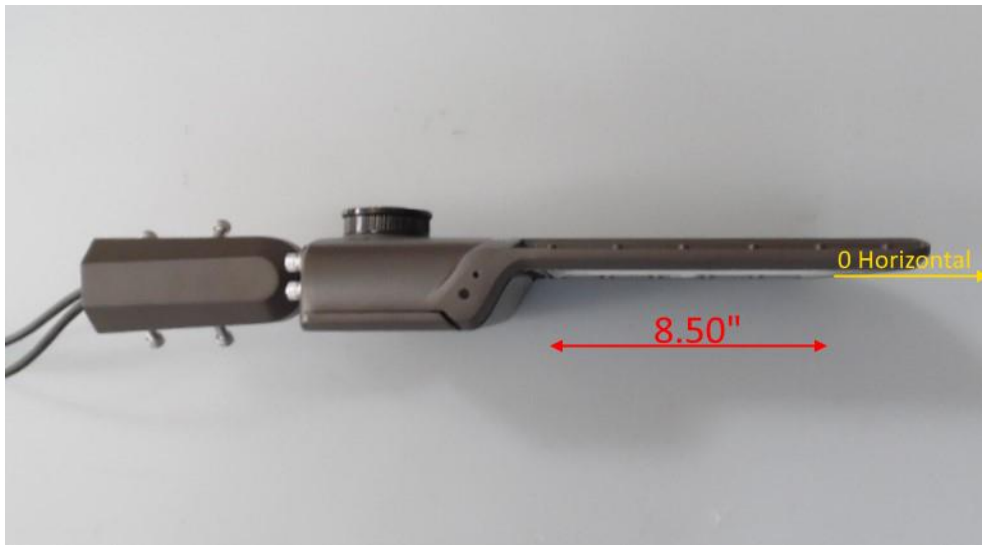


## Report of Test

**LLIA002251-009**

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-150PCS-T5 - 150W Setting - 4000K Setting  
Pole mounted, cast aluminum housing, white LED board with  
frosted plastic enclosure with clear optic sections below LEDs.  
364 white LEDs, 182 CW LEDs and 182 WW LEDs  
One Sosen SS-160NH-E260BH LED driver



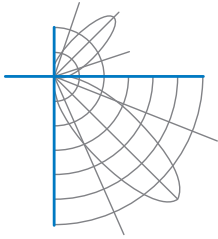
Prepared For:  
Topaz Lighting Corp  
925 Waverly Avenue  
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	22255.8 Lumens
Input Current	1.210 A	Total Efficacy	153.7 lm/W
Input Power	144.8 W		
Frequency	60.00 Hz		
Power Factor	0.998	Roadway Type	Area Light
Current THD	4.5 %		

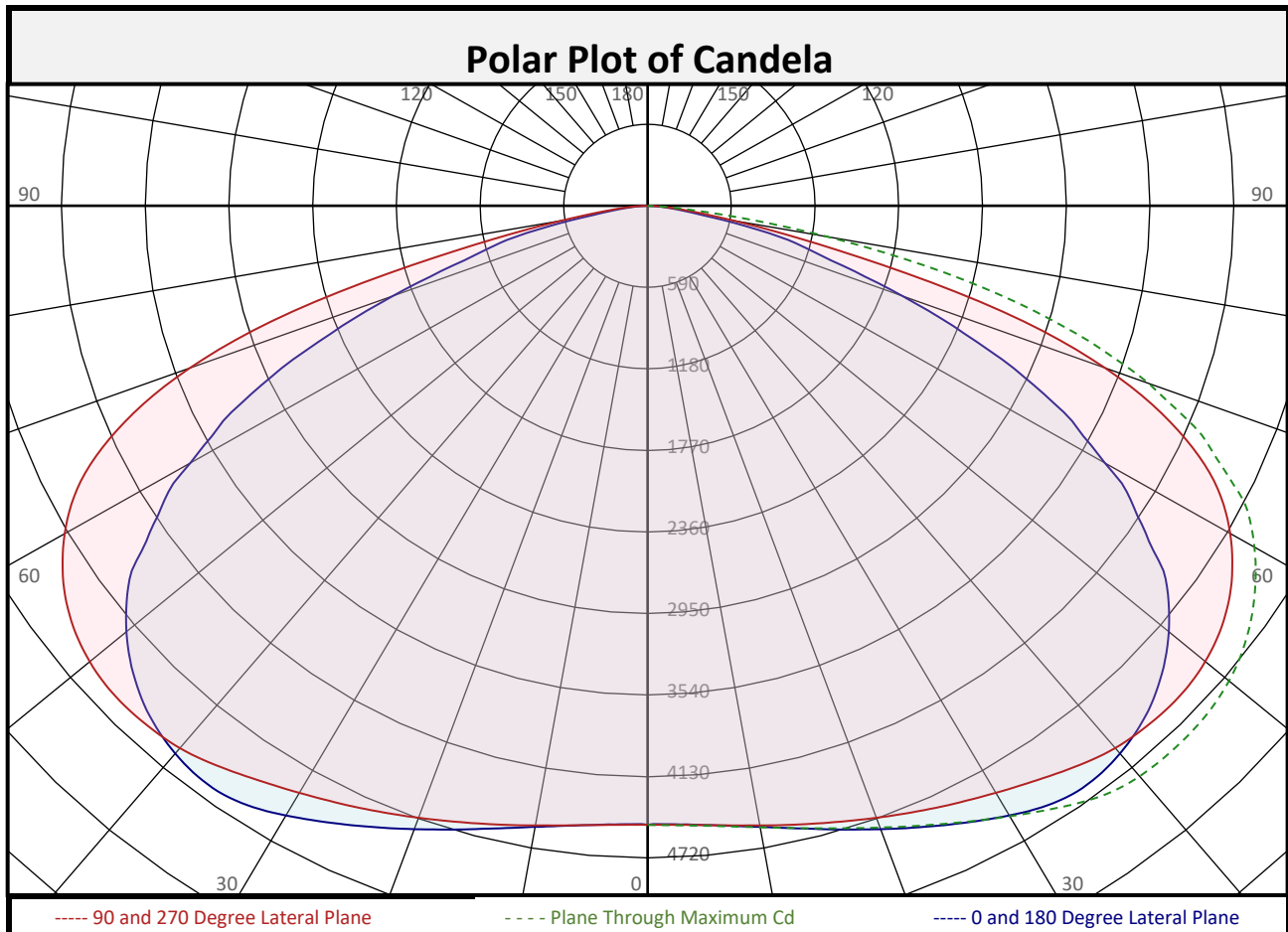
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/08/2023  
Report date: 11/10/2023

