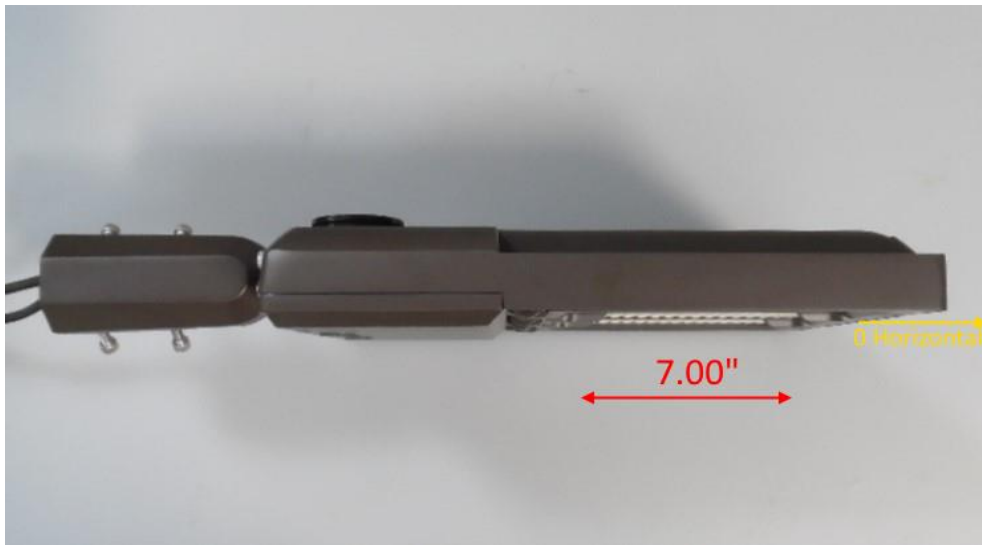


Report of Test

LLIA002251-032

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-150PCS-SWO - T5 Optics - 100W - 4000K Setting
Pole mounted, cast aluminum housing, white LED board with
frosted plastic enclosure with clear optic sections below each LED.
288 white LEDs, 144 CW LEDs and 144 WW LEDs
One Sosen SS-160NH-E260BH LED driver



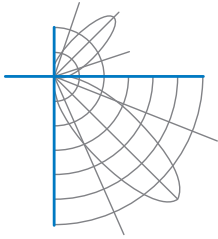
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	15181.1 Lumens
Input Current	0.8114 A	Total Efficacy	156.2 Lm/W
Input Power	97.16 W		
Frequency	60.00 Hz		
Power Factor	0.998	Roadway Type	Area Light
Current THD	4.3 %		

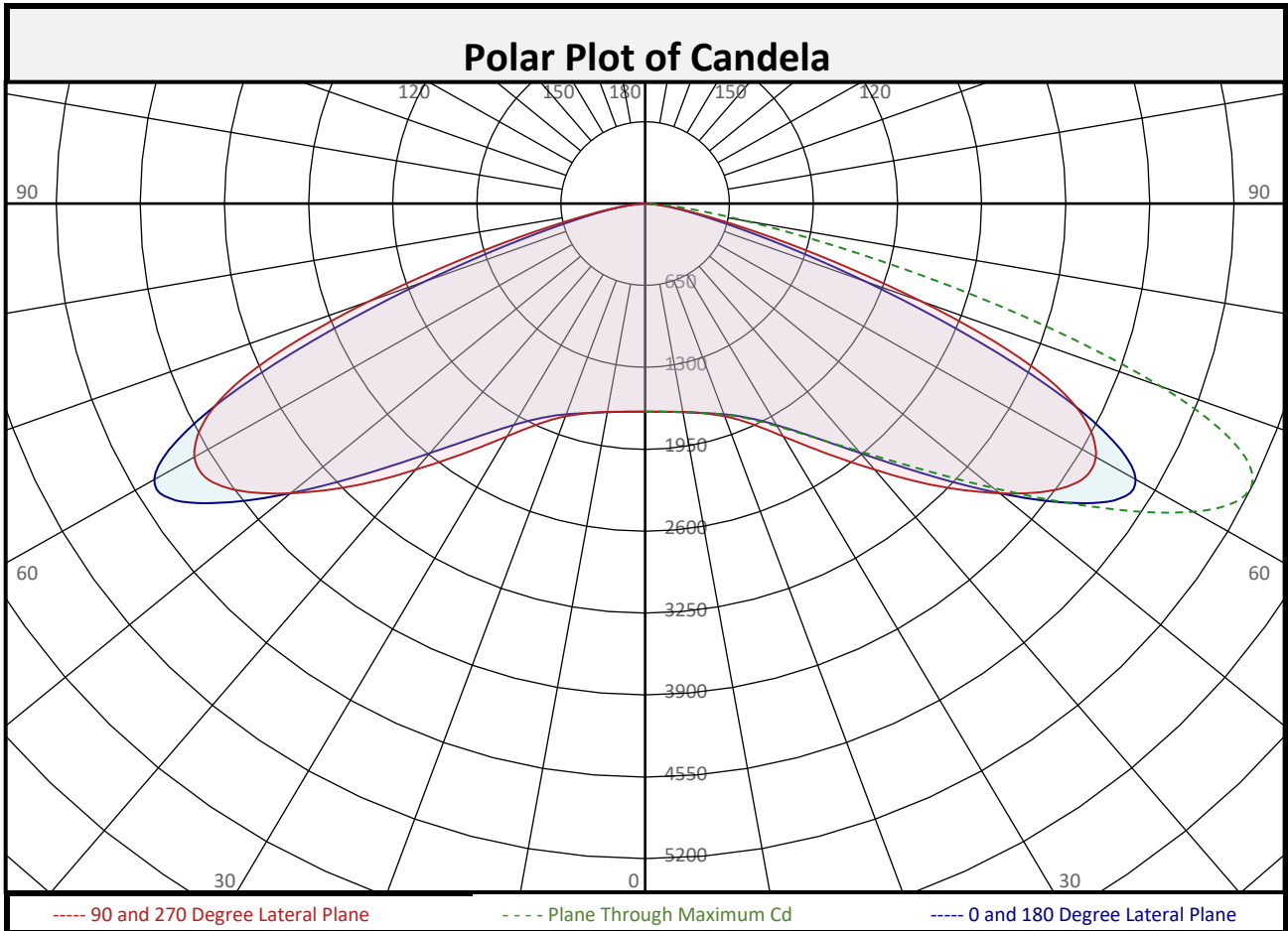
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 10/31/2023
Report date: 11/06/2023

