

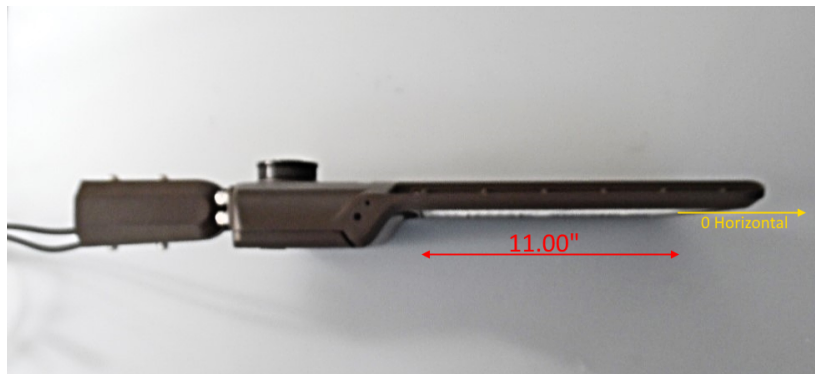


Report of Test

LLIA002251-014

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-T4 - 250W 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	39052.5 Lumens
Input Current	2.067 A	Total Efficacy	158.7 Lm/W
Input Power	246.1 W		
Frequency	60.00 Hz	Roadway Throw	Short
Power Factor	0.993	Roadway Type	Type IV
Current THD	9.6 %		

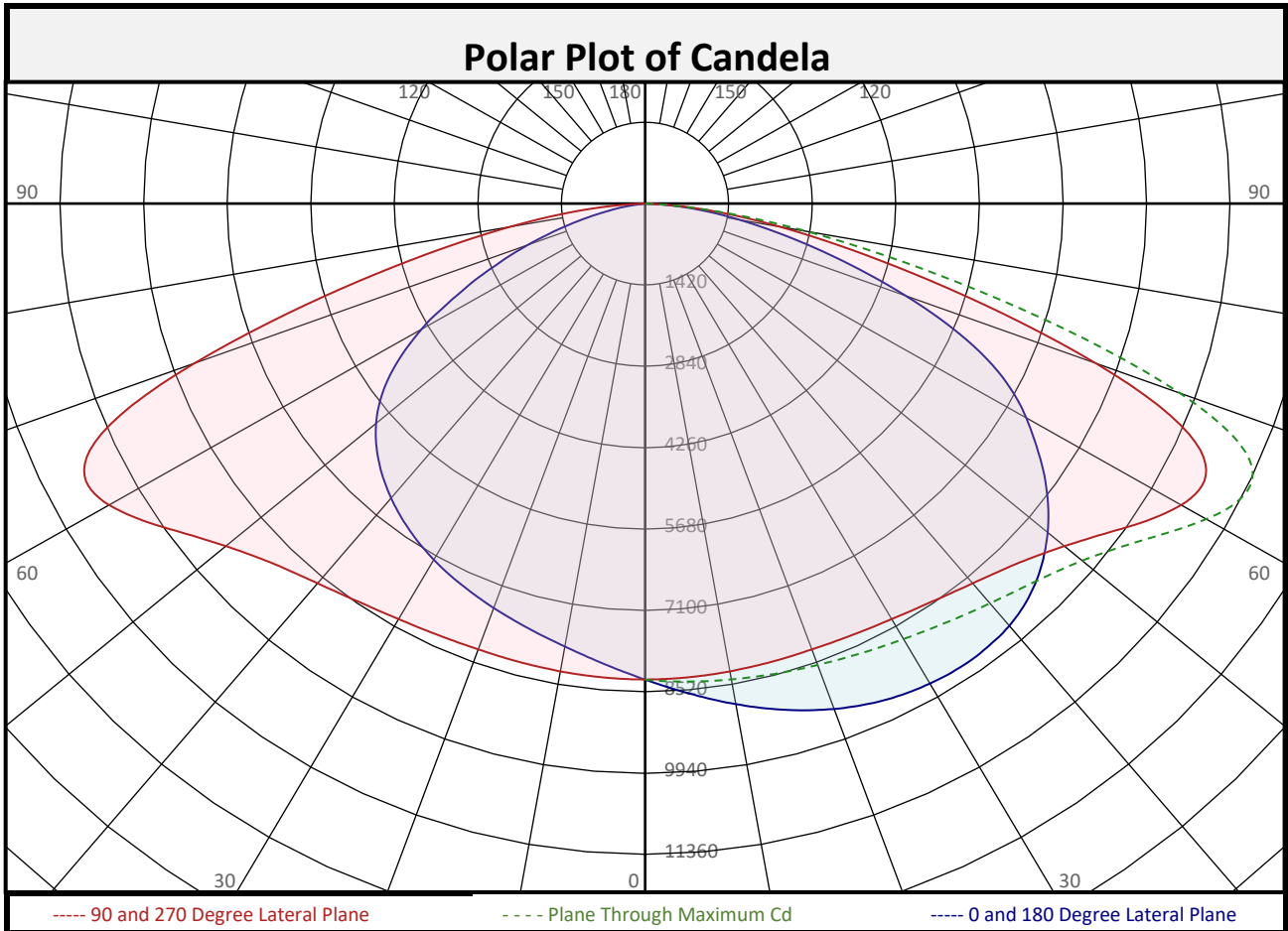
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/30/2023
Report date: 12/05/2023

