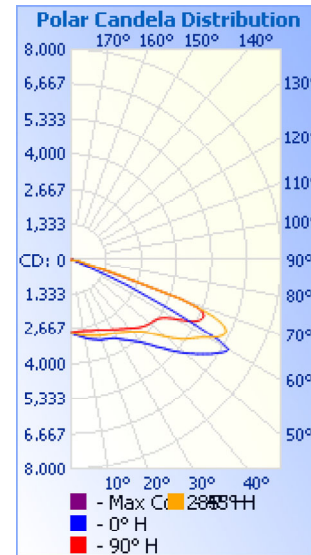


# Photometrics Pro

## Luminaire Photometric Report

**Filename:** Street Light STZM 165W  
**Manufacturer:** SARIN Energy Inc.  
**Luminaire:** SES-STZM-5700-165  
**Lamp Output:** 1 lamp, rated Lumens/lamp: 15675  
**Max Candela:** 7,971.5 at Horizontal: 285°, Vertical: 72°  
**Input Wattage:** 165  
**Luminous Opening:** Point  
**Test Date:** 2014.8.9  
**Photometry :** Type C  
**Nema Type:** 7 X 5

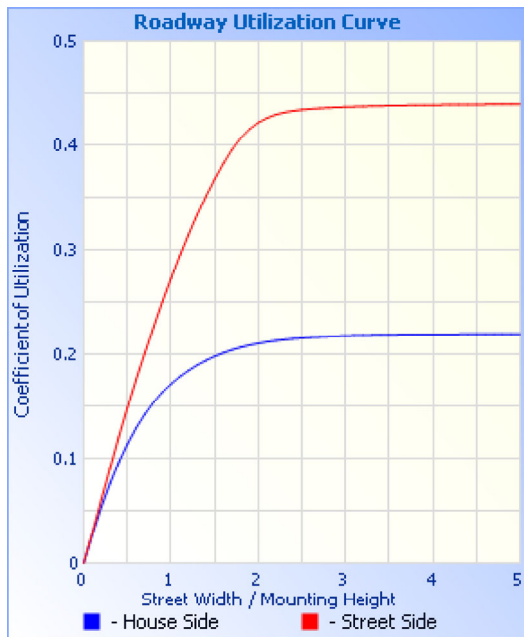
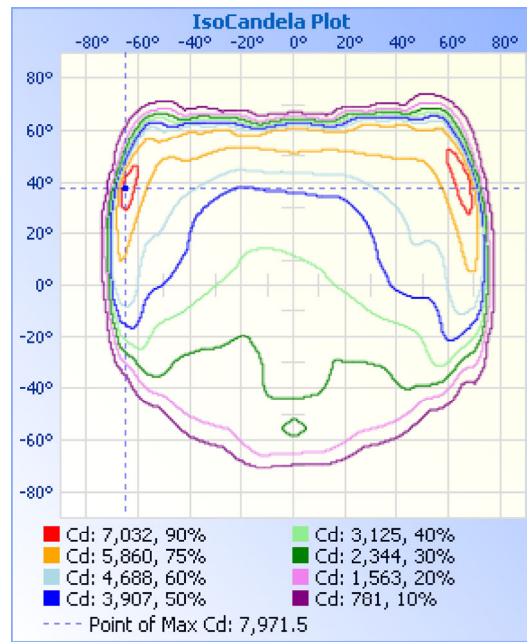
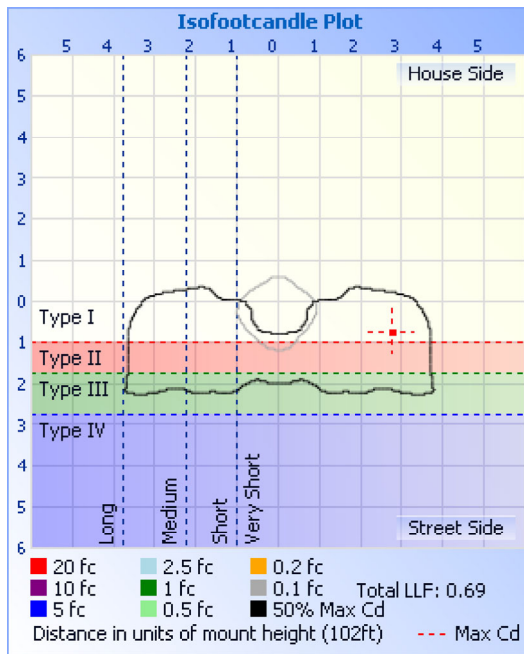