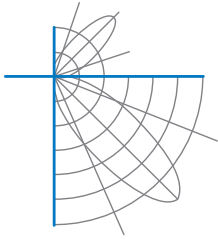
Signed: _____



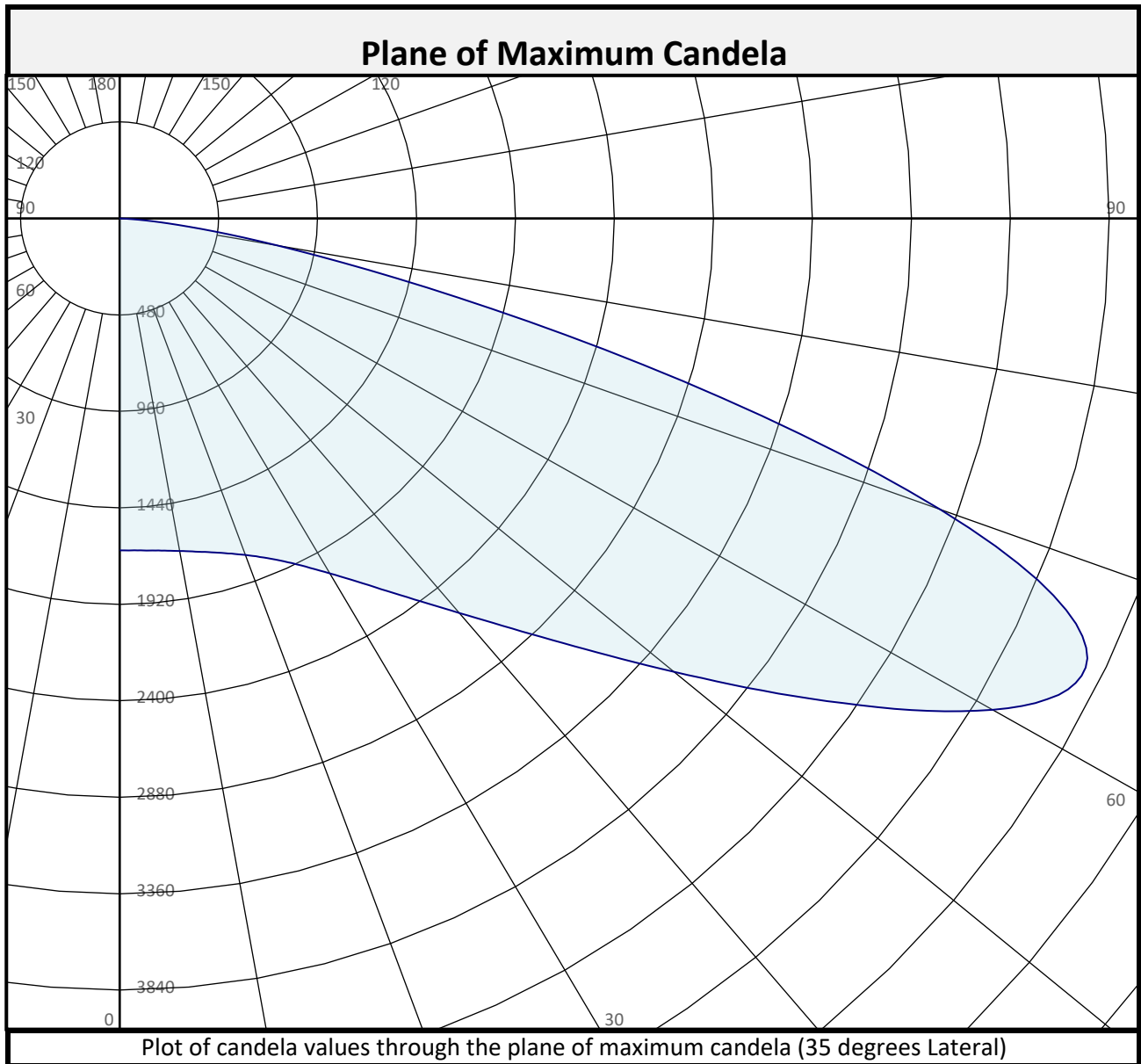
Report of Test
LLIA002251-032



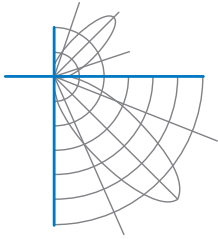
Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	159.1	1.0%		90-100	0.0	0.0%		0-20	649.9	4.3%
10-20	490.7	3.2%		100-110	0.0	0.0%		0-30	1537	10.1%
20-30	886.7	5.8%		110-120	0.0	0.0%		0-40	3004	19.8%
30-40	1467	9.7%		120-130	0.0	0.0%		0-60	9071	59.8%
40-50	2383	15.7%		130-140	0.0	0.0%		0-80	15000	98.8%
50-60	3684	24.3%		140-150	0.0	0.0%		10-90	15022	99.0%
60-70	4149	27.3%		150-160	0.0	0.0%		20-50	4737	31.2%
70-80	1780	11.7%		160-170	0.0	0.0%		40-90	12177	80.2%
80-90	181.1	1.2%		170-180	0.0	0.0%		60-90	6110	40.2%
0-90	15181	100.0%		90-180	0.0	0.0%		0-180	15181	100.0%



