

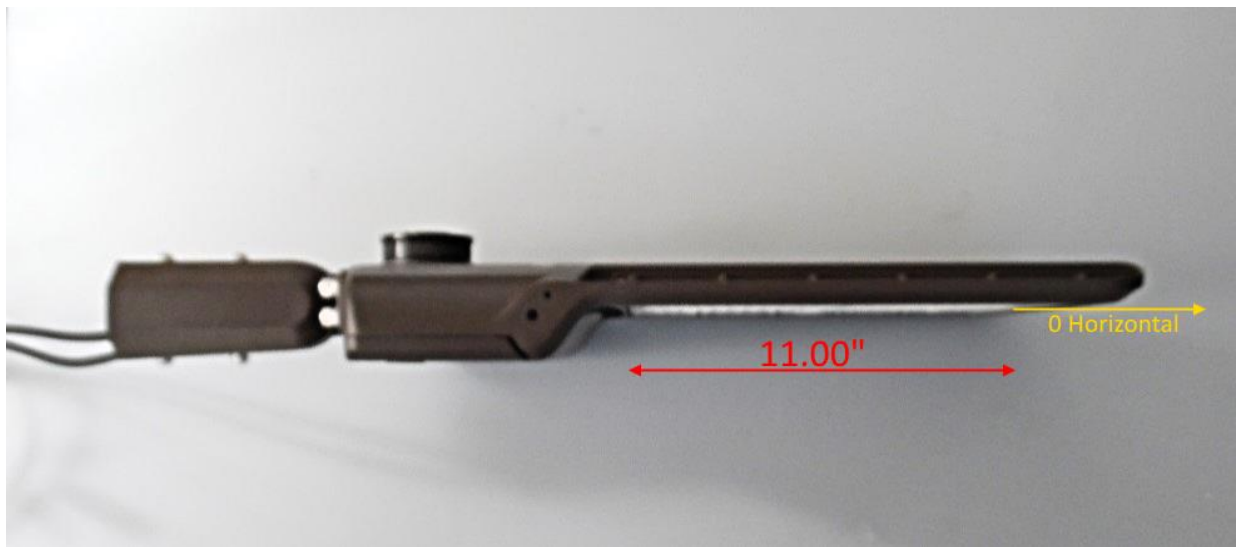


Report of Test

LLIA002251-016

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-300PCS-T5 -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	32989.4 Lumens
Input Current	1.655 A	Total Efficacy	168.1 Lm/W
Input Power	196.3 W		
Frequency	60.00 Hz		
Power Factor	0.988	Roadway Type	Area Light
Current THD	12.1 %		

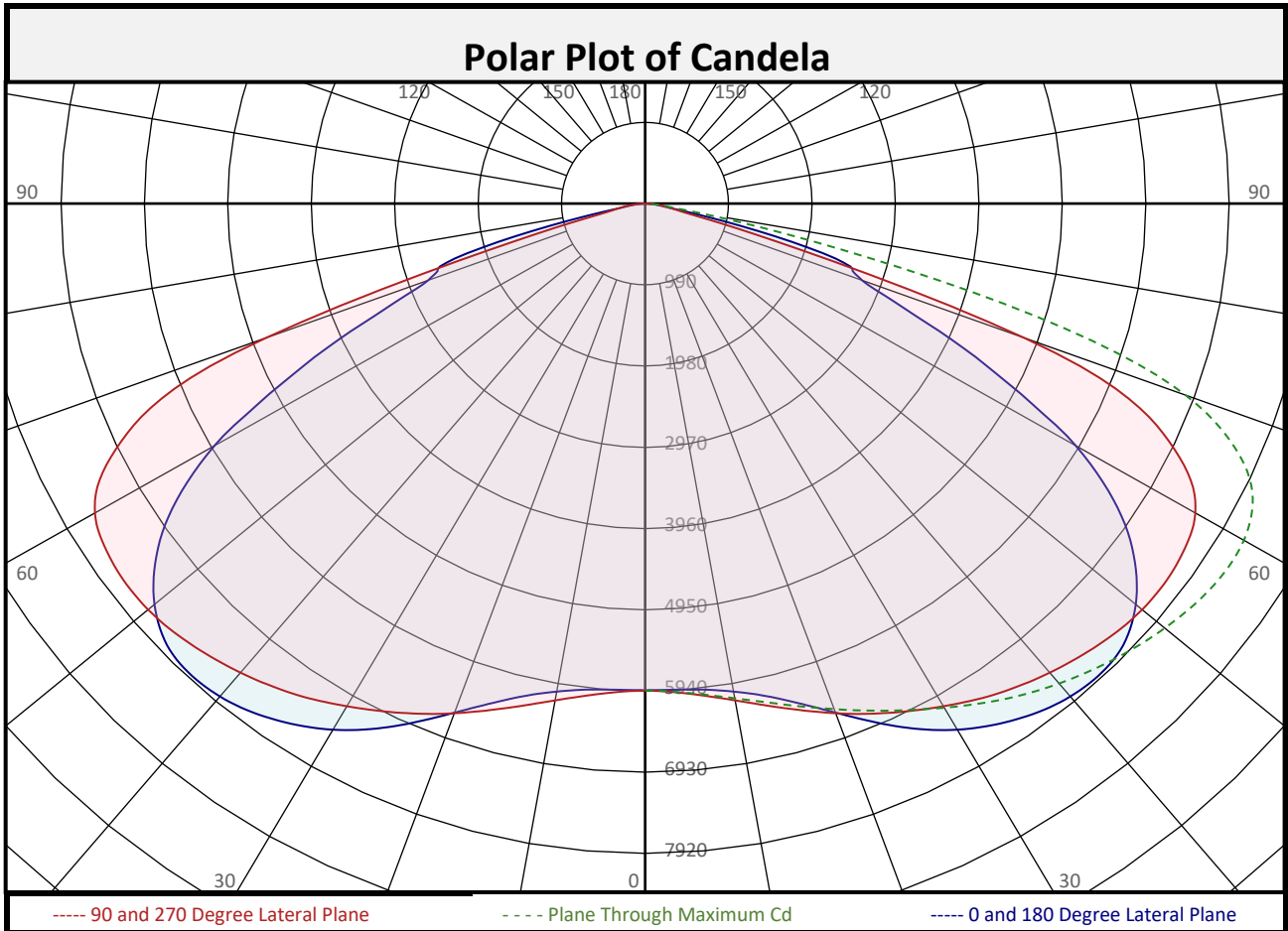
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/09/2023
Report date: 11/10/2023