Roadway Summary			
Cutoff Classification:	CUTOFF		
Distribution:	TYPE III, MEDIUM		
Max Cd, 90 Deg Vert:	48.9		
Max Cd, 80 to <90 Deg:	1,189.4		
	Lumens	% Lamp	
Downward Street Side:	10,138.0	64.7%	
Downward House Side:	5,053.0	32.2%	
Downward Total:	15,191.0	96.9%	
Total Lumens:	15,191.0	96.9%	

Flood Summary				
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	94.4%	14,801.2	147.2	96.8
Beam (50%):	46.6%	7,303.2	45	65.1
Total:	96.9%	15,189.9		

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	2,468.1	15.7%	16.2%
0-40	4,447.4	28.4%	29.3%
0-60	10,585.4	67.5%	69.7%
60-90	4,604.7	29.4%	30.3%
0-90	15,190.1	96.9%	100%

Lumens Per Zone		
Zone	Lumens	% Total
0-10	269.9	1.8%
10-20	817.0	5.4%
20-30	1,381.2	9.1%
30-40	1,979.3	13.0%
40-50	2,657.3	17.5%
50-60	3,480.7	22.9%
60-70	3,293.3	21.7%
70-80	1,203.3	7.9%
80-90	108.0	0.7%



**Illuminance at a Distance**

Height	Center Beam fc	Beam Width
16.7ft	10.1 fc	21.3 ft 13.8 ft
33.3ft	2.55 fc	42.5 ft 27.6 ft
50.0ft	1.13 fc	63.8 ft 41.4 ft
66.7ft	0.63 fc	85.1 ft 55.3 ft
83.3ft	0.41 fc	106.3 ft 69.0 ft
100.0ft	0.28 fc	127.6 ft 82.8 ft

Vert. Spread: 65.1°  
Horiz. Spread: 45.0°

**Coefficients Of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50			30			10			0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.15	1.15	1.15	1.15	1.13	1.13	1.13	0.97	1.08	1.08	1.08	1.03	1.03	1.03	.99	.99	.99	.97
1	1.04	.99	.95	.91	1.02	.97	.93	.80	.93	.89	.86	.89	.86	.84	.85	.83	.81	.79
2	.93	.84	.77	.71	.91	.82	.75	.64	.79	.73	.68	.75	.71	.66	.72	.68	.65	.63
3	.83	.72	.63	.56	.81	.70	.62	.52	.67	.60	.54	.65	.58	.53	.62	.57	.52	.50
4	.75	.62	.52	.45	.73	.61	.52	.42	.58	.50	.44	.56	.49	.43	.54	.48	.43	.40
5	.68	.54	.44	.37	.66	.53	.44	.35	.51	.43	.37	.49	.42	.36	.47	.41	.36	.33
6	.62	.48	.38	.31	.60	.47	.38	.30	.45	.37	.31	.43	.36	.30	.42	.35	.30	.28
7	.57	.43	.33	.27	.55	.42	.33	.26	.40	.32	.26	.39	.32	.26	.37	.31	.26	.24
8	.53	.38	.29	.23	.51	.38	.29	.22	.36	.29	.23	.35	.28	.23	.34	.27	.23	.21
9	.49	.35	.26	.20	.48	.34	.26	.20	.33	.25	.20	.32	.25	.20	.31	.25	.20	.18