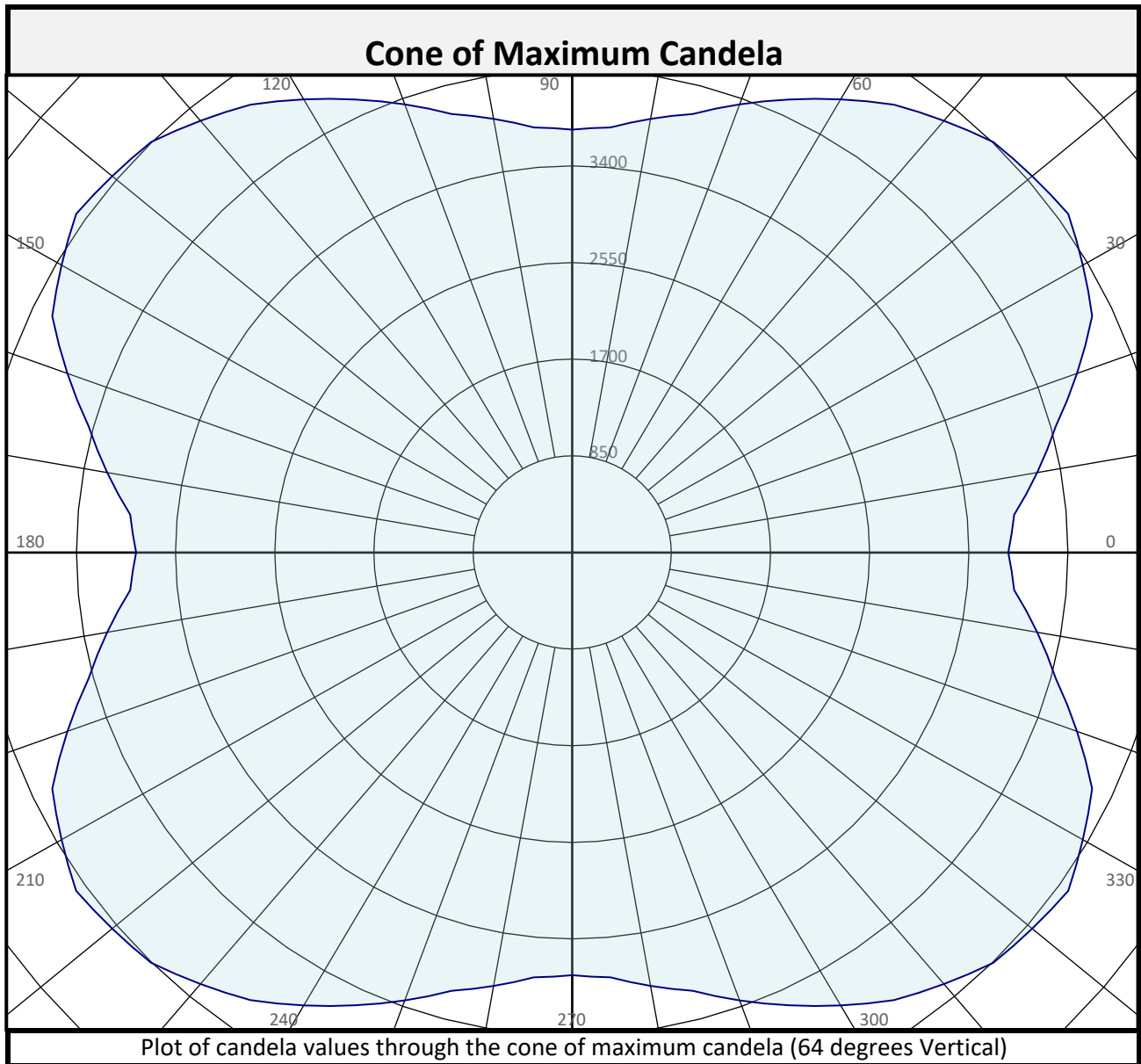
Report of Test
LLIA002251-032



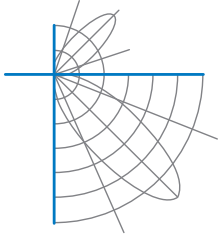
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	7590.5	50.0%	0.0	0.0%	7590.5	50.0%
House Side	7590.5	50.0%	0.0	0.0%	7590.5	50.0%
Total	15181.1	100.0%	0.0	0.0%	15181.1	100.0%



