

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

STT3PC 40L 30HK ND xx xx MW LN3AGL

Nom 3 inch dia Euro style tracklight with 90 CRI emitter and clear glass lens

### **Test Number**

SP-01456

### **Test Date**

12/1/2022

The results contained in this report pertain only to this IES file.

STT3PC 40L 30HK ND xx xx MW LN3AGL

### Summary of Results

#### Power

Input Watts	35 W
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#### Lumen Output

Output Lumens	2495
Efficacy	71.28 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.4
Four luminaires	0.43

#### Full Beam Angle

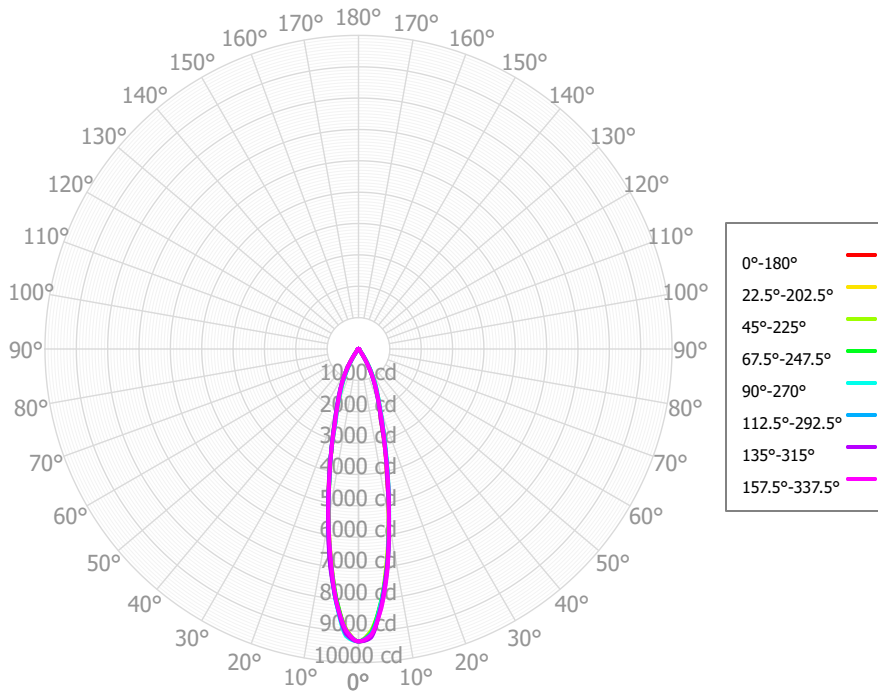
0° - 180°	23°
90° - 270°	24°

### IES File Header Contents

Keyword	Value
TEST	SP-01456
TESTLAB	Spectrum Lighting Photometric lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/1/2022
ISSUEDATE	12/2/2022
LUMCAT	STT3PC 40L 30HK ND xx xx MW LN3AGL
LUMINAIRE	Nom 3 inch dia Euro style tracklight with 90 CRI emitter and clear glass lens
OTHER	Beam Angle: 23 deg
OTHER	Narrow Beam
OTHER	Reference project SL474.1
LAMPCAT	N/A
LAMP	N/A
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	90
_CCTMULT	27HK x 0.96, 35HK x 1.05, 40HK x 1.08
_LAMPMULT	10L x 0.24, 20L x 0.49, 30L x 0.73

STT3PC 40L 30HK ND xx xx MW LN3AGL

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	696.97	27.94%	90.00° - 100.00°	2.16	0.09%
10.00° - 20.00°	922.50	36.98%	100.00° - 110.00°	1.91	0.08%
20.00° - 30.00°	570.64	22.87%	100.00° - 120.00°	3.85	0.15%
30.00° - 40.00°	170.87	6.85%	120.00° - 130.00°	1.82	0.07%
40.00° - 50.00°	33.02	1.32%	130.00° - 140.00°	1.68	0.07%
50.00° - 60.00°	34.64	1.39%	140.00° - 150.00°	1.51	0.06%
60.00° - 70.00°	33.20	1.33%	150.00° - 160.00°	1.21	0.05%
70.00° - 80.00°	14.16	0.57%	160.00° - 170.00°	0.70	0.03%
80.00° - 90.00°	5.71	0.23%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	2481.70	99.47%	0.00° - 180.00°	2494.84	100.00%

### Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33	9325.33
2.50°	9181.98	9072.73	9009.56	9077.39	9163.87	8995.16	9102.31	8993.88	9081.76	8953.33	8981.93	8995.04	9162.43	9092.57	9209.90	9133.82	9181.98
5.00°	8205.36	8222.50	8162.53	8125.52	8156.39	8132.78	8100.94	8096.80	8053.60	8051.56	8067.77	8019.89	8131.69	8262.21	8235.01	8313.08	8205.36
7.50°	6963.63	7025.03	6865.31	6981.81	7013.40	6828.75	6952.17	6770.79	6900.96	6740.43	6887.68	6763.17	6872.19	7043.99	6971.57	7086.17	6963.63
10.00°	5591.65	5558.14	5572.47	5572.98	5617.01	5561.01	5572.75	5514.76	5540.02	5495.18	5521.20	5517.49	5580.66	5582.19	5614.96	5581.54	5591.65
12.50°	4193.35	4335.65	4282.39	4348.99	4380.60	4318.32	4365.94	4303.76	4334.72	4287.12	4367.93	4274.82	4283.81	4373.78	4237.35	4351.10	4193.35
15.00°	3254.58	3254.91	3294.83	3320.44	3370.02	3366.11	3362.01	3337.64	3327.27	3332.27	3325.59	3336.77	3334.26	3282.39	3278.72	3259.60	3254.58
17.50°	2367.98	2519.72	2446.93	2546.49	2581.14	2564.98	2597.23	2487.70	2547.47	2481.35	2602.63	2451.51	2413.40	2537.22	2374.12	2532.26	2367.98
20.00°	1936.44	1930.71	1944.33	1975.95	2028.18	2049.96	2047.99	1987.05	1986.32	1981.24	2001.42	1982.61	1959.48	1905.09	1928.42	1939.64	1936.44
22.50°	1524.09	1552.50	1554.40	1579.20	1612.00	1643.94	1641.91	1604.07	1584.28	1582.84	1604.66	1548.89	1517.26	1522.70	1507.85	1552.59	1524.09
25.00°	1215.89	1237.62	1246.38	1286.41	1305.82	1317.21	1334.40	1298.62	1297.51	1267.00	1261.00	1227.46	1203.13	1195.09	1194.85	1217.00	1215.89
27.50°	911.19	945.69	956.32	998.54	1013.58	1011.06	1039.20	1010.86	1012.35	966.30	959.53	909.69	894.85	901.34	885.54	916.51	911.19
30.00°	636.71	658.16	688.24	712.87	729.85	731.04	750.27	735.30	728.08	693.06	664.92	636.45	625.88	611.93	614.36	621.28	636.71
32.50°	381.30	424.29	422.88	468.96	482.30	455.15	500.04	461.39	482.43	422.38	431.08	378.26	378.67	391.20	361.95	395.18	381.30
35.00°	218.86	196.05	258.22	238.38	251.25	276.23	263.99	283.08	252.12	257.35	201.81	222.67	218.80	177.67	209.58	174.73	218.86
37.50°	89.30	124.78	101.12	140.47	141.32	104.60	151.51	112.54	144.06	100.77	128.35	92.75	94.44	116.54	86.23	114.94	89.30
40.00°	63.89	59.85	68.68	70.12	70.35	73.53	70.30	76.48	70.04	73.48	59.61	66.94	66.49	60.08	63.29	58.85	63.89
42.50°	44.43	48.11	38.99	52.28	48.99	44.25	50.37	43.10	50.07	48.70	49.05	46.13	46.82	49.61	45.07	50.63	44.43