10 | .46 .32 .24 .18 | .44 .31 .23.18 | .30 .23 .18 | .29 .23 .18 |.28.22.18|.16

Candela Table - Type C

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	
0	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823	2823
1	2858	2850	2844	2838	2832	2823	2812	2805	2794	2800	2793	2793	2796	2798	2795	2807	2820	2828	2831	2839	2842	2852	2847	2854	2858	2858
2	2885	2870	2856	2850	2834	2825	2801	2788	2767	2776	2762	2772	2767	2775	2776	2795	2817	2836	2845	2860	2862	2882	2873	2879	2885	2885
3	2906	2893	2876	2861	2838	2828	2789	2769	2755	2751	2726	2734	2726	2749	2752	2786	2807	2839	2852	2882	2875	2903	2891	2906	2906	2906
4	2929	2917	2891	2877	2847	2830	2786	2759	2739	2724	2692	2702	2653	2718	2726	2768	2806	2843	2869	2899	2908	2934	2918	2930	2929	2929
5	2946	2935	2909	2888	2861	2836	2786	2747	2719	2697	2675	2668	2649	2690	2713	2757	2807	2851	2889	2923	2939	2956	2952	2958	2946	2946
6	2972	2956	2934	2907	2874	2838	2785	2737	2704	2672	2622	2634	2629	2660	2668	2740	2800	2859	2909	2945	2966	2981	2985	2987	2972	2972
7	2996	2978	2949	2922	2879	2849	2780	2726	2688	2648	2599	2599	2603	2637	2659	2730	2793	2869	2928	2964	2982	3013	3019	3015	2996	2996
8	3026	3004	2962	2932	2887	2854	2787	2718	2678	2625	2571	2579	2578	2616	2638	2713	2787	2871	2939	2989	3005	3038	3040	3040	3026	3026
9	3050	3023	2979	2951	2898	2869	2792	2720	2665	2608	2551	2556	2558	2596	2618	2698	2780	2879	2953	3013	3030	3066	3062	3072	3050	3050
10	3079	3046	2996	2965	2914	2877	2792	2711	2654	2585	2541	2534	2548	2579	2603	2682	2773	2888	2979	3039	3061	3091	3095	3096	3079	3079
11	3102	3066	3028	2981	2932	2894	2805	2716	2647	2569	2531	2522	2539	2561	2594	2668	2768	2889	3004	3064	3093	3113	3129	3120	3102	3102
12	3130	3088	3041	2997	2948	2911	2806	2714	2642	2554	2518	2507	2529	2548	2585	2653	2757	2903	3028	3089	3111	3141	3157	3147	3130	3130
13	3155	3108	3056	3009	2963	2923	2816	2718	2633	2547	2506	2498	2516	2541	2572	2638	2744	2907	3044	3118	3137	3167	3177	3172	3155	3155
14	3176	3129	3068	3030	2977	2937	2828	2719	2596	2531	2495	2487	2505	2531	2559	2628	2738	2917	3059	3150	3160	3186	3188	3192	3176	3176
15	3199	3149	3089	3049	2988	2954	2840	2718	2593	2521	2484	2478	2500	2519	2552	2616	2733	2929	3089	3177	3185	3215	3220	3216	3199	3199
16	3219	3164	3110	3062	3011	2971	2852	2721	2582	2508	2476	2470	2495	2511	2544	2604	2723	2942	3124	3209	3221	3235	3248	3239	3219	3219
17	3238	3184	3133	3076	3031	2984	2859	2723	2573	2500	2469	2459	2493	2508	2536	2589	2721	2949	3159	3241	3249	3257	3273	3258	3238	3238
18	3262	3200	3143	3093	3044	3002	2869	2718	2559	2487	2462	2454	2492	2504	2526	2581	2719	2958	3186	3274	3283	3285	3292	3279	3262	3262
19	3286	3219	3159	3105	3054	3021	2880	2720	2540	2476	2453	2453	2494	2501	2516	2566	2721	2975	3214	3312	3306	3306	3308	3293	3286	3286
20	3306	3238	3173	3125	3068	3038	2899	2711	2525	2460	2443	2449	2498	2498	2507	2553	2719	2986	3236	3349	3327	3332	3327	3308	3306	3306
21	3323	3254	3188	3137	3085	3059	2918	2718	2515	2438	2435	2443	2505	2499	2499	2547	2719	3007	3276	3382	3359	3357	3348	3330	3323	3323
22	3333	3270	3205	3150	3105	3082	2928	2717	2505	2422	2428	2446	2512	2507	2495	2536	2726	3019	3314	3419	3404	3378	3367	3349	3333	3333
23	3348	3287	3221	3166	3132	3107	2944	2718	2493	2403	2420	2450	2520	2509	2488	2528	2727	3040	3348	3460	3437	3402	3391	3366	3348	3348
