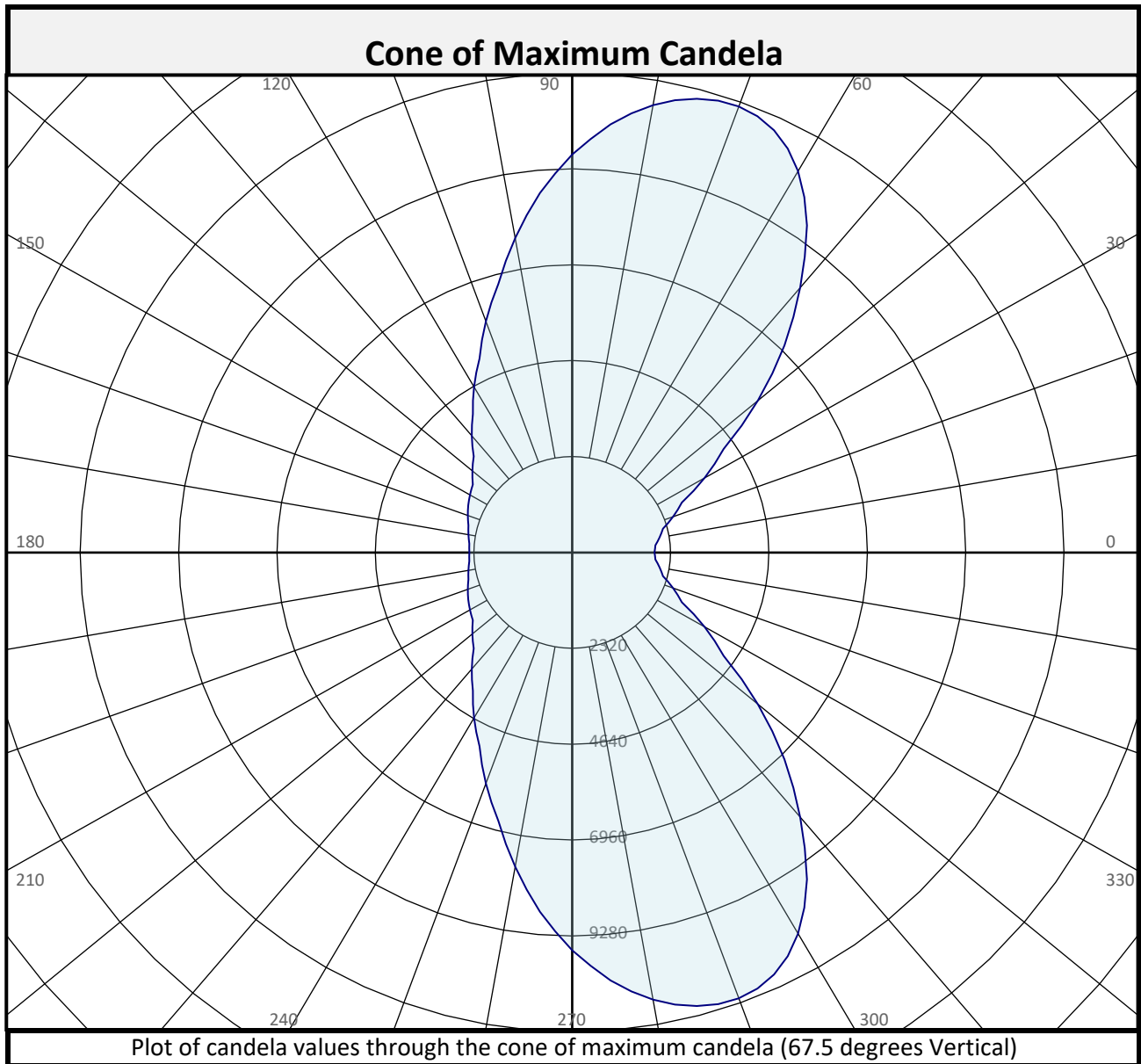
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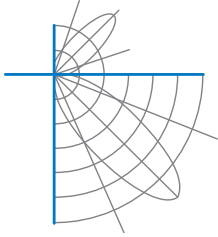
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	18229.1	59.6%	0.0	0.0%	18229.1	59.6%
House Side	12333.1	40.4%	0.0	0.0%	12333.1	40.4%
Total	30562.2	100.0%	0.0	0.0%	30562.2	100.0%