Signed: \_\_\_\_\_

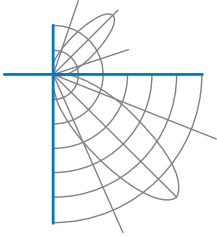


Report of Test  
LLIA002251-009

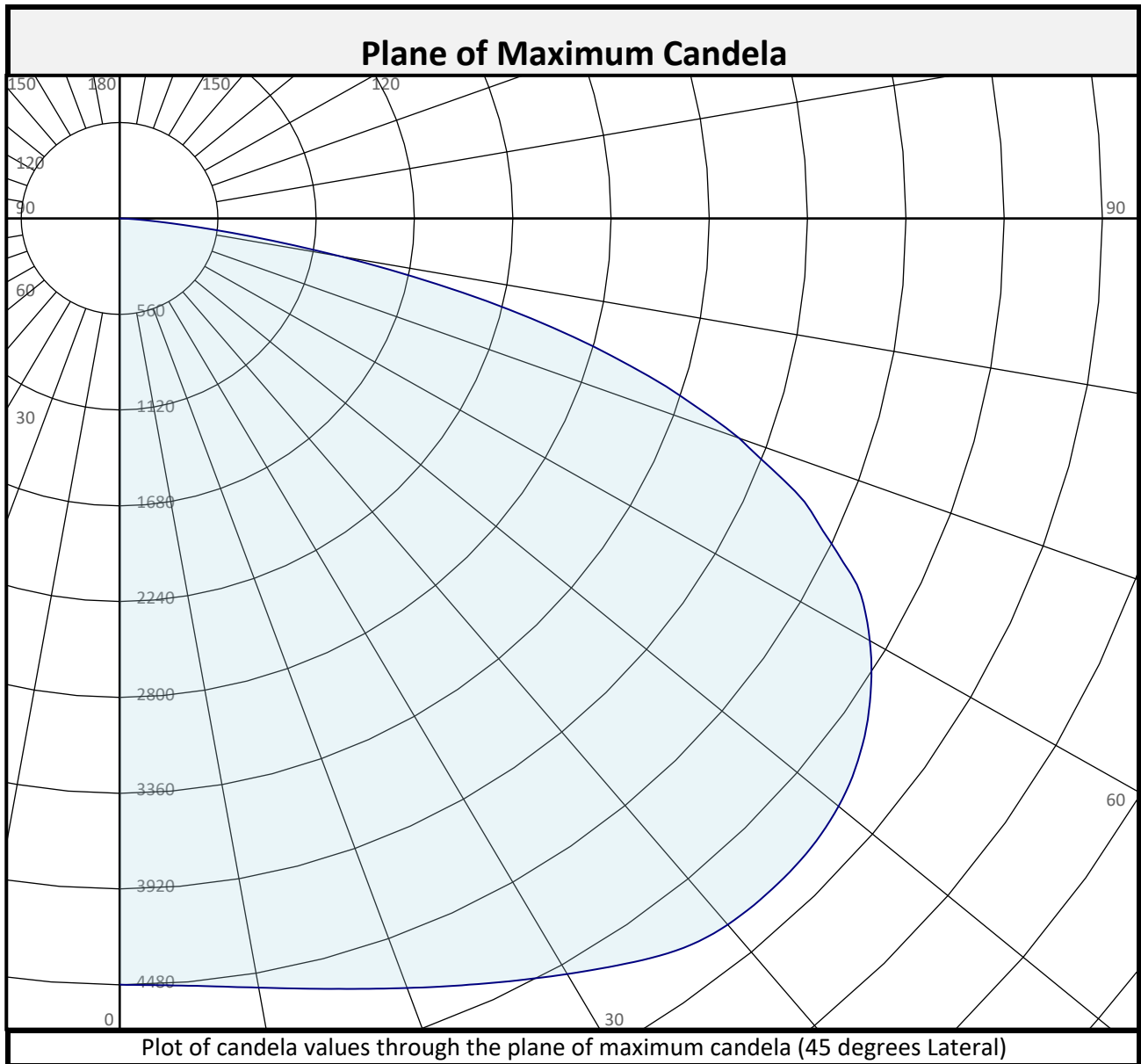


### Zonal Flux Summary

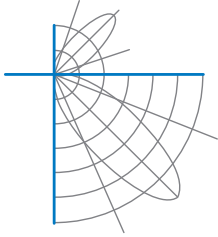
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	432.0	1.9%	90-100	0.0	0.0%	0-20	1756	7.9%
10-20	1325	6.0%	100-110	0.0	0.0%	0-30	4033	18.1%
20-30	2277	10.2%	110-120	0.0	0.0%	0-40	7293	32.8%
30-40	3260	14.6%	120-130	0.0	0.0%	0-60	15744	70.7%
40-50	4054	18.2%	130-140	0.0	0.0%	0-80	21911	98.5%
50-60	4397	19.8%	140-150	0.0	0.0%	10-90	21824	98.1%
60-70	3928	17.6%	150-160	0.0	0.0%	20-50	9591	43.1%
70-80	2239	10.1%	160-170	0.0	0.0%	40-90	14963	67.2%
80-90	344.6	1.5%	170-180	0.0	0.0%	60-90	6511	29.3%
0-90	22256	100.0%	90-180	0.0	0.0%	0-180	22256	100.0%



