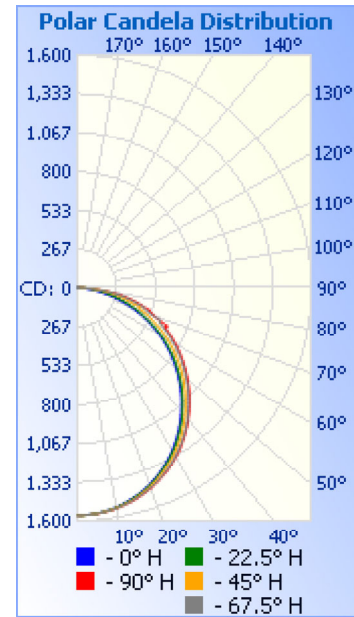


# Photometrics Pro

## Luminaire Photometric Report

**Filename:** CCT Adjustable Troffer 2x4 TF24 - 35W  
**Manufacturer:** SARIN Energy Inc.  
**Luminaire:** SES-TF24-V01 40W  
**Lamp Output:** Total luminaire Lumens: 4640.9  
**Max Candela:** 1,568.0 at Horizontal: 22.5°, Vertical: 1°  
**Input Wattage:** 35.62  
**Luminous Opening:** Point  
**Test Date:** 2017-06-29  
**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:	14.3	
Max Cd, 80 to <90 Deg:	312.8	
	Lumens	% Lamp
Downward Street Side:	2,322.8	50.1%
Downward House Side:	2,311.6	49.8%
Downward Total:	4,634.4	99.9%
Upward Street Side:	3.5	0.1%
Upward House Side:	3.3	0.1%
Upward Total:	6.9	0.1%
Total Lumens:	4,641.3	100%

