

# Photometrics Pro



## Luminaire Photometric Report

**Filename:** T5 Tube Light 18W 4T5  
**Manufacturer:** SARIN Energy Inc.  
**Luminaire:** SES-4T5-3000-18  
**Lamp Output:** Total luminaire Lumens: 2198.55  
**Max Candela:** 1,913.0 at Horizontal: 270°, Vertical: 18°  
**Input Wattage:** 35.6  
**Luminous Opening:** Point  
**Test Date:** 2018-04-10  
**Test Lab:** Standard-Tech Co., Ltd Testing Center  
**Photometry :** Type C  
**Nema Type:** 7 X 7

Cutoff Classification:		CUTOFF
Distribution:		Type VS
Max Cd, 90 Deg Vert:		0.6
Max Cd, 80 to <90 Deg:		58.9
	Lumens % Lamp	
Downward Street Side:	2,228.0	50.7%
Downward House Side:	2,164.0	49.2%
Downward Total:	4,392.0	99.9%
Upward Street Side:	2.6	0.1%
Upward House Side:	3.2	0.1%
Upward Total:	5.7	0.1%
Total Lumens:		4,397.7 100%

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	96.8%	4,256.0	130.5	136.3
Beam (50%):	79.5%	3,494.3	107.3	98.9
Total:	100%	4,396.0		

Zone	Lumens	% Luminaire
0-30	1,450.8	33%
0-40	2,380.5	54.1%
0-60	4,038.0	91.8%
60-90	353.3	8%
70-100	89.0	2%
90-120	2.2	0%
0-90	4,391.3	99.9%
90-180	5.7	0.1%
0-180	4,397.1	100%

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	176.6	4.0%	90-100	0.3	0%
10-20	505.2	11.5%	100-110	0.8	0%
20-30	769.0	17.5%	110-120	1.1	0%
30-40	929.8	21.1%	120-130	1.0	0%
40-50	945.9	21.5%	130-140	0.9	0%
50-60	711.6	16.2%	140-150	0.7	0%
60-70	264.6	6.0%	150-160	0.5	0%
70-80	75.9	1.7%	160-170	0.3	0%
80-90	12.8	0.3%	170-180	0.1	0%



**Coefficients Of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance: 20%

RCC %:	<i>80</i>				<i>70</i>				<i>50</i>			<i>30</i>			<i>10</i>			<i>0</i>
RW %:	<u>70</u>	<u>50</u>	<u>30</u>	<u>0</u>	<u>70</u>	<u>50</u>	<u>30</u>	<u>0</u>	<u>50</u>	<u>30</u>	<u>20</u>	<u>50</u>	<u>30</u>	<u>20</u>	<u>50</u>	<u>30</u>	<u>20</u>	<u>0</u>
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	1.11	1.07	1.03	1.00	1.08	1.05	1.02	.89	1.01	.98	.96	.97	.95	.93	.93	.91	.90	.88
2	1.02	.95	.90	.85	1.00	.93	.88	.77	.90	.86	.82	.87	.83	.80	.84	.81	.78	.76
3	.94	.85	.78	.72	.92	.83	.77	.67	.81	.75	.70	.78	.73	.69	.75	.71	.68	.66

4	.87	.76	.68	.62	.85	.75	.68	.59	.72	.66	.61	.70	.65	.60	.68	.63	.59	.57
5	.80	.68	.60	.54	.78	.67	.60	.52	.65	.59	.53	.63	.58	.53	.62	.56	.52	.50
6	.74	.62	.54	.48	.72	.61	.53	.46	.59	.52	.47	.58	.51	.47	.56	.51	.46	.44
7	.69	.56	.48	.42	.67	.56	.48	.41	.54	.47	.42	.53	.46	.42	.51	.46	.41	.40
8	.64	.52	.44	.38	.63	.51	.43	.37	.50	.43	.38	.48	.42	.37	.47	.41	.37	.35
9	.60	.47	.40	.34	.59	.47	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.32
10	.56	.44	.36	.31	.55	.43	.36	.31	.42	.36	.31	.41	.35	.31	.40	.35	.31	.29

