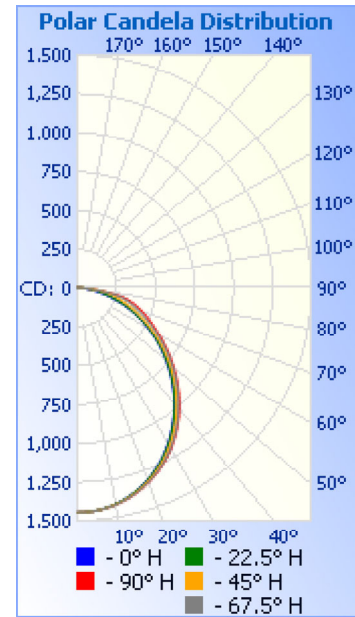


Photometrics Pro

Luminaire Photometric Report

Filename: Troffer 2x2 30W TR22DN - 277V
Manufacturer: SARIN Energy Inc.
Luminaire: SES-TR22DN40-4000- 30 277V
Lamp Output: Total luminaire Lumens: 3896.4
Max Candela: 1,450.8 at Horizontal: 0°, Vertical: 1°
Input Wattage: 31.2
Luminous Opening: Point
Test Date: 2017-11-21
Test Lab: Standard-Tech Co. Ltd
Photometry : Type C
Nema Type: 7 X 7

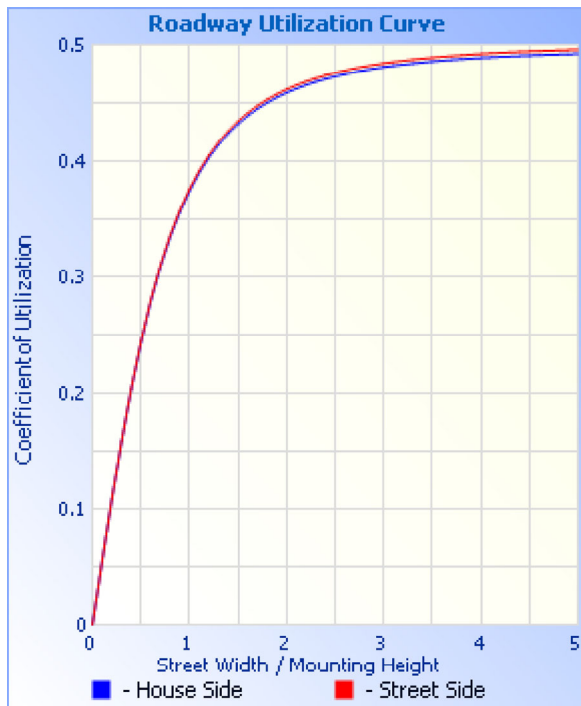
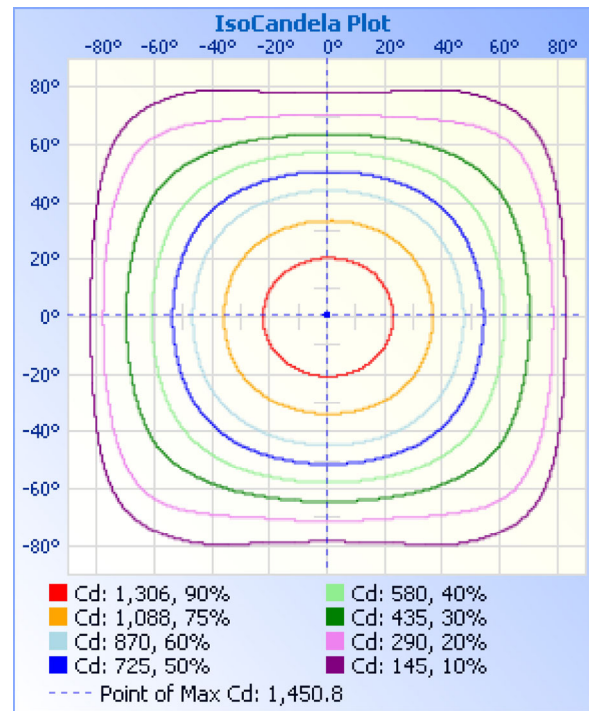
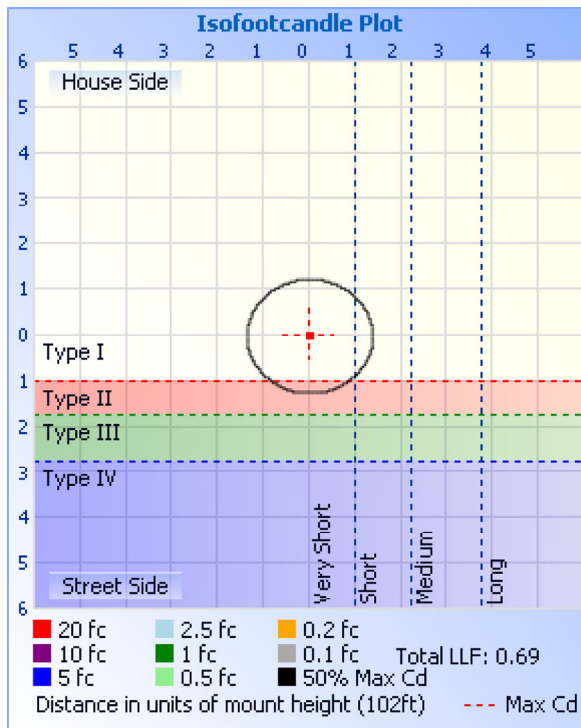


