

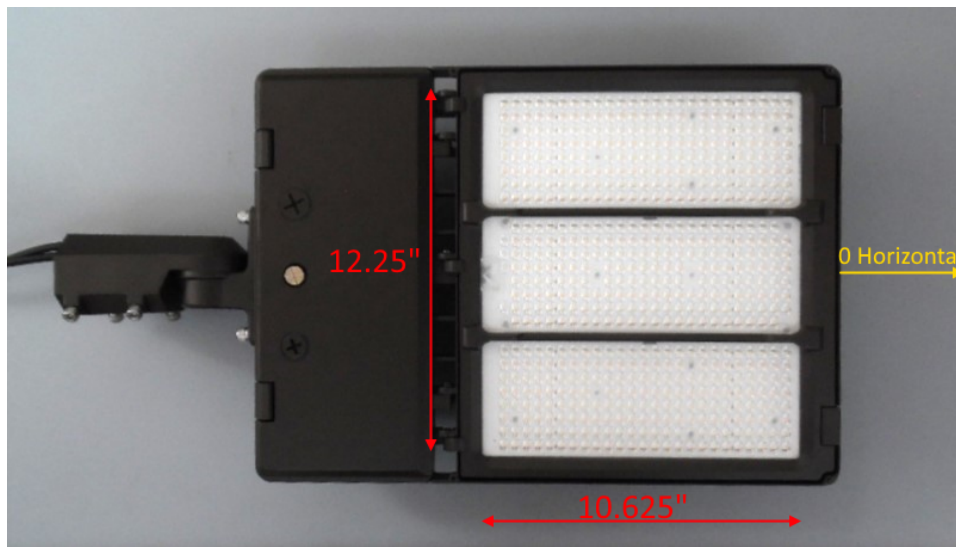


Report of Test

LLIA002251-040

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-SWO - T5 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	30402.9 Lumens
Input Current	1.629 A	Total Efficacy	157.3 Lm/W
Input Power	193.3 W		
Frequency	60.00 Hz		
Power Factor	0.989	Roadway Type	Area Light
Current THD	11.6 %		

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

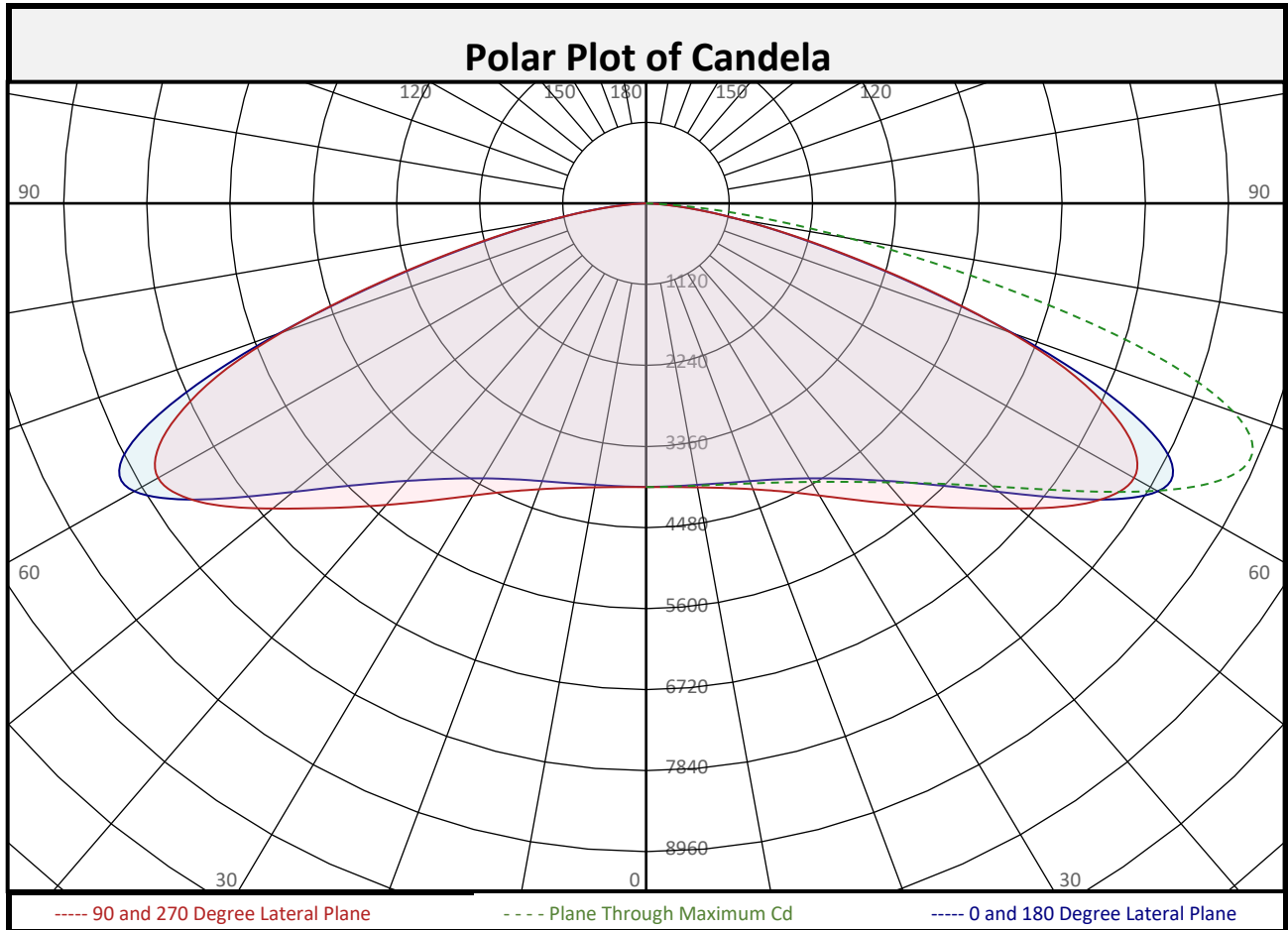
Test date: 10/26/2023
Report date: 10/27/2023