45.00°	38.22	37.14	36.24	40.42	38.05	38.60	39.78	37.96	39.48	42.92	39.55	39.26	43.54	39.82	38.19	42.72	38.22
47.50°	33.98	32.28	33.73	38.26	35.32	33.76	36.81	33.78	36.01	37.74	36.78	35.00	40.58	33.55	33.23	36.72	33.98
50.00°	33.00	28.93	32.55	36.62	33.57	34.04	34.40	34.73	33.17	35.18	34.87	36.04	38.08	29.42	31.61	32.22	33.00
52.50°	33.73	32.39	32.86	39.40	36.76	35.13	36.38	36.39	32.01	34.06	36.36	38.23	39.15	32.35	32.06	33.45	33.73
55.00°	36.58	35.86	38.10	42.27	40.10	39.45	38.59	40.47	31.24	37.20	38.84	42.15	44.22	35.63	35.26	35.21	36.58
57.50°	39.27	39.32	42.11	46.01	42.26	42.90	43.67	44.23	36.29	40.00	43.98	44.83	47.21	39.70	39.10	38.35	39.27
60.00°	41.83	41.55	43.21	48.30	43.71	44.04	47.43	47.23	40.49	42.07	45.37	46.12	48.43	42.12	43.59	40.89	41.83
62.50°	39.20	41.10	40.76	43.58	38.76	42.25	43.01	45.79	38.63	40.12	39.42	42.21	43.07	41.64	41.31	42.29	39.20
65.00°	32.83	37.34	32.19	37.91	33.57	34.81	37.64	36.43	35.40	31.97	32.03	33.78	33.47	36.03	33.85	38.85	32.83
67.50°	25.70	28.23	24.99	29.18	27.16	28.80	28.70	28.70	26.47	25.09	22.57	25.01	24.39	23.75	26.16	28.56	25.70
70.00°	18.15	20.64	19.54	22.04	21.54	24.85	21.35	23.14	18.98	19.69	16.31	16.02	15.57	15.53	18.34	20.58	18.15
72.50°	14.44	14.88	16.44	18.52	18.55	20.55	18.18	18.60	15.56	15.91	13.62	11.52	11.67	11.31	13.71	15.08	14.44
75.00°	12.23	11.83	15.65	15.94	15.72	15.87	15.12	15.10	12.64	13.56	11.30	9.17	9.47	9.54	10.43	11.76	12.23
77.50°	10.62	11.27	13.16	14.92	13.25	12.42	12.27	12.31	10.74	11.26	9.29	8.18	8.64	9.62	8.04	10.23	10.62
80.00°	9.17	9.93	9.39	13.12	10.87	10.01	9.99	10.07	9.16	8.97	7.29	7.67	8.12	8.47	5.92	8.40	9.17
82.50°	6.64	8.04	6.38	10.32	8.67	7.61	8.52	7.52	8.08	7.11	5.29	5.96	6.50	6.62	4.64	6.39	6.64
85.00°	3.92	5.56	3.81	7.59	6.25	5.22	6.48	4.79	6.34	5.46	3.73	3.96	4.73	4.56	3.52	4.44	3.92
87.50°	2.76	2.76	2.50	4.95	3.55	3.44	3.84	3.14	3.85	4.05	2.37	2.80	3.34	2.41	2.51	2.51	2.76
90.00°	1.72	2.24	1.71	3.28	2.17	1.95	2.40	1.93	2.41	2.74	2.04	1.74	2.00	1.92	1.51	1.87	1.72
92.50°	2.09	2.58	2.04	2.33	2.06	1.81	1.96	1.81	1.86	2.19	2.05	1.98	2.06	1.91	1.73	1.65	2.09
95.00°	2.44	2.30	2.68	1.87	2.04	2.12	1.69	2.02	1.80	1.83	2.03	2.27	2.09	1.80	1.95	1.67	2.44
97.50°	2.39	1.86	2.21	1.67	2.07	1.92	1.54	1.93	2.05	1.85	2.02	2.06	1.81	1.67	1.83	1.75	2.39
100.00°	2.32	1.74	1.54	1.77	1.68	1.60	1.64	1.79	2.04	1.94	1.89	1.86	1.57	1.77	1.75	1.83	2.32