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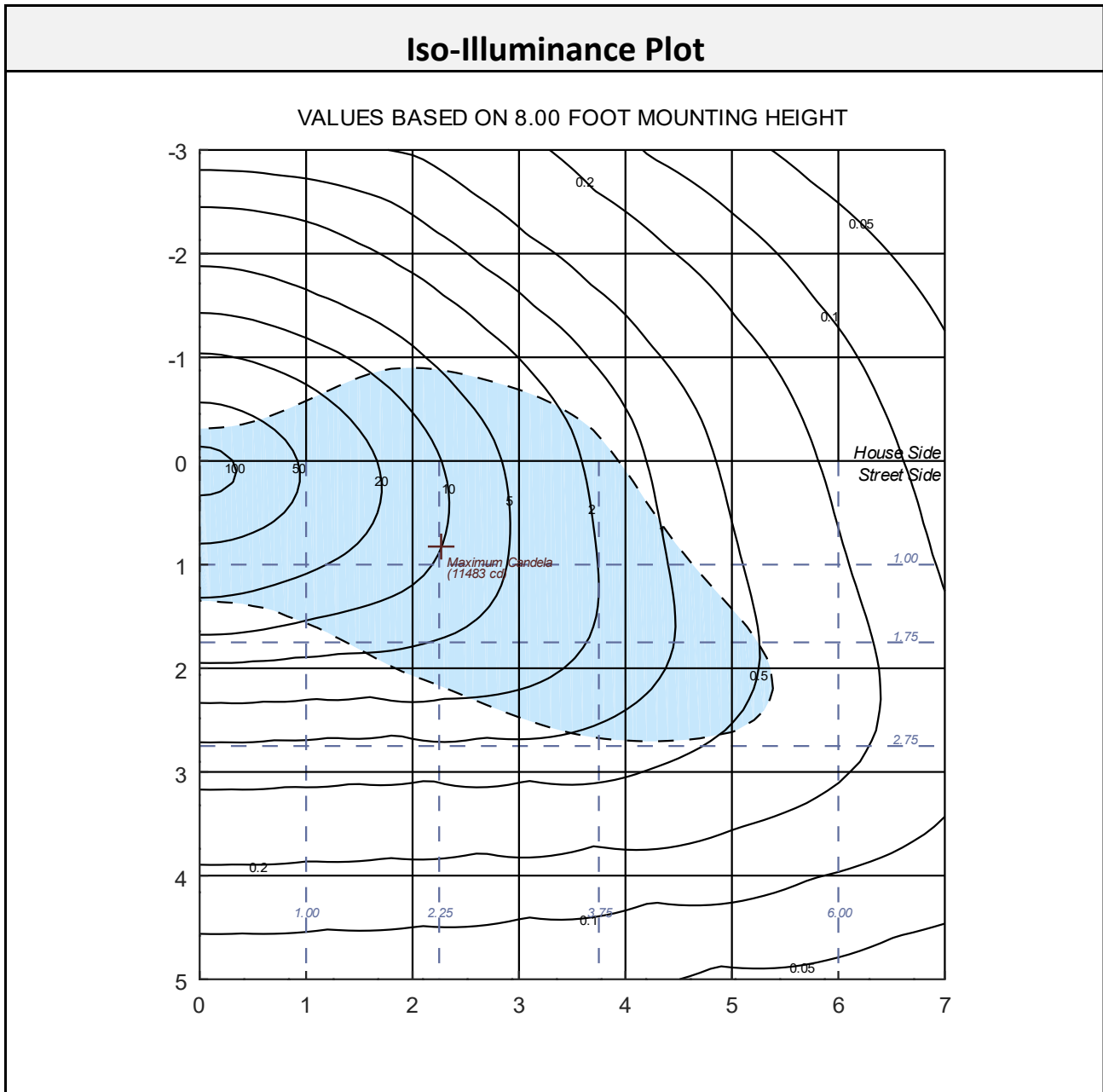