**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	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868	1868
1	1869	1863	1863	1856	1860	1859	1865	1868	1868	1873	1881	1883	1880	1878	1875	1875	1869
2	1868	1864	1863	1853	1855	1852	1859	1860	1861	1876	1888	1894	1892	1893	1886	1881	1868
3	1864	1857	1860	1850	1848	1849	1846	1849	1856	1871	1888	1897	1905	1900	1890	1883	1864
4	1869	1855	1851	1845	1843	1839	1836	1846	1858	1877	1893	1899	1905	1904	1897	1890	1869
5	1867	1853	1849	1838	1839	1831	1831	1839	1845	1871	1896	1897	1895	1904	1894	1893	1867
6	1853	1843	1848	1832	1831	1818	1823	1822	1825	1860	1889	1892	1884	1897	1896	1889	1853
7	1848	1830	1840	1826	1820	1805	1813	1807	1812	1849	1875	1883	1879	1892	1891	1885	1848
8	1851	1828	1829	1818	1815	1794	1798	1794	1801	1839	1864	1877	1887	1889	1881	1883	1851
9	1842	1820	1815	1814	1806	1783	1784	1782	1800	1836	1850	1881	1901	1893	1865	1880	1842
10	1832	1811	1807	1809	1798	1771	1764	1778	1800	1836	1835	1888	1911	1903	1860	1874	1832
11	1826	1797	1803	1799	1791	1763	1752	1774	1789	1832	1830	1887	1910	1909	1863	1865	1826
12	1819	1788	1794	1788	1777	1747	1746	1762	1769	1820	1838	1880	1906	1907	1864	1853	1819
13	1809	1780	1783	1773	1769	1732	1744	1738	1761	1800	1842	1876	1900	1902	1866	1848	1809
14	1794	1770	1769	1763	1769	1725	1733	1724	1758	1793	1845	1871	1895	1897	1865	1840	1794
15	1781	1747	1754	1757	1766	1720	1719	1717	1742	1788	1836	1860	1893	1886	1860	1816	1781
16	1775	1729	1736	1749	1753	1708	1700	1701	1718	1772	1822	1847	1899	1877	1851	1805	1775
17	1768	1719	1728	1735	1743	1690	1686	1676	1703	1751	1806	1843	1909	1875	1843	1801	1768
18	1748	1713	1718	1727	1730	1674	1676	1655	1692	1728	1800	1841	1913	1879	1836	1793	1748
19	1727	1699	1704	1715	1721	1663	1670	1645	1682	1723	1792	1841	1909	1884	1820	1780	1727
20	1717	1675	1691	1703	1710	1650	1657	1633	1656	1714	1779	1843	1905	1887	1810	1755	1717
21	1708	1657	1675	1689	1704	1637	1632	1611	1633	1700	1767	1840	1899	1882	1802	1748	1708
22	1686	1646	1663	1681	1694	1631	1612	1583	1622	1674	1751	1835	1895	1872	1793	1737	1686
23	1661	1628	1653	1671	1679	1618	1593	1562	1608	1658	1739	1828	1888	1863	1787	1727	1661
24	1654	1603	1636	1658	1661	1601	1575	1543	1583	1649	1730	1820	1879	1859	1776	1700	1654
25	1639	1577	1607	1637	1643	1581	1559	1525	1564	1637	1718	1807	1868	1849	1764	1681	1639
26	1615	1559	1587	1614	1637	1565	1540	1501	1555	1617	1711	1790	1860	1836	1748	1675	1615
27	1585	1541	1574	1597	1633	1555	1524	1489	1538	1600	1695	1774	1857	1822	1745	1660	1585
28	1568	1519	1562	1590	1627	1543	1505	1480	1508	1587	1683	1759	1852	1808	1733	1629	1568
29	1545	1496	1546	1580	1614	1535	1484	1462	1491	1567	1667	1749	1842	1802	1718	1606	1545
30	1515	1472	1520	1565	1602	1524	1461	1434	1469	1544	1646	1746	1829	1798	1701	1595	1515
31	1497	1452	1493	1548	1596	1510	1436	1411	1441	1526	1632	1737	1811	1790	1675	1576	1497
32	1480	1427	1469	1530	1581	1498	1415	1390	1415	1508	1610	1716	1797	1772	1660	1548	1480
33	1455	1403	1445	1521	1557	1485	1396	1361	1396	1485	1595	1690	1783	1748	1645	1530	1455
34	1427	1386	1427	1505	1529	1468	1383	1332	1372	1462	1574	1669	1773	1727	1624	1517	1427
35	1406	1361	1408	1480	1506	1440	1368	1311	1343	1439	1556	1649	1758	1709	1604	1492	1406
36	1377	1333	1392	1456	1472	1413	1353	1283	1323	1416	1542	1632	1742	1693	1584	1469	1377
37	1343	1302	1369	1431	1438	1386	1324	1250	1295	1396	1523	1614	1726	1674	1568	1455	1343
38	1314	1278	1343	1399	1410	1352	1304	1231	1262	1377	1498	1595	1705	1649	1536	1431	1314
39	1284	1248	1322	1360	1386	1313	1282	1207	1236	1353	1466	1572	1695	1629	1507	1397	1284
40	1248	1215	1297	1319	1372	1277	1256	1173	1204	1328	1438	1552	1685	1614	1479	1375	1248
41	1220	1187	1268	1286	1349	1250	1219	1146	1174	1299	1409	1536	1673	1599	1458	1343	1220
42	1187	1156	1234	1263	1326	1229	1182	1114	1141	1269	1381	1516	1655	1580	1431	1309	1187
43	1157	1123	1198	1244	1305	1209	1144	1083	1106	1243	1349	1493	1637	1556	1405	1289	1157
44	1127	1098	1156	1226	1277	1191	1111	1057	1078	1209	1320	1470	1628	1530	1380	1258	1127
45	1090	1061	1119	1201	1257	1162	1072	1026	1041	1179	1292	1442	1615	1512	1352	1233	1090
46	1055	1031	1081	1165	1238	1131	1042	1002	1011	1147	1258	1423	1594	1500	1321	1208	1055