Signed: _____



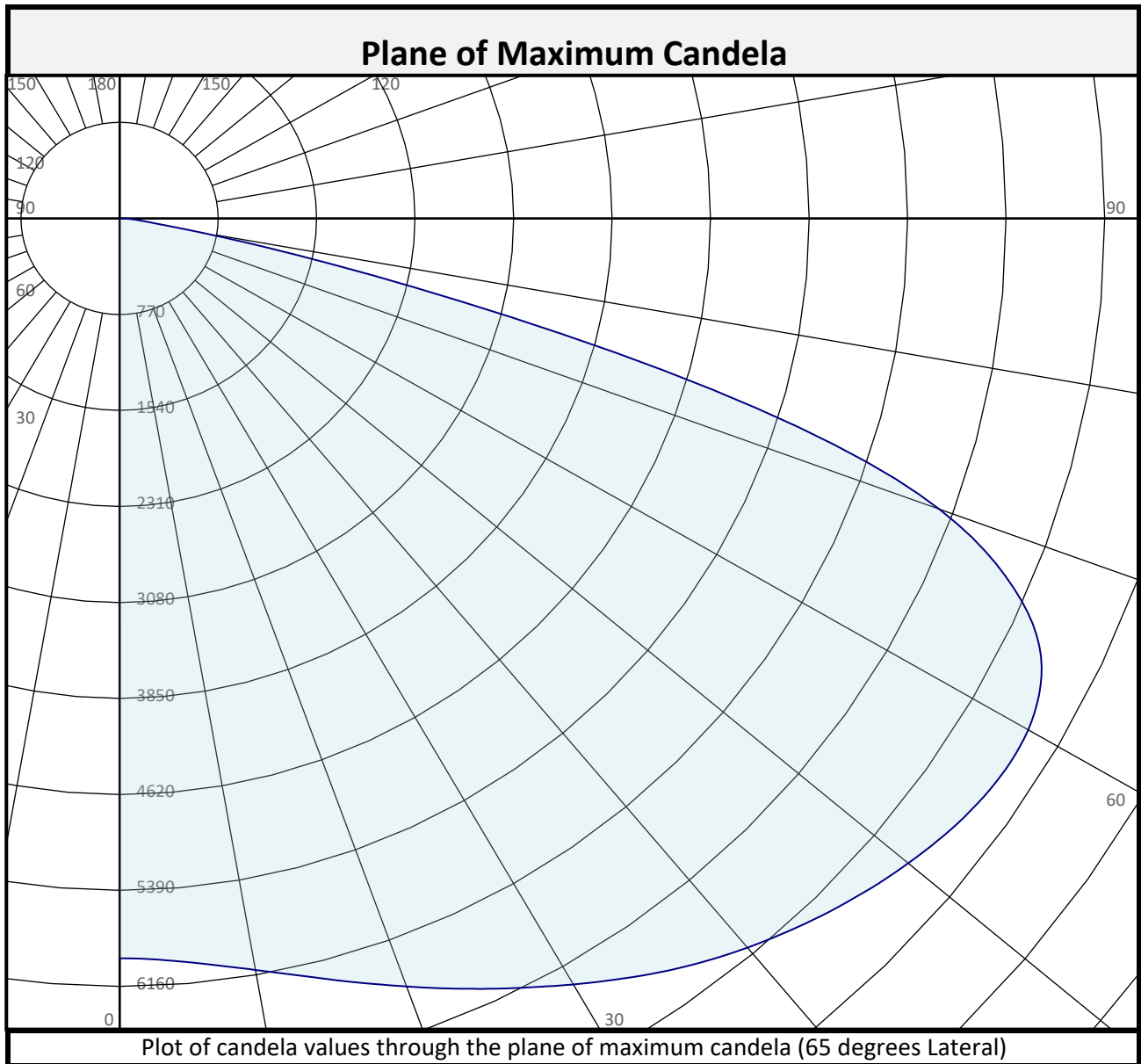
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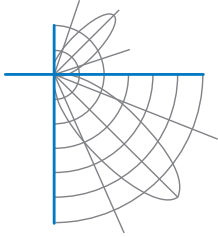
Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	574.3	1.7%		90-100	0.0	0.0%		0-20	2370	7.2%
10-20	1795	5.4%		100-110	0.0	0.0%		0-30	5575	16.9%
20-30	3205	9.7%		110-120	0.0	0.0%		0-40	10301	31.2%
30-40	4726	14.3%		120-130	0.0	0.0%		0-60	23336	70.7%
40-50	6100	18.5%		130-140	0.0	0.0%		0-80	32759	99.3%
50-60	6935	21.0%		140-150	0.0	0.0%		10-90	32415	98.3%
60-70	6332	19.2%		150-160	0.0	0.0%		20-50	14032	42.5%
70-80	3091	9.4%		160-170	0.0	0.0%		40-90	22688	68.8%
80-90	230.6	0.7%		170-180	0.0	0.0%		60-90	9653	29.3%
0-90	32989	100.0%		90-180	0.0	0.0%		0-180	32989	100.0%