Roadway Summary		
Cutoff Classification:	CUTOFF	
Distribution:	Type VS	
Max Cd, 90 Deg Vert:	7.4	
Max Cd, 80 to <90 Deg:	238.2	
	Lumens	% Lamp
Downward Street Side:	1,955.8	50.2%
Downward House Side:	1,940.9	49.8%
Downward Total:	3,896.7	100%
Upward Street Side:	0.0	0%
Upward House Side:	0.1	0%
Upward Total:	0.1	0%
Total Lumens:	3,896.8	100%

Flood Summary				
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.6%	3,842.5	165.2	156.2
Beam (50%):	67.1%	2,615.5	108.2	101.9
Total:	100%	3,895.6		

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,104.4	28.3%
0-40	1,784.1	45.8%
0-60	3,064.7	78.7%
60-90	831.6	21.3%
70-100	373.4	9.6%
90-120	0.1	0%
0-90	3,896.3	100%
90-180	0.1	0%
0-180	3,896.4	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	136.9	3.5%	90-100	0.1	0%
10-20	388.7	10.0%	100-110	0	0%
20-30	578.8	14.9%	110-120	0	0%
30-40	679.6	17.4%	120-130	0	0%
40-50	682.4	17.5%	130-140	0	0%
50-60	598.3	15.4%	140-150	0	0%
60-70	458.3	11.8%	150-160	0	0%
70-80	295.6	7.6%	160-170	0	0%
80-90	77.6	2.0%	170-180	0	0%



Illuminance at a Distance

	Center Beam fc	Beam Width	
16.7ft	5.20 fc	41.2 ft	46.1 ft
33.3ft	1.31 fc	82.1 ft	92.0 ft
50.0ft	0.58 fc	123.3 ft	138.1 ft
66.7ft	0.33 fc	164.5 ft	184.2 ft
83.3ft	0.21 fc	205.4 ft	230.1 ft
100.0ft	0.15 fc	246.6 ft	276.2 ft

■ Vert. Spread: 101.9°
■ Horiz. Spread: 108.2°

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.09	1.04	1.00	.96	1.06	1.02	.98	.84	.97	.94	.91	.93	.91	.88	.90	.88	.86	.84
2	.99	.90	.84	.78	.96	.89	.82	.71	.85	.80	.75	.82	.77	.73	.79	.75	.72	.70
3	.90	.80	.71	.65	.88	.78	.70	.60	.75	.68	.63	.72	.67	.62	.70	.65	.61	.59