47	1016	1007	1043	1135	1211	1108	1012	975	971	1110	1228	1404	1573	1480	1296	1169	1016
48	979	975	1011	1106	1174	1080	979	946	935	1077	1206	1383	1555	1451	1273	1137	979
49	942	949	979	1075	1132	1049	942	917	894	1034	1181	1348	1536	1417	1238	1088	942
50	906	911	940	1041	1092	1013	907	878	857	997	1144	1319	1514	1385	1203	1051	906
51	867	879	904	1000	1056	976	876	838	817	952	1106	1288	1487	1365	1170	1007	867
52	829	839	873	954	1023	936	850	793	781	914	1068	1267	1421	1340	1130	976	829
53	788	795	842	914	982	894	817	754	739	871	1029	1238	1211	1301	1097	938	788
54	748	747	807	873	923	853	783	714	701	834	990	1199	916	1228	1059	898	748
55	709	705	769	835	837	808	745	678	658	792	951	1069	760	1020	1017	852	709
56	667	665	728	788	637	748	705	639	614	752	913	838	668	760	975	804	667
57	623	627	689	729	461	659	662	598	575	710	873	659	494	634	925	759	623
58	578	588	644	607	372	498	619	561	535	666	830	584	304	539	875	712	578
59	534	547	600	435	355	378	578	520	495	624	785	460	169	387	820	660	534
60	492	508	554	328	342	319	538	479	457	583	733	295	148	253	767	608	492
61	448	466	513	301	330	301	500	443	417	540	672	166	141	161	678	560	448
62	407	427	472	287	318	286	455	405	380	497	590	137	135	141	514	511	407
63	367	388	434	273	306	272	399	367	344	453	451	127	129	131	376	461	367
64	329	351	392	259	293	258	310	332	310	410	343	119	123	123	303	410	329
65	293	315	320	246	279	244	239	297	276	367	286	111	118	115	229	362	293
66	258	280	228	233	264	230	197	264	243	323	204	104	112	108	146	317	258
67	224	243	184	219	250	216	180	232	210	280	125	97	107	102	108	270	224
68	191	212	167	204	235	201	164	202	179	238	98	91	102	95	94	225	191
69	160	181	152	190	220	187	149	171	151	198	85	84	97	89	84	185	160
70	132	152	138	176	205	172	135	143	127	161	74	78	91	83	75	145	132
71	110	124	124	162	191	158	121	117	108	128	65	73	86	77	67	110	110
72	95	102	110	149	176	145	107	97	92	103	57	67	81	71	59	86	95
73	81	87	97	135	162	131	94	83	78	84	50	62	76	66	52	72	81
74	70	75	85	122	148	118	82	71	66	67	44	57	71	60	47	61	70
75	60	65	74	108	133	105	71	60	56	55	39	52	66	55	41	53	60
76	51	56	64	95	116	92	61	51	46	45	35	47	60	50	36	45	51
77	44	48	56	82	99	79	52	43	39	36	31	41	54	44	32	39	44
78	38	41	48	69	84	66	45	36	32	30	27	36	48	39	28	34	38
79	33	35	42	58	71	55	38	30	27	25	23	32	43	35	25	29	33
80	28	30	36	48	59	46	31	25	22	20	20	28	37	30	22	25	28
81	24	26	30	40	48	37	26	21	18	16	17	24	33	26	19	22	24
82	20	21	24	32	39	29	21	17	15	13	14	20	28	23	16	18	20
83	17	17	19	25	29	22	16	13	12	11	11	17	24	19	13	15	17
84	13	13	15	19	21	17	12	10	9	8	9	13	19	16	11	13	13
85	9	9	10	13	15	12	9	7	6	6	7	10	15	13	8	10	9
86	6	6	7	8	10	8	6	5	4	4	5	7	11	9	5	6	6
87	3	3	4	5	6	4	3	3	3	3	3	4	6	5	3	3	3
88	2	2	2	2	3	2	2	2	2	1	1	2	2	2	1	1	2
89	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	1	1
90	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
91	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0

