

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STT3PC 40L 35K MD XX NL
Nominal 3" Diameter STT tracklight

Test Number

SP-00596_15_M-40L

Test Date

4/30/2019

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

Summary of Results

Power

Input Watts	30.4 W
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Lumen Output

Output Lumens	2679
Efficacy	88.12 lm/W

Luminous Dimensions

0° - 180° Size	-0.23
90° - 270° Size	-0.23
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	0.46
Four luminaires	0.47

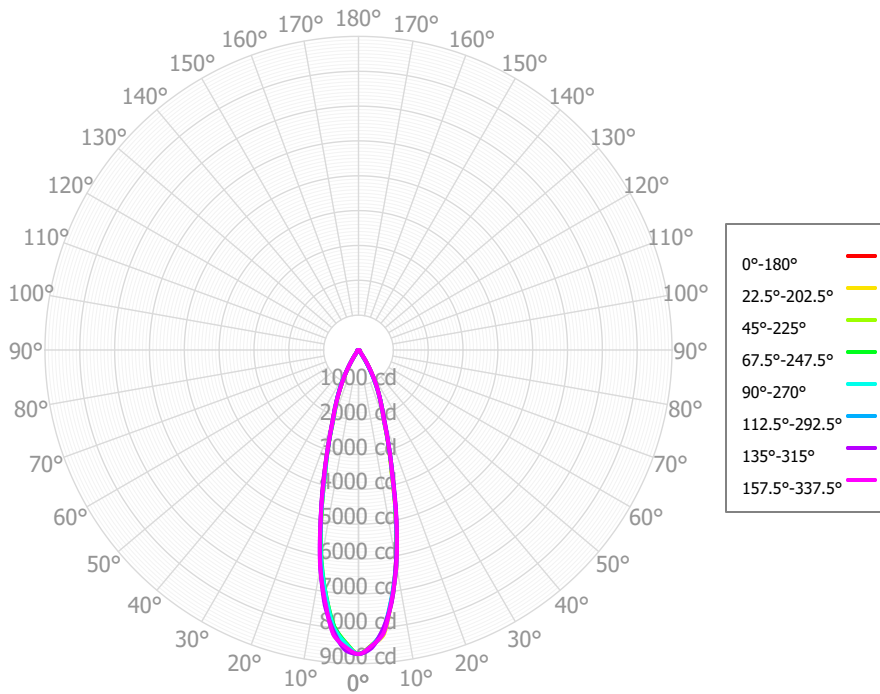
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00596_15_M-40L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	4/30/2019
ISSUEDATE	5/28/2020
LUMCAT	STT3PC 40L 35K MD XX NL
LUMINAIRE	Nominal 3" Diameter STT tracklight
OTHER	Medium Beam, Open aperture
OTHER	Beam Angle: 28 degrees
LAMPCAT	N/A; CRI: 80+
LAMP	N/A, Philips emitter
OTHER	Total luminaire watts is approximate
OTHER	CCT Output Multipliers:
OTHER	This report prepared by Spectrum Lighting, scaled from 30L
_CRI	80+
_CCTMULT	27K x 0.96, 30K x 0.99, 40K x 1.04
_LAMPMULT	20L x 0.47, 30L x 0.73