Signed: _____



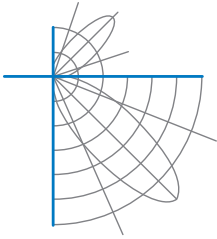
Report of Test

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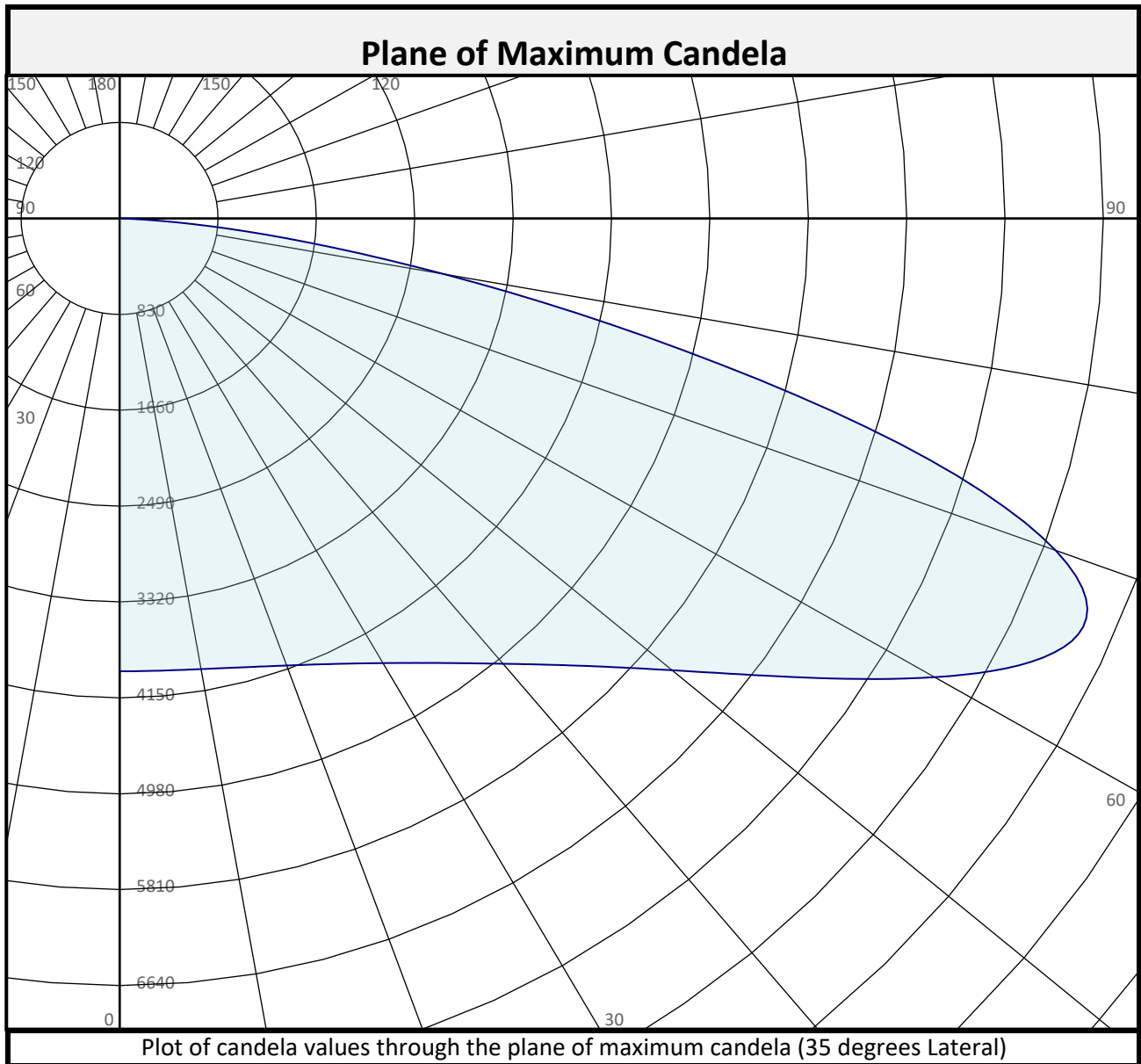