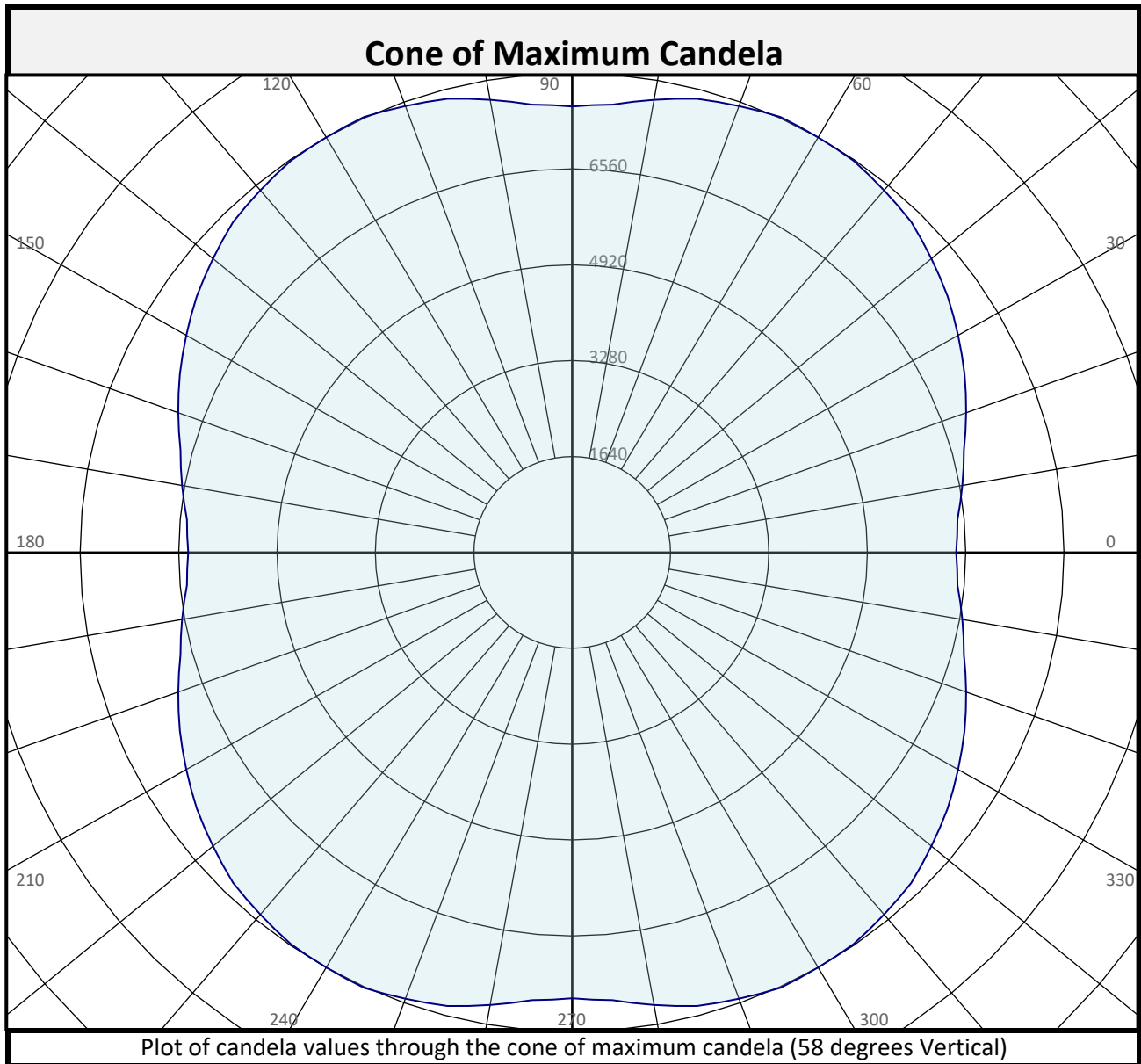
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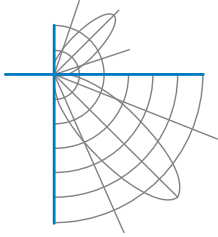
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	16494.7	50.0%	0.0	0.0%	16494.7	50.0%
House Side	16494.7	50.0%	0.0	0.0%	16494.7	50.0%
Total	32989.4	100.0%	0.0	0.0%	32989.4	100.0%



