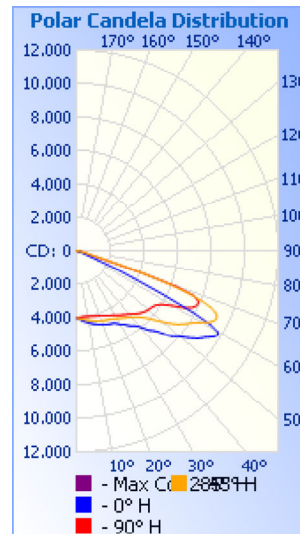


Photometrics Pro

Luminaire Photometric Report

Filename: Street Light STZM 230W
Manufacturer: SARIN Energy Inc.
Luminaire: SES-STZM-5700-230
Lamp Output: 1 lamp, rated Lumens/lamp: 21850
Max Candela: 11,289.1 at Horizontal: 285°, Vertical: 72°
Input Wattage: 230
Luminous Opening: Point
Test Date: 2014.8.13
Photometry : Type C
Nema Type: 7 X 5



Roadway Summary

Cutoff Classification:	CUTOFF		
Distribution:	TYPE III, MEDIUM		
Max Cd, 90 Deg Vert:	69.4		
Max Cd, 80 to <90 Deg:	1,575.5		
	Lumens	% Lamp	
Downward Street Side:	14,404.7	65.9%	
Downward House Side:	7,185.1	32.9%	
Downward Total:	21,589.8	98.8%	
Total Lumens:	21,589.8	98.8%	

Flood Summary

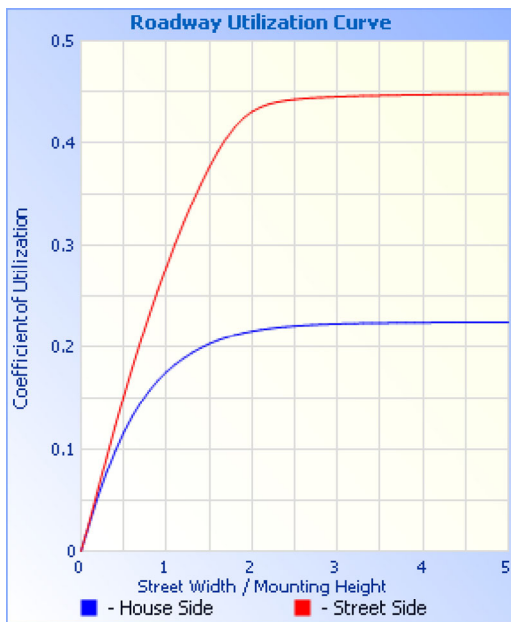
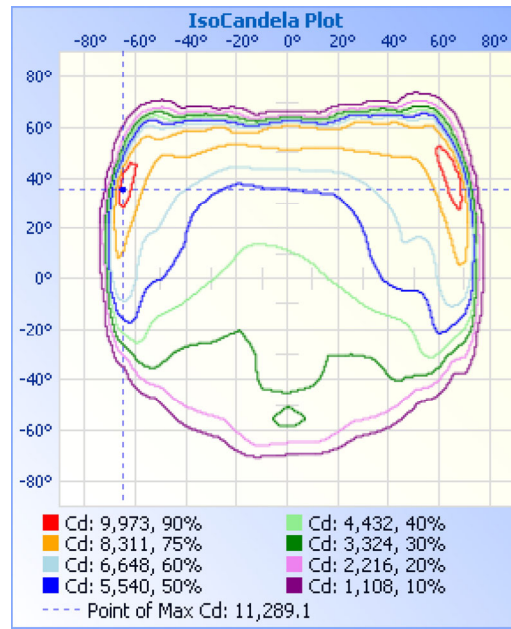
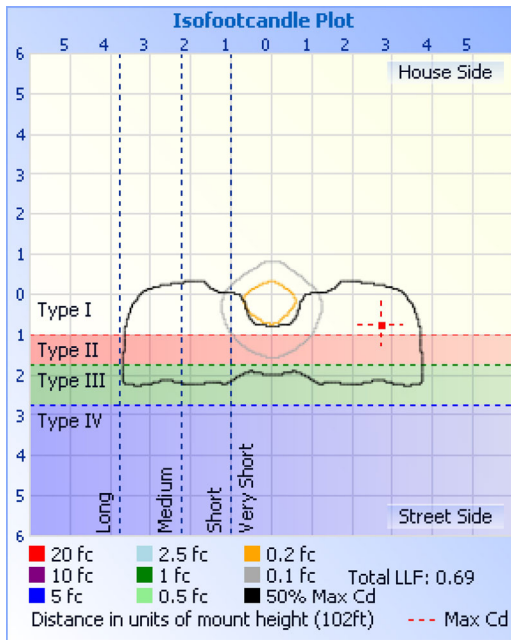
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	96.3%	21,033.4	147.6	96
Beam (50%):	48%	10,497.5	41.3	65.3
Total:	98.8%	21,586.6		