Signed: _____



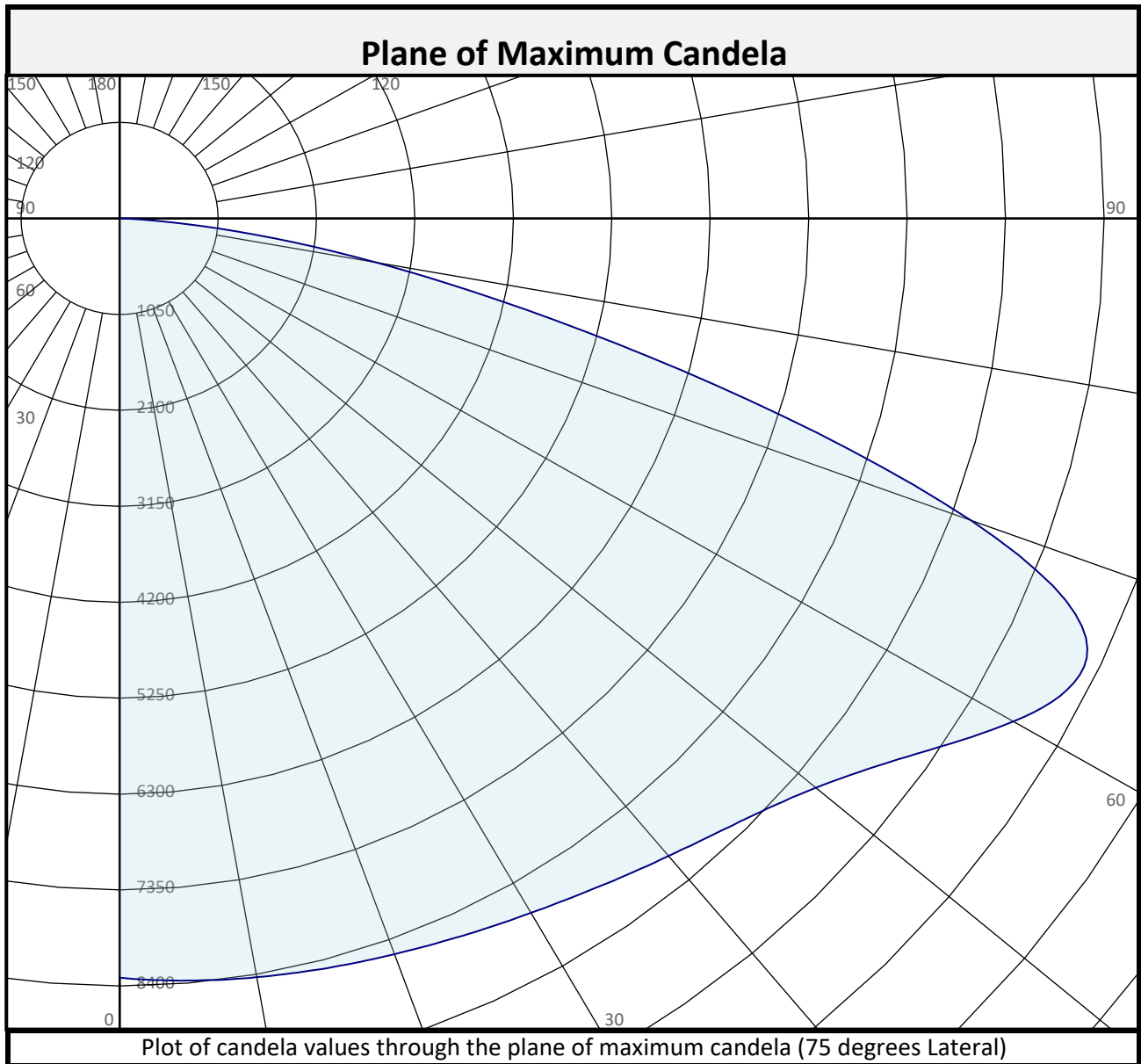
Report of Test
LLIA002251-014



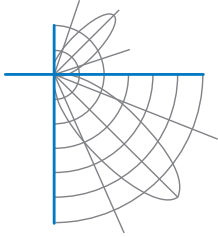
Zonal Flux Summary								
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	794.4	2.0%	90-100	0.0	0.0%	0-20	3161	8.1%
10-20	2367	6.1%	100-110	0.0	0.0%	0-30	7047	18.0%
20-30	3886	10.0%	110-120	0.0	0.0%	0-40	12335	31.6%
30-40	5288	13.5%	120-130	0.0	0.0%	0-60	26137	66.9%
40-50	6478	16.6%	130-140	0.0	0.0%	0-80	38075	97.5%
50-60	7324	18.8%	140-150	0.0	0.0%	10-90	38258	98.0%