4	.83	.71	.62	.55	.80	.69	.61	.52	.67	.60	.54	.64	.58	.53	.62	.57	.52	.50
5	.76	.63	.54	.47	.74	.62	.54	.45	.60	.52	.47	.58	.51	.46	.56	.50	.46	.44
6	.70	.57	.48	.42	.68	.56	.47	.40	.54	.47	.41	.52	.46	.41	.51	.45	.40	.38
7	.65	.52	.43	.37	.63	.51	.43	.36	.49	.42	.36	.48	.41	.36	.46	.40	.36	.34
8	.61	.47	.39	.33	.59	.46	.38	.32	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9	.57	.43	.35	.30	.55	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.27
10	.53	.40	.32	.27	.52	.40	.32	.26	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25

Candela Table - Type C																	
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
1	1451	1450	1451	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1451	1450	1451	1451
2	1449	1449	1450	1450	1449	1450	1449	1449	1449	1449	1449	1449	1450	1450	1449	1450	1449
3	1448	1448	1448	1448	1448	1448	1447	1447	1447	1447	1448	1448	1448	1448	1448	1448	1448
4	1446	1446	1446	1446	1446	1446	1445	1444	1444	1444	1445	1445	1446	1446	1446	1446	1446
5	1443	1442	1443	1444	1443	1443	1441	1441	1440	1441	1442	1442	1444	1444	1444	1443	1443
6	1439	1439	1440	1441	1440	1440	1438	1437	1436	1436	1438	1439	1441	1440	1440	1439	1439
7	1434	1435	1436	1436	1436	1436	1433	1432	1432	1432	1434	1435	1437	1436	1436	1435	1434
8	1429	1430	1431	1432	1432	1431	1428	1426	1426	1427	1429	1430	1433	1432	1431	1431	1429
9	1424	1424	1425	1427	1427	1426	1422	1421	1420	1420	1424	1425	1428	1427	1427	1425	1424
10	1417	1417	1420	1422	1421	1421	1416	1414	1413	1414	1417	1420	1423	1422	1421	1419	1417
11	1410	1411	1413	1416	1415	1414	1409	1406	1406	1407	1411	1414	1417	1415	1414	1412	1410
12	1402	1403	1406	1409	1409	1408	1402	1398	1397	1399	1403	1407	1410	1408	1407	1404	1402
13	1394	1394	1398	1402	1402	1400	1393	1389	1388	1390	1395	1400	1404	1401	1400	1396	1394
14	1385	1386	1389	1394	1394	1392	1385	1380	1379	1381	1387	1391	1396	1393	1392	1387	1385
15	1375	1376	1381	1385	1386	1384	1375	1370	1369	1371	1377	1383	1388	1385	1382	1377	1375
16	1364	1365	1371	1376	1377	1374	1365	1360	1358	1360	1367	1374	1379	1376	1373	1367	1364
17	1354	1355	1360	1366	1368	1365	1355	1348	1347	1349	1357	1364	1370	1366	1363	1357	1354
18	1342	1343	1350	1357	1358	1354	1344	1337	1335	1337	1346	1354	1360	1356	1352	1345	1342
19	1330	1331	1338	1346	1347	1343	1332	1324	1322	1325	1332	1343	1349	1346	1341	1333	1330
20	1317	1319	1326	1335	1336	1333	1320	1311	1309	1313	1322	1331	1339	1334	1329	1321	1317
21	1304	1306	1314	1323	1325	1320	1307	1298	1295	1299	1310	1320	1327	1323	1317	1308	1304
22	1290	1292	1301	1311	1313	1308	1294	1283	1281	1285	1297	1307	1315	1310	1304	1294	1290
23	1275	1277	1288	1298	1301	1295	1281	1269	1266	1271	1284	1295	1302	1298	1291	1280	1275
24	1260	1263	1274	1285	1287	1282	1266	1255	1251	1256	1269	1281	1290	1285	1277	1266	1260
25	1245	1248	1259	1271	1274	1267	1252	1239	1236	1241	1254	1268	1277	1271	1262	1251	1245
26	1229	1232	1244	1257	1260	1253	1236	1223	1220	1225	1239	1253	1263	1256	1248	1235	1229
27	1213	1216	1229	1242	1245	1238	1221	1207	1203	1209	1224	1238	1248	1242	1232	1219	1213
28	1196	1199	1213	1227	1230	1223	1205	1190	1186	1192	1208	1223	1233	1226	1216	1202	1196
29	1178	1182	1196	1211	1215	1207	1188	1173	1169	1175	1192	1208	1217	1210	1200	1185	1178
30	1161	1164	1179	1195	1199	1191	1171	1155	1150	1157	1174	1192	1201	1194	1183	1168	1161
31	1143	1147	1162	1178	1183	1174	1154	1138	1133	1140	1157	1175	1185	1178	1166	1150	1143
32	1124	1128	1145	1161	1166	1157	1136	1119	1114	1122	1139	1158	1168	1161	1148	1132	1124
33	1106	1110	1126	1144	1148	1139	1118	1101	1095	1103	1121	1140	1151	1143	1130	1114	1106
34	1086	1091	1108	1126	1131	1121	1100	1082	1076	1084	1103	1122	1134	1126	1112	1095	1086
35	1067	1072	1090	1108	1113	1103	1081	1063	1057	1065	1085	1104	1116	1107	1093	1076	1067
36	1047	1052	1071	1089	1095	1084	1062	1043	1037	1045	1065	1086	1099	1089	1074	1056	1047
37	1027	1032	1051	1070	1076	1065	1042	1024	1018	1025	1046	1067	1079	1070	1054	1036	1027
38	1008	1012	1031	1051	1057	1046	1023	1004	997	1006	1025	1049	1060	1051	1035	1016	1008
39	987	992	1011	1031	1038	1026	1003	984	977	986	1006	1028	1039	1031	1015	996	987
40	966	971	991	1012	1018	1007	982	963	956	965	985	1008	1020	1011	994	975	966
41	946	951	971	992	998	987	962	943	936	944	966	989	1000	991	974	955	946
42	925	930	950	971	978	966	941	922	914	923	945	968	979	971	953	934	925
43	904	908	929	951	958	946	920	900	893	902	924	947	959	950	932	913	904
44	882	887	908	930	937	925	899	879	872	881	902	926	939	929	911	892	882
45	861	866	887	909	916	904	878	858	851	859	881	906	918	908	890	870	861
46	839	844	865	888	895	883	857	836	829	838	860	884	897	887	868	848	839