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	3,517.8	16.1%	16.3%
0-40	6,342.5	29%	29.4%
0-60	15,101.8	69.1%	70%
60-90	6,486.6	29.7%	30%
0-90	21,588.5	98.8%	100%

Lumens Per Zone

Zone	Lumens	% Total
0-10	384.4	1.8%
10-20	1,164.2	5.4%
20-30	1,969.2	9.1%
30-40	2,824.7	13.1%
40-50	3,795.1	17.6%
50-60	4,964.2	23.0%
60-70	4,655.2	21.6%
70-80	1,679.9	7.8%
80-90	151.5	0.7%



Illuminance at a Distance

Center Beam fc	Beam Width	12.6 ft	25.1 ft	37.7 ft	50.3 ft	62.8 ft	75.4 ft
16.7ft	14.4 fc	21.4 ft	12.6 ft				
33.3ft	3.63 fc	42.7 ft	25.1 ft				
50.0ft	1.61 fc	64.1 ft	37.7 ft				
66.7ft	0.90 fc	85.5 ft	50.3 ft				
83.3ft	0.58 fc	106.7 ft	62.8 ft				
100.0ft	0.40 fc	128.1 ft	75.4 ft				

Vert. Spread: 65.3°
Horiz. Spread: 41.3°

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	0	50	30	20	0	50	30	20	0	50	30	20	0
RCR: 0	1.18	1.18	1.18	1.18	1.15	1.15	1.15	.99	1.10	1.10	1.10	1.10	1.05	1.05	1.05	1.05	1.01	1.01	1.01	1.01	1.01	1.01	1.01	.99
1	1.06	1.01	.97	.92	1.04	.99	.95	.82	.95	.91	.88	.88	.91	.88	.85	.85	.87	.85	.83	.81	.87	.85	.83	.81
2	.95	.86	.78	.72	.92	.84	.77	.65	.80	.74	.69	.69	.77	.72	.68	.68	.74	.70	.66	.64	.74	.70	.66	.64
3	.85	.73	.64	.57	.83	.72	.63	.53	.69	.61	.55	.55	.66	.60	.54	.54	.63	.58	.53	.51	.63	.58	.53	.51
4	.77	.63	.54	.46	.74	.62	.53	.43	.59	.51	.45	.45	.57	.50	.44	.44	.55	.49	.44	.41	.55	.49	.44	.41
5	.70	.55	.45	.38	.67	.54	.45	.36	.52	.44	.37	.37	.50	.43	.37	.37	.48	.42	.36	.34	.48	.42	.36	.34
6	.64	.49	.39	.32	.61	.48	.39	.31	.46	.38	.32	.32	.44	.37	.31	.31	.43	.36	.31	.29	.43	.36	.31	.29
7	.58	.44	.34	.27	.57	.43	.34	.26	.41	.33	.27	.27	.40	.32	.27	.27	.38	.32	.26	.24	.38	.32	.26	.24
8	.54	.39	.30	.24	.52	.39	.30	.23	.37	.29	.23	.23	.36	.29	.23	.23	.35	.28	.23	.21	.35	.28	.23	.21
9	.50	.36	.27	.21	.49	.35	.27	.20	.34	.26	.21	.21	.33	.26	.20	.20	.32	.25	.20	.18	.32	.25	.20	.18
10	.47	.33	.24	.18	.45	.32	.24	.18	.31	.23	.18	.18	.30	.23	.18	.18	.29	.23	.18	.16	.29	.23	.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	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021	4021
1	4051	4055	4051	4031	4032	4017	4005	3994	3990	3991	3977	3984	3980	3984	3997	3998	4014	4024	4031	4047	4046	4064	4055	4060	4051	4051
2	4078	4088	4070	4052	4041	4020	3984	3974	3952	3957	3922	3940	3920	3951	3960	3980	4008	4031	4044	4073	4068	4099	4084	4100	4078	4078
3	4116	4114	4096	4070	4042	4023	3975	3949	3914	3915	3871	3900	3868	3914	3920	3961	4002	4038	4064	4103	4100	4134	4112	4137	4116	4116
4	4161	4150	4126	4090	4062	4026	3972	3928	3894	3882	3828	3850	3833	3874	3890	3937	3992	4047	4091	4134	4140	4182	4160	4177	4161	4161
5	4203	4176	4154	4109	4071	4029	3967	3915	3880	3846	3799	3805	3789	3828	3862	3917	3989	4059	4118	4159	4182	4213	4207	4216	4203	4203
6	4241	4205	4186	4134	4089	4046	3962	3902	3860	3812	3769	3754	3750	3784	3837	3899	3987	4066	4143	4191	4226	4255	4259	4250	4241	4241
