

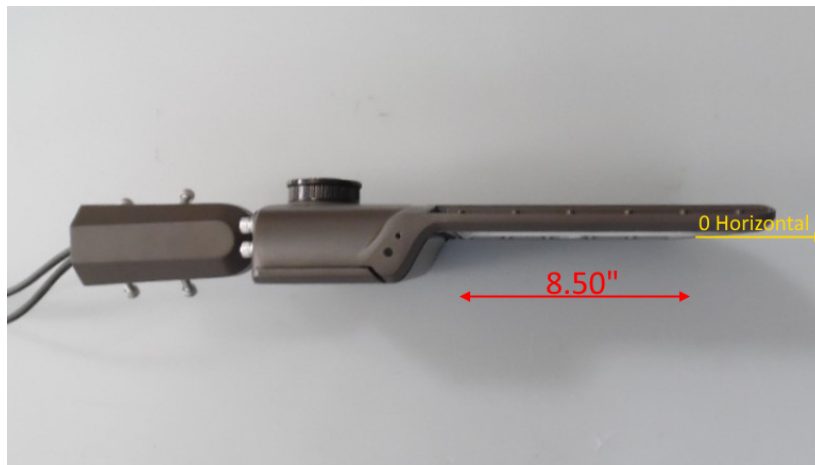


Report of Test

LLIA002251-002

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: ARL-150PCS-T3 - 100W 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	15628.2 Lumens
Input Current	0.8010 A	Total Efficacy	163.0 Lm/W
Input Power	95.90 W		
Frequency	60.00 Hz	Roadway Throw	Medium
Power Factor	0.998	Roadway Type	Type III
Current THD	4.8 %		

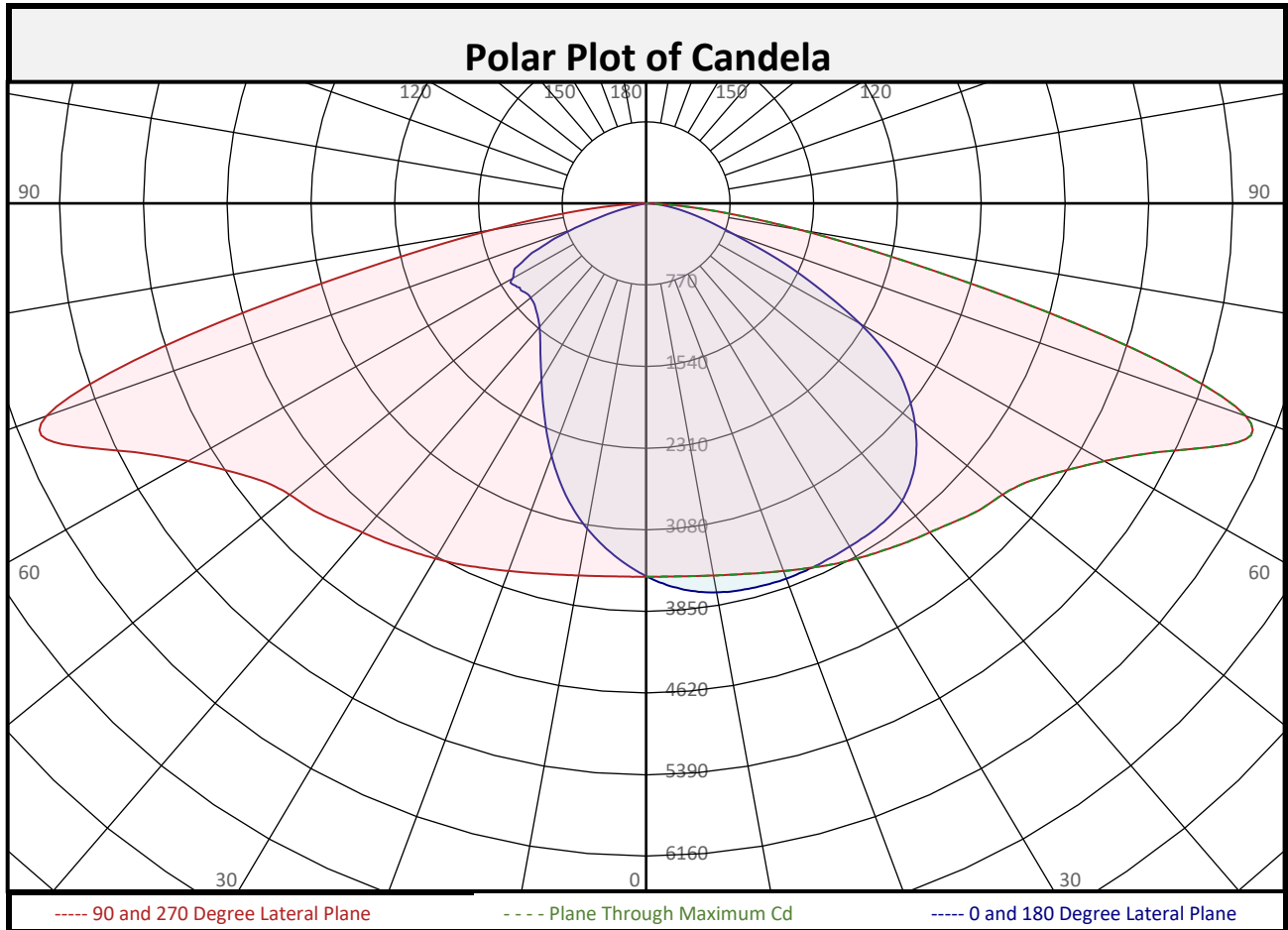
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/02/2023
Report date: 11/08/2023