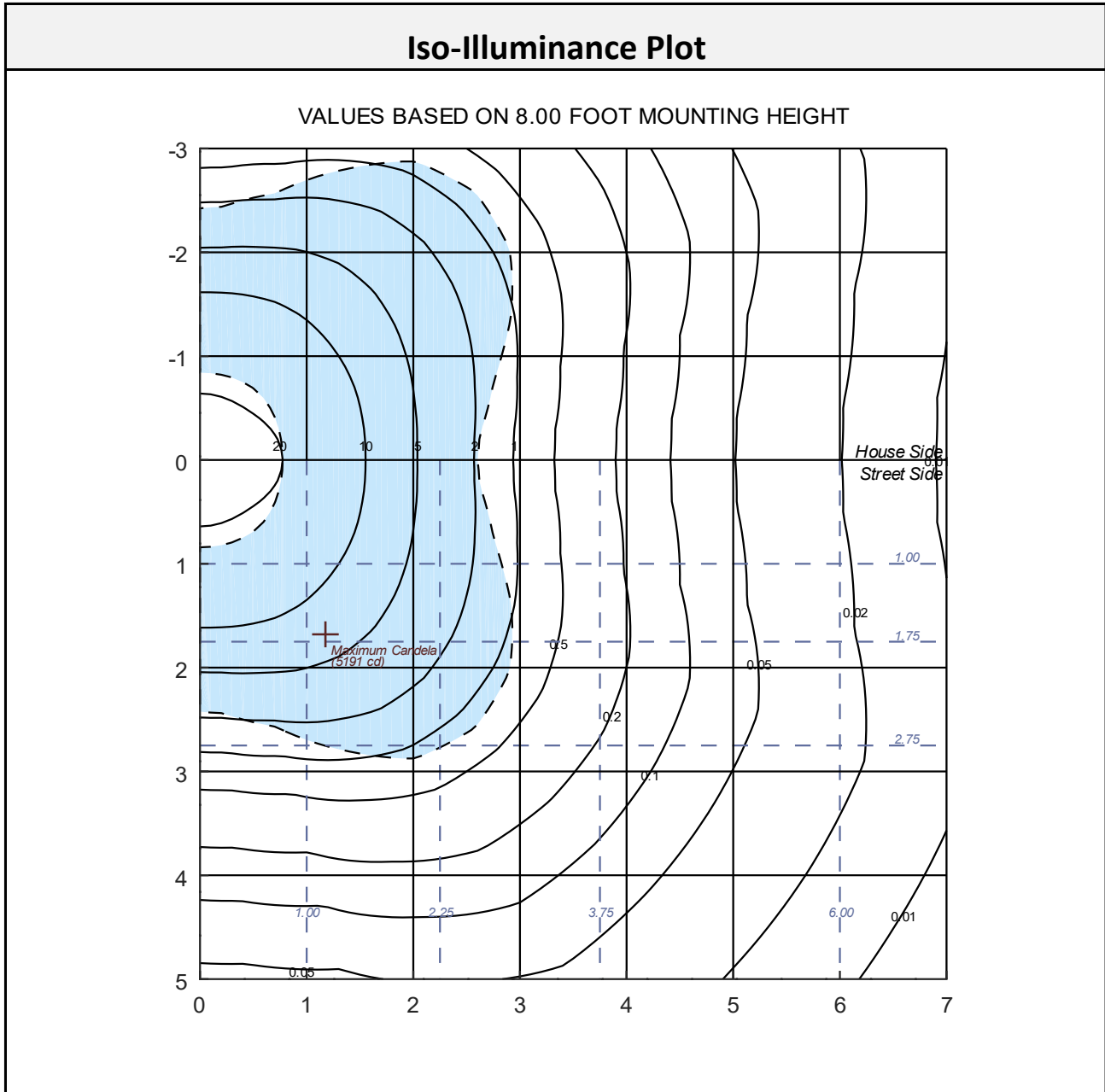
Report of Test
LLIA002251-032



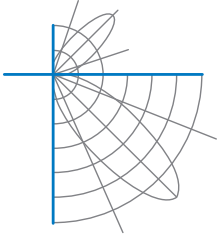
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	7590.5	50.0%	0.0	0.0%	7590.5	50.0%
House Side	7590.5	50.0%	0.0	0.0%	7590.5	50.0%
Total	15181.1	100.0%	0.0	0.0%	15181.1	100.0%