Zonal Flux Summary

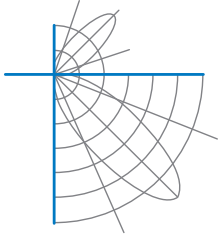
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	376.6	1.2%	90-100	0.0	0.0%	0-20	1525	5.0%
10-20	1148	3.8%	100-110	0.0	0.0%	0-30	3522	11.6%
20-30	1997	6.6%	110-120	0.0	0.0%	0-40	6549	21.5%
30-40	3027	10.0%	120-130	0.0	0.0%	0-60	17289	56.9%
40-50	4396	14.5%	130-140	0.0	0.0%	0-80	29653	97.5%
50-60	6344	20.9%	140-150	0.0	0.0%	10-90	30026	98.8%
60-70	7725	25.4%	150-160	0.0	0.0%	20-50	9420	31.0%
70-80	4638	15.3%	160-170	0.0	0.0%	40-90	23854	78.5%
80-90	750.3	2.5%	170-180	0.0	0.0%	60-90	13114	43.1%
0-90	30403	100.0%	90-180	0.0	0.00%	0-180	30403	100.0%



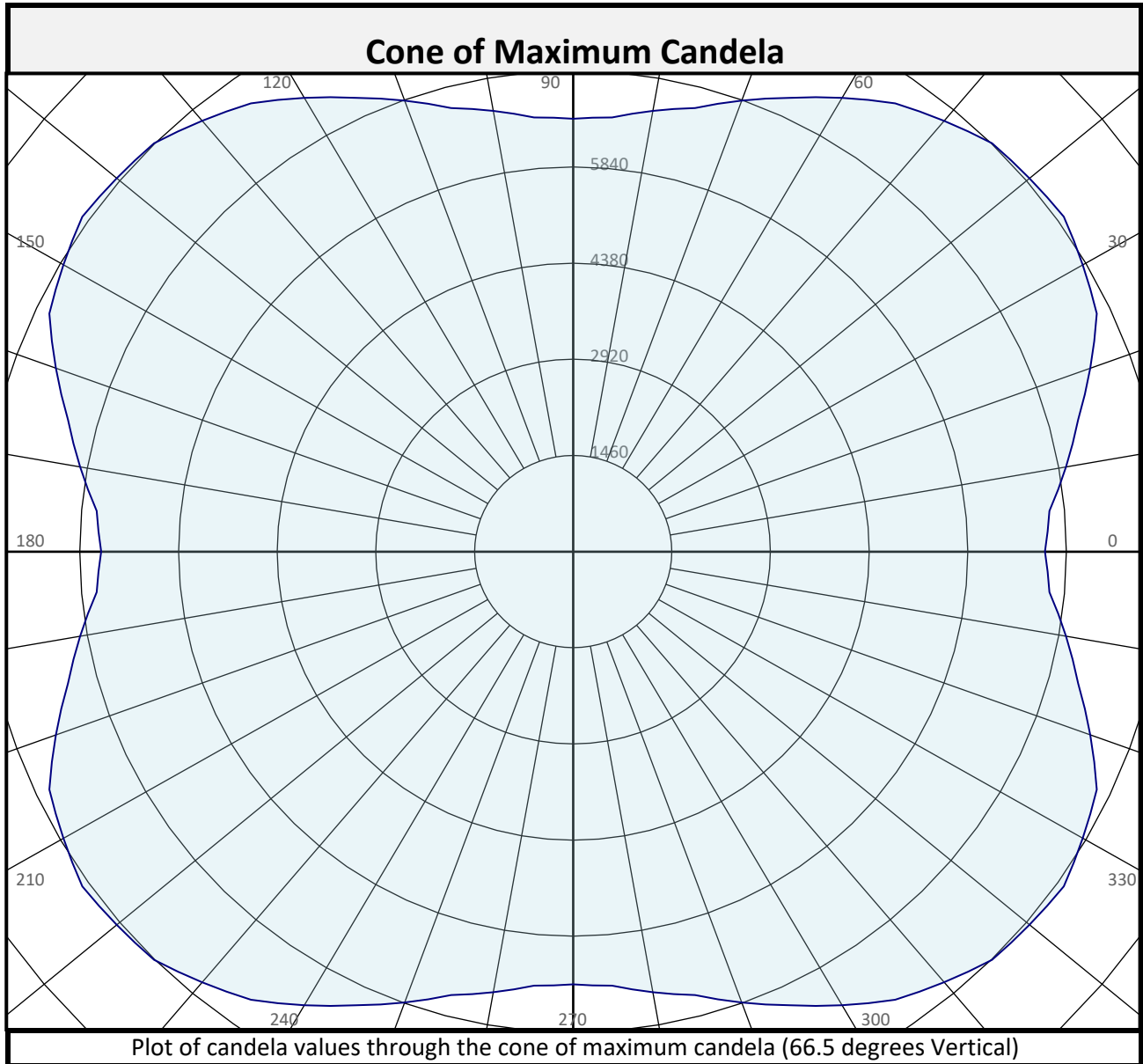
Report of Test
LLIA002251-040



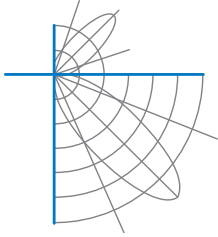
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	15201.4	50.0%	0.0	0.0%	15201.4	50.0%
House Side	15201.4	50.0%	0.0	0.0%	15201.4	50.0%
Total	30402.9	100.0%	0.0	0.0%	30402.9	100.0%