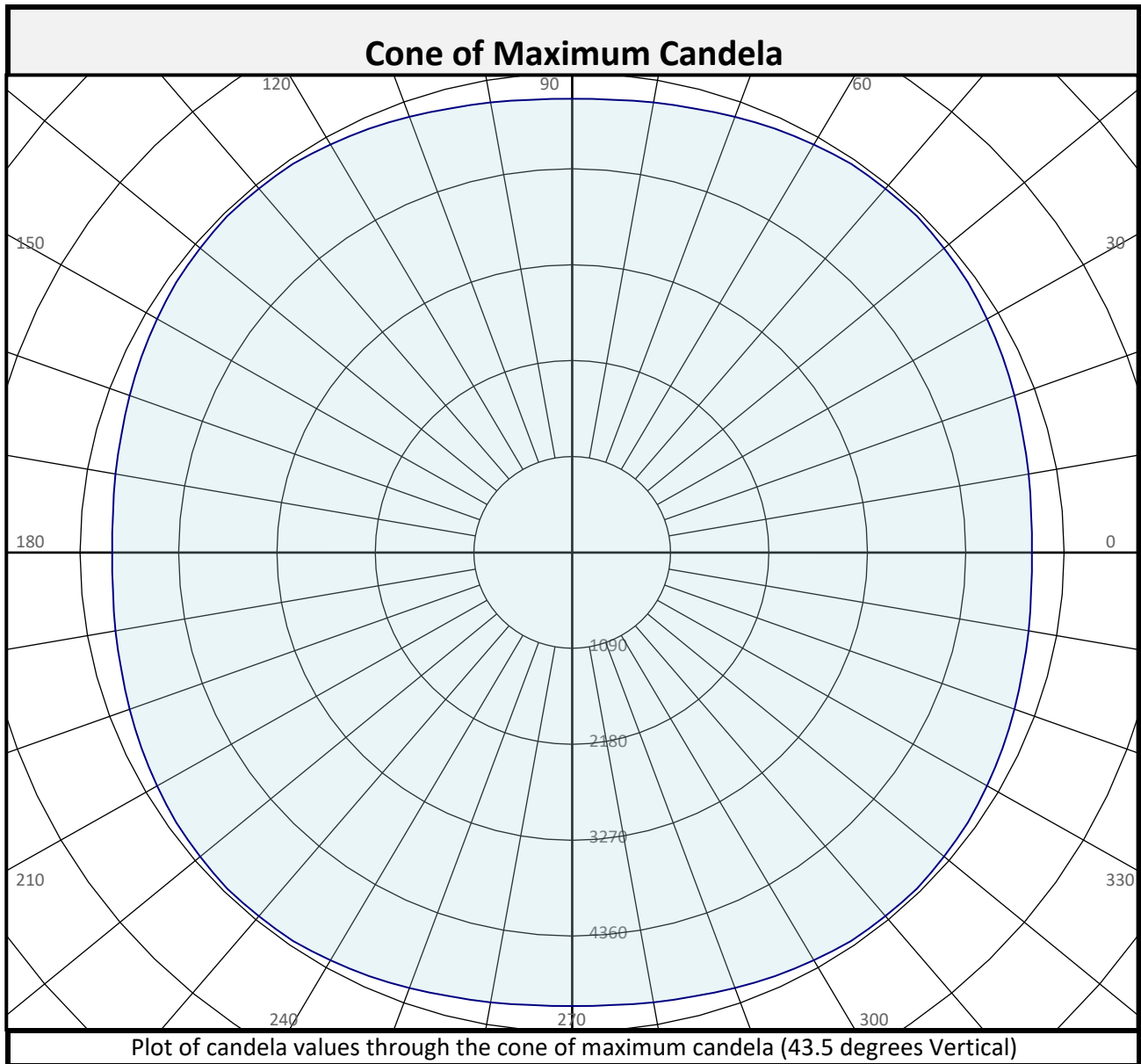
Report of Test  
LLIA002251-009



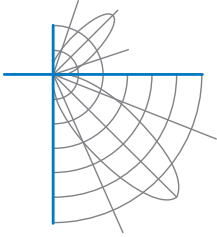
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	11127.9	50.0%	0.0	0.0%	11127.9	50.0%
House Side	11127.9	50.0%	0.0	0.0%	11127.9	50.0%
<b>Total</b>	<b>22255.8</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>22255.8</b>	<b>100.0%</b>



