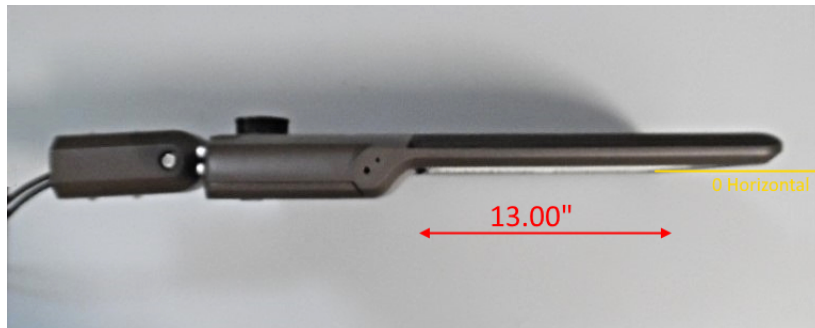


## Report of Test

LLIA002251-024

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-480PCS-T5 -480W Setting - 4000K Setting  
Pole mounted, cast aluminum housing, white LED board with  
frosted plastic enclosure with clear optic sections below LEDs.  
1120 white LEDs, 560 CW LEDs and 560 WW LEDs  
Two Sosen SS-240NH-E260BH LED driver



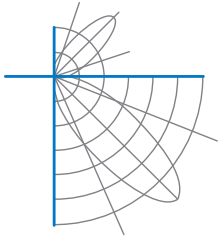
Prepared For:  
Topaz Lighting Corp  
925 Waverly Avenue  
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	71634.0 Lumens
Input Current	3.869 A	Total Efficacy	154.4 Lm/W
Input Power	463.9 W		
Frequency	60.01 Hz		
Power Factor	0.999	Roadway Type	Area Light
Current THD	3.5 %		

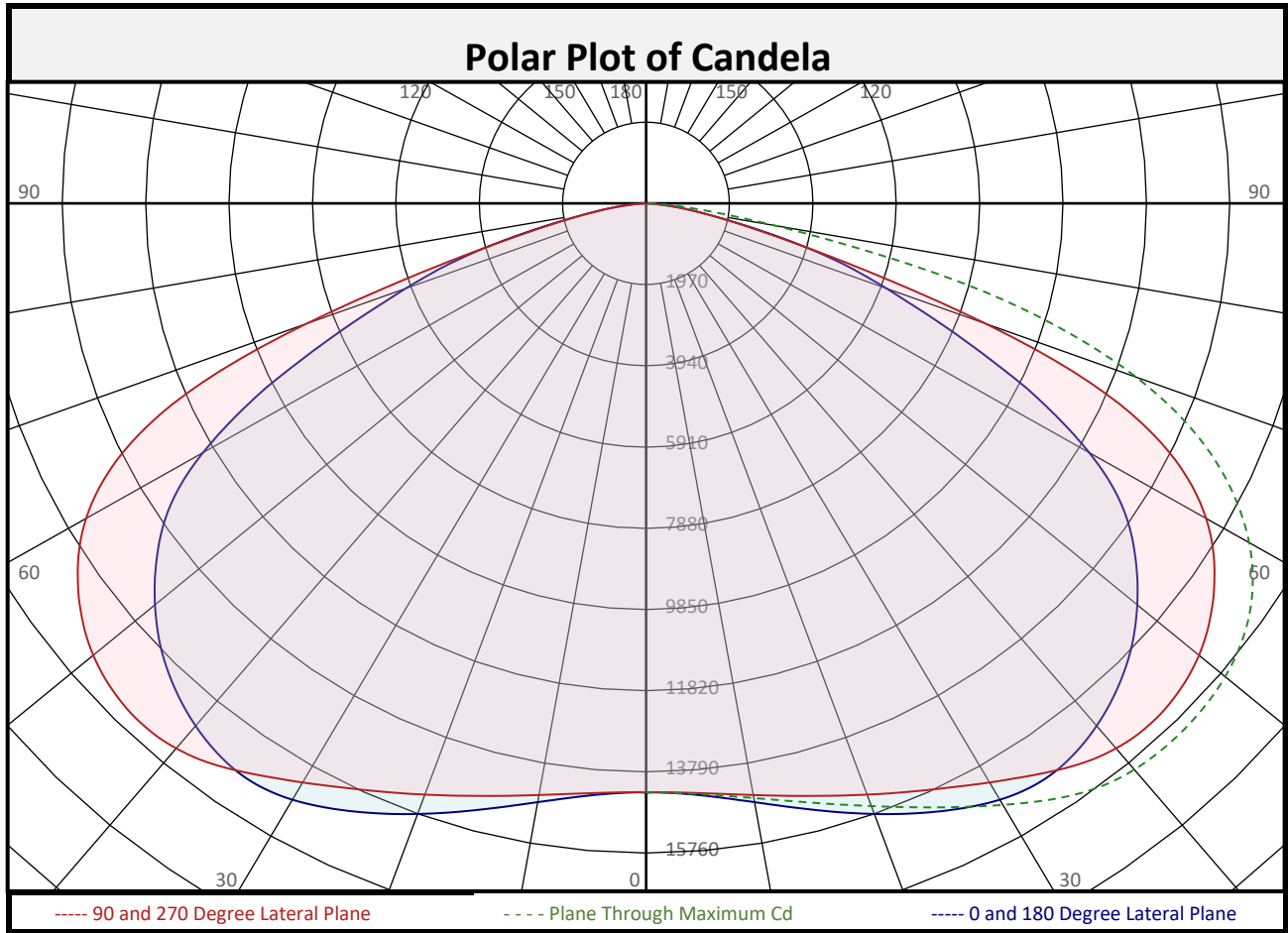
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/15/2023  
Report date: 11/17/2023