Report of Test
LLIA002251-032

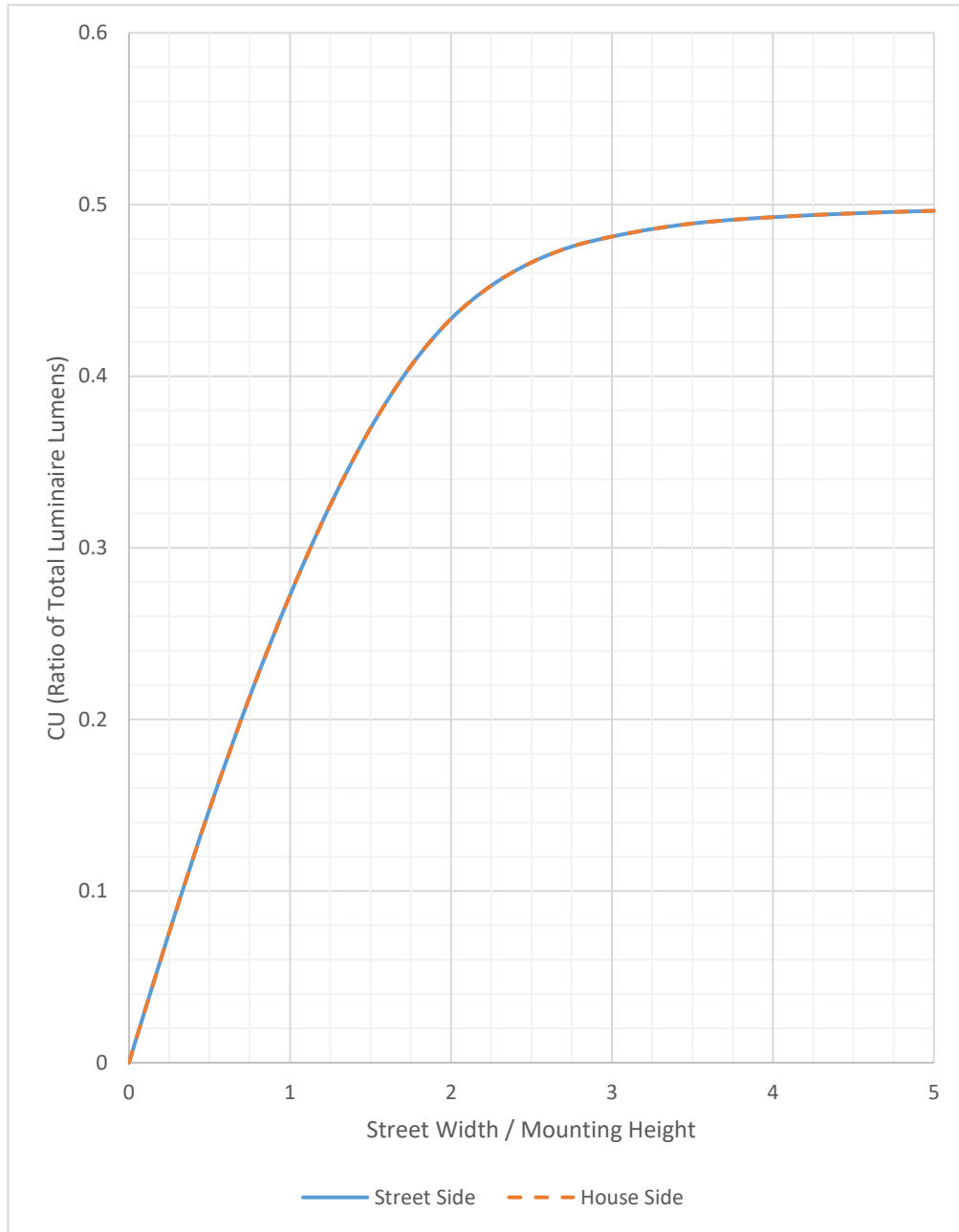


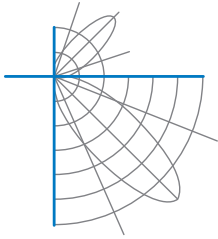
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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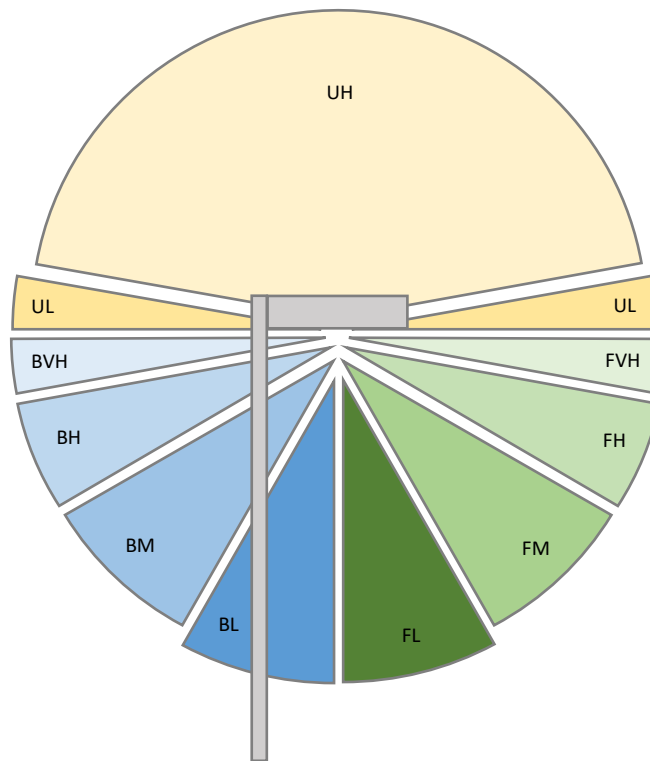
Coefficients of Utilization Plot





Report of Test LLIA002251-032

LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	768.3 Lm
BM - Back Mid (30°-60°)	3767.1 Lm
BH - Back High (60°-80°)	2964.6 Lm