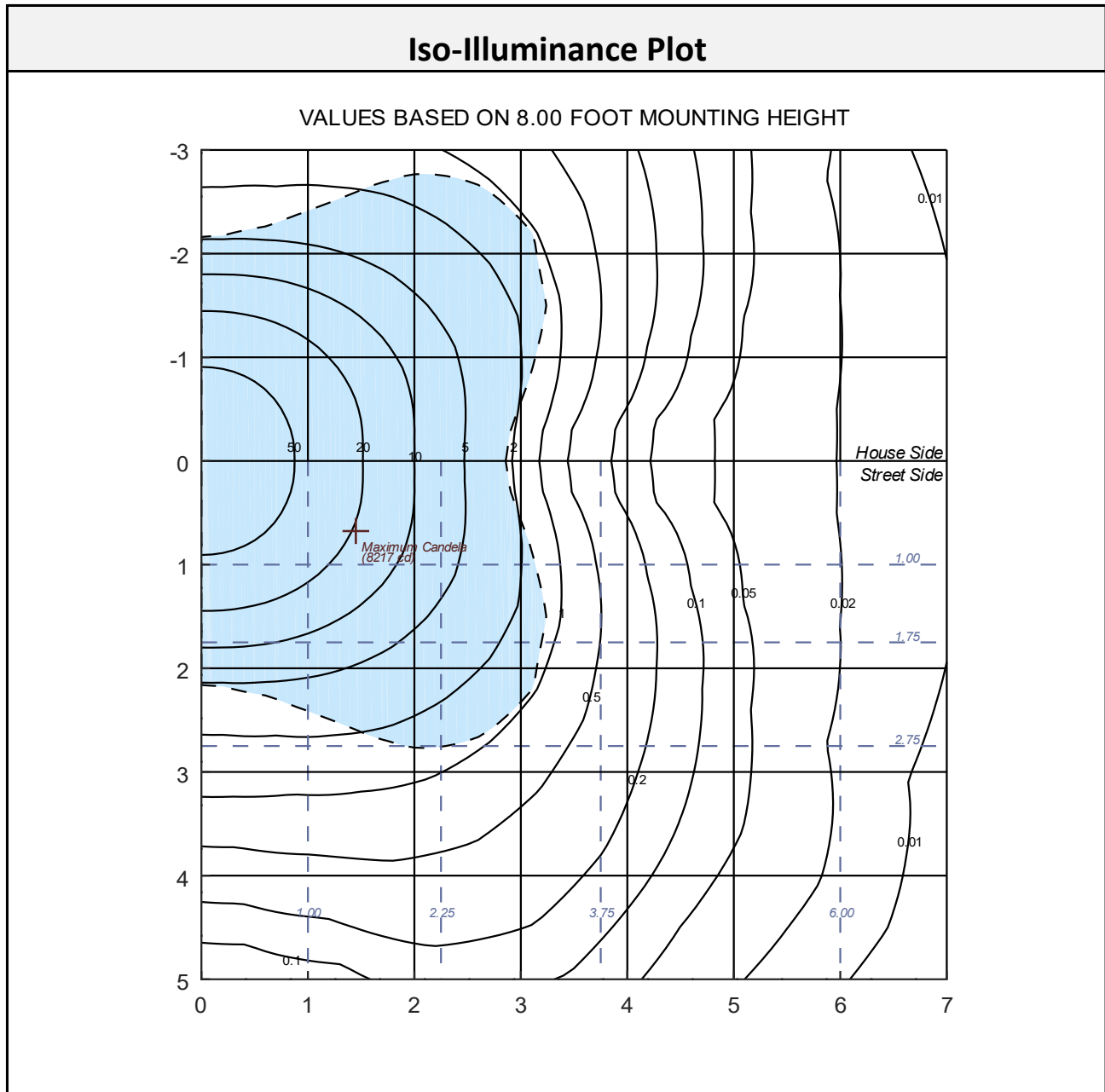
Report of Test
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Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	16494.7	50.0%	0.0	0.0%	16494.7	50.0%
House Side	16494.7	50.0%	0.0	0.0%	16494.7	50.0%
Total	32989.4	100.0%	0.0	0.0%	32989.4	100.0%