24	3368	3307	3232	3175	3154	3131	2968	2719	2484	2384	2410	2454	2527	2517	2481	2519	2735	3056	3391	3494	3473	3429	3405	3383	3368	3368
25	3381	3319	3241	3187	3171	3156	2988	2729	2477	2362	2400	2458	2531	2520	2472	2521	2734	3073	3420	3535	3503	3455	3421	3401	3381	3381
26	3397	3340	3254	3202	3184	3181	3015	2736	2472	2344	2386	2464	2534	2527	2462	2518	2745	3092	3445	3571	3524	3476	3440	3423	3397	3397
27	3421	3363	3263	3223	3206	3215	3045	2748	2469	2326	2374	2467	2535	2523	2446	2512	2746	3111	3475	3607	3562	3508	3451	3448	3421	3421
28	3445	3389	3278	3242	3229	3247	3073	2756	2468	2308	2362	2470	2536	2522	2428	2503	2748	3128	3518	3650	3607	3536	3475	3483	3445	3445
29	3484	3433	3307	3262	3262	3278	3092	2764	2466	2298	2343	2460	2536	2517	2413	2502	2748	3145	3564	3691	3647	3571	3505	3532	3484	3484
30	3536	3484	3329	3287	3292	3305	3111	2772	2466	2284	2322	2464	2536	2515	2397	2490	2745	3169	3609	3730	3689	3600	3546	3579	3536	3536
31	3590	3527	3349	3313	3320	3345	3149	2785	2464	2274	2299	2457	2537	2513	2370	2479	2740	3178	3634	3773	3719	3642	3573	3631	3590	3590
32	3640	3579	3375	3341	3337	3381	3185	2789	2462	2264	2273	2457	2536	2507	2344	2469	2727	3199	3664	3816	3748	3681	3603	3679	3640	3640
33	3699	3628	3398	3374	3370	3416	3213	2802	2460	2257	2248	2454	2537	2497	2327	2448	2716	3206	3706	3855	3783	3718	3636	3734	3699	3699
34	3750	3684	3438	3402	3413	3458	3241	2814	2456	2242	2231	2453	2537	2494	2311	2432	2678	3217	3757	3906	3836	3757	3686	3783	3750	3750
35	3812	3739	3488	3432	3455	3494	3274	2825	2450	2243	2208	2453	2532	2485	2292	2411	2667	3218	3809	3952	3888	3797	3740	3841	3812	3812
36	3881	3796	3524	3469	3493	3539	3305	2834	2443	2215	2187	2452	2524	2479	2270	2393	2647	3225	3856	4014	3930	3839	3790	3894	3881	3881
37	3951	3852	3558	3505	3525	3587	3347	2848	2434	2208	2167	2448	2513	2465	2246	2371	2628	3222	3887	4066	3970	3881	3835	3955	3951	3951
38	4025	3920	3589	3543	3549	3628	3385	2857	2419	2196	2145	2442	2497	2449	2221	2348	2608	3218	3925	4120	4002	3934	3867	4037	4025	4025
39	4102	3997	3639	3585	3588	3674	3426	2866	2403	2182	2121	2429	2477	2434	2201	2332	2583	3210	3973	4191	4054	3981	3921	4118	4102	4102
40	4186	4086	3709	3628	3647	3723	3463	2874	2389	2167	2103	2420	2456	2409	2180	2306	2566	3204	4024	4252	4122	4034	4002	4213	4186	4186
41	4292	4192	3773	3681	3697	3767	3505	2881	2372	2148	2074	2402	2420	2382	2152	2309	2545	3195	4080	4317	4187	4102	4090	4311	4292	4292
42	4403	4304	3839	3732	3737	3832	3559	2886	2351	2128	2043	2386	2380	2354	2122	2262	2522	3189	4116	4394	4248	4169	4176	4420	4403	4403
43	4530	4418	3905	3799	3773	3882	3605	2889	2326	2106	2007	2366	2347	2328	2093	2243	2505	3181	4145	4452	4297	4247	4244	4549	4530	4530
44	4687	4550	3973	3872	3807	3942	3651	2886	2305	2083	1976	2329	2326	2291	2068	2223	2492	3168	4165	4508	4339	4319	4313	4670	4687	4687
45	4815	4676	4091	3954	3872	4016	3698	2888	2280	2059	1944	2296	2315	2288	2040	2206	2485	3165	4187	4572	4402	4407	4428	4793	4815	4815
46	4957	4828	4252	4065	3957	4081	3740	2886	2254	2032	1911	2262	2311	2218	2017	2188	2482	3159	4197	4628	4487	4512	4581	4929	4957	4957
47	5126	4965	4403	4181	4044	4157	3774	2876	2230	2005	1878	2260	2308	2196	1996	2171	2485	3155	4194	4669	4576	4612	4729	5056	5126	5126
48	5286	5097	4529	4304	4115	4231	3813	2866	2205	1978	1852	2217	2306	2183	1981	2155	2492	3153	4183							