BVH - Back Very High (80°-90°)	90.5 Lm

Forward Light

FL - Forward Low (0°-30°)	768.3 Lm
FM - Forward Mid (30°-60°)	3767.1 Lm
FH - Forward High (60°-80°)	2964.6 Lm
FVH - Forward Very High (80°-90°)	90.5 Lm

Uplight

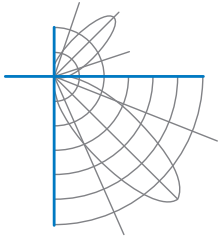
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

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

B4 - U0 - G4

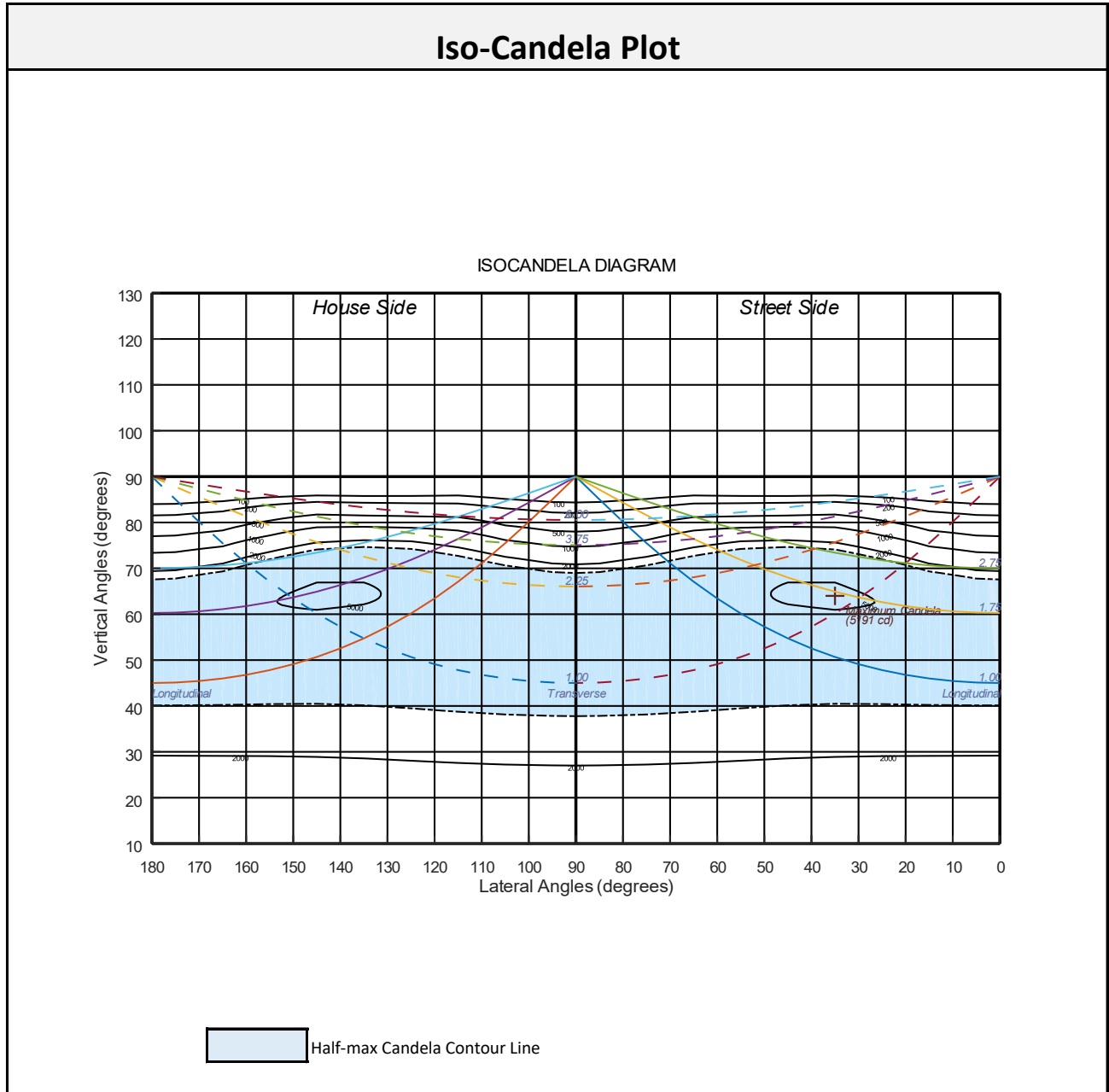
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS)