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

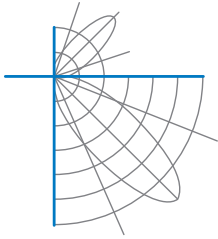


## Report of Test LLIA002251-024



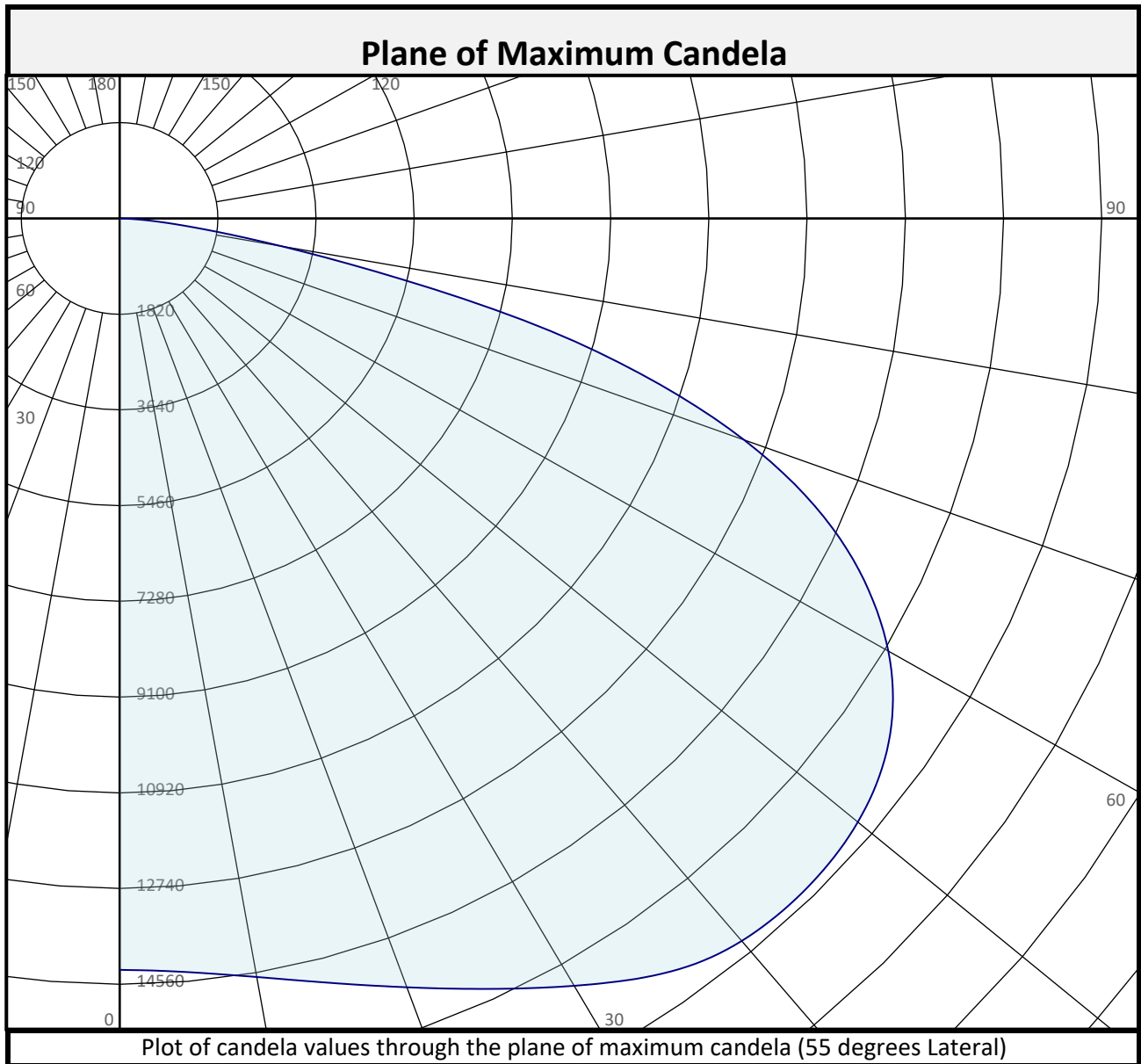
### Zonal Flux Summary

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	1383	1.9%	90-100	0.0	0.0%	0-20	5677	7.9%
10-20	4294	6.0%	100-110	0.0	0.0%	0-30	13166	18.4%
20-30	7489	10.5%	110-120	0.0	0.0%	0-40	23950	33.4%
30-40	10784	15.1%	120-130	0.0	0.0%	0-60	51645	72.1%
40-50	13318	18.6%	130-140	0.0	0.0%	0-80	70750	98.8%
50-60	14377	20.1%	140-150	0.0	0.0%	10-90	70251	98.1%
60-70	12654	17.7%	150-160	0.0	0.0%	20-50	31591	44.1%
70-80	6451	9.0%	160-170	0.0	0.0%	40-90	47684	66.6%
80-90	883.8	1.2%	170-180	0.0	0.0%	60-90	19989	27.9%
0-90	71634	100.0%	90-180	0.0	0.0%	0-180	71634	100.0%