### Flood Summary

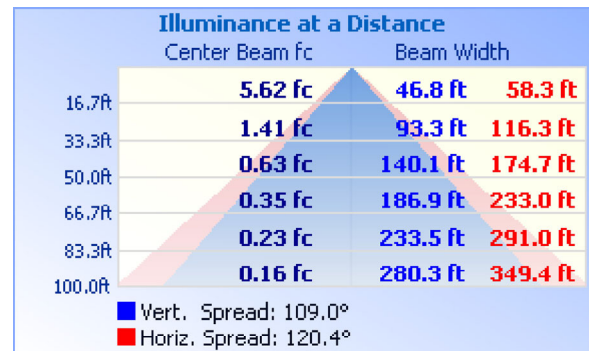
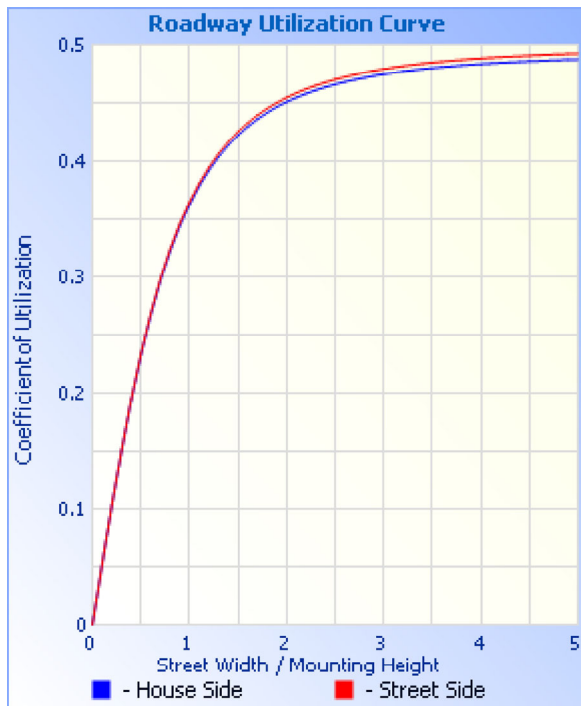
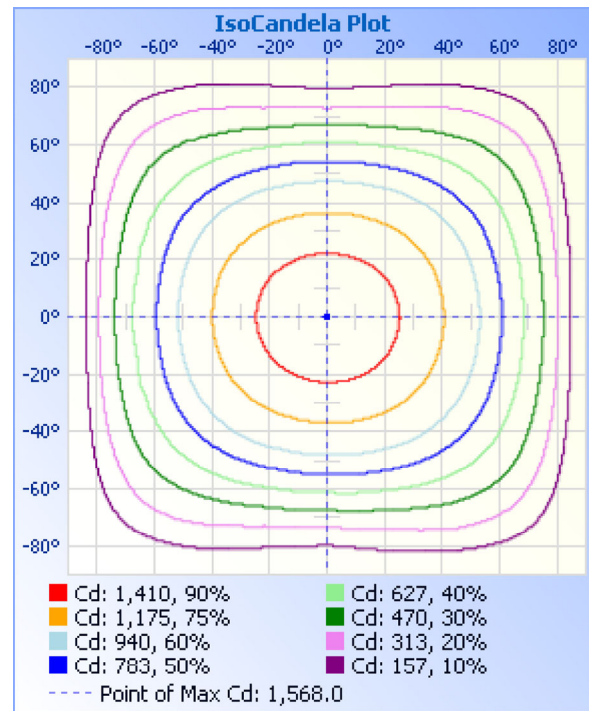
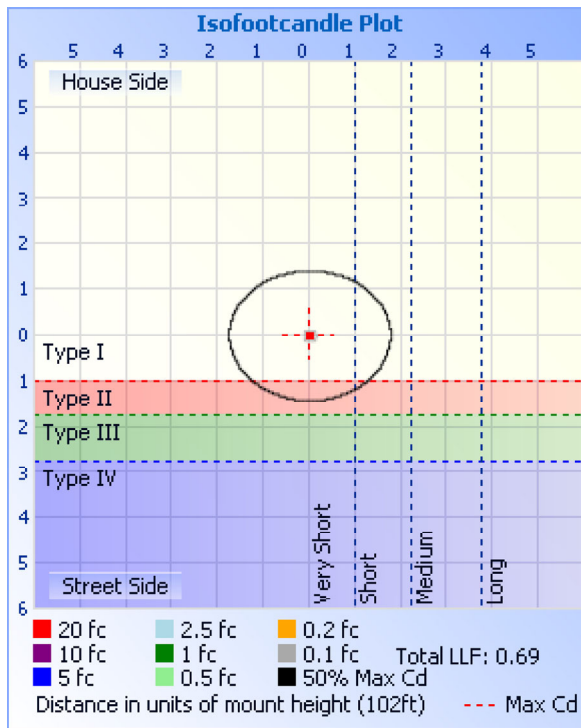
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.8%	4,583.1	168.5	159.1
Beam (50%):	72%	3,341.9	120.4	109
Total:	100%	4,639.1		

### Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,212.9	26.1%
0-40	1,985.4	42.8%
0-60	3,532.0	76.1%
60-90	1,102.0	23.7%
70-100	506.4	10.9%
90-120	4.2	0.1%
0-90	4,634.0	99.9%
90-180	6.9	0.1%
0-180	4,640.9	100%

### Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	148.1	3.2%	90-100	1.5	0%
10-20	423.7	9.1%	100-110	1.3	0%
20-30	641.0	13.8%	110-120	1.3	0%
30-40	772.5	16.6%	120-130	1.0	0%
40-50	805.2	17.4%	130-140	0.7	0%
50-60	741.3	16.0%	140-150	0.5	0%
60-70	597.1	12.9%	150-160	0.3	0%
70-80	388.8	8.4%	160-170	0.2	0%
80-90	116.0	2.5%	170-180	0.1	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	1.19	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	1.08	1.03	.99	.94	1.05	1.01	.97	.83	.96	.93	.90	.92	.90	.87	.89	.87	.85	.82
2	.98	.89	.82	.76	.95	.87	.81	.69	.84	.78	.73	.80	.76	.72	.77	.74	.70	.68
3	.89	.78	.70	.63	.87	.77	.69	.59	.73	.67	.61	.71	.65	.60	.68	.63	.59	.57