Signed: _____



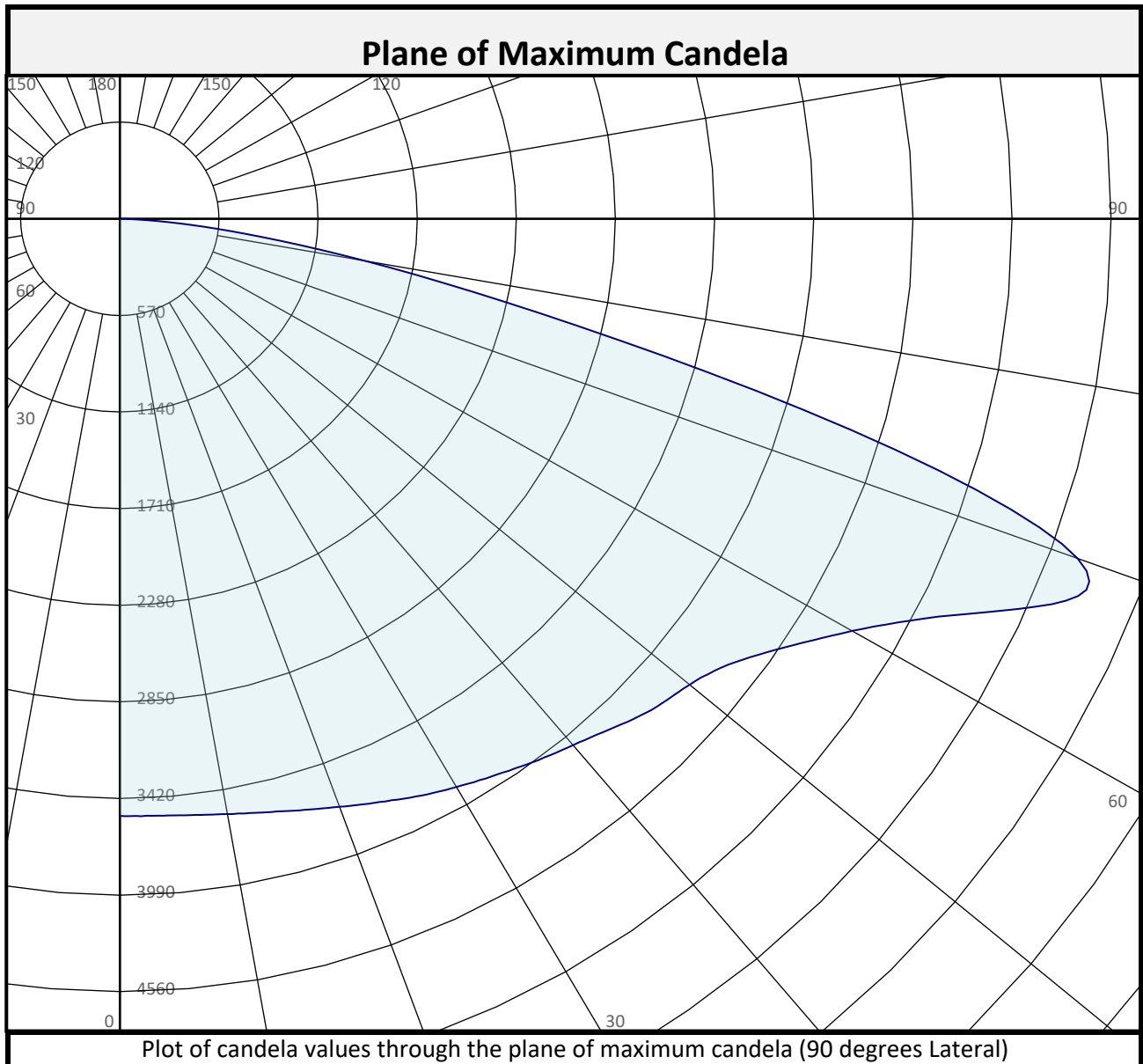
Report of Test
LLIA002251-002



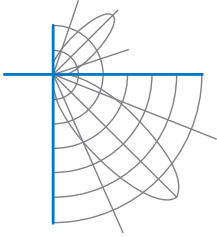
Zonal Flux Summary								
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	335.2	2.1%	90-100	0.0	0.0%	0-20	1317	8.4%
10-20	981.7	6.3%	100-110	0.0	0.0%	0-30	2888	18.5%
20-30	1571	10.1%	110-120	0.0	0.0%	0-40	4984	31.9%
30-40	2096	13.4%	120-130	0.0	0.0%	0-60	10335	66.1%
40-50	2532	16.2%	130-140	0.0	0.0%	0-80	15234	97.5%
50-60	2819	18.0%	140-150	0.0	0.0%	10-90	15293	97.9%