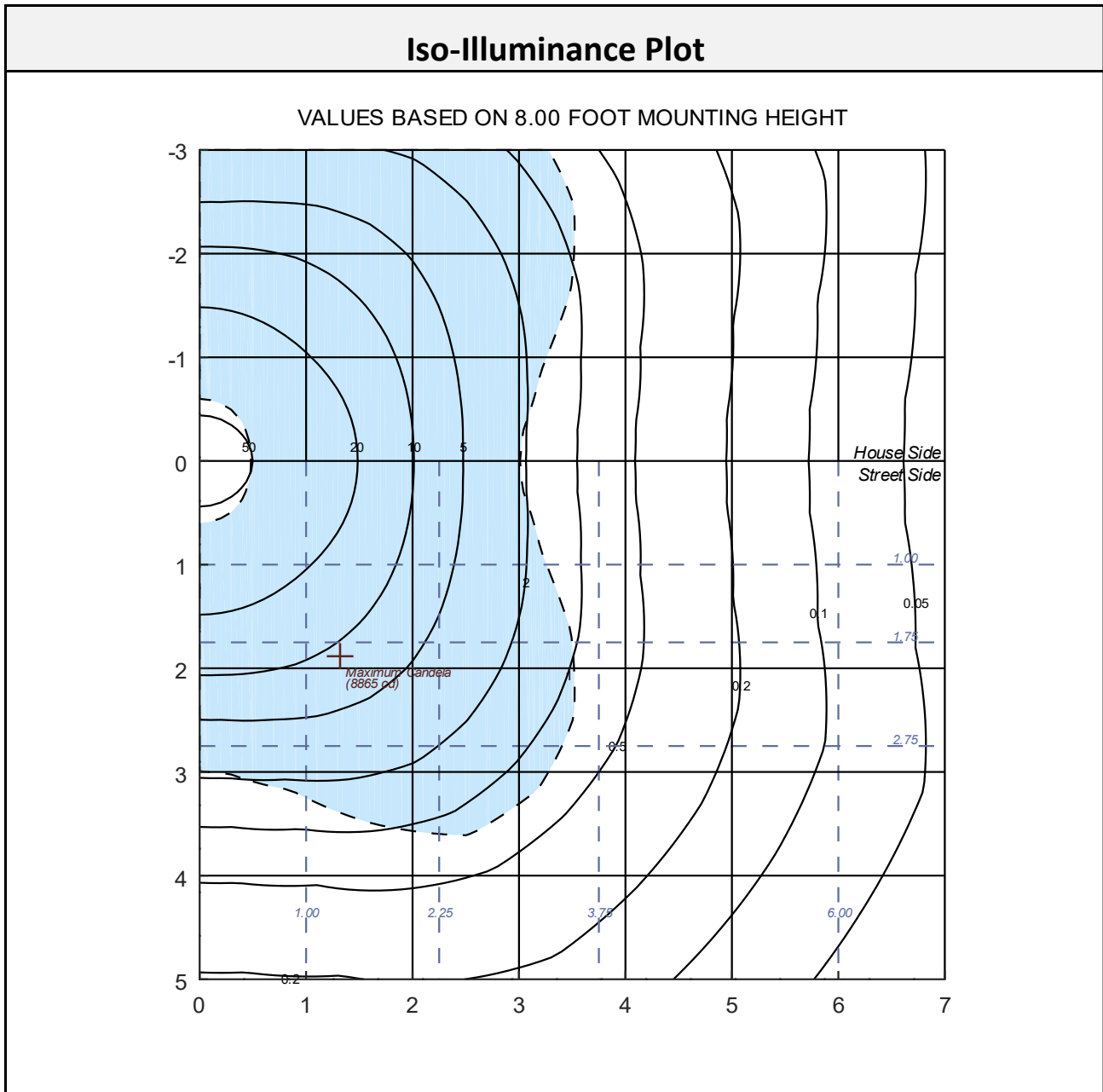
Report of Test
LLIA002251-040



Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	15201.4	50.0%	0.0	0.0%	15201.4	50.0%