47	817	823	844	866	875	861	836	814	807	816	839	862	876	865	846	827	817
48	796	800	822	845	853	840	814	793	786	795	818	841	854	844	824	805	796
49	774	779	800	824	832	819	792	770	763	773	795	819	833	822	803	783	774
50	752	757	779	803	811	797	770	749	741	750	773	798	812	801	781	761	752
51	730	735	757	781	790	776	748	726	719	728	751	777	791	780	759	739	730
52	708	712	735	760	769	755	727	704	697	706	730	755	769	758	737	716	708
53	686	691	713	738	749	734	705	682	675	685	709	734	748	737	715	694	686
54	663	669	691	717	728	713	683	660	653	662	687	713	727	715	693	672	663
55	642	647	669	696	707	692	662	638	631	640	665	692	707	694	671	650	642
56	619	625	648	675	687	671	640	616	609	618	643	671	686	673	649	628	619
57	597	602	626	654	667	651	619	594	587	596	621	651	666	653	627	606	597
58	575	580	604	633	647	630	597	572	565	574	600	630	646	632	606	583	575
59	553	559	583	613	627	610	576	550	543	552	578	611	626	611	585	561	553
60	531	536	562	593	608	591	555	528	521	531	557	590	607	592	563	539	531
61	509	514	540	573	589	571	534	506	499	509	536	571	588	572	542	517	509
62	487	492	520	554	570	552	514	484	477	486	515	551	569	553	521	495	487
63	464	471	499	534	553	533	494	463	455	465	495	532	552	533	501	473	464
64	442	449	479	516	536	515	473	441	433	444	475	514	535	515	481	452	442
65	420	428	459	499	520	498	454	420	412	422	455	497	519	497	461	430	420
66	399	406	439	481	503	481	434	399	390	401	435	481	502	480	441	408	399
67	377	385	420	465	488	464	415	378	368	380	416	464	486	464	421	387	377
68	355	364	400	448	472	448	396	357	347	359	397	448	471	447	402	366	355
69	334	343	382	432	457	432	377	337	326	338	378	433	456	431	384	346	334
70	313	323	364	416	442	416	360	317	304	318	361	417	440	416	366	325	313
71	291	303	346	401	426	400	343	297	283	298	343	401	426	400	348	305	291
72	270	283	329	385	411	385	327	277	262	278	327	385	410	384	332	285	270
73	249	263	312	369	396	369	310	257	242	258	311	370	395	369	315	266	249
74	228	244	296	354	380	354	295	238	221	239	295	355	380	353	299	246	228
75	208	225	280	338	363	338	279	219	203	220	279	339	363	338	283	228	208
76	188	207	265	321	345	321	263	201	181	202	263	322	346	321	267	210	188
77	169	189	249	303	325	302	247	183	162	184	248	305	325	303	251	192	169
78	150	172	234	283	301	281	231	166	143	167	232	283	302	282	236	174	150
79	131	154	217	260	274	257	213	150	125	150	215	260	274	258	219	157	131
80	114	138	200	232	237	228	194	134	109	135	196	233	238	231	200	140	114
81	97	122	179	197	200	193	173	119	92	119	176	198	201	197	179	124	97
82	81	107	156	164	165	159	148	103	76	104	152	163	166	163	155	108	81
83	66	92	129	131	132	127	119	87	62	88	124	130	132	130	127	92	66
84	52	75	100	100	98	95	91	70	49	72	95	98	98	98	98	75	52
85	40	59	73	70	67	65	64	53	37	54	67	67	67	69	70	58	40
86	29	42	48	42	37	37	40	37	26	38	43	39	37	40	45	40	29
87	19	26	25	17	12	13	19	21	17	22	21	15	12	16	23	24	19
88	11	13	8	4	2	3	5	9	9	10	6	4	3	4	7	11	11
89	3	4	2	2	2	2	2	8	3	3	2	2	2	3	3	3	3
90	1	1	1	2	1	1	1	7	2	3	1	1	2	2	2	1	1
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	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	0	0