60-70	7338	18.8%	150-160	0.0	0.0%	20-50	15652	40.1%
70-80	4600	11.8%	160-170	0.0	0.0%	40-90	26718	68.4%
80-90	977.6	2.5%	170-180	0.0	0.0%	60-90	12915	33.1%
0-90	39052	100.0%	90-180	0.0	0.0%	0-180	39052	100.0%



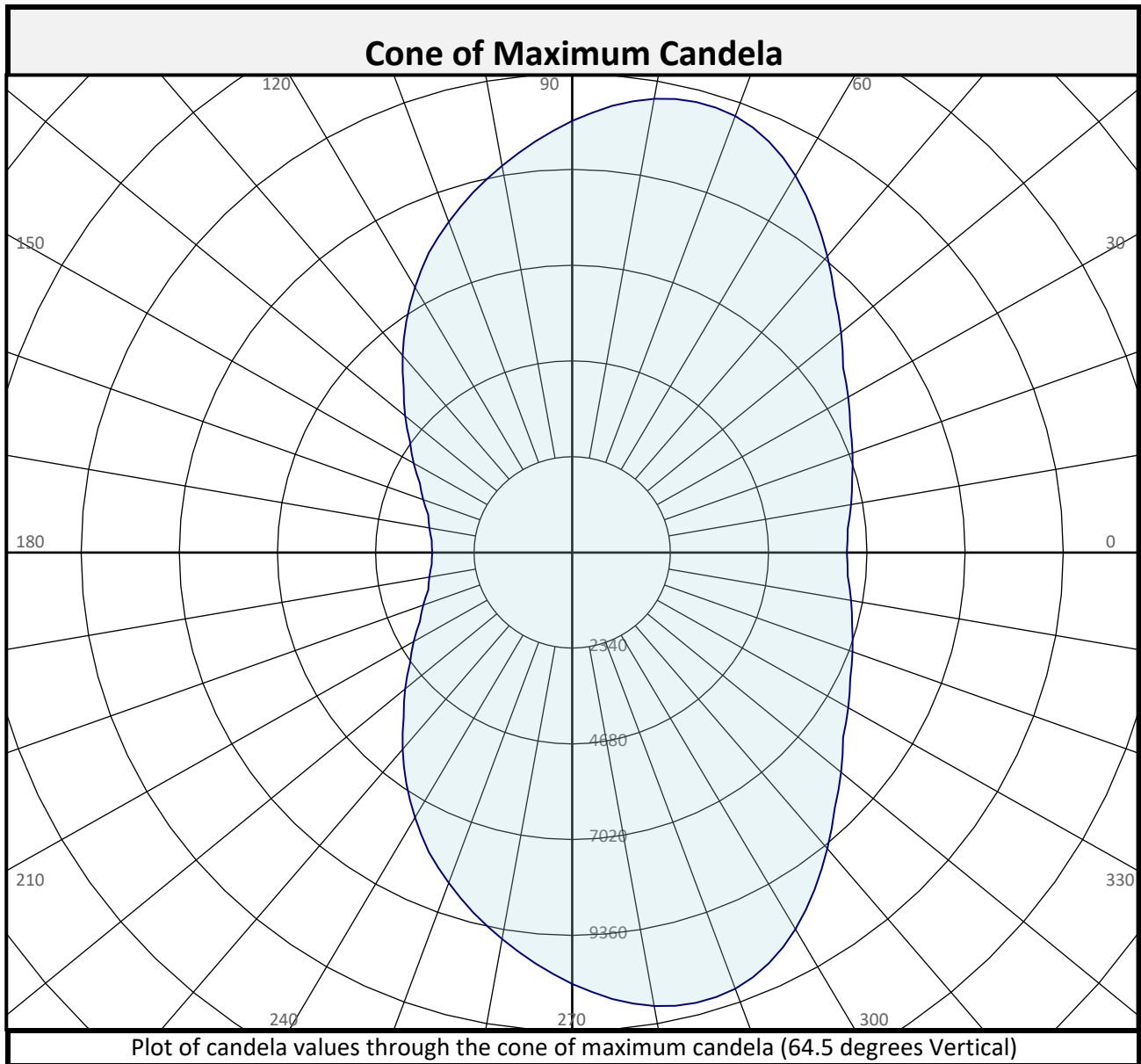
Report of Test
LLIA002251-014



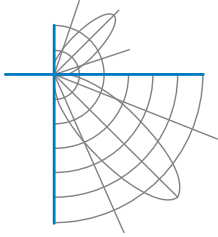
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	22362.7	57.3%	0.0	0.0%	22362.7	57.3%
House Side	16689.7	42.7%	0.0	0.0%	16689.7	42.7%
Total	39052.5	100.0%	0.0	0.0%	39052.5	100.0%