House Side	15201.4	50.0%	0.0	0.0%	15201.4	50.0%
Total	30402.9	100.0%	0.0	0.0%	30402.9	100.0%



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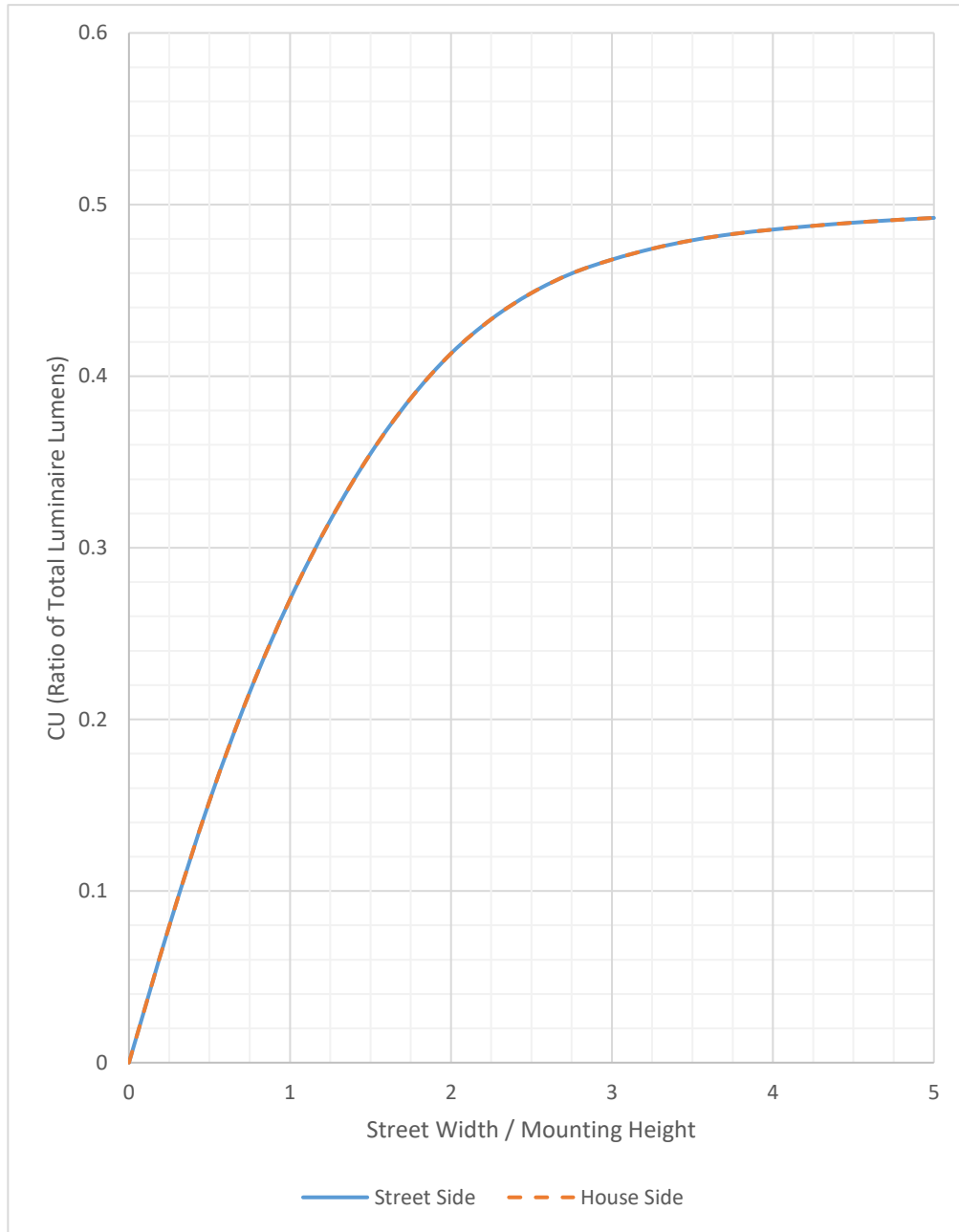