60-70	2903	18.6%	150-160	0.0	0.0%	20-50	6199	39.7%
70-80	1996	12.8%	160-170	0.0	0.0%	40-90	10644	68.1%
80-90	393.9	2.5%	170-180	0.0	0.0%	60-90	5293	33.9%
0-90	15628	100.0%	90-180	0.0	0.0%	0-180	15628	100.0%



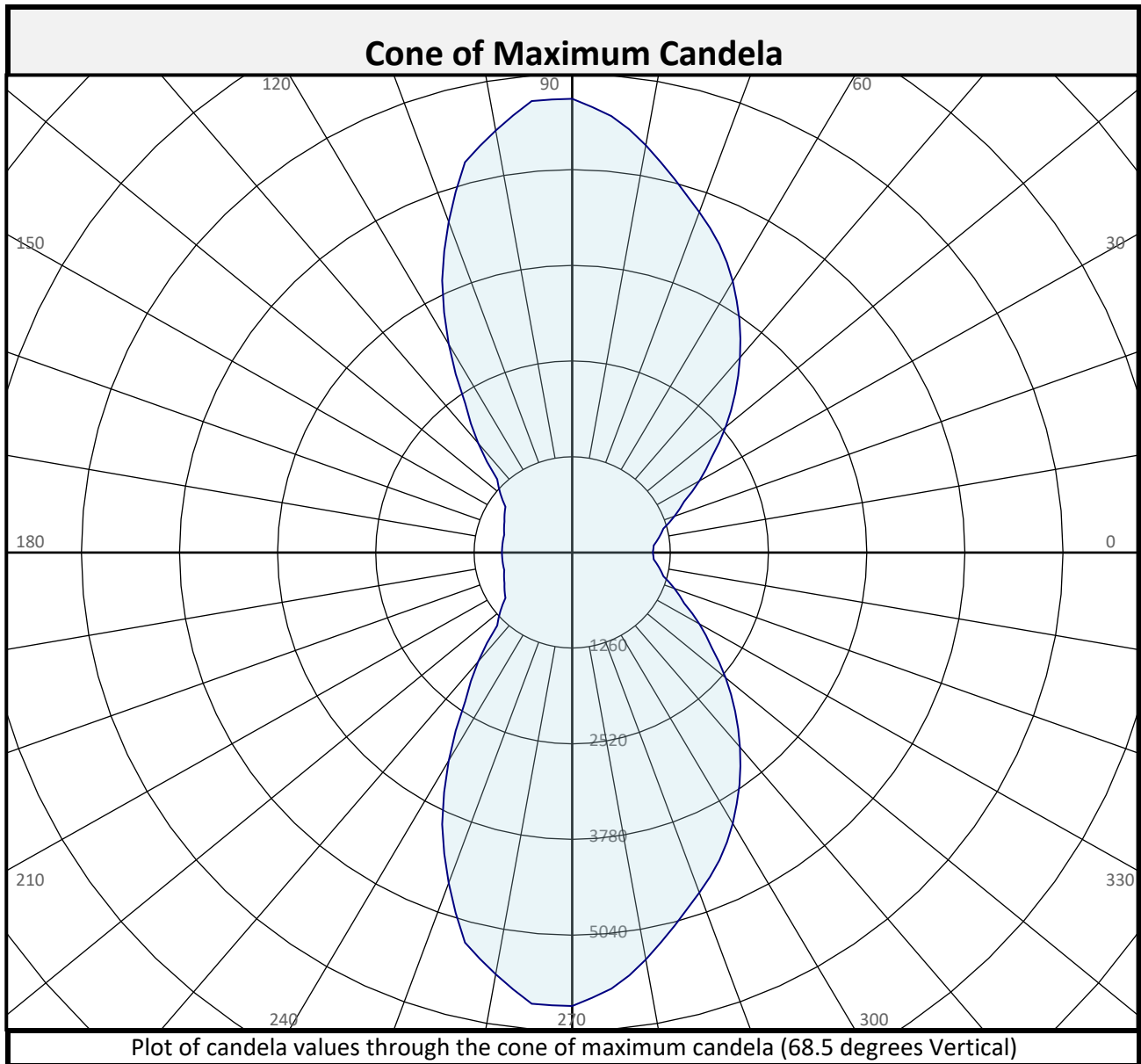
Report of Test
LLIA002251-002



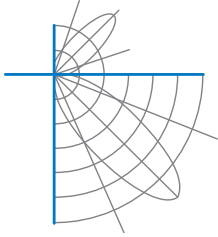
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	9131.2	58.4%	0.0	0.0%	9131.2	58.4%
House Side	6497.0	41.6%	0.0	0.0%	6497.0	41.6%
Total	15628.2	100.0%	0.0	0.0%	15628.2	100.0%