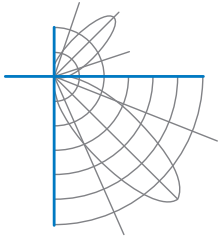
B4 - U0 - G2



Report of Test
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Iso-Candela Plot



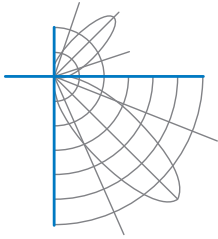


Report of Test

LLIA002251-032

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	1652	1652	1652	1652	1652	1652	1652	1652	1652	1652	1652
	2.5	1654	1654	1654	1654	1653	1654	1652	1653	1652	1653	1653
	5	1659	1660	1660	1659	1659	1659	1658	1658	1657	1658	1658
	7.5	1668	1668	1669	1669	1667	1668	1667	1666	1666	1666	1666
	10	1682	1683	1682	1681	1681	1680	1680	1679	1679	1678	1679
	12.5	1700	1699	1700	1700	1698	1698	1698	1698	1698	1697	1697
	15	1722	1722	1721	1721	1720	1720	1720	1721	1722	1722	1722
	17.5	1749	1749	1749	1748	1748	1750	1751	1753	1754	1755	1755
	20	1781	1781	1782	1782	1782	1785	1789	1793	1796	1797	1796
	22.5	1822	1824	1823	1824	1826	1832	1839	1845	1851	1853	1853
	25	1876	1877	1877	1878	1882	1891	1901	1913	1921	1926	1925
	27.5	1944	1945	1945	1948	1953	1964	1980	1997	2010	2018	2019
	30	2031	2032	2033	2034	2040	2053	2075	2099	2120	2131	2134
	32.5	2135	2137	2137	2138	2142	2159	2188	2219	2246	2262	2264
	35	2261	2263	2262	2258	2264	2283	2317	2356	2390	2409	2413
	37.5	2412	2411	2407	2400	2403	2425	2465	2512	2551	2572	2576
	40	2586	2586	2579	2568	2563	2586	2633	2687	2730	2754	2756
	42.5	2793	2790	2780	2761	2750	2769	2822	2882	2927	2950	2955
	45	3028	3027	3015	2988	2967	2984	3040	3101	3142	3161	3163
	47.5	3293	3291	3281	3251	3220	3229	3285	3337	3364	3369	3371
	50	3579	3577	3574	3548	3510	3507	3551	3582	3584	3576	3574
	52.5	3872	3876	3887	3878	3837	3818	3832	3832	3802	3776	3771
	55	4149	4156	4200	4223	4188	4145	4117	4078	4003	3944	3936
	57.5	4354	4372	4474	4563	4553	4474	4398	4293	4148	4048	4035
	60	4378	4414	4629	4844	4890	4785	4644	4439	4197	4041	4021
	62.5	4075	4131	4524	4974	5135	5027	4795	4458	4112	3903	3874
	65	3453	3522	4064	4809	5179	5117	4779	4319	3880	3613	3575
	67.5	2619	2688	3267	4256	4903	4930	4533	3977	3442	3087	3031
	70	1821	1874	2357	3371	4237	4394	4008	3404	2796	2338	2276
	72.5	1180	1216	1551	2397	3265	3508	3221	2664	2004	1576	1524
75	730	752	957	1540	2239	2456	2319	1861	1273	977	943	
77.5	454	467	582	933	1377	1481	1417	1162	751	576	556	
80	280	286	349	548	782	771	727	669	435	341	331	
82.5	157	160	195	295	399	377	357	339	235	185	180	
85	66	67	84	127	159	148	143	143	104	81	77	
87.5	6	6	9	14	20	24	33	39	30	22	21	
90	0	0	0	0	0	0	0	0	0	0	0	