96	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
97	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0
98	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	0
99	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1
100	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1
101	0	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1
102	0	1	1	0	0	0	1	1	1	1	1	0	0	0	0	1
103	1	1	1	0	0	0	1	1	1	1	2	0	0	0	1	1
104	1	1	1	0	0	0	1	1	1	1	1	1	0	0	1	1
105	1	1	1	0	1	1	2	1	1	1	1	1	0	0	1	1
106	1	1	1	1	1	1	2	1	1	1	1	1	0	1	1	1
107	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1
108	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1
109	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
110	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
111	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
112	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
113	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1
114	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1
115	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
116	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
117	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
118	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
119	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
120	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
121	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
122	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	1
123	1	1	1	2	2	2	3	1	1	1	1	1	1	2	1	0
124	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
125	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
126	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
127	1	1	1	2	2	2	3	1	1	1	1	1	1	1	1	0
128	1	1	1	2	2	2	3	1	1	1	1	1	1	2	1	0
129	1	1	1	2	2	2	2	1	1	1	1	1	1	2	1	1
130	1	1	1	2	2	2	2	1	1	1	1	1	1	2	1	1
131	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
132	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
133	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
134	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
135	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1
136	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1
137	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1
138	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1
139	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1
140	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1
141	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
142	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
143	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
144	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1

145	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
146	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
147	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
148	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
149	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
150	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
151	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
153	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
154	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
155	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
156	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
157	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
158	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
159	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
160	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
161	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
162	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
163	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
164	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
165	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
166	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
167	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
168	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
169	2	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2
170	2	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2
171	2	2	1	1	2	1	1	2	2	2	2	1	1	1	1	1	2
172	2	2	1	1	1	1	1	1	2	4	2	1	1	1	1	2	2
173	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2
174	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2
175	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2
176	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2
177	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	2
178	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2
179	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2
180	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

**Luminaire Report Summary**

IESNA:LM-63-2002

[TEST]

[TESTDATE] 2018-04-10

[TESTLAB] Standard-Tech Co., Ltd Testing Center

[ISSUEDATE] 2018-04-10 16:18:33

[MANUFAC] SARIN Energy Inc.

[LUMINAIRE] SES-4T5-3000-18

[\_TOTALLUMINAIRELUMENS] 4397.1

[\_LAMPPOSITION] 0,0

[OTHER] EVERFINE GO-R5000\_V2 SYSTEMGamma(deg) Fz(lm) Ft(lm) %Lum %Lamp0- 10 176.57

176.57 4.01 4.0110- 20 505.19 681.76 15.50 15.5020- 30 769.06 1450.81 32.99

32.9930- 40 930.02 2380.83 54.14 54.1440- 50 946.17 3327.00 75.65 75.6550- 60

711.83 4038.83 91.84 91.8460- 70 264.55 4303.38 97.85 97.8570- 80 75.89 4379.27

99.58 99.5880- 90 12.84 4392.11 99.87 99.8790-100 0.32 4392.43 99.88 99.88100-110

0.82 4393.25 99.90 99.90110-120 1.06 4394.31 99.92 99.92120-130 0.99 4395.30 99.94

99.94130-140 0.88 4396.18 99.96 99.96140-150 0.68 4396.85 99.98 99.98150-160 0.53

4397.38 99.99 99.99160-170 0.35 4397.73 100.00 100.00170-180 0.13 4397.86 100.00

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

Photometrics Pro 1.3.29 copyright 2003-2020 by jSolutions, Inc.

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