Report of Test
LLIA002251-002

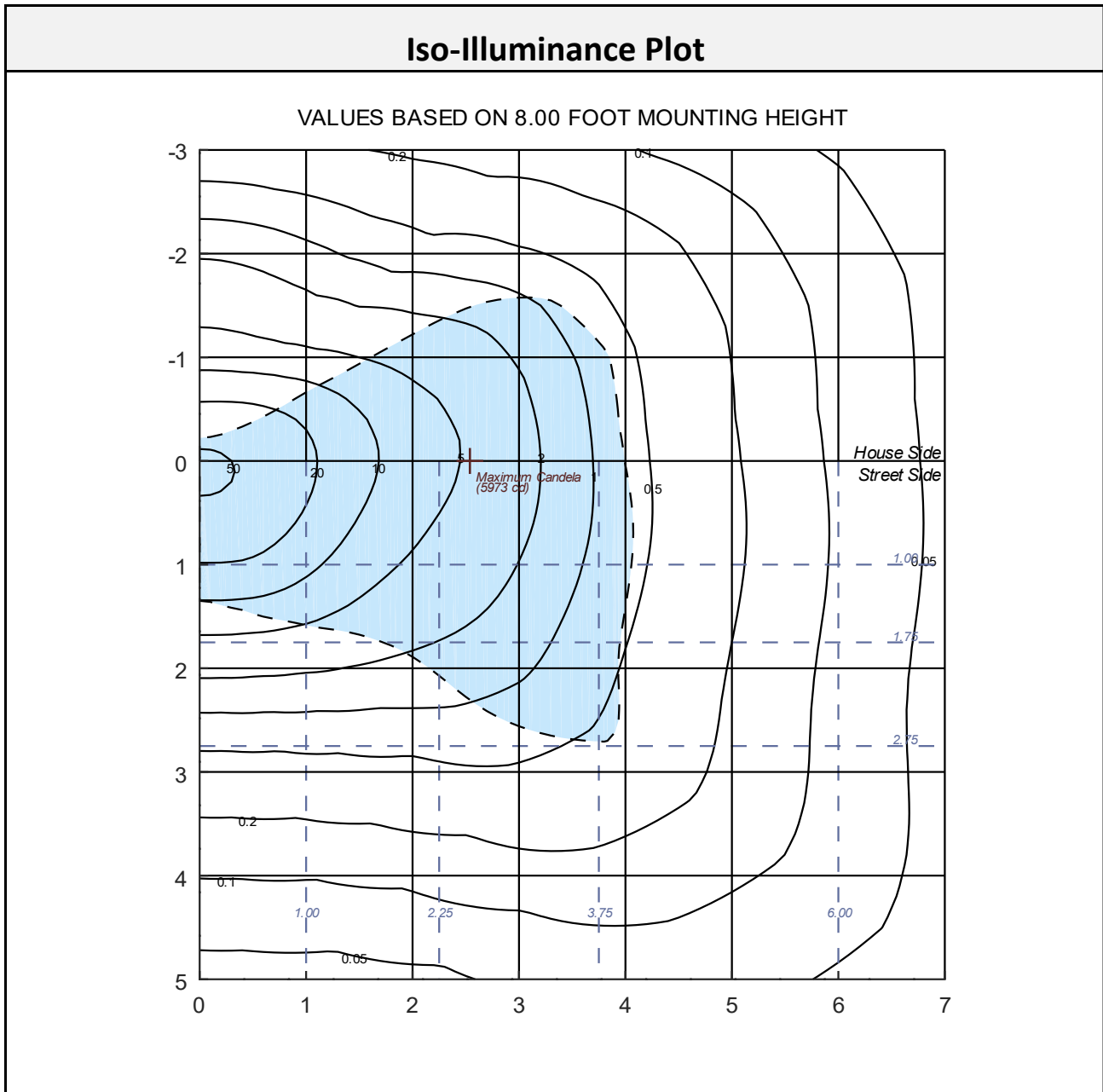


Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	9131.2	58.4%	0.0	0.0%	9131.2	58.4%
House Side	6497.0	41.6%	0.0	0.0%	6497.0	41.6%
Total	15628.2	100.0%	0.0	0.0%	15628.2	100.0%