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	18229.1	59.6%	0.0	0.0%	18229.1	59.6%
House Side	12333.1	40.4%	0.0	0.0%	12333.1	40.4%
Total	30562.2	100.0%	0.0	0.0%	30562.2	100.0%

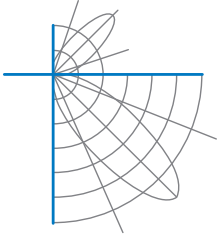


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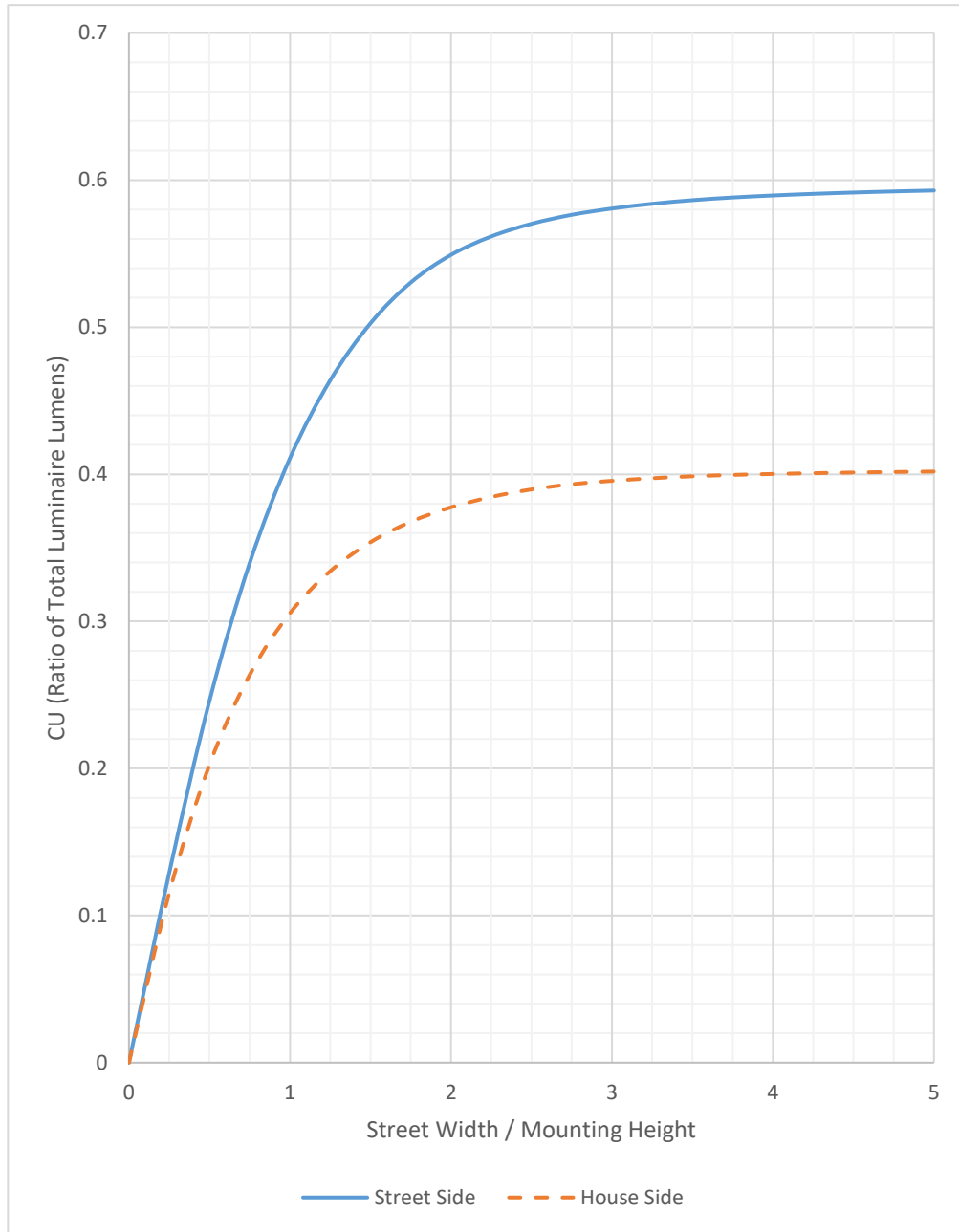