STT3PC 40L 30HK ND xx xx MW LN3AGL

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Page 4 of 6

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	2967	2967	2967	2967	2896	2896	2896	2896	2765	2765	2765	2644	2644	2644	2534	2534	2482
	<b>1</b>	2847	2786	2731	2681	2785	2731	2682	2638	2629	2590	2555	2534	2504	2476	2448	2425	2376
	<b>2</b>	2733	2629	2542	2469	2679	2585	2507	2441	2504	2441	2386	2429	2378	2334	2360	2320	2274
	<b>3</b>	2627	2492	2388	2304	2579	2457	2362	2285	2392	2313	2248	2332	2267	2211	2276	2223	2180
	<b>4</b>	2528	2372	2258	2170	2486	2344	2239	2157	2291	2202	2131	2242	2167	2105	2197	2133	2094
	<b>5</b>	2436	2266	2146	2058	2399	2243	2132	2049	2199	2104	2030	2159	2077	2012	2121	2051	2014
	<b>6</b>	2350	2170	2049	1962	2317	2151	2038	1955	2115	2016	1942	2082	1995	1928	2050	1974	1941
	<b>7</b>	2270	2083	1963	1878	2240	2068	1954	1873	2038	1936	1863	2009	1920	1853	1983	1904	1873
	<b>8</b>	2195	2005	1885	1803	2168	1991	1878	1799	1966	1864	1792	1942	1851	1784	1919	1838	1809
	<b>9</b>	2124	1933	1815	1736	2100	1921	1809	1733	1899	1798	1727	1879	1787	1721	1859	1776	1750
	<b>10</b>	2058	1866	1751	1674	2036	1856	1746	1672	1837	1737	1667	1820	1728	1663	1803	1719	1695

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	308.3 fc	2.3 ft
6.5 ft	220.7 fc	2.7 ft
7.5 ft	165.8 fc	3.1 ft
8.0 ft	145.7 fc	3.3 ft
10.0 ft	93.3 fc	4.2 ft
12.0 ft	64.8 fc	5.0 ft
14.0 ft	47.6 fc	5.8 ft
16.0 ft	36.4 fc	6.7 ft
20.0 ft	23.3 fc	8.3 ft
24.0 ft	16.2 fc	10.0 ft
28.0 ft	11.9 fc	11.6 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	2044864	2044864	2044864
<b>45.00°</b>	11852	11237	11801
<b>55.00°</b>	13983	14567	15331
<b>65.00°</b>	17036	16703	17421
<b>75.00°</b>	10364	13258	13316
<b>85.00°</b>	9852	9589	15727

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	13.7	14.6	14.0	14.9	15.3	14.5	15.4	14.9	15.8	16.1
	<b>3H</b>	15.3	16.1	15.7	16.5	16.9	15.8	16.6	16.2	17.0	17.4
	<b>4H</b>	15.7	16.4	16.1	16.8	17.2	16.2	16.9	16.6	17.3	17.7
	<b>6H</b>	16.0	16.8	16.5	17.1	17.5	16.5	17.2	16.9	17.6	18.0
	<b>8H</b>	16.2	16.9	16.6	17.3	17.7	16.7	17.3	17.1	17.7	18.2
	<b>12H</b>	16.3	16.9	16.7	17.3	17.8	16.8	17.4	17.3	17.8	18.3
<b>4H</b>	<b>2H</b>	14.4	15.2	14.8	15.5	15.9	15.1	15.9	15.5	16.2	16.6
	<b>3H</b>	16.0	16.7	16.4	17.1	17.5	16.5	17.1	16.9	17.5	17.9
	<b>4H</b>	16.4	17.0	16.9	17.4	17.9	16.9	17.5	17.4	17.9	18.4
	<b>6H</b>	16.9	17.4	17.4	17.9	18.4	17.4	17.8	17.8	18.3	18.8
	<b>8H</b>	17.2	17.6	17.6	18.1	18.6	17.6	18.0	18.0	18.5	19.0
	<b>12H</b>	17.3	17.7	17.8	18.2	18.7	17.8	18.1	18.3	18.6	19.1
<b>8H</b>	<b>4H</b>	16.6	17.0	17.1	17.5	18.0	17.0	17.5	17.5	17.9	18.4
	<b>6H</b>	17.2	17.6	17.8	18.1	18.6	17.6	18.0	18.1	18.5	19.0
	<b>8H</b>	17.6	17.9	18.1	18.4	18.9	17.9	18.2	18.4	18.8	19.3
	<b>12H</b>	17.8	18.1	18.3	18.6	19.2	18.2	18.5	18.7	19.0	19.6
<b>12H</b>	<b>4H</b>	16.6	17.0	17.1	17.5	18.0	17.0	17.4	17.5	17.9	18.4
	<b>6H</b>	17.3	17.6	17.8	18.1	18.6	17.6	18.0	18.2	18.4	19.0
	<b>8H</b>	17.6	17.9	18.2	18.4	19.0	18.0	18.3	18.5	18.8	19.4

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0