Report of Test
LLIA002251-014

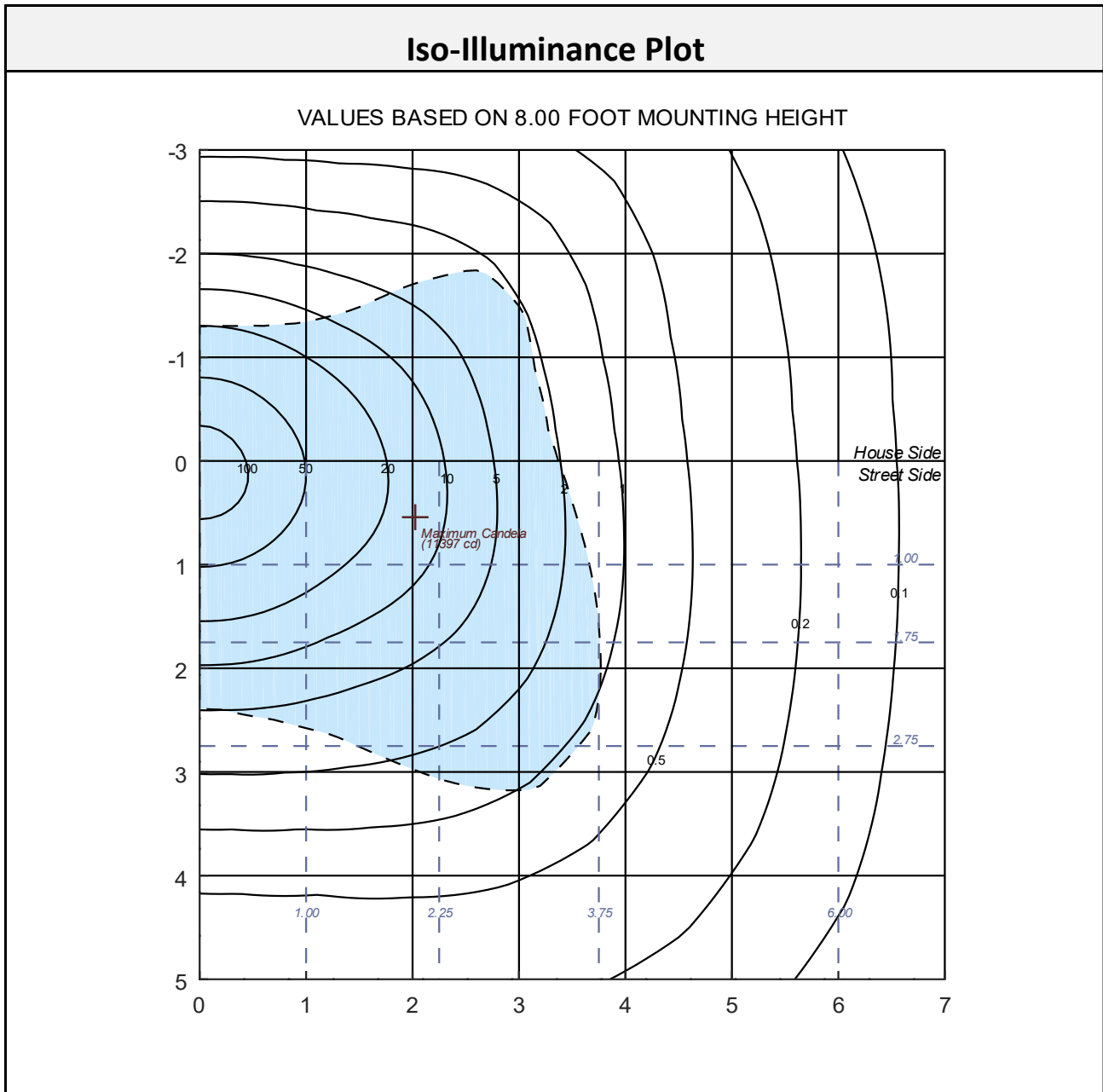


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	22362.7	57.3%	0.0	0.0%	22362.7	57.3%
House Side	16689.7	42.7%	0.0	0.0%	16689.7	42.7%
Total	39052.5	100.0%	0.0	0.0%	39052.5	100.0%