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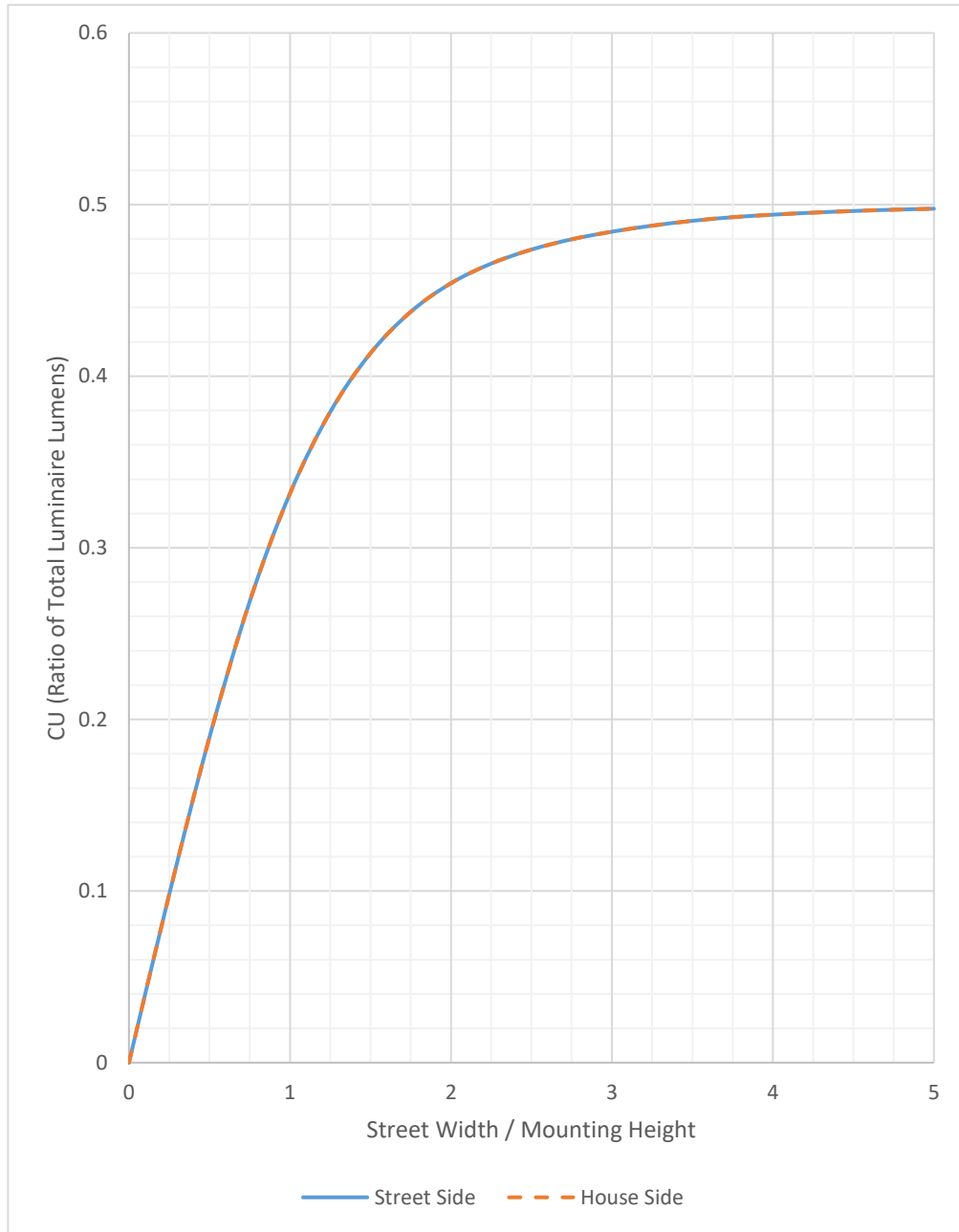