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	716.12	26.73%	90.00° - 100.00°	0.09	0.00%
10.00° - 20.00°	1,050.35	39.21%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	604.70	22.57%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	156.99	5.86%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	36.83	1.37%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	31.00	1.16%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	41.27	1.54%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	32.51	1.21%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	8.90	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2,678.66	100.00%	0.00° - 180.00°	2,678.75	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°	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37	8,725.37
2.50°	8,523.10	8,494.82	8,486.34	8,506.97	8,517.12	8,570.87	8,625.48	8,534.09	8,521.99	8,419.51	8,403.45	8,416.37	8,434.26	8,504.21	8,566.99	8,503.83	8,523.10
5.00°	8,107.71	8,216.79	8,147.74	8,121.33	8,165.47	8,190.71	8,117.90	8,215.54	8,080.38	8,080.76	7,987.34	7,967.81	8,017.00	8,079.40	8,041.93	8,178.38	8,107.71
7.50°	7,285.49	7,262.22	7,242.15	7,250.50	7,259.62	7,311.98	7,397.78	7,304.07	7,286.07	7,155.77	7,128.96	7,117.56	7,134.30	7,210.25	7,305.55	7,260.94	7,285.49
10.00°	6,188.04	6,286.88	6,208.51	6,252.02	6,276.50	6,318.63	6,297.36	6,338.07	6,276.80	6,221.82	6,183.60	6,121.60	6,165.60	6,207.58	6,192.77	6,281.89	6,188.04
12.50°	4,995.10	4,990.35	4,968.56	4,972.35	4,988.17	5,026.24	5,023.27	5,037.87	5,004.35	4,969.38	4,947.50	4,949.47	4,965.04	5,007.92	5,043.95	5,027.11	4,995.10
15.00°	3,741.57	3,728.58	3,686.70	3,806.62	3,785.03	3,839.16	3,904.81	3,803.79	3,869.86	3,723.66	3,790.01	3,718.36	3,726.54	3,754.08	3,835.02	3,748.72	3,741.57
17.50°	2,842.44	2,888.86	2,854.74	2,874.76	2,888.59	2,906.87	2,852.47	2,928.40	2,894.14	2,890.48	2,873.90	2,858.62	2,889.33	2,898.84	2,850.68	2,911.07	2,842.44
20.00°	2,153.95	2,092.84	2,104.38	2,127.98	2,111.16	2,134.83	2,205.00	2,130.19	2,167.87	2,071.06	2,093.36	2,113.27	2,109.59	2,143.48	2,217.24	2,103.32	2,153.95
22.50°	1,691.13	1,730.96	1,699.29	1,735.80	1,726.08	1,723.11	1,717.18	1,706.17	1,711.55	1,676.92	1,696.70	1,678.55	1,706.38	1,714.99	1,703.67	1,723.29	1,691.13
25.00°	1,353.85	1,372.64	1,349.57	1,358.98	1,347.94	1,330.77	1,323.38	1,296.38	1,303.59	1,284.96	1,309.58	1,331.51	1,349.66	1,360.69	1,365.75	1,364.91	1,353.85
27.50°	1,035.09	1,044.12	1,014.46	1,009.64	990.83	978.98	963.91	948.77	944.85	937.35	947.42	968.31	987.98	1,008.28	1,031.84	1,042.79	1,035.09
30.00°	725.96	722.97	681.39	679.98	654.22	652.34	652.14	621.66	632.83	596.98	615.82	600.93	625.79	656.26	703.44	721.91	725.96
32.50°	472.78	454.72	424.35	383.31	374.96	374.85	356.47	375.64	365.53	366.07	358.41	365.53	385.22	405.77	430.74	469.31	472.78
35.00°	246.76	213.06	176.45	174.65	157.97	172.93	206.21	169.93	193.17	149.39	162.14	160.97	155.10	173.80	230.00	217.94	246.76
37.50°	138.19	138.17	109.97	104.24	102.10	108.98	101.06	109.65	106.23	102.40	103.88	96.82	101.04	103.99	104.09	141.17	138.19
40.00°	82.73	72.59	61.89	58.66	60.37	64.62	67.47	61.72	62.07	59.05	62.01	62.25	58.99	60.34	69.04	65.64	82.73
42.50°	59.62	58.54	52.23	49.65	52.57	53.73	54.24	54.55	54.09	51.44	54.60	52.16	49.48	49.90	47.41	55.00	59.62
45.00°	50.10	46.72	45.77	43.30	45.66	45.93	49.17	47.94	47.20	44.34	47.31	46.70	41.62	44.14	41.09	44.58	50.10
47.50°	44.12	45.83	43.44	40.61	40.75	43.06	46.22	43.06	41.17	41.52	40.23	42.88	38.53	39.73	36.79	41.05	44.12
50.00°	39.52	44.36	41.38	37.44	35.86	39.49	41.12	39.06	37.29	38.64	34.98	39.34	35.60	35.47	34.63	37.55	39.52
52.50°	37.60	40.32	38.11	33.64	31.03	34.86	35.50	37.57	35.02	35.38	33.08	37.70	34.88	32.37	32.64	34.37	37.60
55.00°	36.63	37.22	34.78	31.35	27.91	31.74	34.37	36.30	33.67	32.65	31.64	36.35	34.21	29.38	30.79	31.51	36.63
57.50°	38.51	37.91	36.17	30.89	28.13	30.76	34.19	35.59	32.98	33.30	30.98	36.11	34.08	30.91	30.92	33.33	38.51
60.00°	41.34	39.51	37.71	32.44	29.63	31.68	37.09	36.17	34.74	34.34	32.67	36.01	34.04	32.82	32.90	35.39	41.34
62.50°	46.99	44.52	41.08	36.30	33.45	35.12	40.58	39.83	38.13	37.47	38.15	39.84	39.52	36.84	36.49	40.27	46.99
65.00°	53.51	48.71	44.47	39.50	37.18	38.19	43.82	42.95	40.65	40.39	42.14	44.09	44.90	41.00	41.49	44.79	53.51
67.50°	51.77	50.20	45.09	41.98	40.74	40.79	47.01	44.88	42.65	42.27	43.87	45.24	46.48	43.58	43.34	45.66	51.77
70.00°	47.70	49.22	45.58	39.95	40.23	39.20	41.46	43.09	39.26	42.64	42.19	46.11	47.66	46.08	42.53	45.67	47.70
72.50°	42.01	40.59	37.91	33.35	33.25	32.72	34.60	33.51	32.75	36.41	35.68	39.36	40.15	38.97	37.96	38.49	42.01
75.00°	35.90	33.41	30.38	27.15	26.60	26.40	28.98	26.19	27.13	30.11	29.37	32.07	32.79	31.55	30.43	31.57	35.90
77.50°	31.52	30.22	26.01	21.33	20.42	20.26	23.48	22.93	21.97	23.58	23.31	28.05	27.64	26.75	24.99	26.42	31.52
80.00°	27.53	25.11	20.72	15.70	14.58	15.47	17.25	18.09	15.70	17.69	18.56	23.66	22.19	21.71	21.02	21.19	27.53
82.50°	17.44	17.29	12.30	10.18	9.05	11.14	11.04	11.94	10.01	12.79	14.61	15.79	15.71	15.21	14.84	15.78	17.44
85.00°	8.59	8.43	6.19	4.77	4.78	5.06	5.10	5.42	6.35	5.82	5.85	8.41	8.28	8.57	8.32	8.74	8.59
87.50°	2.65	2.63	2.35	2.03	1.83	1.13	1.41	1.80	1.43	1.86	2.57	2.99	2.95	3.09	2.99	2.94	2.65
90.00°	1.46	1.33	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	1.55	1.50	1.36	1.28	1.46
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
RCR	0	3,189	3,189	3,189	3,189	3,115	3,115	3,115	3,115	2,976	2,976	2,976	2,850	2,850	2,850	2,733	2,733	2,679
	1	3,056	2,988	2,928	2,873	2,991	2,931	2,877	2,828	2,823	2,780	2,741	2,724	2,691	2,660	2,633	2,607	2,556
	2	2,932	2,817	2,722	2,642	2,874	2,771	2,685	2,613	2,686	2,616	2,556	2,608	2,551	2,502	2,535	2,490	2,442
	3	2,817	2,669	2,555	2,464	2,766	2,633	2,529	2,445	2,565	2,478	2,406	2,502	2,430	2,369	2,444	2,384	2,339
	4	2,711	2,541	2,416	2,321	2,666	2,512	2,397	2,308	2,457	2,359	2,281	2,405	2,323	2,255	2,358	2,288	2,247
	5	2,612	2,427	2,298	2,202	2,573	2,403	2,283	2,193	2,358	2,254	2,174	2,316	2,226	2,156	2,277	2,200	2,161
	6	2,520	2,325	2,194	2,100	2,485	2,306	2,183	2,093	2,268	2,160	2,080	2,233	2,139	2,066	2,201	2,118	2,083
	7	2,434	2,233	2,102	2,011	2,403	2,216	2,093	2,006	2,185	2,076	1,996	2,156	2,059	1,986	2,129	2,042	1,976
	8	2,354	2,149	2,020	1,931	2,326	2,135	2,012	1,927	2,109	1,998	1,920	2,084	1,985	1,912	2,061	1,972	1,941
	9	2,278	2,071	1,945	1,859	2,253	2,060	1,939	1,856	2,037	1,927	1,850	2,016	1,916	1,845	1,996	1,906	1,878
	10	2,208	2,000	1,876	1,793	2,185	1,990	1,871	1,791	1,971	1,862	1,787	1,952	1,853	1,782	1,935	1,844	1,818