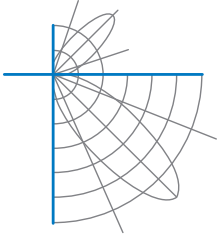


Report of Test

LLIA002251-014

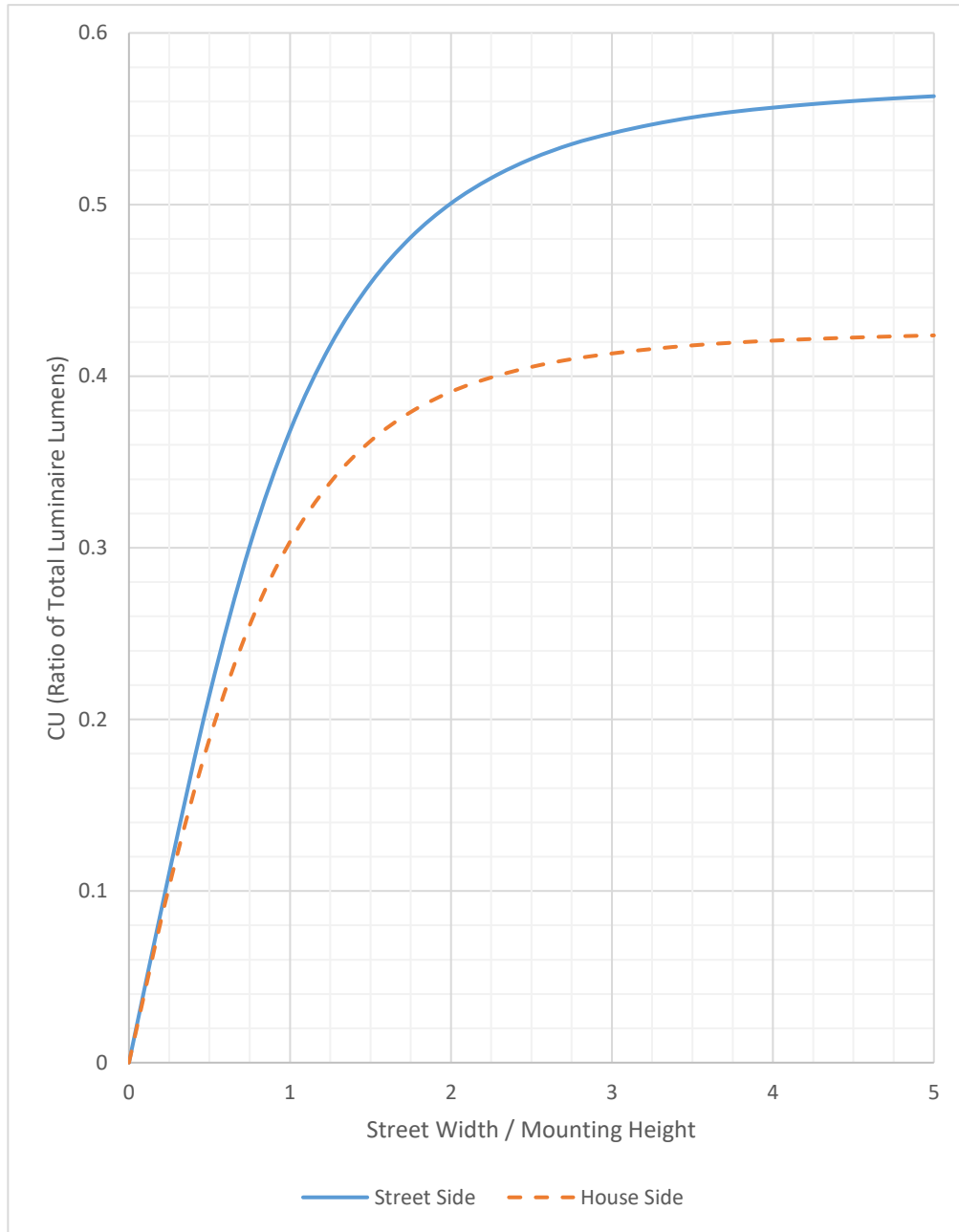


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test LLIA002251-014

Coefficients of Utilization Plot

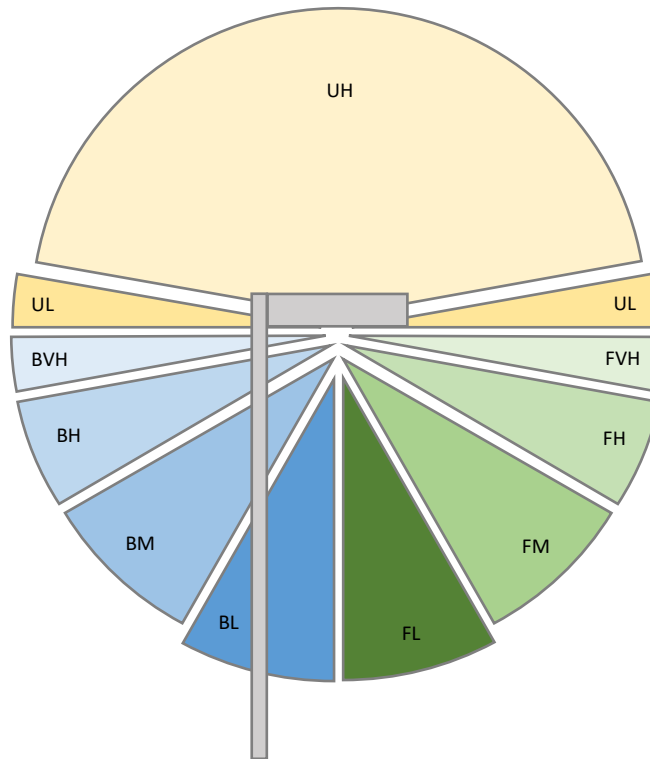




Report of Test

LLIA002251-014

LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	3268.6 Lm
BM - Back Mid (30°-60°)	8322.1 Lm
BH - Back High (60°-80°)	4742.8 Lm