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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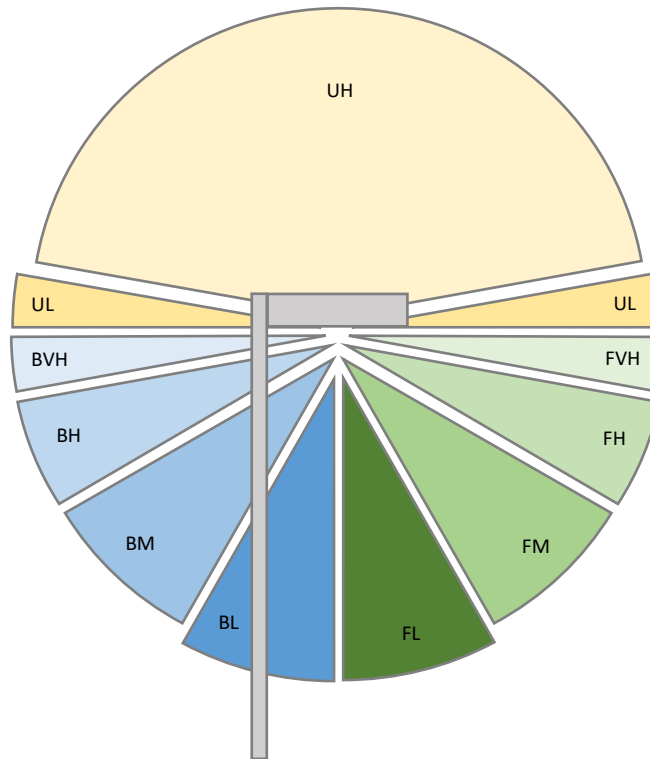
Coefficients of Utilization Plot





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LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	2628.6 Lm
BM - Back Mid (30°-60°)	6087.6 Lm
BH - Back High (60°-80°)	3464.5 Lm
BVH - Back Very High (80°-90°)	152.4 Lm

Forward Light

FL - Forward Low (0°-30°)	3196.5 Lm
FM - Forward Mid (30°-60°)	8686.8 Lm
FH - Forward High (60°-80°)	5922.3 Lm
FVH - Forward Very High (80°-90°)	423.4 Lm