Report of Test  
LLIA002251-009

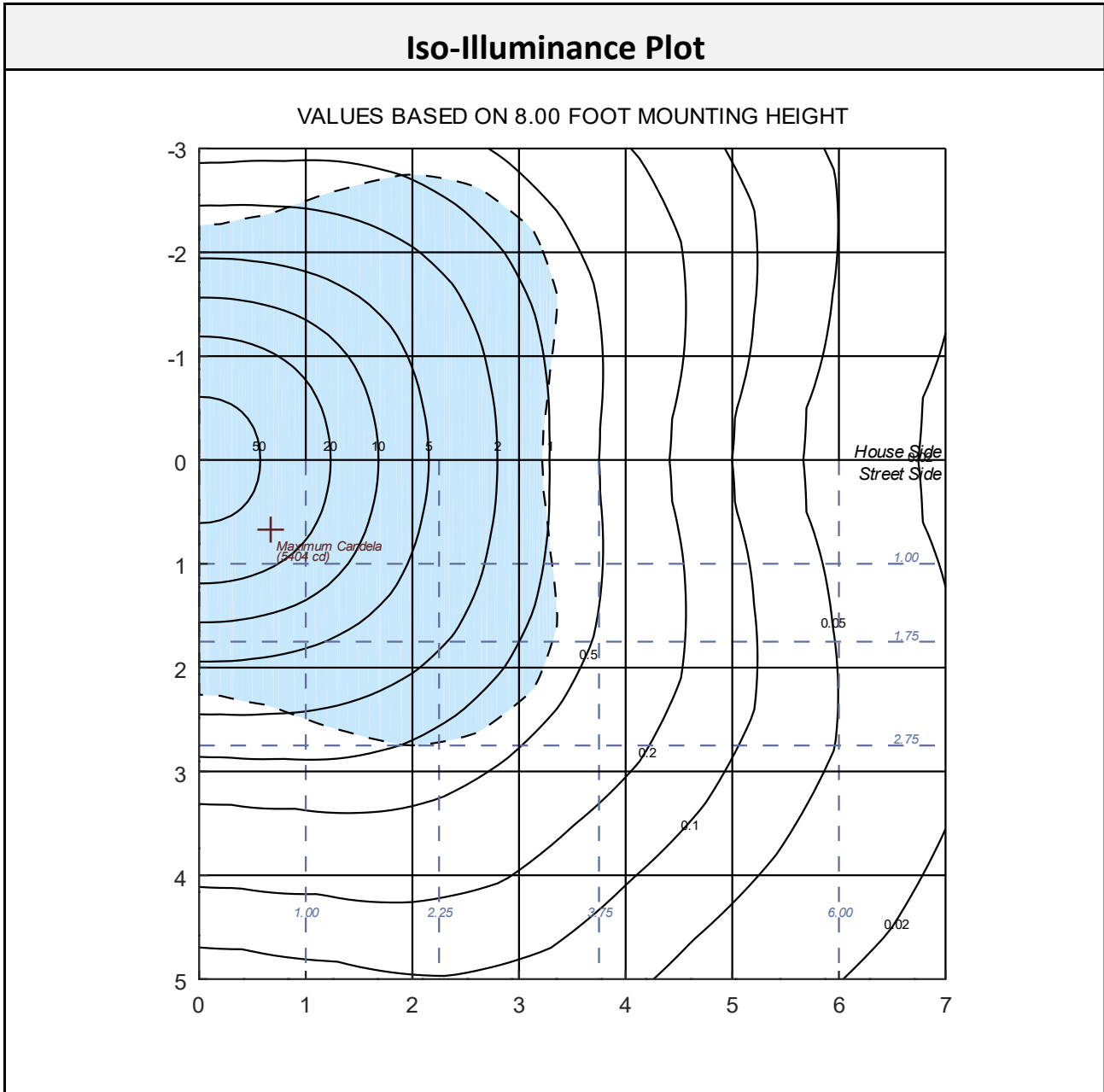


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	11127.9	50.0%	0.0	0.0%	11127.9	50.0%
House Side	11127.9	50.0%	0.0	0.0%	11127.9	50.0%
<b>Total</b>	<b>22255.8</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>22255.8</b>	<b>100.0%</b>