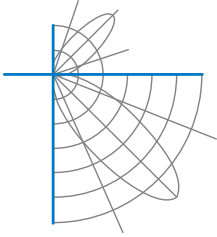


## Report of Test

LLIA002251-024

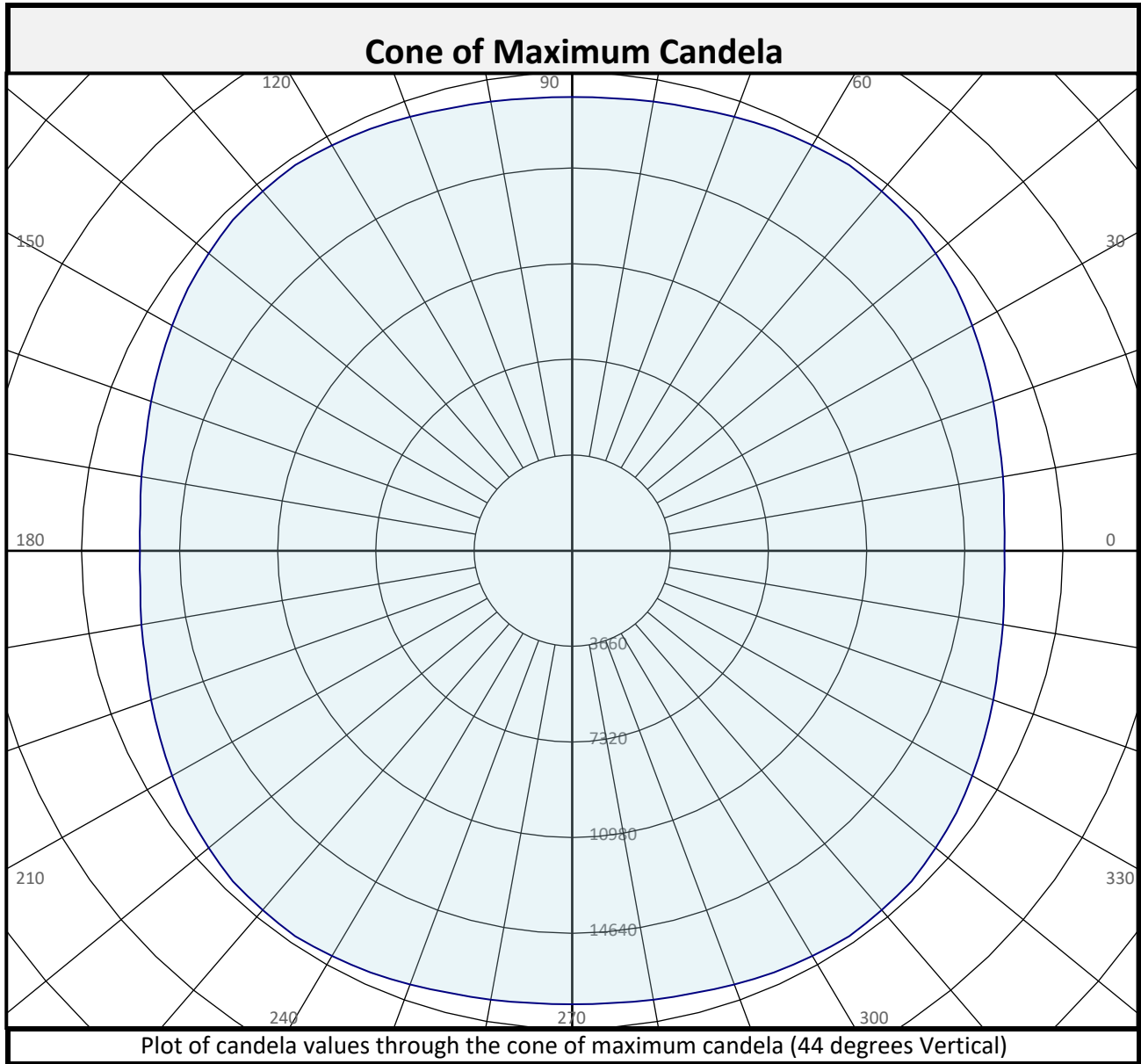


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	35817.0	50.0%	0.0	0.0%	35817.0	50.0%
House Side	35817.0	50.0%	0.0	0.0%	35817.0	50.0%
<b>Total</b>	<b>71634.0</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>71634.0</b>	<b>100.0%</b>