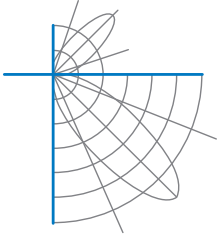


Report of Test

LLIA002251-002

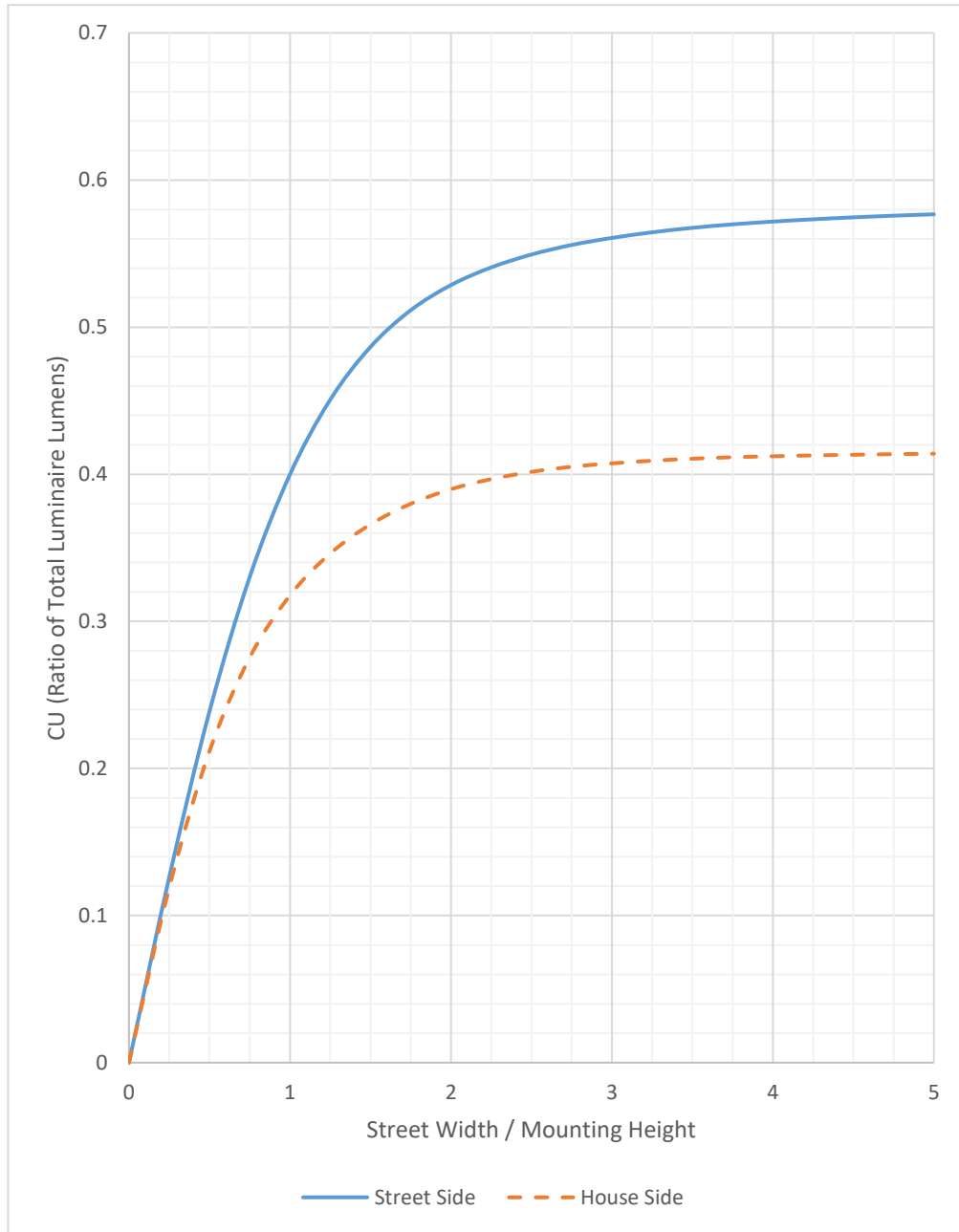


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test LLIA002251-002

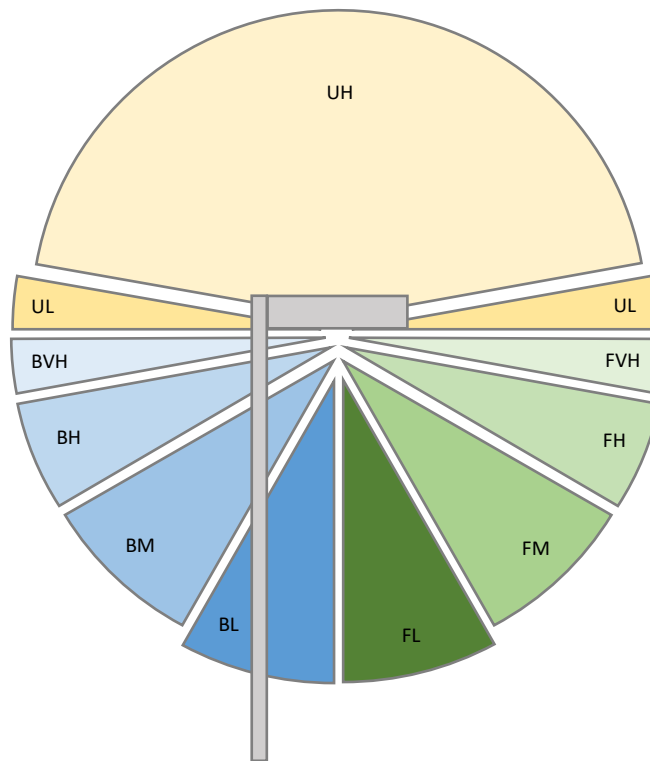
Coefficients of Utilization Plot





Report of Test LLIA002251-002

LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	1288.1 Lm
BM - Back Mid (30°-60°)	2997.2 Lm
BH - Back High (60°-80°)	2085.5 Lm
BVH - Back Very High (80°-90°)	126.2 Lm