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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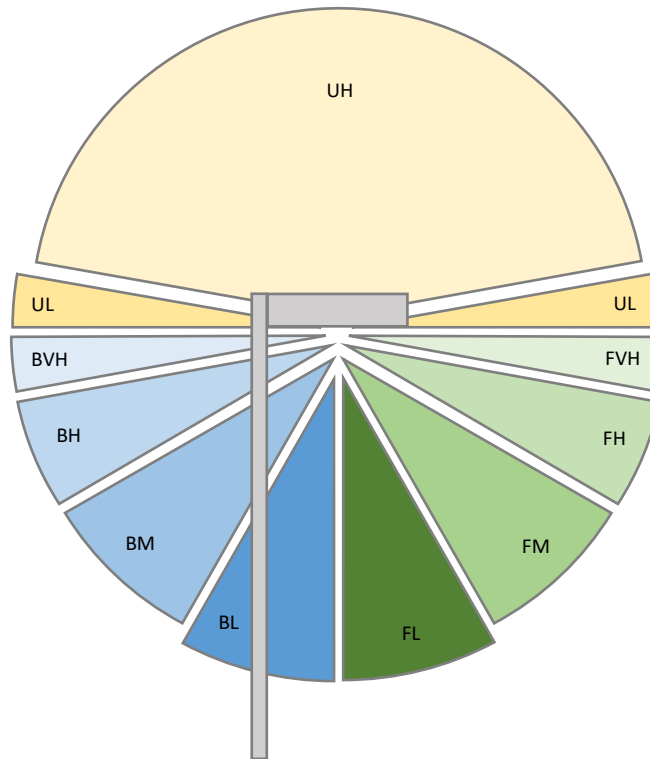
Coefficients of Utilization Plot





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LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	2787.4 Lm
BM - Back Mid (30°-60°)	8880.8 Lm
BH - Back High (60°-80°)	4711.2 Lm
BVH - Back Very High (80°-90°)	115.3 Lm

Forward Light

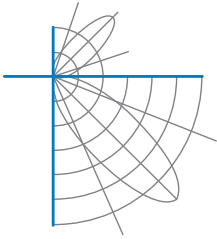
FL - Forward Low (0°-30°)	2787.4 Lm
FM - Forward Mid (30°-60°)	8880.8 Lm
FH - Forward High (60°-80°)	4711.2 Lm
FVH - Forward Very High (80°-90°)	115.3 Lm