7	4268	4237	4203	4150	4103	4056	3962	3891	3840	3773	3718	3708	3712	3752	3801	3874	3976	4079	4161	4230	4255	4288	4292	4291	4268	4268
8	4298	4269	4224	4174	4112	4068	3966	3880	3813	3743	3680	3676	3680	3720	3776	3850	3966	4088	4184	4259	4281	4327	4316	4333	4298	4298
9	4330	4299	4242	4199	4130	4083	3972	3876	3803	3716	3653	3642	3650	3693	3750	3834	3953	4093	4204	4291	4318	4367	4356	4375	4330	4330
10	4374	4333	4280	4218	4155	4102	3987	3876	3780	3683	3633	3612	3634	3667	3731	3816	3937	4104	4241	4324	4360	4403	4406	4411	4374	4374
11	4422	4363	4314	4241	4178	4122	3990	3869	3777	3669	3622	3593	3619	3645	3715	3799	3932	4114	4277	4360	4400	4440	4448	4447	4422	4422
12	4451	4393	4345	4263	4203	4145	4005	3876	3763	3648	3599	3576	3611	3634	3702	3775	3924	4119	4302	4401	4440	4477	4489	4480	4451	4451
13	4486	4423	4363	4286	4217	4161	4011	3877	3741	3628	3585	3556	3595	3614	3682	3755	3906	4133	4333	4442	4467	4509	4524	4513	4486	4486
14	4508	4448	4379	4316	4236	4188	4027	3879	3724	3615	3567	3541	3580	3599	3669	3736	3892	4140	4364	4484	4498	4543	4541	4548	4508	4508
15	4538	4472	4408	4334	4264	4206	4044	3879	3711	3597	3549	3528	3564	3587	3653	3717	3887	4161	4393	4527	4538	4583	4584	4583	4538	4538
16	4580	4507	4439	4361	4288	4230	4058	3875	3703	3585	3544	3515	3557	3576	3639	3701	3874	4179	4443	4572	4585	4613	4623	4607	4580	4580
17	4612	4527	4470	4380	4318	4249	4073	3878	3686	3559	3530	3503	3553	3571	3636	3687	3874	4195	4492	4622	4636	4649	4665	4636	4612	4612
18	4646	4551	4490	4401	4340	4280	4091	3874	3662	3547	3520	3498	3552	3564	3622	3668	3866	4208	4538	4667	4677	4681	4692	4664	4646	4646
19	4667	4583	4511	4423	4352	4303	4114	3874	3639	3525	3505	3491	3556	3563	3608	3655	3866	4229	4576	4717	4708	4719	4711	4696	4667	4667
20	4686	4608	4527	4444	4372	4328	4137	3877	3615	3502	3495	3488	3568	3560	3592	3635	3871	4248	4605	4768	4746	4755	4740	4715	4686	4686
21	4714	4625	4551	4462	4399	4358	4150	3878	3593	3482	3479	3485	3569	3562	3588	3621	3874	4272	4657	4825	4793	4784	4770	4746	4714	4714
22	4741	4648	4573	4484	4429	4392	4173	3878	3586	3451	3469	3485	3577	3568	3578	3612	3877	4298	4714	4875	4848	4821	4801	4771	4741	4741
23	4772	4676	4600	4506	4466	4425	4202	3882	3567	3421	3455	3490	3597	3578	3572	3602	3875	4318	4773	4926	4904	4852	4831	4789	4772	4772
24	4791	4702	4615	4522	4490	4462	4237	3889	3554	3399	3448	3496	3602	3584	3562	3592	3885	4342	4825	4988	4952	4891	4854	4812	4791	4791
25	4813	4723	4626	4540	4518	4502	4272	3898	3549	3371	3431	3506	3607	3594	3544	3585	3891	4369	4867	5042	4996	4926	4873	4844	4813	4813
26	4832	4752	4642	4562	4538	4537	4312	3908	3540	3344	3414	3508	3612	3599	3527	3574	3898	4393	4908	5091	5030	4966	4897	4874	4832	4832
27	4856	4789	4663	4587	4569	4581	4344	3920	3536	3319	3394	3517	3618	3601	3508	3575	3902	4417	4952	5151	5078	5002	4919	4910	4856	4856