BVH - Back Very High (80°-90°)	356.2 Lm

Forward Light

FL - Forward Low (0°-30°)	3778.6 Lm
FM - Forward Mid (30°-60°)	10767.9 Lm
FH - Forward High (60°-80°)	7194.8 Lm
FVH - Forward Very High (80°-90°)	621.4 Lm

Uplight

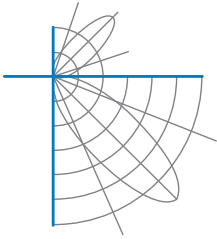
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV)

B4 - U0 - G4

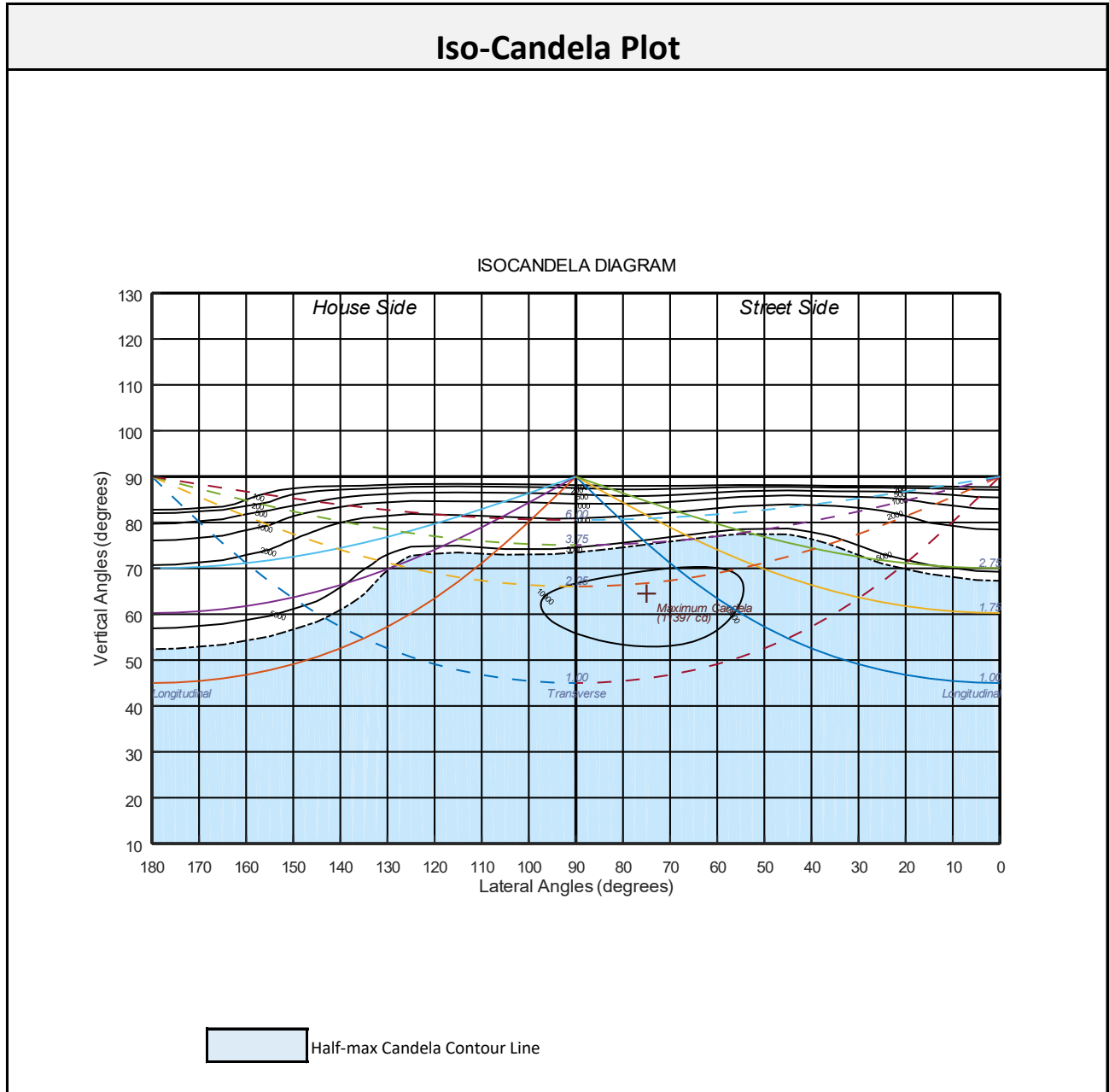
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS)