Uplight

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

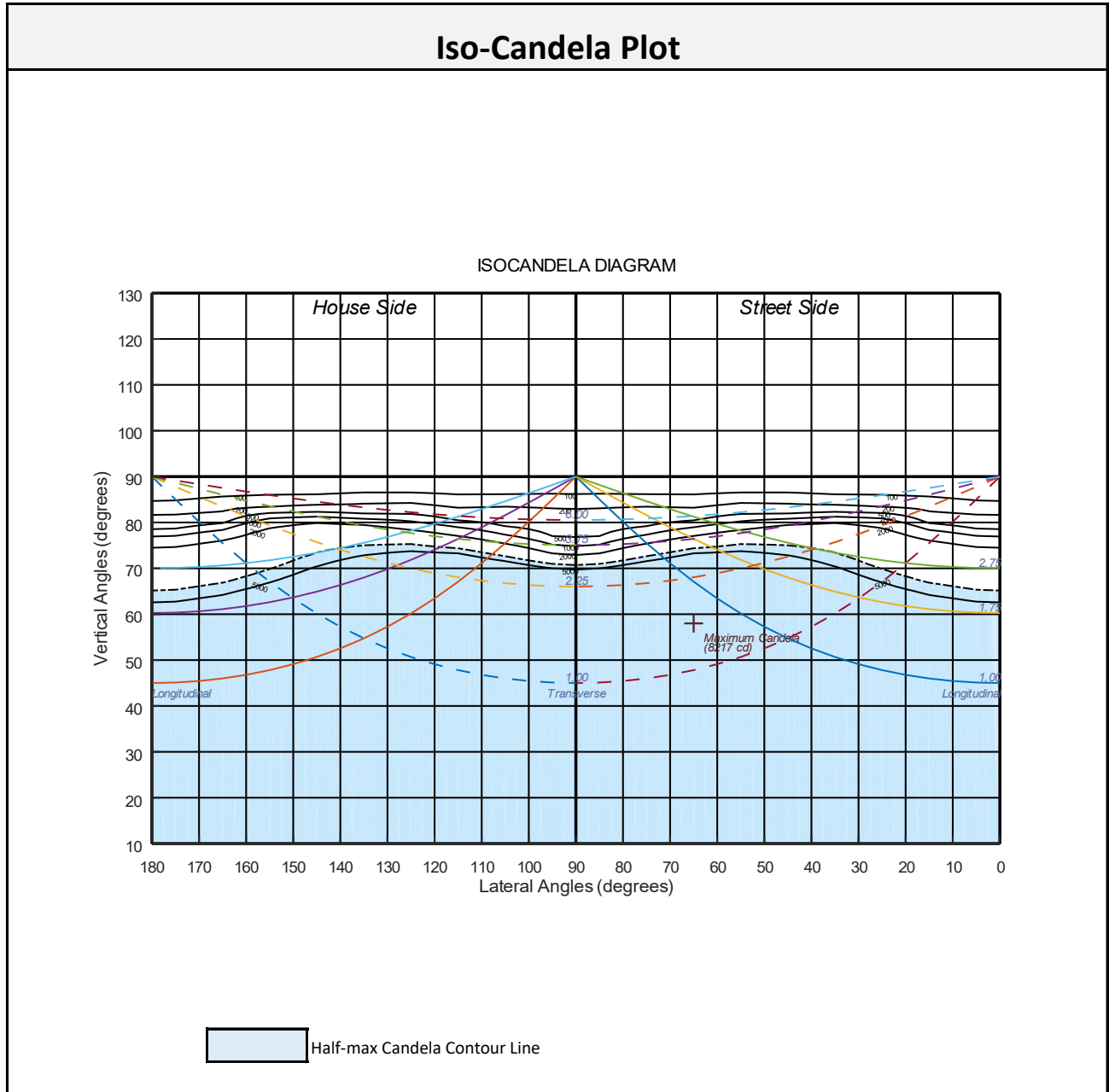
BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV) B5 - U0 - G4

BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS) B5 - U0 - G2



Report of Test LLIA002251-016

Iso-Candela Plot





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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles										
	0	5	15	25	35	45	55	65	75	85	90
0	5935	5935	5935	5935	5935	5935	5935	5935	5935	5935	5935
2.5	5932	5938	5939	5941	5944	5947	5949	5948	5950	5953	5953
5	5945	5951	5954	5959	5969	5977	5983	5987	5991	5995	5997
7.5	5978	5983	5988	5996	6007	6020	6035	6046	6055	6060	6063
10	6040	6045	6051	6061	6072	6087	6104	6122	6137	6146	6149
12.5	6127	6133	6138	6148	6159	6174	6191	6212	6234	6249	6252
15	6253	6256	6259	6264	6269	6279	6296	6318	6343	6363	6366
17.5	6414	6417	6414	6408	6402	6406	6417	6434	6459	6483	6486
20	6602	6606	6597	6578	6558	6548	6547	6556	6580	6605	6610
22.5	6811	6815	6799	6770	6736	6706	6687	6686	6703	6728	6732
25	7026	7025	7006	6974	6928	6877	6834	6818	6827	6844	6848
27.5	7227	7226	7203	7173	7124	7054	6989	6953	6950	6961	6961
30	7404	7407	7385	7364	7316	7233	7152	7095	7076	7078	7074
32.5	7551	7555	7539	7533	7493	7408	7314	7237	7206	7193	7186
35	7674	7676	7669	7674	7649	7568	7466	7379	7337	7302	7290
37.5	7775	7773	7779	7790	7779	7711	7606	7512	7458	7401	7380
40	7843	7846	7866	7883	7890	7832	7734	7636	7571	7485	7464
42.5	7874	7879	7921	7949	7974	7935	7848	7750	7671	7559	7538
45	7859	7869	7937	7985	8032	8020	7951	7858	7763	7628	7605
47.5	7770	7798	7895	7987	8066	8085	8038	7958	7847	7690	7661
50	7598	7637	7776	7935	8067	8126	8107	8046	7923	7735	7698
52.5	7338	7380	7567	7808	8018	8138	8156	8126	7982	7753	7707
55	6991	7037	7268	7600	7897	8107	8187	8185	8026	7742	7689
57.5	6515	6561	6861	7295	7693	8021	8185	8216	8036	7701	7640
60	5895	5947	6320	6861	7396	7860	8130	8202	7986	7598	7536
62.5	5028	5089	5571	6303	6988	7604	7999	8116	7821	7366	7295
65	4164	4231	4751	5566	6485	7224	7751	7909	7485	6942	6857
67.5	3315	3374	3885	4815	5804	6712	7314	7494	6985	6321	6205
70	2742	2779	3146	4064	5142	5999	6620	6819	6075	4997	4786
72.5	2554	2578	2746	3422	4380	5148	5651	5559	4238	2616	2334
75	1803	1865	2380	3004	3702	4115	4292	3574	2252	1061	941
77.5	794	842	1373	2482	3087	3085	2609	1717	935	443	430
80	275	282	461	1415	1903	1570	1099	624	388	307	303
82.5	167	170	197	360	437	371	356	239	238	219	214
85	92	95	119	132	140	164	167	133	139	141	137
87.5	32	33	44	48	49	55	61	58	59	62	61
90	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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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	5935	5935	5935	5935	5935	5935	5935	5935	5935	5935	5935
	2.5	5953	5953	5950	5948	5949	5947	5944	5941	5939	5938	5932
	5	5997	5995	5991	5987	5983	5977	5969	5959	5954	5951	5945
	7.5	6063	6060	6055	6046	6035	6020	6007	5996	5988	5983	5978
	10	6149	6146	6137	6122	6104	6087	6072	6061	6051	6045	6040
	12.5	6252	6249	6234	6212	6191	6174	6159	6148	6138	6133	6127
	15	6366	6363	6343	6318	6296	6279	6269	6264	6259	6256	6253
	17.5	6486	6483	6459	6434	6417	6406	6402	6408	6414	6417	6414
	20	6610	6605	6580	6556	6547	6548	6558	6578	6597	6606	6602
	22.5	6732	6728	6703	6686	6687	6706	6736	6770	6799	6815	6811
	25	6848	6844	6827	6818	6834	6877	6928	6974	7006	7025	7026
	27.5	6961	6961	6950	6953	6989	7054	7124	7173	7203	7226	7227
	30	7074	7078	7076	7095	7152	7233	7316	7364	7385	7407	7404
	32.5	7186	7193	7206	7237	7314	7408	7493	7533	7539	7555	7551
	35	7290	7302	7337	7379	7466	7568	7649	7674	7669	7676	7674
	37.5	7380	7401	7458	7512	7606	7711	7779	7790	7779	7773	7775
	40	7464	7485	7571	7636	7734	7832	7890	7883	7866	7846	7843
	42.5	7538	7559	7671	7750	7848	7935	7974	7949	7921	7879	7874
	45	7605	7628	7763	7858	7951	8020	8032	7985	7937	7869	7859
	47.5	7661	7690	7847	7958	8038	8085	8066	7987	7895	7798	7770
	50	7698	7735	7923	8046	8107	8126	8067	7935	7776	7637	7598
	52.5	7707	7753	7982	8126	8156	8138	8018	7808	7567	7380	7338
	55	7689	7742	8026	8185	8187	8107	7897	7600	7268	7037	6991
	57.5	7640	7701	8036	8216	8185	8021	7693	7295	6861	6561	6515
	60	7536	7598	7986	8202	8130	7860	7396	6861	6320	5947	5895
	62.5	7295	7366	7821	8116	7999	7604	6988	6303	5571	5089	5028
	65	6857	6942	7485	7909	7751	7224	6485	5566	4751	4231	4164
	67.5	6205	6321	6985	7494	7314	6712	5804	4815	3885	3374	3315
70	4786	4997	6075	6819	6620	5999	5142	4064	3146	2779	2742	
72.5	2334	2616	4238	5559	5651	5148	4380	3422	2746	2578	2554	
75	941	1061	2252	3574	4292	4115	3702	3004	2380	1865	1803	
77.5	430	443	935	1717	2609	3085	3087	2482	1373	842	794	
80	303	307	388	624	1099	1570	1903	1415	461	282	275	
82.5	214	219	238	239	356	371	437	360	197	170	167	
85	137	141	139	133	167	164	140	132	119	95	92	
87.5	61	62	59	58	61	55	49	48	44	33	32	
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											
	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

LLIA002251-016

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.