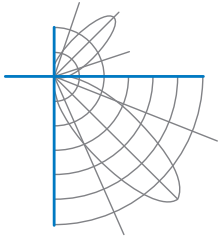


## Report of Test

LLIA002251-009

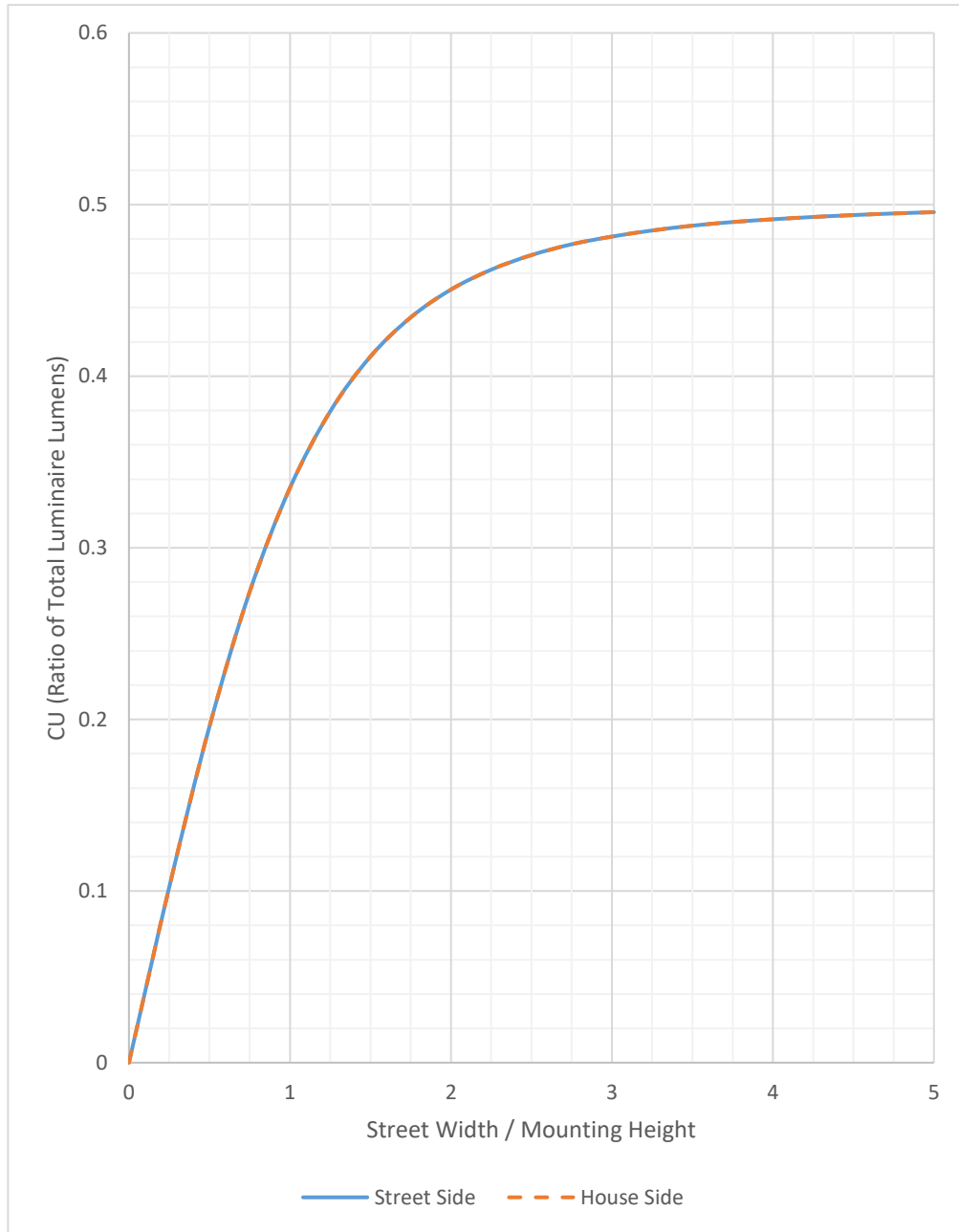


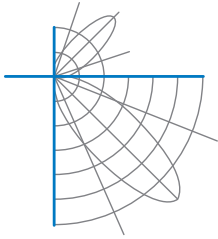
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