B4 - U0 - G4



Report of Test
LLIA002251-014

Iso-Candela Plot





Report of Test

LLIA002251-014

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	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308
2.5	8444	8445	8439	8429	8417	8402	8384	8378	8374	8367	8361	8355	8350	8345	8343
5	8582	8583	8573	8555	8528	8498	8459	8448	8437	8426	8417	8405	8394	8382	8371
7.5	8727	8725	8712	8684	8644	8594	8536	8520	8504	8485	8471	8453	8437	8418	8404
10	8871	8866	8849	8813	8759	8692	8614	8593	8571	8548	8524	8502	8476	8453	8430
12.5	9013	9010	8986	8942	8875	8792	8693	8665	8636	8609	8581	8551	8522	8489	8461
15	9146	9143	9119	9068	8992	8890	8773	8738	8706	8671	8635	8603	8565	8532	8497
17.5	9273	9270	9245	9188	9102	8987	8850	8814	8775	8736	8696	8656	8613	8571	8530
20	9389	9387	9358	9301	9208	9084	8932	8889	8843	8799	8757	8711	8661	8613	8568
22.5	9488	9485	9460	9401	9308	9175	9010	8962	8914	8868	8819	8766	8711	8662	8612
25	9569	9566	9545	9491	9398	9261	9086	9038	8990	8937	8883	8828	8770	8714	8661
27.5	9632	9630	9614	9567	9477	9340	9164	9110	9061	9007	8951	8893	8830	8772	8714
30	9676	9676	9666	9627	9545	9409	9237	9185	9132	9078	9020	8962	8901	8838	8774
32.5	9703	9704	9696	9669	9596	9473	9305	9255	9205	9153	9093	9036	8972	8910	8844
35	9705	9706	9708	9694	9634	9520	9370	9326	9278	9225	9170	9115	9050	8989	8922
37.5	9675	9685	9693	9693	9647	9556	9432	9392	9348	9304	9252	9199	9136	9077	9011
40	9627	9629	9654	9667	9641	9581	9486	9453	9416	9377	9333	9285	9232	9172	9108
42.5	9527	9532	9574	9604	9607	9581	9528	9504	9482	9450	9417	9375	9328	9276	9216
45	9379	9387	9450	9506	9536	9561	9558	9550	9539	9525	9501	9474	9434	9391	9341
47.5	9181	9198	9281	9368	9437	9515	9581	9591	9599	9602	9597	9583	9561	9532	9496
50	8933	8955	9070	9184	9303	9447	9600	9639	9669	9696	9715	9726	9725	9715	9692
52.5	8633	8659	8806	8961	9130	9358	9630	9697	9763	9824	9873	9915	9940	9953	9949
55	8288	8313	8498	8696	8926	9253	9675	9788	9896	9995	10088	10160	10215	10251	10265
57.5	7892	7930	8139	8385	8692	9142	9752	9917	10074	10221	10354	10463	10550	10603	10633
60	7481	7517	7747	8036	8425	9034	9864	10081	10292	10486	10653	10794	10898	10968	11009
62.5	7007	7041	7303	7646	8125	8931	9991	10260	10509	10741	10936	11097	11212	11282	11313
65	6403	6450	6787	7214	7807	8818	10073	10370	10650	10893	11096	11251	11351	11390	11382
67.5	5623	5683	6113	6705	7464	8666	10017	10314	10573	10783	10930	11024	11052	11013	10925
70	4727	4793	5271	6024	7044	8377	9660	9880	10037	10135	10148	10113	10020	9861	9668
72.5	3821	3881	4351	5210	6435	7853	8769	8840	8847	8789	8662	8492	8293	8047	7802
75	2986	3035	3453	4359	5633	6915	7347	7273	7151	6988	6781	6564	6332	6085	5842
77.5	2250	2291	2657	3538	4723	5647	5686	5545	5369	5169	4952	4740	4539	4337	4149
80	1630	1665	1983	2775	3691	4240	4057	3903	3737	3561	3379	3211	3059	2913	2786
82.5	1088	1117	1397	2022	2543	2783	2587	2460	2327	2195	2055	1934	1829	1736	1663
85	585	608	819	1164	1324	1441	1272	1179	1088	1004	925	857	802	758	729
87.5	128	135	179	226	233	283	265	244	225	205	187	177	171	164	157
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