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test LLIA002251-040

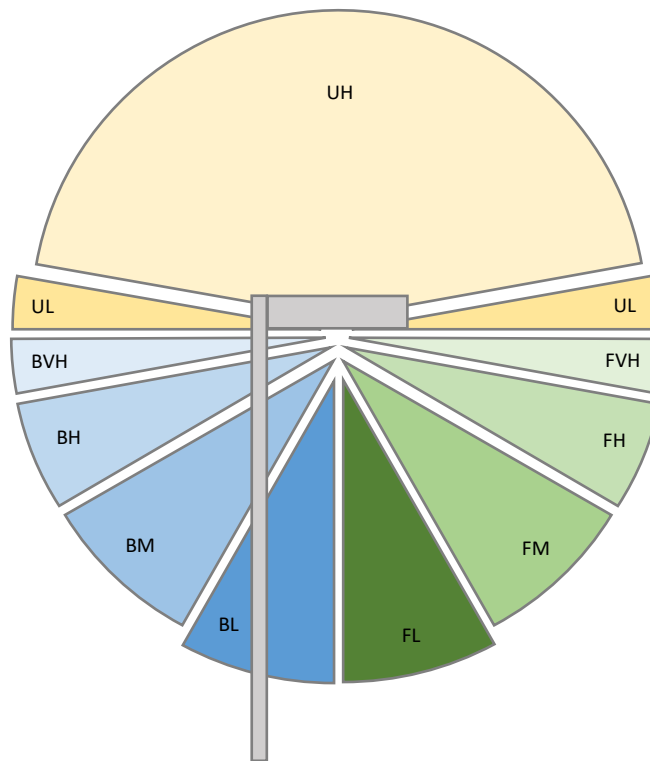
Coefficients of Utilization Plot





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LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	1760.9 Lm
BM - Back Mid (30°-60°)	6883.7 Lm
BH - Back High (60°-80°)	6181.7 Lm
BVH - Back Very High (80°-90°)	375.1 Lm

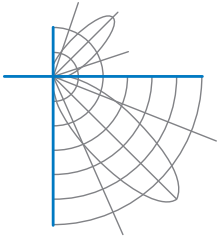
Forward Light

FL - Forward Low (0°-30°)	1760.9 Lm
FM - Forward Mid (30°-60°)	6883.7 Lm
FH - Forward High (60°-80°)	6181.7 Lm
FVH - Forward Very High (80°-90°)	375.1 Lm