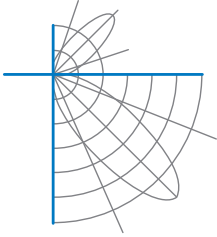


Report of Test

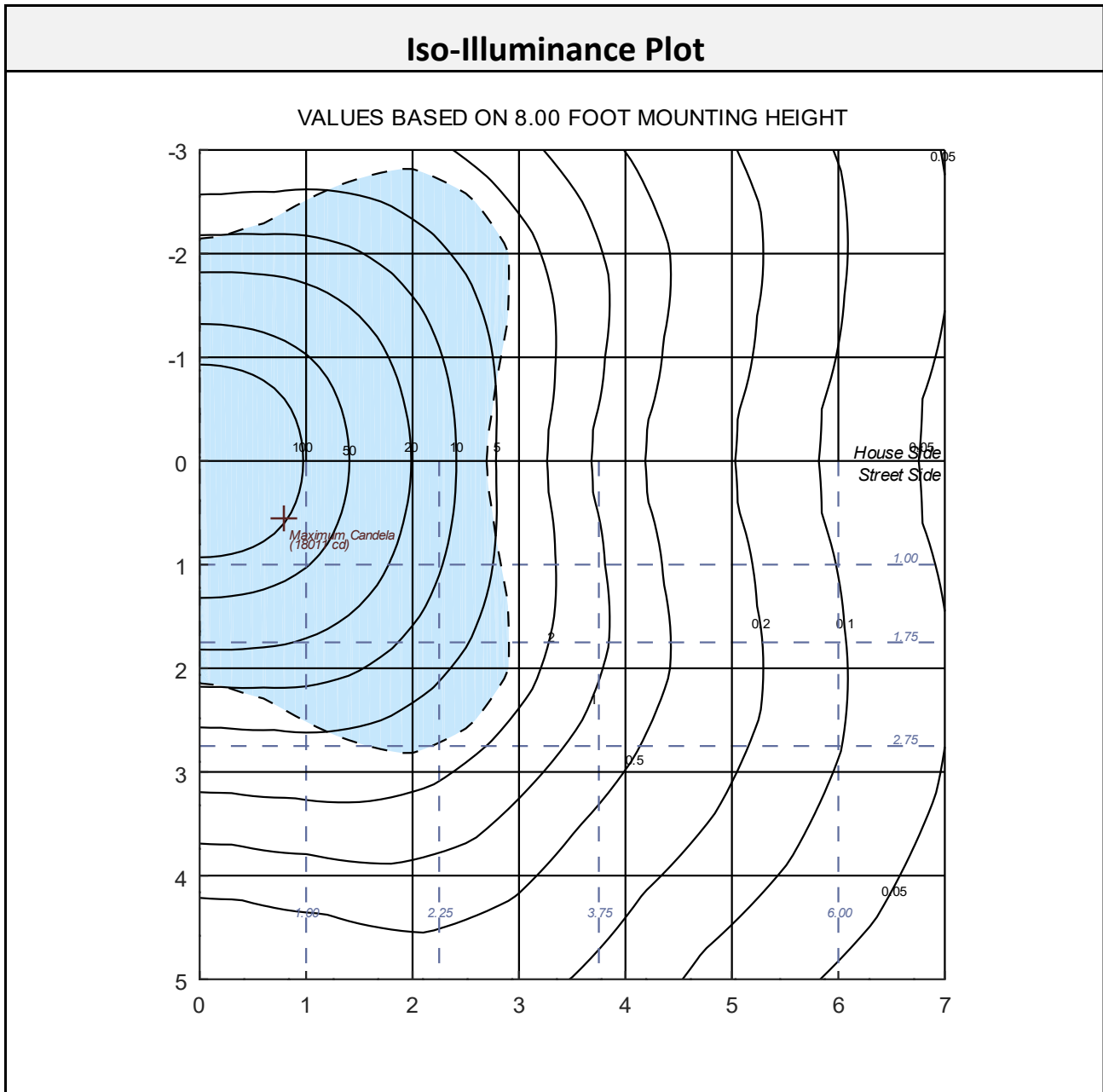
LLIA002251-024



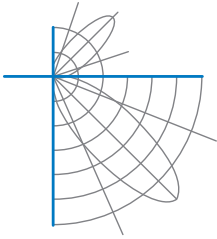
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	35817.0	50.0%	0.0	0.0%	35817.0	50.0%
House Side	35817.0	50.0%	0.0	0.0%	35817.0	50.0%
<b>Total</b>	<b>71634.0</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>71634.0</b>	<b>100.0%</b>