Forward Light

FL - Forward Low (0°-30°)	1599.8 Lm
FM - Forward Mid (30°-60°)	4450.3 Lm
FH - Forward High (60°-80°)	2813.4 Lm
FVH - Forward Very High (80°-90°)	267.7 Lm

Uplight

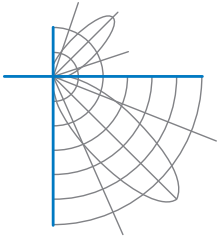
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

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

B3 - U0 - G3

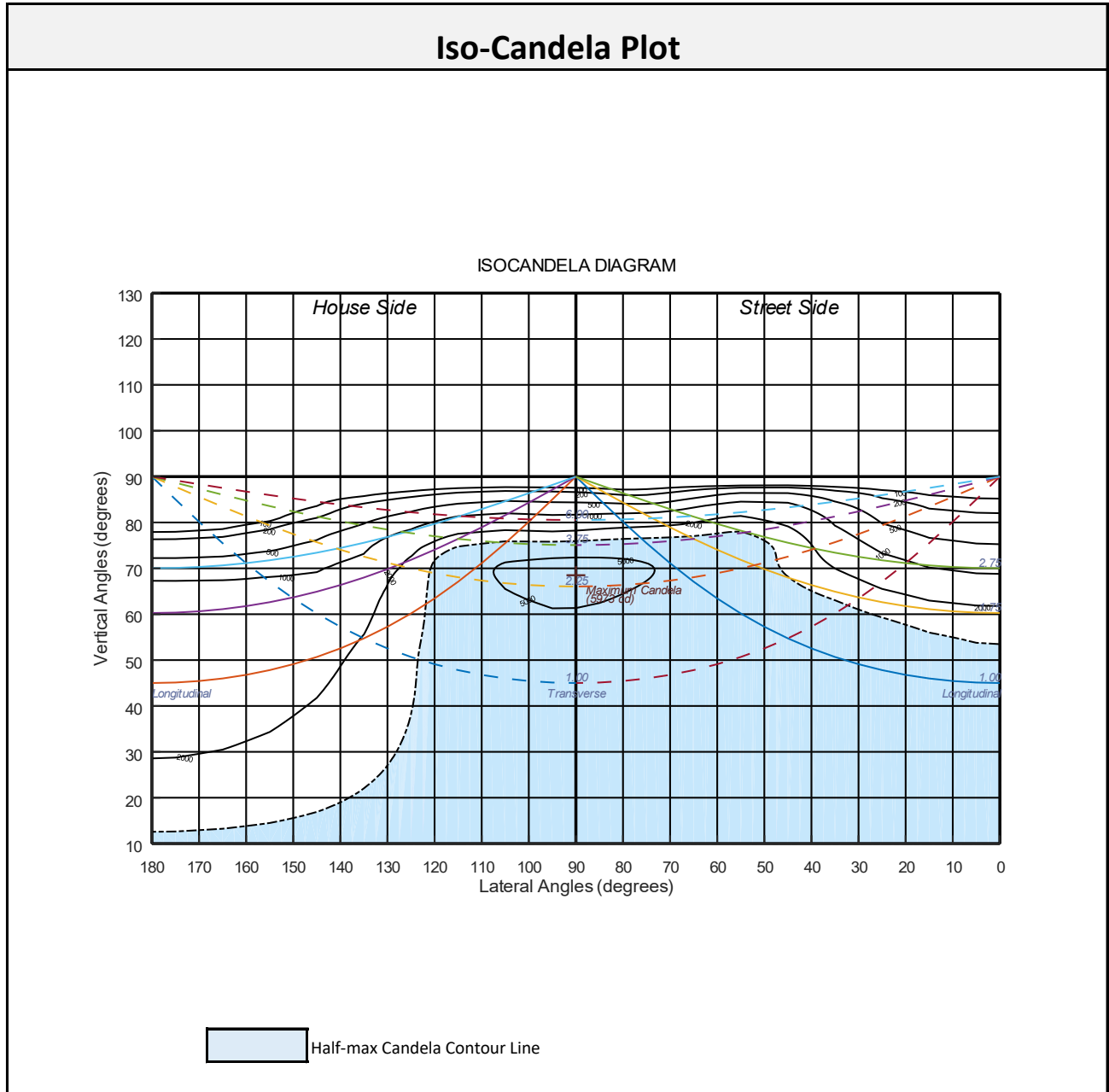
BUG Rating: Quadrilateral Symmetrical Luminaire (Type V, Type VS)