4	.81	.69	.60	.53	.79	.68	.59	.50	.65	.58	.52	.63	.56	.51	.61	.55	.50	.48
5	.75	.62	.52	.46	.73	.60	.52	.43	.58	.51	.45	.56	.50	.44	.54	.48	.44	.42
6	.69	.55	.46	.40	.67	.54	.46	.38	.53	.45	.39	.51	.44	.39	.49	.43	.38	.36
7	.64	.50	.41	.35	.62	.49	.41	.34	.48	.40	.35	.46	.39	.34	.45	.39	.34	.32
8	.60	.46	.37	.31	.58	.45	.37	.30	.44	.36	.31	.42	.36	.31	.41	.35	.30	.28
9	.56	.42	.34	.28	.54	.41	.33	.27	.40	.33	.28	.39	.32	.28	.38	.32	.27	.26
10	.52	.39	.31	.25	.51	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23

**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	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567	1567
1	1566	1568	1567	1567	1566	1566	1566	1566	1566	1566	1566	1566	1566	1567	1567	1567	1566
2	1565	1566	1566	1566	1566	1566	1565	1565	1565	1565	1565	1565	1565	1566	1566	1566	1565
3	1564	1564	1564	1565	1565	1564	1564	1564	1564	1563	1564	1564	1564	1565	1565	1564	1564
4	1562	1562	1562	1563	1563	1562	1562	1561	1562	1561	1562	1562	1562	1563	1562	1561	1562
5	1558	1559	1560	1560	1561	1560	1559	1558	1558	1558	1559	1559	1560	1560	1560	1558	1558
6	1555	1555	1557	1558	1558	1557	1556	1555	1555	1555	1555	1556	1557	1557	1557	1555	1555
7	1550	1551	1553	1554	1555	1553	1552	1551	1551	1550	1552	1553	1553	1554	1553	1551	1550
8	1546	1547	1549	1550	1551	1549	1547	1546	1546	1546	1547	1549	1549	1549	1549	1546	1546
9	1540	1542	1544	1546	1547	1545	1542	1540	1540	1540	1542	1544	1545	1545	1544	1541	1540
10	1534	1536	1539	1541	1542	1540	1537	1534	1534	1534	1536	1538	1541	1540	1539	1535	1534
11	1527	1529	1533	1536	1536	1534	1531	1528	1527	1527	1530	1533	1535	1534	1533	1528	1527
12	1520	1522	1526	1530	1530	1528	1524	1520	1520	1520	1524	1527	1529	1529	1526	1521	1520
13	1512	1514	1519	1523	1524	1521	1517	1512	1512	1513	1517	1520	1523	1522	1519	1513	1512
14	1503	1506	1512	1516	1518	1514	1509	1504	1504	1504	1509	1513	1516	1514	1512	1505	1503
15	1494	1497	1503	1509	1511	1506	1500	1494	1495	1496	1501	1506	1509	1507	1503	1496	1494
16	1485	1488	1494	1501	1503	1498	1491	1485	1485	1486	1492	1497	1501	1499	1495	1486	1485
17	1474	1478	1485	1493	1495	1489	1481	1475	1474	1476	1483	1489	1493	1490	1485	1476	1474
18	1464	1468	1475	1484	1486	1480	1471	1464	1463	1465	1473	1480	1483	1481	1475	1466	1464
19	1452	1457	1465	1474	1477	1471	1461	1452	1452	1454	1463	1470	1475	1471	1465	1455	1452
20	1440	1445	1454	1464	1468	1460	1450	1441	1440	1443	1452	1460	1465	1461	1454	1443	1440
21	1428	1433	1443	1454	1457	1449	1438	1428	1427	1431	1440	1449	1454	1451	1443	1431	1428
22	1415	1421	1431	1443	1446	1438	1426	1415	1415	1418	1429	1438	1444	1440	1431	1418	1415
23	1401	1408	1419	1432	1435	1426	1414	1402	1401	1405	1416	1427	1433	1428	1419	1405	1401
24	1387	1394	1406	1420	1424	1414	1401	1388	1387	1392	1404	1415	1421	1417	1406	1392	1387
25	1373	1380	1393	1408	1412	1402	1387	1374	1373	1378	1391	1403	1409	1404	1393	1377	1373
26	1358	1365	1379	1395	1400	1389	1373	1359	1358	1363	1377	1390	1397	1391	1379	1363	1358
27	1343	1350	1365	1382	1387	1376	1359	1344	1342	1348	1363	1377	1384	1378	1365	1348	1343
28	1327	1335	1350	1369	1373	1362	1344	1328	1326	1333	1349	1363	1370	1365	1350	1332	1327
29	1311	1319	1335	1355	1359	1348	1329	1312	1310	1317	1334	1349	1356	1348	1335	1317	1311
30	1294	1303	1320	1340	1345	1333	1313	1296	1293	1301	1319	1335	1342	1336	1320	1300	1294
31	1277	1286	1304	1325	1330	1318	1297	1279	1275	1284	1304	1320	1328	1321	1304	1284	1277
32	1259	1269	1288	1310	1316	1302	1281	1261	1258	1268	1287	1304	1313	1306	1288	1267	1259
33	1241	1252	1272	1294	1300	1286	1264	1244	1239	1250	1271	1289	1297	1290	1271	1249	1241
34	1223	1234	1255	1278	1284	1270	1247	1226	1221	1233	1254	1273	1282	1274	1254	1232	1223
35	1205	1216	1238	1262	1268	1253	1229	1207	1202	1214	1237	1256	1266	1258	1237	1213	1205
36	1186	1197	1220	1245	1251	1236	1211	1188	1183	1196	1219	1240	1250	1241	1219	1195	1186
37	1167	1178	1202	1228	1234	1219	1193	1169	1164	1177	1202	1223	1233	1224	1201	1176	1167
38	1147	1159	1184	1211	1217	1201	1174	1149	1144	1159	1184	1206	1217	1207	1183	1156	1147
39	1127	1139	1165	1192	1199	1183	1155	1130	1124	1139	1165	1188	1199	1189	1164	1137	1127
40	1107	1119	1146	1174	1181	1164	1136	1109	1104	1119	1146	1170	1182	1171	1145	1118	1107
41	1086	1099	1126	1156	1163	1145	1116	1089	1084	1099	1127	1152	1164	1153	1126	1097	1086
42	1066	1078	1106	1136	1144	1126	1096	1068	1063	1079	1108	1134	1146	1134	1106	1077	1066
43	1044	1057	1087	1118	1125	1107	1076	1047	1041	1058	1089	1115	1128	1116	1086	1056	1044
44	1023	1036	1067	1098	1106	1087	1055	1026	1020	1038	1069	1097	1110	1097	1066	1035	1023
45	1001	1014	1046	1078	1087	1068	1035	1004	998	1016	1049	1077	1092	1078	1046	1014	1001
46	980	993	1025	1058	1067	1047	1014	982	976	995	1028	1058	1072	1059	1025	993	980