Report of Test  
LLIA002251-024

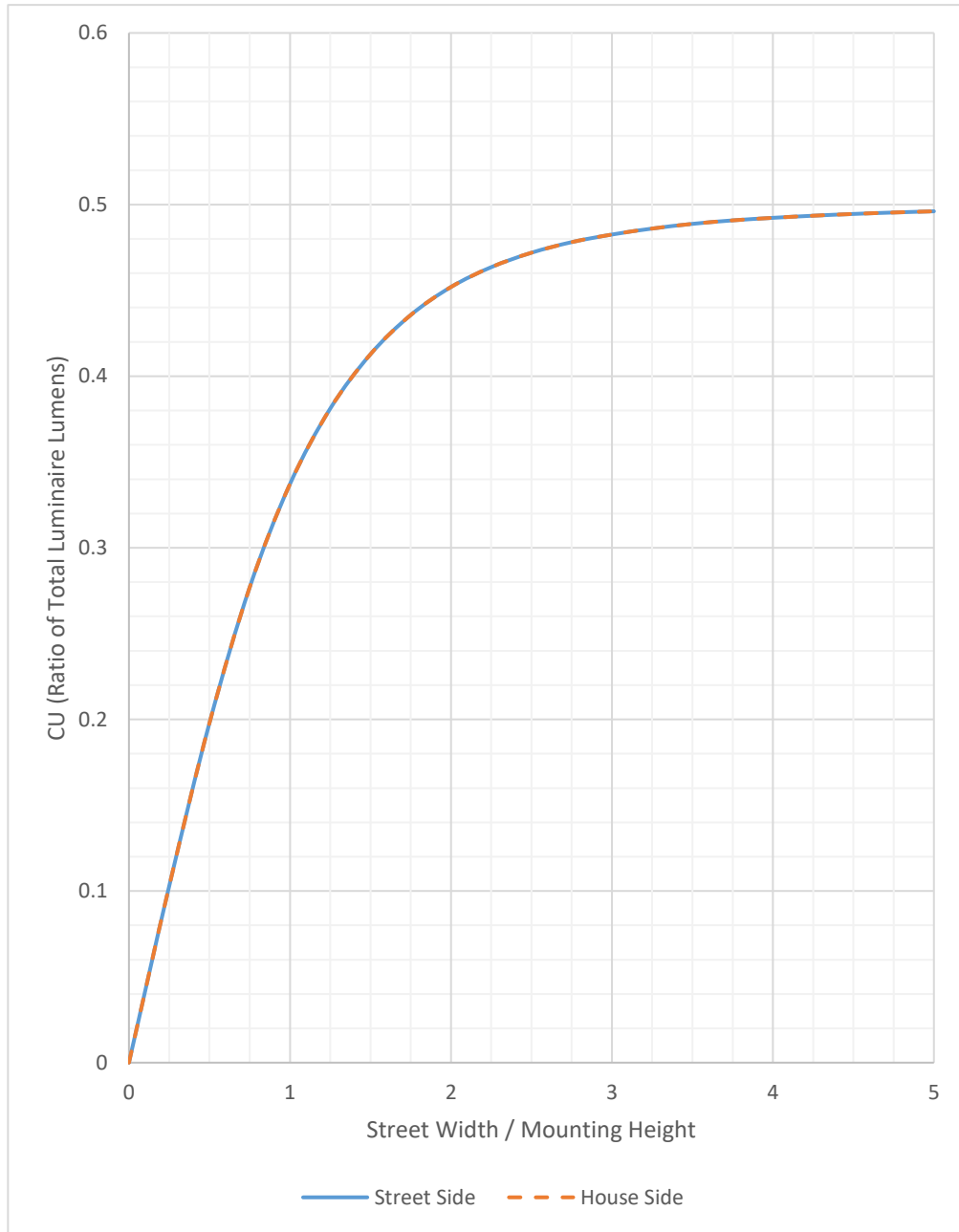


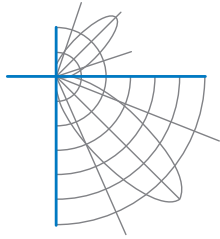
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



## Report of Test LLIA002251-024

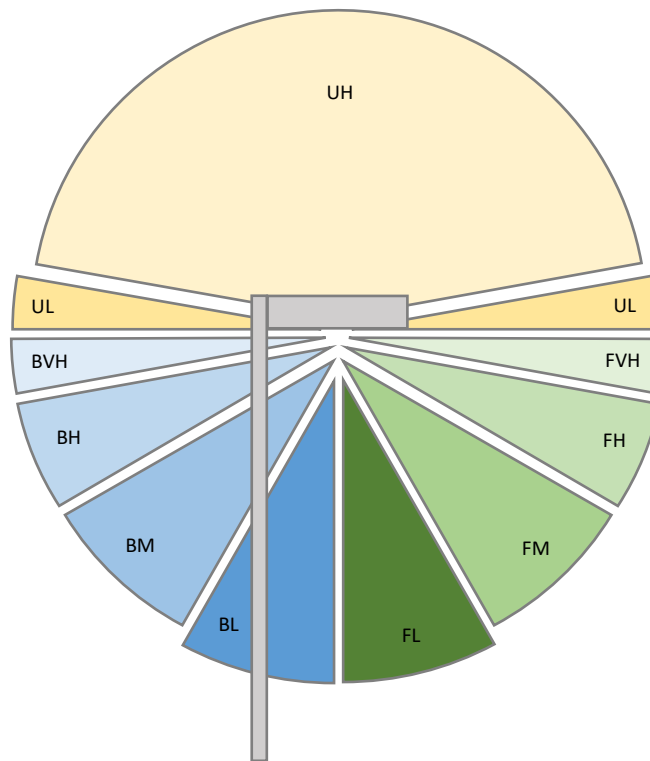
### Coefficients of Utilization Plot





## Report of Test LLIA002251-024

### LCS Tables and Bug Classification



#### Back Light

BL - Back Low (0°-30°)	6582.9 Lm
BM - Back Mid (30°-60°)	19239.7 Lm
BH - Back High (60°-80°)	9552.4 Lm
BVH - Back Very High (80°-90°)	441.9 Lm

#### Forward Light

FL - Forward Low (0°-30°)	6582.9 Lm
FM - Forward Mid (30°-60°)	19239.7 Lm
FH - Forward High (60°-80°)	9552.4 Lm
FVH - Forward Very High (80°-90°)	441.9 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)