96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	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	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	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	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	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	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	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	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	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	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	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	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	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	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	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	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	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	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	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	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	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	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	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	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	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	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	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	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	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	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	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	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	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	0	0

Luminaire Report Summary

IESNA:LM-63-2002
 [TEST]
 [TESTDATE] 2017-11-21
 [TESTLAB] Standard-Tech Co. Ltd
 [ISSUE DATE] 2017-11-21
 [MANUFAC] SARIN Energy Inc.
 [LUMINAIRE] SES-TR22DN40-4000- 30 277V
 [_TOTALLUMINAIRELUMENS] 3896.4
 [_LAMPPOSITION] 0,0
 [OTHER] EVERFINE GO-R5000_V2 SYSTEMGamma(deg) Fz(lm) Ft(lm) %Lum %Lamp0- 10 136.93
 136.93 3.51 3.5110- 20 388.74 525.67 13.49 13.4920- 30 578.78 1104.45 28.34
 28.3430- 40 679.76 1784.21 45.79 45.7940- 50 682.53 2466.74 63.30 63.3050- 60
 598.44 3065.18 78.66 78.6660- 70 458.33 3523.51 90.42 90.4270- 80 295.56 3819.08
 98.01 98.0180- 90 77.62 3896.70 100.00 100.0090-100 0.10 3896.80 100.00 100.00100-
 110 0.00 3896.80 100.00 100.00110-120 0.00 3896.80 100.00 100.00120-130 0.00
 3896.80 100.00 100.00130-140 0.00 3896.80 100.00 100.00140-150 0.00 3896.80 100.00
 100.00150-160 0.00 3896.80 100.00 100.00160-170 0.00 3896.80 100.00 100.00170-180
 0.00 3896.80 100.00 100.00

FILE: CREATED USING ABSOLUTE PHOTOMETRY
 FILE: CANDELA MULTIPLIER: 1
 FILE: VERTICAL ANGLES: 181, HORIZONTAL ANGLES: 17
 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.