47	957	971	1004	1038	1047	1027	992	960	954	973	1008	1039	1054	1039	1005	971	957
48	935	949	983	1018	1027	1006	971	938	932	952	987	1020	1034	1019	984	949	935
49	913	927	962	997	1007	986	949	915	909	929	966	1000	1015	999	963	927	913
50	890	904	940	977	987	965	927	893	886	907	945	980	996	979	941	905	890
51	867	881	918	955	966	944	905	870	863	884	924	960	976	959	919	882	867
52	844	858	896	934	945	923	882	846	840	862	902	940	957	938	898	859	844
53	820	835	874	913	925	902	860	823	817	839	881	920	937	918	876	836	820
54	797	812	851	892	904	880	838	800	793	816	859	899	917	897	854	813	797
55	773	788	829	870	883	859	815	776	769	793	837	879	897	877	832	790	773
56	749	764	806	849	862	837	792	752	745	769	815	858	878	856	810	767	749
57	725	740	784	828	842	816	769	729	721	746	793	838	858	835	788	743	725
58	700	717	760	806	820	794	746	705	697	723	771	817	837	814	765	719	700
59	676	692	738	785	800	773	723	681	672	699	749	797	817	793	743	695	676
60	652	668	715	763	779	751	701	657	647	675	727	776	797	772	720	671	652
61	627	644	692	742	758	729	677	632	622	651	704	755	776	751	698	647	627
62	602	619	669	721	736	707	655	607	597	627	682	734	756	730	675	623	602
63	576	595	646	699	715	686	631	582	571	603	660	713	735	709	653	598	576
64	551	570	623	677	693	664	608	558	546	578	637	692	714	688	630	574	551
65	526	546	600	654	672	642	585	533	521	554	615	671	693	666	607	549	526
66	500	521	577	633	655	620	562	508	495	529	593	649	672	645	585	524	500
67	475	496	554	612	670	599	539	483	470	505	571	627	651	623	562	500	475
68	449	472	532	613	621	585	516	458	444	480	548	606	629	601	539	475	449
69	424	447	509	600	586	596	492	433	418	456	525	584	617	579	516	451	424
70	398	422	486	546	564	536	469	409	393	431	503	566	596	557	494	426	398
71	372	398	463	523	542	511	446	384	366	407	480	556	564	551	471	402	372
72	347	374	442	501	520	489	424	359	340	383	458	518	541	515	448	377	347
73	321	350	448	478	510	467	406	335	315	359	435	495	517	489	425	353	321
74	295	326	399	468	474	449	403	310	289	334	414	472	493	466	403	329	295
75	270	302	374	432	449	423	357	286	264	311	402	448	469	442	384	305	270
76	245	279	352	407	424	398	335	263	239	287	367	424	441	419	365	282	245
77	221	257	331	382	397	373	314	239	214	264	344	395	410	391	336	258	221
78	196	234	309	355	368	346	297	217	190	242	320	366	378	362	312	236	196
79	172	212	285	325	336	317	268	196	166	220	296	335	346	331	289	213	172
80	149	197	261	294	305	286	244	174	143	198	268	304	313	301	264	191	149
81	127	173	235	263	272	256	219	157	121	178	239	272	280	269	236	170	127
82	105	152	206	231	238	224	190	136	100	157	210	240	246	237	208	150	105
83	85	136	178	198	201	190	163	117	81	136	180	207	211	205	179	130	85
84	67	113	149	161	163	154	134	98	62	113	150	170	172	169	149	109	67
85	50	92	119	124	122	116	105	77	46	90	120	130	131	131	120	88	50
86	35	70	87	85	82	78	73	56	31	66	86	90	89	91	87	67	35
87	23	48	54	46	43	41	42	35	19	44	52	51	48	52	54	45	23
88	13	26	24	16	11	11	14	15	10	21	21	17	15	18	24	24	13
89	5	8	4	3	2	2	2	2	3	18	2	2	3	3	4	6	5
90	0	1	2	2	2	2	2	0	0	14	1	2	2	2	2	5	0
91	0	1	2	2	2	2	2	0	0	11	1	2	2	2	1	4	0
92	0	0	2	2	2	2	2	0	0	7	1	2	2	2	1	3	0
93	0	0	1	2	2	2	1	0	0	4	1	1	1	2	1	2	0
94	0	0	1	2	2	2	1	0	0	0	1	1	1	2	1	2	0
95	0	0	1	2	2	2	1	0	1	0	1	1	1	1	1	2	0