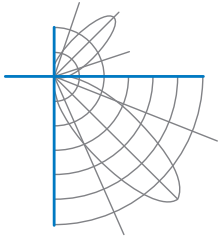
B5 - U0 - G5

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

B5 - U0 - G4





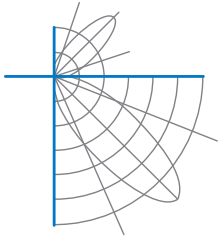


## Report of Test

LLIA002251-024

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	14287	14287	14287	14287	14287	14287	14287	14287	14287	14287	14287
	2.5	14308	14318	14319	14319	14319	14317	14315	14311	14308	14306	14295
	5	14401	14411	14409	14406	14401	14392	14385	14376	14368	14365	14353
	7.5	14549	14557	14553	14544	14532	14514	14498	14479	14464	14458	14445
	10	14741	14748	14740	14727	14707	14677	14646	14615	14590	14578	14567
	12.5	14969	14974	14965	14947	14919	14878	14832	14784	14742	14720	14711
	15	15219	15224	15215	15197	15163	15111	15046	14977	14918	14883	14873
	17.5	15485	15489	15485	15469	15434	15373	15290	15197	15117	15068	15059
	20	15754	15757	15761	15755	15724	15658	15557	15439	15333	15267	15256
	22.5	16018	16020	16038	16049	16032	15965	15850	15705	15567	15483	15469
	25	16270	16277	16308	16347	16352	16292	16165	15991	15818	15713	15697
	27.5	16503	16513	16565	16638	16676	16630	16498	16296	16091	15966	15943
	30	16697	16711	16791	16909	16992	16978	16848	16623	16387	16239	16216
	32.5	16815	16836	16950	17127	17275	17315	17201	16960	16698	16529	16500
	35	16826	16853	17009	17256	17488	17600	17529	17289	17011	16829	16798
	37.5	16726	16758	16959	17277	17594	17795	17783	17561	17282	17094	17069
	40	16546	16582	16818	17206	17605	17886	17933	17736	17460	17284	17258
	42.5	16300	16341	16613	17070	17550	17910	18000	17804	17528	17370	17350
	45	15990	16035	16349	16880	17447	17879	18008	17795	17504	17358	17341
	47.5	15610	15658	16017	16629	17287	17806	17963	17718	17399	17258	17239
50	15145	15206	15617	16314	17068	17675	17856	17570	17211	17068	17051	
52.5	14607	14671	15143	15930	16785	17474	17673	17333	16929	16776	16763	
55	13990	14066	14596	15481	16433	17193	17393	16991	16543	16396	16380	
57.5	13203	13297	13945	14962	16004	16805	16991	16531	16055	15916	15904	
60	12086	12204	13075	14329	15483	16303	16447	15935	15430	15288	15280	
62.5	10657	10800	11883	13529	14820	15651	15738	15168	14606	14432	14418	
65	8995	9153	10421	12500	14016	14832	14863	14177	13499	13228	13195	
67.5	7406	7555	8805	11106	13027	13801	13746	12879	11978	11433	11348	
70	6061	6190	7292	9602	11611	12525	12315	11213	9869	8765	8568	
72.5	4868	4991	6012	8072	9967	10727	10494	9101	7321	5778	5536	
75	3485	3605	4666	6582	8119	8509	8257	6785	4924	3562	3405	
77.5	2201	2289	3189	5073	6046	5622	5379	4637	3145	2248	2155	
80	1315	1368	1926	3453	3626	3043	3058	2764	1965	1432	1376	
82.5	741	777	1126	2008	1717	1476	1578	1468	1197	877	840	
85	271	288	462	745	701	645	740	675	607	471	445	
87.5	84	92	147	179	172	161	210	202	199	167	157	
90	0	0	0	0	0	0	0	0	0	0	0	