Uplight

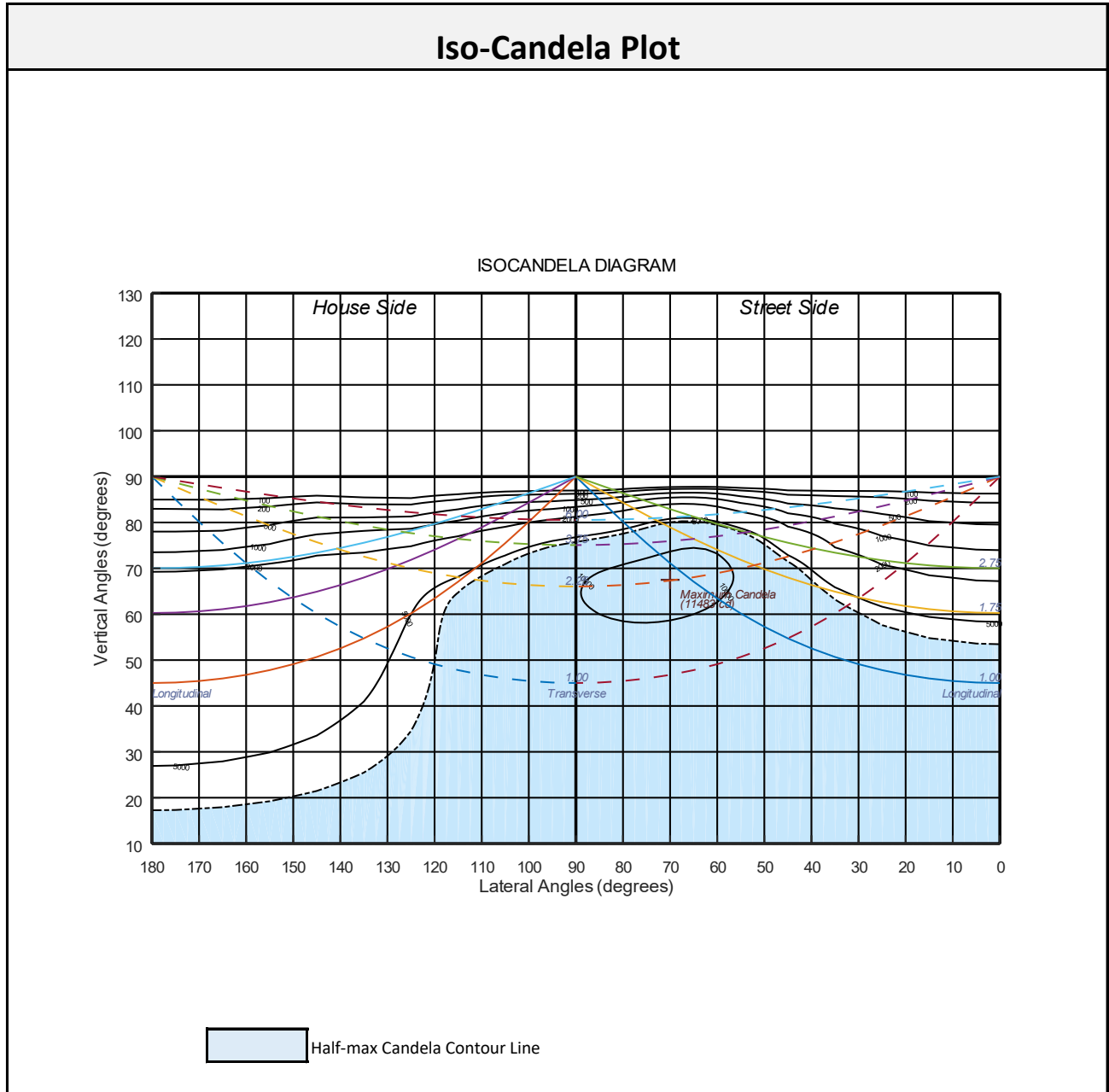
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