## Report of Test LLIA002251-009

### Coefficients of Utilization Plot

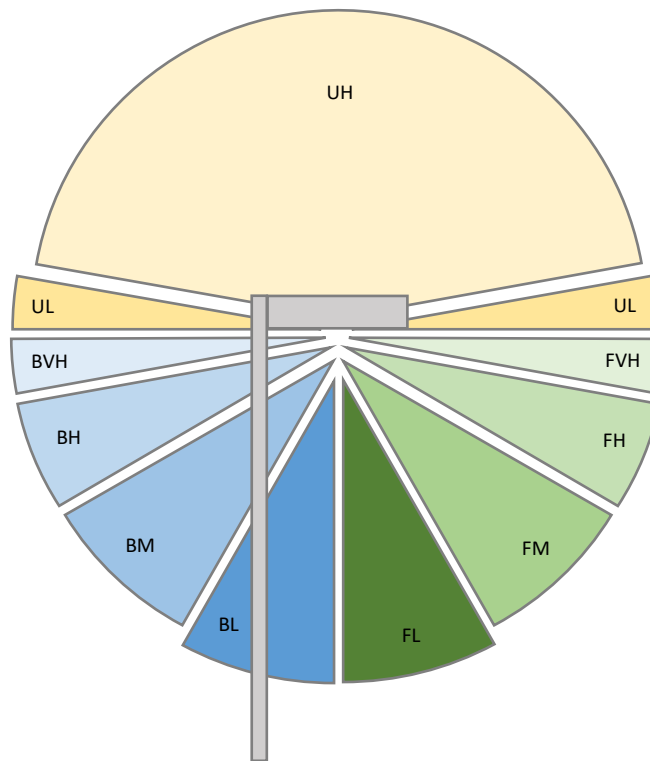




## Report of Test

LLIA002251-009

### LCS Tables and Bug Classification



#### Back Light

BL - Back Low (0°-30°)	2016.6 Lm
BM - Back Mid (30°-60°)	5855.6 Lm
BH - Back High (60°-80°)	3083.4 Lm
BVH - Back Very High (80°-90°)	172.3 Lm

#### Forward Light

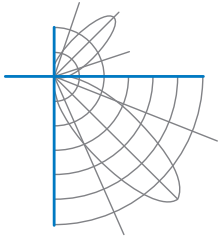
FL - Forward Low (0°-30°)	2016.6 Lm
FM - Forward Mid (30°-60°)	5855.6 Lm
FH - Forward High (60°-80°)	3083.4 Lm
FVH - Forward Very High (80°-90°)	172.3 Lm

#### Uplight

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

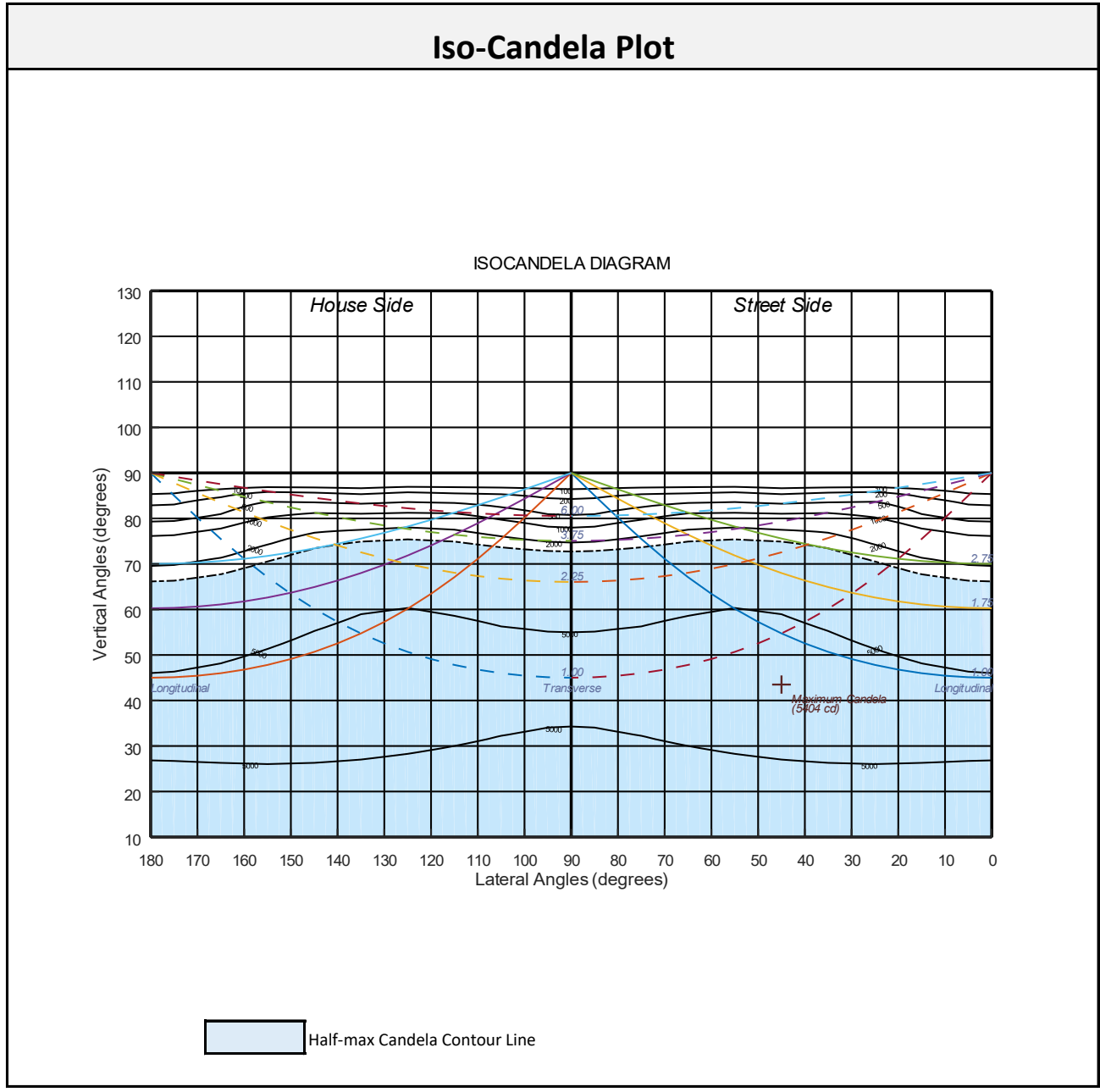
BUG Rating: Asymmetrical Luminaire (Type I, II, III, and IV) B4 - U0 - G4

BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS) B4 - U0 - G2

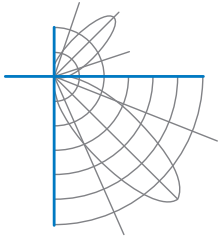


Report of Test  
LLIA002251-009

**Iso-Candela Plot**





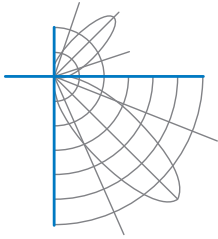


## Report of Test

LLIA002251-009

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	4479	4479	4479	4479	4479	4479	4479	4479	4479	4479	4479
	2.5	4479	4482	4486	4486	4487	4486	4487	4486	4484	4484	4483
	5	4498	4500	4503	4504	4504	4503	4501	4501	4499	4498	4497
	7.5	4525	4529	4532	4532	4532	4530	4528	4527	4524	4522	4522
	10	4563	4567	4570	4570	4569	4566	4562	4560	4555	4551	4552
	12.5	4612	4615	4618	4618	4615	4611	4605	4600	4593	4587	4588
	15	4669	4672	4675	4675	4669	4663	4654	4645	4635	4627	4626
	17.5	4733	4735	4739	4740	4733	4722	4709	4694	4679	4670	4668
	20	4801	4803	4809	4811	4801	4788	4769	4748	4728	4713	4712
	22.5	4871	4874	4883	4886	4876	4859	4833	4805	4779	4759	4758
	25	4945	4948	4959	4966	4957	4935	4902	4866	4831	4807	4806
	27.5	5020	5024	5037	5048	5041	5016	4976	4930	4887	4858	4854
	30	5095	5100	5116	5133	5128	5101	5054	5000	4945	4908	4905
	32.5	5162	5167	5188	5214	5217	5189	5136	5072	5007	4963	4959
	35	5203	5209	5238	5278	5296	5278	5224	5150	5072	5023	5017
	37.5	5206	5211	5252	5308	5349	5352	5306	5224	5137	5083	5076
	40	5176	5182	5233	5304	5365	5391	5359	5280	5190	5133	5124
	42.5	5122	5130	5190	5278	5359	5403	5386	5308	5218	5159	5149
	45	5042	5055	5125	5232	5336	5402	5395	5320	5226	5166	5162
	47.5	4934	4947	5029	5162	5293	5386	5394	5318	5219	5160	5159
50	4794	4808	4907	5062	5227	5348	5374	5297	5193	5139	5130	
52.5	4622	4637	4752	4937	5132	5284	5329	5247	5140	5087	5079	
55	4351	4378	4561	4786	5014	5194	5255	5168	5055	5005	4999	
57.5	4063	4086	4250	4553	4870	5078	5152	5058	4941	4892	4886	
60	3719	3748	3976	4271	4657	4936	5020	4917	4791	4747	4742	
62.5	3371	3397	3580	3951	4374	4762	4853	4737	4603	4560	4554	
65	2921	2954	3200	3618	4059	4467	4644	4512	4351	4295	4288	
67.5	2413	2452	2748	3214	3708	4166	4376	4207	4008	3930	3920	
70	1914	1953	2265	2804	3302	3758	3957	3804	3558	3446	3433	
72.5	1442	1478	1777	2342	2871	3265	3441	3293	2999	2807	2776	
75	1123	1150	1375	1871	2379	2677	2801	2681	2319	1956	1889	
77.5	782	810	1046	1508	1881	2000	2151	2008	1585	1167	1111	
80	397	416	622	1045	1296	1280	1355	1300	933	637	607	
82.5	220	231	355	666	699	648	706	678	497	335	318	
85	112	117	178	300	276	232	283	251	227	170	162	
87.5	38	40	48	56	57	54	65	64	63	60	58	
90	0	0	0	0	0	0	0	0	0	0	0	