96	0	1	1	2	2	2	1	1	1	0	1	1	1	1	1	1	0
97	0	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	0
98	0	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	0
99	0	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	0
100	0	1	1	2	2	2	2	1	1	1	1	1	1	1	1	0	0
101	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
102	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
103	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
104	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
105	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
106	0	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0
107	0	1	2	2	2	2	2	0	1	1	1	1	1	1	1	1	0
108	0	1	2	2	2	2	2	1	1	1	1	1	2	1	1	1	0
109	0	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	0
110	0	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	0
111	1	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	1
112	1	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	1
113	1	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	1
114	1	1	2	2	2	2	2	0	1	1	1	1	2	1	1	1	1
115	1	1	2	2	2	2	2	0	0	0	1	1	2	1	1	1	1
116	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	1	0
117	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
118	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
119	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
120	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
121	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
122	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
123	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
124	0	1	2	2	2	2	1	0	0	0	1	1	2	1	1	0	0
125	0	1	2	2	2	2	1	0	0	0	1	2	2	1	1	0	0
126	0	1	2	2	2	2	1	0	0	0	1	2	2	1	1	0	0
127	0	1	2	2	2	2	1	0	0	0	1	2	2	1	1	0	0
128	0	1	2	2	2	1	1	0	0	0	1	2	2	1	1	0	0
129	0	1	2	2	2	1	1	0	0	0	1	2	2	1	1	0	0
130	0	1	2	2	2	1	1	0	0	0	1	2	2	1	1	0	0
131	0	1	2	2	2	1	1	0	0	0	1	1	2	1	1	0	0
132	0	1	2	2	2	1	1	0	0	0	1	1	2	1	1	0	0
133	0	1	2	2	2	1	1	0	0	0	1	1	2	1	1	0	0
134	0	1	1	2	2	1	1	0	0	0	1	1	2	1	1	0	0
135	1	1	1	2	2	1	1	0	0	0	1	1	2	1	1	0	1
136	1	1	1	2	1	1	1	0	0	0	1	1	2	1	1	0	1
137	1	1	1	2	1	1	1	0	0	0	1	1	2	1	1	0	1
138	1	0	1	2	1	1	1	0	0	0	1	1	2	1	1	0	1
139	1	0	1	2	1	1	1	0	0	0	1	1	2	1	1	0	1
140	1	0	1	2	1	1	1	0	0	0	1	1	2	1	1	0	1
141	1	0	1	2	1	1	1	0	0	0	1	1	1	1	1	0	1
142	1	0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1
143	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
144	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1