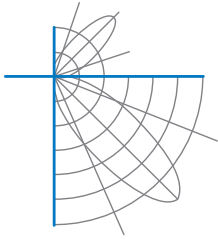


Report of Test

LLIA002251-032

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	

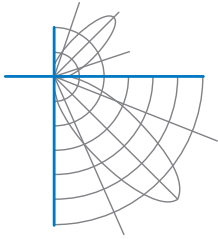


Report of Test

LLIA002251-032

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	1652	1652	1652	1652	1652	1652	1652	1652	1652	1652	1652
	2.5	1653	1653	1652	1653	1652	1654	1653	1654	1654	1654	1654
	5	1658	1658	1657	1658	1658	1659	1659	1659	1660	1660	1659
	7.5	1666	1666	1666	1666	1667	1668	1667	1669	1669	1668	1668
	10	1679	1678	1679	1679	1680	1680	1681	1681	1682	1683	1682
	12.5	1697	1697	1698	1698	1698	1698	1698	1700	1700	1699	1700
	15	1722	1722	1722	1721	1720	1720	1720	1721	1721	1722	1722
	17.5	1755	1755	1754	1753	1751	1750	1748	1748	1749	1749	1749
	20	1796	1797	1796	1793	1789	1785	1782	1782	1782	1781	1781
	22.5	1853	1853	1851	1845	1839	1832	1826	1824	1823	1824	1822
	25	1925	1926	1921	1913	1901	1891	1882	1878	1877	1877	1876
	27.5	2019	2018	2010	1997	1980	1964	1953	1948	1945	1945	1944
	30	2134	2131	2120	2099	2075	2053	2040	2034	2033	2032	2031
	32.5	2264	2262	2246	2219	2188	2159	2142	2138	2137	2137	2135
	35	2413	2409	2390	2356	2317	2283	2264	2258	2262	2263	2261
	37.5	2576	2572	2551	2512	2465	2425	2403	2400	2407	2411	2412
	40	2756	2754	2730	2687	2633	2586	2563	2568	2579	2586	2586
	42.5	2955	2950	2927	2882	2822	2769	2750	2761	2780	2790	2793
	45	3163	3161	3142	3101	3040	2984	2967	2988	3015	3027	3028
	47.5	3371	3369	3364	3337	3285	3229	3220	3251	3281	3291	3293
50	3574	3576	3584	3582	3551	3507	3510	3548	3574	3577	3579	
52.5	3771	3776	3802	3832	3832	3818	3837	3878	3887	3876	3872	
55	3936	3944	4003	4078	4117	4145	4188	4223	4200	4156	4149	
57.5	4035	4048	4148	4293	4398	4474	4553	4563	4474	4372	4354	
60	4021	4041	4197	4439	4644	4785	4890	4844	4629	4414	4378	
62.5	3874	3903	4112	4458	4795	5027	5135	4974	4524	4131	4075	
65	3575	3613	3880	4319	4779	5117	5179	4809	4064	3522	3453	
67.5	3031	3087	3442	3977	4533	4930	4903	4256	3267	2688	2619	
70	2276	2338	2796	3404	4008	4394	4237	3371	2357	1874	1821	
72.5	1524	1576	2004	2664	3221	3508	3265	2397	1551	1216	1180	
75	943	977	1273	1861	2319	2456	2239	1540	957	752	730	
77.5	556	576	751	1162	1417	1481	1377	933	582	467	454	
80	331	341	435	669	727	771	782	548	349	286	280	
82.5	180	185	235	339	357	377	399	295	195	160	157	
85	77	81	104	143	143	148	159	127	84	67	66	
87.5	21	22	30	39	33	24	20	14	9	6	6	
90	0	0	0	0	0	0	0	0	0	0	0	

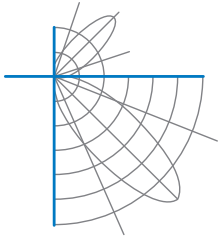


Report of Test

LLIA002251-032

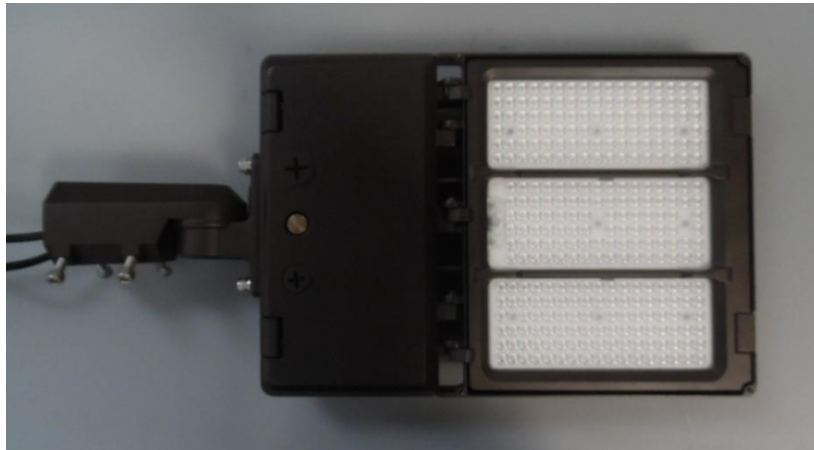
Luminous Intensity (Candela) Table

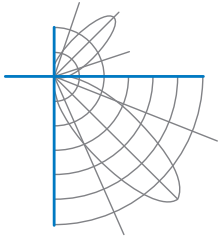
	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0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

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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.