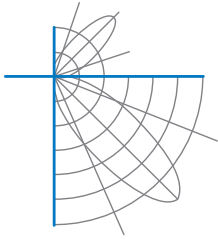


## Report of Test

LLIA002251-009

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	

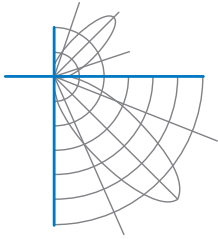


## Report of Test

LLIA002251-009

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	4479	4479	4479	4479	4479	4479	4479	4479	4479	4479	4479
	2.5	4483	4484	4484	4486	4487	4486	4487	4486	4486	4482	4479
	5	4497	4498	4499	4501	4501	4503	4504	4504	4503	4500	4498
	7.5	4522	4522	4524	4527	4528	4530	4532	4532	4532	4529	4525
	10	4552	4551	4555	4560	4562	4566	4569	4570	4570	4567	4563
	12.5	4588	4587	4593	4600	4605	4611	4615	4618	4618	4615	4612
	15	4626	4627	4635	4645	4654	4663	4669	4675	4675	4672	4669
	17.5	4668	4670	4679	4694	4709	4722	4733	4740	4739	4735	4733
	20	4712	4713	4728	4748	4769	4788	4801	4811	4809	4803	4801
	22.5	4758	4759	4779	4805	4833	4859	4876	4886	4883	4874	4871
	25	4806	4807	4831	4866	4902	4935	4957	4966	4959	4948	4945
	27.5	4854	4858	4887	4930	4976	5016	5041	5048	5037	5024	5020
	30	4905	4908	4945	5000	5054	5101	5128	5133	5116	5100	5095
	32.5	4959	4963	5007	5072	5136	5189	5217	5214	5188	5167	5162
	35	5017	5023	5072	5150	5224	5278	5296	5278	5238	5209	5203
	37.5	5076	5083	5137	5224	5306	5352	5349	5308	5252	5211	5206
	40	5124	5133	5190	5280	5359	5391	5365	5304	5233	5182	5176
	42.5	5149	5159	5218	5308	5386	5403	5359	5278	5190	5130	5122
	45	5162	5166	5226	5320	5395	5402	5336	5232	5125	5055	5042
	47.5	5159	5160	5219	5318	5394	5386	5293	5162	5029	4947	4934
50	5130	5139	5193	5297	5374	5348	5227	5062	4907	4808	4794	
52.5	5079	5087	5140	5247	5329	5284	5132	4937	4752	4637	4622	
55	4999	5005	5055	5168	5255	5194	5014	4786	4561	4378	4351	
57.5	4886	4892	4941	5058	5152	5078	4870	4553	4250	4086	4063	
60	4742	4747	4791	4917	5020	4936	4657	4271	3976	3748	3719	
62.5	4554	4560	4603	4737	4853	4762	4374	3951	3580	3397	3371	
65	4288	4295	4351	4512	4644	4467	4059	3618	3200	2954	2921	
67.5	3920	3930	4008	4207	4376	4166	3708	3214	2748	2452	2413	
70	3433	3446	3558	3804	3957	3758	3302	2804	2265	1953	1914	
72.5	2776	2807	2999	3293	3441	3265	2871	2342	1777	1478	1442	
75	1889	1956	2319	2681	2801	2677	2379	1871	1375	1150	1123	
77.5	1111	1167	1585	2008	2151	2000	1881	1508	1046	810	782	
80	607	637	933	1300	1355	1280	1296	1045	622	416	397	
82.5	318	335	497	678	706	648	699	666	355	231	220	
85	162	170	227	251	283	232	276	300	178	117	112	
87.5	58	60	63	64	65	54	57	56	48	40	38	
90	0	0	0	0	0	0	0	0	0	0	0	

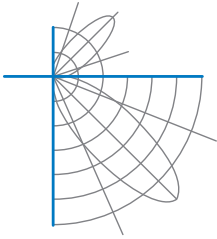


## Report of Test

LLIA002251-009

Luminous Intensity (Candela) Table

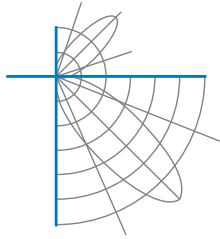
	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	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  
LLIA002251-009

**Additional Pictures of Test Subject**





## Report of Test

### LLIA002251-009

Test Distance                    9.5 m  
Ambient Temperature        24.8 °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.