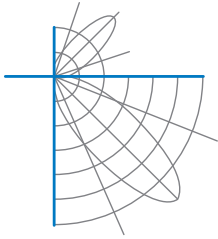


## Report of Test

LLIA002251-024

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	

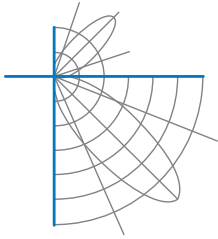


## Report of Test

LLIA002251-024

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	14287	14287	14287	14287	14287	14287	14287	14287	14287	14287	14287
	2.5	14295	14306	14308	14311	14315	14317	14319	14319	14319	14318	14308
	5	14353	14365	14368	14376	14385	14392	14401	14406	14409	14411	14401
	7.5	14445	14458	14464	14479	14498	14514	14532	14544	14553	14557	14549
	10	14567	14578	14590	14615	14646	14677	14707	14727	14740	14748	14741
	12.5	14711	14720	14742	14784	14832	14878	14919	14947	14965	14974	14969
	15	14873	14883	14918	14977	15046	15111	15163	15197	15215	15224	15219
	17.5	15059	15068	15117	15197	15290	15373	15434	15469	15485	15489	15485
	20	15256	15267	15333	15439	15557	15658	15724	15755	15761	15757	15754
	22.5	15469	15483	15567	15705	15850	15965	16032	16049	16038	16020	16018
	25	15697	15713	15818	15991	16165	16292	16352	16347	16308	16277	16270
	27.5	15943	15966	16091	16296	16498	16630	16676	16638	16565	16513	16503
	30	16216	16239	16387	16623	16848	16978	16992	16909	16791	16711	16697
	32.5	16500	16529	16698	16960	17201	17315	17275	17127	16950	16836	16815
	35	16798	16829	17011	17289	17529	17600	17488	17256	17009	16853	16826
	37.5	17069	17094	17282	17561	17783	17795	17594	17277	16959	16758	16726
	40	17258	17284	17460	17736	17933	17886	17605	17206	16818	16582	16546
	42.5	17350	17370	17528	17804	18000	17910	17550	17070	16613	16341	16300
	45	17341	17358	17504	17795	18008	17879	17447	16880	16349	16035	15990
	47.5	17239	17258	17399	17718	17963	17806	17287	16629	16017	15658	15610
	50	17051	17068	17211	17570	17856	17675	17068	16314	15617	15206	15145
	52.5	16763	16776	16929	17333	17673	17474	16785	15930	15143	14671	14607
	55	16380	16396	16543	16991	17393	17193	16433	15481	14596	14066	13990
	57.5	15904	15916	16055	16531	16991	16805	16004	14962	13945	13297	13203
	60	15280	15288	15430	15935	16447	16303	15483	14329	13075	12204	12086
	62.5	14418	14432	14606	15168	15738	15651	14820	13529	11883	10800	10657
	65	13195	13228	13499	14177	14863	14832	14016	12500	10421	9153	8995
	67.5	11348	11433	11978	12879	13746	13801	13027	11106	8805	7555	7406
	70	8568	8765	9869	11213	12315	12525	11611	9602	7292	6190	6061
	72.5	5536	5778	7321	9101	10494	10727	9967	8072	6012	4991	4868
75	3405	3562	4924	6785	8257	8509	8119	6582	4666	3605	3485	
77.5	2155	2248	3145	4637	5379	5622	6046	5073	3189	2289	2201	
80	1376	1432	1965	2764	3058	3043	3626	3453	1926	1368	1315	
82.5	840	877	1197	1468	1578	1476	1717	2008	1126	777	741	
85	445	471	607	675	740	645	701	745	462	288	271	
87.5	157	167	199	202	210	161	172	179	147	92	84	
90	0	0	0	0	0	0	0	0	0	0	0	