Uplight

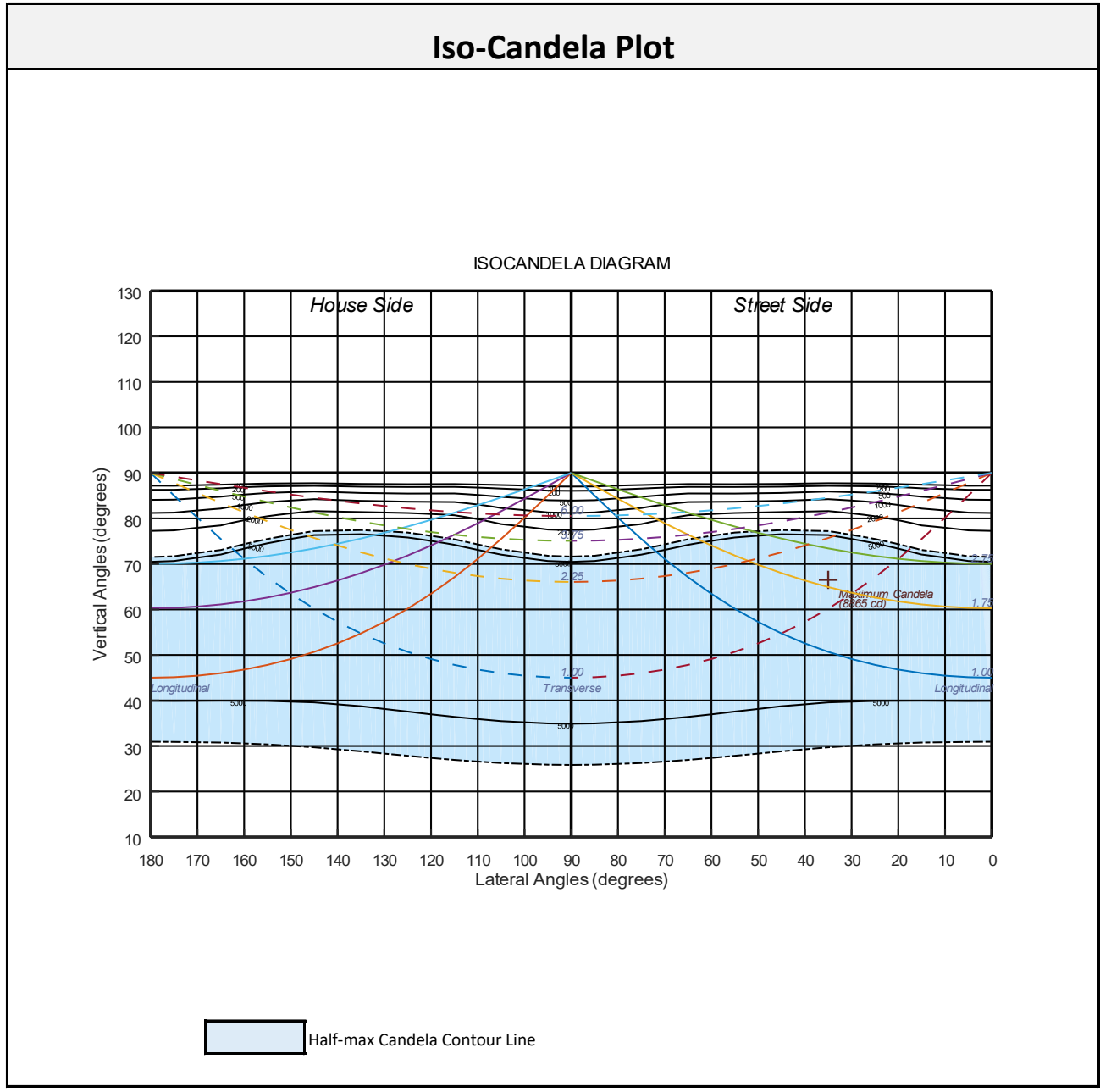
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV) B5 - U0 - G5
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS) B5 - U0 - G3



Report of Test
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Iso-Candela Plot





Report of Test

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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	3919	3919	3919	3919	3919	3919	3919	3919	3919	3919	3919
	2.5	3921	3922	3922	3922	3922	3921	3921	3922	3923	3922	3923
	5	3926	3927	3927	3928	3930	3930	3931	3933	3934	3935	3934
	7.5	3937	3937	3938	3940	3942	3945	3948	3951	3953	3955	3955
	10	3951	3952	3954	3957	3961	3967	3972	3977	3981	3984	3984
	12.5	3974	3974	3977	3982	3988	3996	4004	4011	4019	4022	4022
	15	4005	4005	4008	4014	4023	4034	4044	4055	4066	4070	4071
	17.5	4042	4042	4046	4055	4066	4080	4095	4111	4124	4130	4130
	20	4086	4088	4093	4104	4118	4137	4156	4176	4193	4202	4204
	22.5	4141	4144	4150	4163	4181	4204	4229	4255	4276	4289	4291
	25	4210	4211	4218	4233	4255	4284	4316	4349	4376	4392	4394
	27.5	4291	4293	4300	4317	4343	4377	4417	4458	4493	4514	4516
	30	4390	4393	4399	4417	4445	4485	4535	4587	4631	4658	4661
	32.5	4509	4509	4516	4533	4563	4609	4669	4733	4788	4821	4825
	35	4648	4649	4655	4668	4697	4750	4822	4900	4965	5004	5009
	37.5	4814	4814	4815	4825	4853	4912	4996	5085	5163	5209	5213
	40	5008	5010	5005	5008	5033	5095	5191	5294	5383	5433	5438
	42.5	5237	5236	5226	5218	5237	5302	5408	5523	5621	5676	5682
	45	5508	5505	5487	5466	5475	5541	5654	5777	5881	5938	5949
	47.5	5826	5823	5795	5760	5755	5815	5931	6057	6165	6229	6238
50	6207	6202	6161	6107	6084	6132	6240	6369	6483	6550	6558	
52.5	6645	6638	6589	6518	6473	6497	6589	6717	6832	6893	6902	
55	7128	7120	7069	6988	6920	6905	6975	7090	7178	7219	7227	
57.5	7599	7596	7569	7509	7419	7358	7395	7456	7478	7480	7475	
60	7956	7965	8013	8030	7941	7842	7813	7762	7668	7592	7583	
62.5	7994	8033	8257	8460	8434	8314	8163	7928	7640	7446	7419	
65	7516	7593	8091	8641	8785	8670	8346	7823	7307	7002	6963	
67.5	6543	6641	7389	8384	8838	8760	8202	7387	6703	6311	6255	
70	5257	5356	6198	7577	8405	8383	7626	6676	5880	5307	5222	
72.5	3939	4017	4750	6259	7412	7393	6666	5755	4786	4088	4003	
75	2803	2859	3410	4717	5901	5958	5428	4626	3561	2940	2870	
77.5	1925	1960	2331	3308	4251	4394	4104	3411	2463	2015	1967	
80	1261	1281	1536	2186	2786	2768	2637	2279	1602	1306	1272	
82.5	758	769	929	1311	1624	1510	1429	1357	950	753	731	
85	364	369	462	632	760	646	613	613	451	346	336	
87.5	72	69	90	119	134	110	102	106	82	62	62	
90	0	0	0	0	0	0	0	0	0	0	0	