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



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Iso-Candela Plot





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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	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209
2.5	7349	7355	7349	7343	7332	7318	7297	7288	7285	7278	7273	7269	7264	7255	7249
5	7459	7467	7460	7451	7435	7412	7381	7367	7362	7351	7342	7331	7322	7307	7297
7.5	7541	7546	7540	7532	7518	7496	7460	7446	7440	7423	7412	7397	7386	7365	7349
10	7584	7590	7591	7592	7583	7568	7534	7521	7512	7496	7482	7467	7452	7428	7408
12.5	7596	7600	7609	7623	7630	7629	7604	7593	7584	7567	7554	7537	7518	7493	7472
15	7577	7583	7599	7630	7656	7676	7667	7659	7654	7641	7624	7608	7589	7563	7539
17.5	7530	7537	7562	7609	7661	7709	7726	7723	7721	7709	7697	7682	7663	7637	7609
20	7468	7474	7507	7570	7649	7729	7777	7781	7783	7777	7769	7757	7738	7715	7681
22.5	7391	7402	7442	7519	7624	7736	7822	7832	7840	7842	7837	7831	7814	7790	7756
25	7308	7313	7366	7461	7590	7736	7857	7879	7893	7902	7906	7902	7888	7865	7833
27.5	7208	7219	7279	7394	7550	7727	7888	7918	7943	7959	7969	7971	7962	7942	7911
30	7099	7113	7183	7317	7504	7717	7915	7951	7988	8013	8030	8035	8033	8016	7989
32.5	6978	6992	7072	7234	7452	7704	7939	7987	8030	8064	8090	8102	8106	8092	8071
35	6854	6870	6953	7136	7396	7692	7969	8025	8080	8120	8153	8176	8184	8175	8159
37.5	6742	6752	6835	7029	7325	7679	8007	8074	8137	8188	8230	8260	8275	8276	8258
40	6629	6638	6724	6919	7249	7666	8057	8135	8209	8268	8318	8356	8383	8388	8377
42.5	6514	6524	6611	6813	7164	7656	8114	8205	8293	8363	8421	8462	8497	8506	8502
45	6385	6394	6486	6700	7079	7636	8172	8278	8376	8455	8520	8571	8606	8621	8616
47.5	6230	6241	6340	6574	6987	7609	8230	8353	8461	8548	8620	8677	8715	8736	8735
50	6048	6061	6169	6424	6883	7578	8296	8436	8559	8661	8745	8811	8862	8891	8894
52.5	5832	5845	5961	6237	6756	7552	8382	8548	8699	8823	8928	9011	9076	9119	9137
55	5581	5596	5720	6016	6600	7527	8506	8715	8902	9061	9195	9301	9387	9438	9464
57.5	5193	5221	5399	5756	6416	7492	8694	8957	9193	9390	9553	9686	9784	9848	9882
60	4476	4524	4837	5392	6191	7456	8940	9267	9558	9801	10001	10156	10273	10343	10372
62.5	3458	3517	3921	4734	5870	7420	9213	9620	9978	10275	10512	10693	10819	10880	10893
65	2545	2590	2945	3781	5289	7343	9471	9958	10389	10736	11000	11174	11278	11306	11275
67.5	1941	1971	2217	2854	4362	7084	9658	10194	10656	11015	11269	11423	11483	11461	11363
70	1510	1532	1705	2179	3338	6409	9527	10106	10597	10970	11204	11299	11262	11123	10910
72.5	1171	1186	1313	1672	2523	5214	8957	9654	10189	10534	10692	10674	10495	10208	9866
75	890	902	996	1269	1901	3866	7857	8665	9282	9656	9773	9664	9375	8963	8495
77.5	662	671	739	945	1391	2676	6116	6915	7581	8051	8254	8176	7830	7331	6783
80	467	472	523	675	953	1653	3808	4514	5191	5720	5997	6015	5784	5360	4841
82.5	304	306	341	441	578	869	1887	2311	2768	3150	3406	3467	3327	3043	2701
85	164	164	185	237	277	348	713	873	1059	1200	1278	1287	1241	1142	1000
87.5	47	46	52	56	56	58	105	123	143	154	155	150	141	126	108
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