LLIA002251-014

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	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	8308	
2.5	8337	8330	8325	8319	8302	8297	8274	8250	8235	8218	8203	8189	8185	8180	8180	
5	8362	8349	8341	8330	8298	8280	8234	8195	8161	8129	8102	8081	8069	8062	8062	
7.5	8387	8368	8351	8334	8293	8265	8195	8139	8087	8043	8006	7977	7962	7951	7949	
10	8413	8386	8364	8339	8289	8247	8158	8083	8015	7960	7917	7882	7865	7854	7848	
12.5	8435	8403	8373	8346	8282	8230	8121	8026	7945	7882	7832	7795	7774	7764	7757	
15	8459	8424	8387	8354	8278	8213	8085	7975	7880	7808	7752	7712	7689	7676	7671	
17.5	8489	8442	8404	8362	8277	8201	8051	7924	7817	7736	7676	7632	7607	7595	7589	
20	8522	8471	8424	8378	8280	8194	8023	7877	7759	7668	7604	7558	7532	7516	7512	
22.5	8558	8505	8451	8397	8292	8191	8001	7838	7706	7603	7534	7483	7454	7435	7431	
25	8602	8543	8487	8429	8309	8197	7984	7801	7654	7543	7466	7409	7376	7356	7350	
27.5	8650	8590	8527	8467	8338	8210	7974	7773	7610	7487	7397	7335	7295	7273	7268	
30	8712	8645	8578	8514	8372	8239	7976	7753	7569	7431	7327	7256	7208	7184	7179	
32.5	8779	8710	8641	8575	8423	8278	7989	7738	7536	7377	7261	7173	7114	7084	7078	
35	8856	8785	8716	8642	8481	8329	8017	7741	7509	7325	7188	7085	7015	6976	6969	
37.5	8942	8873	8800	8721	8560	8393	8058	7754	7489	7275	7114	6989	6900	6852	6847	
40	9044	8972	8899	8820	8652	8476	8113	7776	7476	7226	7029	6880	6774	6717	6713	
42.5	9155	9091	9012	8937	8763	8577	8189	7810	7467	7173	6937	6762	6636	6572	6561	
45	9286	9228	9153	9075	8900	8704	8283	7860	7463	7115	6834	6624	6479	6407	6392	
47.5	9451	9392	9328	9255	9077	8869	8404	7923	7454	7040	6709	6462	6295	6213	6201	
50	9656	9613	9558	9482	9298	9077	8553	7995	7440	6945	6556	6265	6075	5983	5968	
52.5	9927	9890	9836	9761	9569	9325	8732	8075	7412	6820	6359	6020	5804	5698	5684	
55	10260	10229	10180	10105	9891	9615	8927	8154	7362	6655	6113	5721	5473	5347	5328	
57.5	10633	10609	10553	10464	10226	9906	9120	8221	7281	6447	5812	5358	5068	4914	4893	
60	11009	10976	10904	10803	10519	10142	9247	8253	7174	6195	5456	4936	4591	4416	4390	
62.5	11293	11241	11143	11012	10667	10234	9260	8205	7035	5913	5054	4462	4042	3817	3790	
65	11324	11213	11071	10894	10471	9998	9045	8038	6853	5621	4638	3896	3447	3260	3235	
67.5	10780	10589	10379	10148	9660	9194	8450	7692	6614	5323	4136	3351	2889	2681	2658	
70	9433	9169	8901	8649	8156	7773	7376	7069	6276	4955	3663	2825	2368	2164	2140	
72.5	7539	7259	7008	6780	6365	6079	5973	6123	5770	4497	3189	2321	1841	1665	1645	
75	5615	5386	5184	5012	4717	4532	4572	4970	4908	3917	2684	1809	1371	1196	1180	
77.5	3978	3818	3680	3569	3381	3277	3375	3795	3901	3220	2160	1351	928	792	778	
80	2675	2574	2493	2430	2328	2287	2411	2645	2779	2385	1585	904	580	481	472	
82.5	1607	1557	1521	1501	1470	1478	1603	1670	1751	1477	1011	528	235	146	140	
85	717	712	720	735	763	805	878	889	902	729	425	166	30	1	1	
87.5	154	154	161	175	202	233	259	281	254	172	130	58	10	1	1	
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

LLIA002251-014

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	



Report of Test

LLIA002251-014

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
LLIA002251-014

Additional Pictures of Test Subject





Report of Test

LLIA002251-014

Test Distance 9.5 m
Ambient Temperature 24.9 °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.