B3 - U0 - G3



Report of Test
LLIA002251-002

Iso-Candela Plot





Report of Test

LLIA002251-002

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	0	5	15	25	35	45	55	57.5	60	62.5	65	67.5	70	72.5	75	
0	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	
2.5	3589	3596	3594	3594	3586	3578	3570	3566	3563	3562	3558	3556	3555	3550	3545	
5	3651	3655	3653	3650	3640	3627	3614	3610	3604	3602	3594	3590	3587	3578	3573	
7.5	3697	3701	3700	3696	3685	3674	3654	3651	3645	3641	3632	3628	3619	3611	3603	
10	3727	3730	3732	3732	3724	3713	3698	3691	3685	3678	3669	3665	3656	3646	3635	
12.5	3747	3752	3755	3756	3754	3749	3736	3729	3725	3717	3710	3703	3695	3686	3670	
15	3757	3760	3767	3774	3780	3780	3772	3768	3762	3756	3749	3743	3735	3723	3711	
17.5	3766	3770	3779	3790	3802	3810	3807	3806	3803	3797	3790	3783	3775	3767	3754	
20	3768	3772	3787	3806	3824	3839	3845	3843	3841	3839	3834	3828	3819	3810	3796	
22.5	3764	3770	3793	3824	3850	3871	3883	3884	3883	3882	3876	3872	3864	3857	3845	
25	3758	3765	3793	3836	3878	3906	3920	3922	3922	3921	3918	3914	3909	3903	3891	
27.5	3749	3757	3795	3854	3907	3941	3958	3958	3958	3959	3955	3953	3951	3943	3933	
30	3740	3751	3799	3876	3939	3976	3991	3991	3991	3990	3988	3986	3984	3979	3972	
32.5	3734	3746	3808	3904	3978	4009	4019	4019	4019	4019	4018	4015	4013	4011	4004	
35	3723	3739	3817	3936	4013	4040	4047	4047	4046	4044	4043	4043	4040	4041	4036	
37.5	3703	3719	3813	3960	4044	4066	4068	4069	4068	4067	4069	4068	4067	4066	4069	
40	3661	3677	3793	3967	4059	4079	4086	4086	4090	4089	4093	4093	4096	4100	4099	
42.5	3590	3612	3750	3950	4048	4072	4093	4094	4101	4104	4110	4116	4122	4129	4134	
45	3495	3517	3677	3913	4023	4052	4084	4091	4097	4103	4114	4123	4137	4150	4163	
47.5	3373	3397	3577	3847	3976	4022	4067	4076	4086	4096	4110	4123	4141	4158	4173	
50	3226	3252	3445	3750	3909	3982	4046	4062	4076	4091	4108	4124	4144	4166	4189	
52.5	3057	3085	3280	3615	3817	3932	4024	4043	4063	4079	4100	4122	4149	4180	4208	
55	2866	2887	3080	3434	3701	3864	3983	4009	4038	4064	4092	4127	4165	4206	4253	
57.5	2609	2629	2821	3203	3546	3772	3928	3968	4009	4053	4099	4151	4205	4265	4330	
60	2272	2290	2474	2887	3347	3653	3875	3934	3999	4062	4128	4202	4276	4361	4449	
62.5	1887	1903	2076	2494	3061	3501	3825	3913	4005	4099	4191	4287	4389	4497	4604	
65	1528	1543	1696	2081	2703	3290	3781	3908	4039	4168	4297	4416	4534	4660	4787	
67.5	1171	1188	1355	1720	2328	3053	3746	3920	4100	4269	4424	4571	4712	4861	5017	
70	869	882	1019	1381	1996	2845	3735	3942	4141	4330	4499	4649	4793	4945	5105	
72.5	669	680	781	1078	1669	2756	3692	3892	4072	4217	4332	4432	4525	4612	4697	
75	514	523	602	847	1379	2656	3584	3669	3703	3705	3699	3702	3704	3706	3696	
77.5	383	390	450	653	1155	2306	3129	3100	3021	2917	2822	2749	2692	2644	2597	
80	275	279	321	487	936	1829	2431	2383	2273	2132	1988	1870	1785	1726	1681	
82.5	184	187	219	354	708	1336	1656	1598	1499	1368	1226	1098	996	922	882	
85	105	107	130	217	446	842	879	805	722	640	559	485	420	365	331	
87.5	41	41	49	73	129	228	223	203	179	158	138	121	106	93	85	
90	0	0	0	0	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.