145	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
146	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
147	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
148	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
149	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
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152	1	0	1	1	1	1	1	0	1	0	0	1	1	1	0	0	1
153	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	0	1
154	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	0	1
155	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	0	1
156	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	0	1
157	1	0	1	1	1	1	1	0	1	1	0	0	1	1	0	0	1
158	1	1	1	1	1	1	1	0	1	1	0	0	1	1	0	0	1
159	1	1	0	1	1	1	1	0	1	1	0	0	1	1	0	1	1
160	1	1	0	1	1	1	1	0	1	1	1	0	1	1	0	1	1
161	1	1	0	0	1	1	0	0	1	1	1	0	1	1	0	1	1
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168	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1
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170	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1
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173	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1
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175	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1
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177	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
178	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1
179	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

### Luminaire Report Summary

IESNA:LM-63-2002  
 [TEST]  
 [TESTDATE] 2017-06-29  
 [TESTLAB] Standard-Tech Co. Ltd  
 [ISSUE DATE] 2017-06-29  
 [MANUFAC] SARIN Energy Inc.  
 [LUMINAIRE] SES-TF24-V01 40W  
 [\_TOTALLUMINAIRELUMENS] 4640.9  
 [\_LAMPPOSITION] 0,0  
 [OTHER] EVERFINE GO-R5000\_V2 SYSTEMGamma(deg) Fz(lm) Ft(lm) %Lum %Lamp0- 10 148.15  
 148.15 3.19 3.1910- 20 423.72 571.87 12.32 12.3220- 30 641.02 1212.89 26.13  
 26.1330- 40 772.67 1985.56 42.78 42.7840- 50 805.41 2790.97 60.13 60.1350- 60  
 741.51 3532.48 76.11 76.1160- 70 597.14 4129.62 88.98 88.9870- 80 388.78 4518.39  
 97.35 97.3580- 90 116.02 4634.42 99.85 99.8590-100 1.51 4635.93 99.88 99.88100-110  
 1.34 4637.27 99.91 99.91110-120 1.30 4638.57 99.94 99.94120-130 1.01 4639.58 99.96  
 99.96130-140 0.73 4640.31 99.98 99.98140-150 0.45 4640.76 99.99 99.99150-160 0.30  
 4641.06 99.99 99.99160-170 0.16 4641.22 100.00 100.00170-180 0.08 4641.30 100.00  
 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.