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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	
0	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209	7209
2.5	7245	7235	7230	7225	7212	7195	7168	7143	7117	7092	7077	7061	7049	7044	7045	
5	7288	7273	7262	7249	7223	7192	7135	7078	7024	6972	6929	6894	6869	6856	6856	
7.5	7334	7316	7297	7280	7237	7195	7104	7014	6927	6842	6770	6713	6671	6651	6648	
10	7389	7362	7339	7314	7259	7202	7078	6948	6825	6704	6599	6518	6457	6426	6424	
12.5	7447	7416	7386	7354	7285	7212	7052	6881	6715	6557	6417	6308	6228	6187	6184	
15	7509	7473	7438	7401	7319	7226	7027	6814	6599	6400	6223	6090	5996	5948	5945	
17.5	7577	7538	7497	7451	7359	7247	7004	6744	6479	6235	6029	5877	5777	5727	5721	
20	7650	7605	7560	7507	7400	7270	6984	6671	6356	6073	5846	5682	5576	5521	5515	
22.5	7724	7677	7628	7567	7445	7298	6961	6595	6233	5916	5672	5497	5385	5327	5317	
25	7799	7749	7695	7631	7494	7324	6940	6522	6115	5769	5507	5323	5202	5143	5134	
27.5	7873	7823	7763	7699	7543	7356	6923	6452	6004	5631	5353	5154	5028	4968	4960	
30	7953	7900	7838	7770	7596	7393	6912	6390	5901	5502	5202	4991	4861	4799	4791	
32.5	8034	7982	7921	7842	7663	7437	6907	6341	5811	5382	5059	4837	4701	4639	4631	
35	8127	8074	8011	7928	7737	7496	6918	6299	5728	5267	4920	4686	4547	4482	4473	
37.5	8230	8180	8115	8032	7825	7563	6939	6265	5652	5155	4783	4539	4393	4326	4319	
40	8351	8301	8232	8144	7924	7640	6965	6234	5578	5043	4647	4391	4242	4174	4165	
42.5	8475	8424	8355	8261	8024	7714	6989	6206	5509	4933	4513	4245	4093	4023	4014	
45	8595	8541	8466	8364	8113	7788	7011	6183	5444	4830	4381	4102	3948	3880	3871	
47.5	8713	8660	8585	8486	8216	7872	7040	6162	5387	4727	4251	3961	3808	3742	3733	
50	8879	8829	8760	8654	8366	7993	7092	6148	5325	4627	4124	3826	3676	3614	3607	
52.5	9125	9078	9003	8891	8582	8171	7173	6145	5256	4521	3997	3694	3551	3495	3489	
55	9458	9412	9331	9208	8856	8387	7271	6143	5184	4403	3870	3570	3433	3384	3379	
57.5	9875	9821	9726	9583	9177	8649	7368	6124	5105	4274	3733	3446	3320	3279	3276	
60	10356	10289	10169	10000	9517	8889	7434	6079	4996	4127	3580	3312	3206	3174	3172	
62.5	10847	10745	10585	10368	9781	9053	7416	5970	4826	3934	3394	3160	3076	3053	3051	
65	11180	11031	10815	10544	9849	9015	7192	5699	4548	3662	3163	2974	2893	2852	2847	
67.5	11207	10989	10715	10397	9628	8729	6729	5175	4086	3286	2863	2707	2536	2437	2427	
70	10655	10360	10034	9697	8952	8095	6050	4439	3416	2804	2499	2252	1943	1812	1798	
72.5	9504	9141	8786	8449	7781	7041	5133	3599	2652	2225	2056	1613	1298	1191	1181	
75	8033	7602	7216	6871	6243	5639	3978	2700	1950	1646	1507	1050	845	784	778	
77.5	6257	5787	5378	5035	4482	3963	2699	1832	1302	1132	982	685	556	536	535	
80	4334	3894	3537	3243	2782	2387	1619	1108	708	661	617	453	369	366	368	
82.5	2348	2032	1799	1637	1377	1170	886	564	338	342	354	262	217	224	225	
85	843	713	607	542	469	414	354	201	118	127	154	115	97	100	100	
87.5	90	71	58	50	50	49	38	24	17	15	15	10	5	2	2	
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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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	

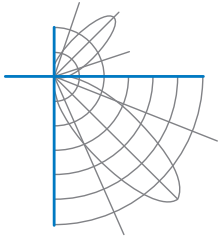


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Luminous Intensity (Candela) Table

	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	



Report of Test
LLIA002251-038

Additional Pictures of Test Subject





Report of Test

LLIA002251-038

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.