Report of Test

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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	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0
	145	0	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	



Report of Test

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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	3919	3919	3919	3919	3919	3919	3919	3919	3919	3919	3919
	2.5	3923	3922	3923	3922	3921	3921	3922	3922	3922	3922	3921
	5	3934	3935	3934	3933	3931	3930	3930	3928	3927	3927	3926
	7.5	3955	3955	3953	3951	3948	3945	3942	3940	3938	3937	3937
	10	3984	3984	3981	3977	3972	3967	3961	3957	3954	3952	3951
	12.5	4022	4022	4019	4011	4004	3996	3988	3982	3977	3974	3974
	15	4071	4070	4066	4055	4044	4034	4023	4014	4008	4005	4005
	17.5	4130	4130	4124	4111	4095	4080	4066	4055	4046	4042	4042
	20	4204	4202	4193	4176	4156	4137	4118	4104	4093	4088	4086
	22.5	4291	4289	4276	4255	4229	4204	4181	4163	4150	4144	4141
	25	4394	4392	4376	4349	4316	4284	4255	4233	4218	4211	4210
	27.5	4516	4514	4493	4458	4417	4377	4343	4317	4300	4293	4291
	30	4661	4658	4631	4587	4535	4485	4445	4417	4399	4393	4390
	32.5	4825	4821	4788	4733	4669	4609	4563	4533	4516	4509	4509
	35	5009	5004	4965	4900	4822	4750	4697	4668	4655	4649	4648
	37.5	5213	5209	5163	5085	4996	4912	4853	4825	4815	4814	4814
	40	5438	5433	5383	5294	5191	5095	5033	5008	5005	5010	5008
	42.5	5682	5676	5621	5523	5408	5302	5237	5218	5226	5236	5237
	45	5949	5938	5881	5777	5654	5541	5475	5466	5487	5505	5508
	47.5	6238	6229	6165	6057	5931	5815	5755	5760	5795	5823	5826
	50	6558	6550	6483	6369	6240	6132	6084	6107	6161	6202	6207
	52.5	6902	6893	6832	6717	6589	6497	6473	6518	6589	6638	6645
	55	7227	7219	7178	7090	6975	6905	6920	6988	7069	7120	7128
	57.5	7475	7480	7478	7456	7395	7358	7419	7509	7569	7596	7599
	60	7583	7592	7668	7762	7813	7842	7941	8030	8013	7965	7956
	62.5	7419	7446	7640	7928	8163	8314	8434	8460	8257	8033	7994
	65	6963	7002	7307	7823	8346	8670	8785	8641	8091	7593	7516
	67.5	6255	6311	6703	7387	8202	8760	8838	8384	7389	6641	6543
70	5222	5307	5880	6676	7626	8383	8405	7577	6198	5356	5257	
72.5	4003	4088	4786	5755	6666	7393	7412	6259	4750	4017	3939	
75	2870	2940	3561	4626	5428	5958	5901	4717	3410	2859	2803	
77.5	1967	2015	2463	3411	4104	4394	4251	3308	2331	1960	1925	
80	1272	1306	1602	2279	2637	2768	2786	2186	1536	1281	1261	
82.5	731	753	950	1357	1429	1510	1624	1311	929	769	758	
85	336	346	451	613	613	646	760	632	462	369	364	
87.5	62	62	82	106	102	110	134	119	90	69	72	
90	0	0	0	0	0	0	0	0	0	0	0	

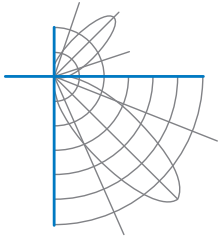


Report of Test

LLIA002251-040

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	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0
	145	0	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	



Report of Test
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Additional Pictures of Test Subject





Report of Test

LLIA002251-040

Test Distance 9.5 m
Ambient Temperature 25.7 °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.