28	4910	4831	4688	4611	4613	4632	4378	3931	3531	3299	3377	3511	3625	3601	3484	3566	3912	4443	5015	5205	5138	5042	4954	4967	4910	4910
29	4980	4899	4719	4645	4652	4670	4411	3946	3535	3275	3351	3506	3621	3592	3461	3556	3907	4464	5073	5257	5199	5092	5000	5033	4980	4980
30	5062	4968	4754	4681	4695	4723	4456	3958	3526	3260	3324	3507	3617	3585	3429	3540	3908	4496	5140	5318	5261	5143	5050	5101	5062	5062
31	5133	5033	4793	4723	4733	4773	4502	3977	3528	3243	3293	3503	3615	3586	3394	3529	3891	4518	5182	5386	5309	5200	5094	5181	5133	5133
32	5190	5103	4821	4766	4769	4820	4543	3992	3524	3228	3250	3505	3614	3572	3371	3510	3876	4533	5224	5446	5350	5257	5141	5248	5190	5190
33	5255	5174	4865	4808	4805	4876	4592	4005	3520	3218	3210	3500	3612	3567	3335	3480	3856	4550	5276	5509	5398	5314	5190	5322	5255	5255
34	5363	5251	4923	4852	4869	4928	4642	4019	3520	3203	3188	3497	3611	3558	3306	3455	3830	4565	5344	5575	5467	5363	5256	5401	5363	5363
35	5455	5332	4982	4904	4939	4986	4687	4037	3509	3184	3164	3493	3609	3547	3280	3431	3804	4569	5418	5648	5548	5426	5337	5476	5455	5455
36	5552	5410	5052	4950	4989	5061	4735	4051	3497	3173	3124	3489	3602	3531	3255	3396	3784	4568	5491	5719	5616	5486	5406	5562	5552	5552
37	5634	5495	5095	5006	5033	5124	4788	4073	3486	3151	3098	3486	3591	3518	3219	3370	3752	4567	5542	5793	5667	5548	5464	5654	5634	5634
38	5700	5599	5139	5055	5075	5181	4836	4082	3463	3140	3070	3482	3572	3498	3188	3347	3718	4563	5589	5888	5716	5621	5521	5756	5700	5700
39	5808	5710	5205	5117	5131	5250	4896	4095	3441	3114	3038	3469	3541	3477	3156	3317	3682	4550	5656	5978	5788	5688	5598	5880	5808	5808
40	5980	5835	5289	5180	5204	5319	4953	4105	3418	3091	3010	3445	3509	3439	3127	3283	3659	4546	5732	6071	5882	5775	5702	6011	5980	5980
41	6171	5990	5396	5250	5283	5387	5010	4116	3395	3061	2935	3425	3463	3406	3094	3254	3633	4530	5801	6175	5983	5856	5837	6150	6171	6171
42	6369	6147	5511	5333	5340	5469	5083	4122	3374	3034	2908	3396	3403	3364	2998	3218	3600	4517	5860	6270	6072	5948	5952	6317	6369	6369
43	6517	6316	5608	5425	5389	5551	5152	4129	3331	3003	2861	3368	3359	3321	2991	3194	3572	4507	5903	6366	6143	6063	6062	6487	6517	6517
44	6651	6503	5708	5528	5446	5634	5219	4125	3302	2972	2811	3316	3327	3269	2951	3162	3553	4497	5929	6447	6212	6172	6166	6660	6651	6651
45	6845	6686	5866	5664	5545	5733	5285	4124	3271	2942	2763	3266	3316	3217	2915	3141	3535	4488	5951	6527	6301	6296	6316	6850	6845	6845
46	7131	6902	6077	5805	5667	5836	5342	4117	3227	2892	2722	3222	3303	3179	2881	3114	3537	4477	5971	6608	6411	6443	6537	7030	7131	7131
47	7404	7097	6335	5977	5788	5942	5397	4103	3195	2860	2677	3188	3303	3153	2854	3093	3540	4470	5961	6668	6548	6583	6752	7206	7404	7404
48	7635	7289	6514	6170	5892	6052	5446	4094	3156	2819	2635	3174	3298	3140	2837	3069	3551	4470	5939							