52	5902	5622	5131	4922	4515	4540	3913	2818	2128	1866	1794	2196	2356	2191	1996	2084	2532	3198	4126	4732	4917	5162	5318	5675	5902
53	6062	5743	5282	5077	4657	4601	3934	2819	2120	1849	1791	2204	2380	2209	1997	2073	2526	3220	4144	4728	4968	5248	5467	5785	6062
54	6205	5853	5416	5237	4780	4656	3962	2817	2116	1835	1786	2218	2402	2227	1990	2066	2513	3263	4187	4743	5012	5328	5638	5895	6205
55	6354	5975	5525	5353	4894	4697	4000	2835	2111	1824	1772	2234	2419	2240	1967	2056	2494	3314	4232	4766	5044	5400	5781	6021	6354
56	6501	6087	5614	5464	4984	4737	4057	2855	2103	1812	1746	2244	2412	2240	1925	2040	2462	3375	4283	4797	5068	5458	5910	6140	6501
57	6627	6178	5744	5579	5091	4770	4135	2891	2083	1794	1703	2248	2383	2228	1855	2010	2412	3445	4373	4825	5103	5539	6087	6259	6627
58	6771	6266	5944	5694	5218	4811	4244	2941	2037	1760	1638	2239	2338	2195	1771	1957	2336	3528	4508	4854	5142	5668	6286	6356	6771
59	6887	6291	6126	5827	5288	4851	4390	2994	1963	1713	1560	2215	2277	2147	1673	1884	2216	3600	4681	4888	5174	5814	6459	6412	6887
60	6925	6125	6285	5997	5312	4911	4573	3039	1849	1646	1465	2173	2200	2083	1542	1788	2057	3653	4820	4942	5216	5991	6619	6328	6925
61	6427	5270	6386	6188	5318	5032	4797	3055	1670	1547	1347	2109	2101	1991	1404	1657	1860	3665	4962	5059	5254	6153	6726	5890	6427
62	5339	3949	6464	6347	5319	5248	5041	3028	1477	1428	1227	2033	1998	1883	1265	1514	1620	3627	5121	5282	5299	6307	6814	5071	5339
63	4300	2628	6498	6470	5329	5512	5242	2939	1240	1274	1105	1941	1860	1753	1105	1353	1388	3512	5308	5527	5400	6457	6887	3805	4300
64	3088	1867	6241	6529	5449	5819	5384	2768	1025	1123	973	1831	1685	1602	964	1173	1159	3304	5466	5754	5556	6564	6823	2538	3088
65	2370	1182	5443	6523	5648	6190	5467	2402	822	971	856	1716	1464	1461	834	1009	930	3043	5587	5990	5803	6621	6516	1630	2370
66	1239	734	4489	6414	5865	6522	5507	2037	608	809	739	1574	1239	1299	691	834	734	2663	5645	6197	6019	6641	6059	942	1239
67	687	483	3633	6192	6034	6814	5499	1671	450	673	610	1430	1005	1145	568	688	557	2323	5701	6428	6212	6616	5438	572	687
68	483	396	2720	5839	6192	7177	5399	1305	370	544	525	1250	873	973	482	549	428	1804	5732	6760	6379	6518	4518	444	483
69	405	348	1805	5225	6311	7544	5164	940	321	447	464	1054	782	804	422	446	361	1374	5730	7142	6564	6306	3443	384	405
70	366	304	890	4456	6297	7882	4485	587	291	385	420	878	687	656	385	380	321	981	5613	7559	6646	5966	1825	341	366