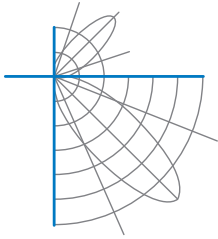


## Report of Test

LLIA002251-024

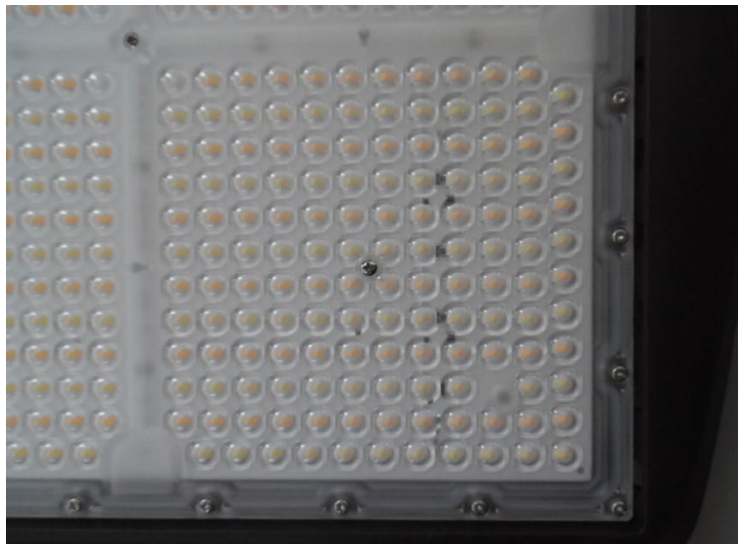
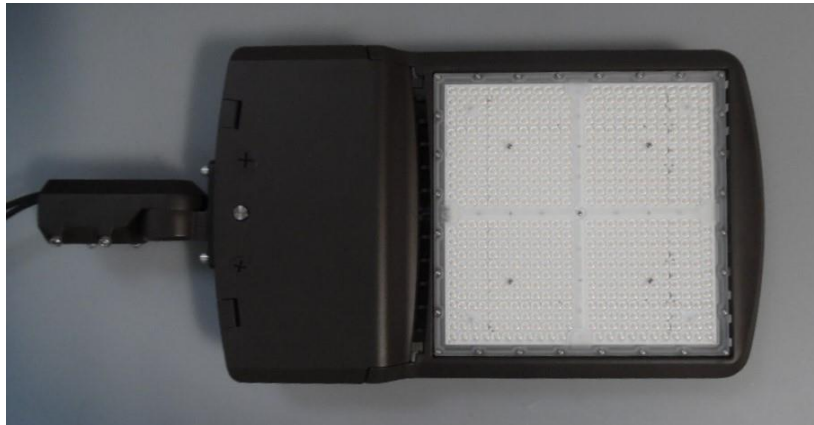
Luminous Intensity (Candela) Table

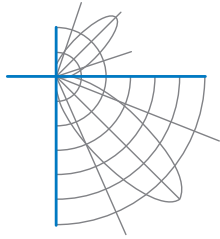
	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	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  
LLIA002251-024

**Additional Pictures of Test Subject**





## Report of Test

### LLIA002251-024

Test Distance                    9.5 m  
Ambient Temperature        25.3 °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.