54	8917	8354	7758	7482	6843	6648	5658	4032	3035	2621	2544	3174	3440	3221	2845	2952	3589	4629	5968	6751	7158	7596	8044	8415	8917
55	9088	8535	7900	7645	7005	6712	5714	4052	3034	2609	2524	3198	3459	3228	2806	2935	3556	4699	6038	6788	7196	7696	8252	8577	9088
56	9240	8675	8047	7815	7130	6772	5797	4082	2949	2589	2485	3211	3451	3229	2741	2901	3515	4799	6106	6831	7232	7779	8417	8750	9240
57	9458	8802	8235	7967	7292	6810	5928	4142	2864	2508	2414	3208	3411	3198	2647	2856	3442	4899	6242	6871	7273	7913	8657	8900	9458
58	9661	8897	8499	8134	7457	6867	6092	4214	2778	2428	2326	3184	3349	3155	2523	2767	3356	5000	6439	6913	7331	8077	8975	9025	9661
59	9807	8908	8769	8350	7551	6937	6320	4290	2693	2347	2206	3142	3201	3064	2363	2649	2992	5108	6687	6963	7388	8286	9216	9095	9807
60	9714	8556	8960	8577	7581	7031	6586	4356	2608	2266	2067	3070	3054	2960	2190	2586	2887	5171	6889	7056	7446	8530	9416	8930	9714
61	9104	7173	9106	8832	7583	7235	6895	4372	2349	2186	1904	2970	2906	2835	1976	2340	2596	5181	7096	7274	7502	8760	9566	8261	9104
62	7821	5605	9211	9055	7581	7549	7248	4327	2067	2013	1717	2853	2759	2652	1774	2120	2285	5092	7310	7577	7570	8968	9671	6957	7821
63	5769	4040	9199	9189	7630	7925	7517	4173	1761	1790	1539	2713	2611	2566	1567	1889	1921	4912	7558	7951	7700	9176	9765	5422	5769
64	3733	2475	8779	9261	7817	8376	7722	3942	1443	1573	1368	2550	2352	2283	1346	1654	1618	4626	7760	8248	7956	9324	9638	3844	3733
65	2657	1559	7380	9216	8110	8858	7834	3563	1128	1356	1190	2533	2059	2085	1157	1399	1317	4191	7917	8557	8292	9399	9206	2266	2657
66	1401	973	6015	9035	8409	9324	7892	3013	854	1123	1021	2207	1715	1848	973	1172	1025	3676	7990	8877	8591	9430	8522	1237	1401
67	963	660	4754	8686	8629	9791	7889	2464	620	931	853	1984	1420	1624	788	946	747	3026	8052	9203	8862	9384	7667	801	963
68	734	549	3500	8062	8833	10248	7739	1915	515	752	728	1722	1232	1378	673	755	599	2627	8088	9665	9090	9224	6323	622	734
69	577	484	2713	7178	8971	10769	7384	1366	454	620	651	1449	1094	1133	594	617	505	1829	8064	10258	9339	8898	3970	535	577
70	495	423	1169	5867	8927	11198	6319	816	408	536	585	1214	967	929	541	530	452	1341	7861	10791	9452	8406	2700	481	495
71	419	369	757	4162	8708	11205	4165	585	370	478	525	1062	732	801	491	477	413	930	7376	11201	9491	7528	1169	424	419