71	320	265	555	2662	6160	7946	2498	418	264	343	378	766	518	563	350	340	293	681	5311	7880	6671	5375	854	300	320
72	278	228	456	1973	6030	7391	1501	353	239	309	334	680	334	501	312	311	269	501	4931	7971	6670	3940	645	261	278
73	237	196	402	1191	5890	5796	767	309	218	277	280	547	239	433	281	286	250	410	4398	7676	6658	2506	529	223	237
74	207	172	349	785	5543	3673	513	274	198	248	203	360	202	310	234	260	230	358	3212	6844	6493	1506	438	193	207
75	180	152	289	578	4782	1550	422	247	181	222	158	245	176	220	177	236	212	319	2299	4654	5975	918	366	170	180
76	156	134	244	473	3454	896	367	224	161	199	133	200	153	179	146	215	193	289	856	2465	5124	643	309	151	156
77	135	119	205	417	2355	629	318	199	143	176	117	167	134	153	125	193	176	263	573	1258	4009	524	270	133	135
78	117	106	177	371	1462	499	271	173	124	148	100	143	116	133	108	174	157	241	482	809	2793	462	238	115	117
79	107	97	152	327	959	422	230	149	104	115	86	122	100	114	95	151	139	219	433	620	2257	417	211	103	107
80	100	91	121	285	632	352	186	127	86	97	76	106	86	101	83	121	122	194	375	513	1189	381	171	95	100
81	91	83	102	233	502	300	148	104	64	82	66	91	75	89	73	102	105	169	331	443	810	345	132	88	91
82	84	78	91	174	421	257	105	84	49	68	58	80	59	77	65	87	89	145	293	382	643	309	109	81	84
83	79	74	84	118	341	214	69	69	42	57	49	70	36	68	56	74	66	124	253	330	548	264	98	76	79
84	71	65	74	80	261	167	48	59	35	45	38	61	27	59	49	62	51	102	205	288	447	207	89	69	71
85	63	60	66	62	187	116	37	51	25	32	28	51	19	51	39	51	41	83	166	249	366	134	77	62	63
86	59	58	61	48	124	64	25	31	16	21	18	40	12	43	30	39	34	70	123	210	291	80	68	59	59
87	53	56	57	39	76	35	13	19	5	12	4	26	6	30	17	25	26	59	78	171	215	59	62	58	53
88	50	52	49	31	42	16	3	8	1	4	0	8	1	16	5	17	17	45	50	120	147	46	59	57	50
89	45	46	39	21	28	6	3	2	1	0	1	1	1	4	1	9	8	23	33	65	96	37	50	54	45
90	35	42	25	13	9	5	3	2	1	1	1	1	1	1	1	2	3	12	18	41	49	33	40	49	35

**Luminaire Report Summary**

IESNA:LM-63-2002  
[TEST]  
[TESTDATE] 2014.8.9  
[TESTLAB]  
[ISSUEDATE] 2014-08-14 08:57:15  
[MANUFAC] SARIN Energy Inc.  
[LUMINAIRE] SES-STZM-5700-165  
[\_TOTALLUMINAIRELUMENS] 15190.1  
[\_LAMPPOSITION] 0,0  
[OTHER] EVERFINE GO-2000B SYSTEM  
FILE: CANDELA MULTIPLIER: 1  
FILE: VERTICAL ANGLES: 91, HORIZONTAL ANGLES: 25  
FILE: COORDINATE SYSTEM: TYPE C  
FILE: UNIT OF MEASURE: METRIC  
FILE: BALLAST FACTOR: 1

Photometrics Pro 1.3.29 copyright 2003-2019 by jSolutions, Inc.  
Reported data calculated from manufacturer's data file, based on IES recommended methods.