North America (issuing laboratory)

Australasia & S.E. Asia



Report of Test

LLIA002251-002

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	77.5	80	82.5	85	90	95	105	115	125	135	145	155	165	175	180	
0	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	3523	
2.5	3543	3539	3535	3533	3525	3517	3503	3489	3477	3464	3454	3444	3439	3431	3432	
5	3566	3559	3555	3547	3534	3518	3491	3462	3430	3404	3379	3361	3347	3337	3337	
7.5	3593	3585	3576	3568	3548	3525	3480	3436	3388	3342	3301	3270	3247	3232	3231	
10	3626	3613	3605	3591	3566	3537	3478	3415	3347	3282	3222	3175	3141	3119	3117	
12.5	3660	3646	3635	3620	3590	3554	3482	3399	3310	3224	3142	3074	3023	2994	2991	
15	3699	3686	3667	3654	3619	3577	3490	3389	3278	3166	3058	2963	2895	2856	2851	
17.5	3740	3726	3707	3691	3654	3605	3504	3384	3248	3106	2963	2843	2753	2703	2697	
20	3785	3770	3751	3732	3692	3640	3524	3382	3218	3042	2866	2716	2604	2545	2537	
22.5	3831	3817	3798	3779	3736	3680	3547	3384	3188	2975	2763	2585	2453	2381	2373	
25	3878	3863	3846	3828	3781	3722	3578	3384	3153	2905	2661	2453	2302	2220	2210	
27.5	3922	3908	3891	3872	3829	3767	3610	3389	3119	2835	2557	2323	2158	2070	2060	
30	3961	3949	3933	3915	3871	3811	3646	3396	3086	2763	2454	2199	2023	1933	1922	
32.5	3998	3986	3972	3956	3916	3856	3683	3407	3055	2691	2353	2082	1900	1811	1799	
35	4032	4024	4014	3998	3959	3904	3721	3422	3023	2620	2256	1971	1789	1704	1694	
37.5	4063	4060	4052	4042	4007	3953	3764	3440	2994	2548	2159	1865	1689	1608	1599	
40	4098	4097	4094	4085	4054	4005	3807	3458	2968	2477	2065	1766	1599	1530	1522	
42.5	4136	4140	4139	4136	4110	4063	3855	3481	2945	2409	1974	1675	1528	1474	1469	
45	4173	4183	4187	4186	4175	4128	3913	3510	2927	2342	1883	1597	1475	1433	1429	
47.5	4194	4209	4218	4227	4230	4190	3981	3546	2908	2273	1795	1537	1433	1400	1397	
50	4210	4230	4249	4265	4277	4251	4045	3584	2885	2202	1712	1484	1407	1385	1384	
52.5	4240	4272	4302	4324	4353	4342	4123	3615	2849	2118	1631	1443	1387	1389	1391	
55	4300	4346	4388	4430	4484	4476	4222	3643	2798	2024	1560	1407	1389	1408	1411	
57.5	4400	4463	4527	4583	4655	4647	4352	3681	2737	1922	1496	1373	1378	1426	1436	
60	4537	4625	4703	4770	4863	4863	4518	3727	2678	1825	1431	1327	1385	1411	1414	
62.5	4711	4817	4916	5006	5132	5145	4724	3783	2618	1728	1337	1271	1306	1356	1367	
65	4924	5057	5190	5315	5493	5504	4947	3835	2550	1592	1238	1195	1181	1201	1207	
67.5	5187	5362	5531	5680	5888	5896	5227	3901	2458	1435	1115	1038	990	978	979	
70	5274	5445	5591	5713	5862	5826	5283	4002	2259	1242	952	847	752	729	731	
72.5	4782	4855	4904	4932	4936	4854	4562	3704	2016	1049	769	613	508	471	470	
75	3689	3675	3642	3599	3501	3427	3399	2887	1601	861	583	406	313	288	288	
77.5	2559	2516	2465	2403	2272	2203	2309	2013	1166	656	431	265	158	124	121	
80	1646	1609	1572	1530	1436	1390	1489	1301	777	482	269	115	32	6	5	
82.5	866	857	852	846	825	820	894	777	484	305	131	51	9	0	0	
85	327	340	360	381	408	420	455	375	245	140	69	26	6	0	1	
87.5	82	81	85	93	105	113	123	99	57	28	16	6	1	0	0	
90	0	0	0	0	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.

North America (issuing laboratory)

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Report of Test

LLIA002251-002

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	0	5	15	25	35	45	55	57.5	60	62.5	65	67.5	70	72.5	75	
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	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

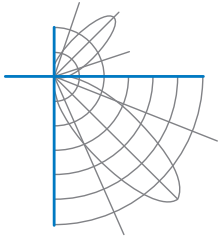


Report of Test

LLIA002251-002

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles															
	77.5	80	82.5	85	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	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Report of Test
LLIA002251-002

Additional Pictures of Test Subject





Report of Test

LLIA002251-002

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.