72	371	318	623	2457	8508	10280	2011	496	337	431	464	940	456	707	443	438	380	681	6791	11289	9474	5909	887	366	371
73	335	274	556	1555	8286	7729	1046	434	308	387	395	748	335	612	394	402	351	565	5941	10810	9457	4001	739	317	335
74	288	239	477	1043	7700	4879	714	386	281	347	288	502	283	434	325	368	323	497	4312	9378	9211	2093	624	274	288
75	242	212	403	783	6539	2030	594	350	257	311	220	345	245	307	253	335	300	446	2581	6543	8462	1278	518	240	242
76	209	188	337	650	4615	1208	518	318	230	279	189	278	215	252	204	303	275	405	1102	4109	7199	898	438	214	209
77	184	166	286	573	2850	877	450	282	204	246	163	235	187	214	177	273	250	373	786	1674	5545	736	385	187	184
78	167	149	245	512	1763	699	383	245	177	208	139	199	162	187	154	245	224	342	671	1104	3930	653	346	160	167
79	152	137	214	457	1211	585	326	211	149	162	121	172	140	162	134	214	198	309	600	845	2654	594	301	144	152
80	138	127	167	396	864	494	265	181	122	137	106	148	121	142	119	170	174	275	521	716	1575	546	240	133	138
81	127	117	143	325	685	421	212	149	91	116	93	129	105	124	104	142	150	239	465	622	1124	495	196	123	127
82	120	109	128	242	564	361	150	118	70	96	81	113	85	109	92	122	124	206	416	530	902	446	162	113	120
83	112	103	118	165	472	299	96	98	60	80	68	99	51	96	81	103	95	175	347	463	767	384	138	106	112
84	101	91	104	113	361	232	67	84	50	64	55	85	38	84	68	87	73	145	286	400	623	304	125	99	101
85	91	84	94	87	261	161	51	72	36	45	40	72	26	73	56	71	58	117	233	344	516	201	108	87	91
86	84	82	86	67	172	90	35	44	23	29	25	56	16	61	42	55	47	98	174	290	412	116	95	83	84
87	75	80	80	55	105	49	17	26	8	17	5	36	8	43	23	36	36	83	113	236	302	84	86	82	75
88	71	74	69	44	59	22	4	12	2	6	1	11	2	23	7	24	24	62	72	164	206	64	83	81	71
89	64	65	54	30	38	7	4	2	2	1	1	2	1	5	1	13	11	33	47	88	137	51	72	75	64
90	48	59	35	18	12	7	4	2	1	1	1	1	1	1	1	3	4	18	25	56	69	45	56	68	48

Luminaire Report Summary

IESNA:LM-63-2002
[TEST]
[TESTDATE] 2014.8.13
[TESTLAB]
[ISSUEDATE] 2014-08-14 08:58:31
[MANUFAC] SARIN Energy Inc.
[LUMINAIRE] SES-STZM-5700-230
[_TOTALLUMINAIRELUMENS] 21588.4
[_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

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Reported data calculated from manufacturer's data file, based on IES recommended methods.