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	288.4 fc	2.7 ft
6.5 ft	206.5 fc	3.2 ft
7.5 ft	155.1 fc	3.7 ft
8.0 ft	136.3 fc	3.9 ft
10.0 ft	87.3 fc	4.9 ft
12.0 ft	60.6 fc	5.9 ft
14.0 ft	44.5 fc	6.9 ft
16.0 ft	34.1 fc	7.9 ft
20.0 ft	21.8 fc	9.9 ft
24.0 ft	15.1 fc	11.8 ft
28.0 ft	11.1 fc	13.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	210,009	210,009	210,009
45.00°	1,705	1,558	1,554
55.00°	1,537	1,459	1,171
65.00°	3,047	2,533	2,117
75.00°	3,338	2,826	2,474
85.00°	2,374	1,711	1,321

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	5.2	6.2	5.6	6.5	6.8	4.6	5.6	5.0	5.9	6.2
	3H	10.2	11.1	10.6	11.4	11.8	9.4	10.3	9.8	10.6	11.0
	4H	11.6	12.4	12.0	12.7	13.1	10.7	11.5	11.1	11.9	12.3
	6H	12.7	13.4	13.1	13.8	14.2	11.6	12.3	12.0	12.7	13.1
	8H	13.0	13.7	13.5	14.1	14.5	11.8	12.5	12.2	12.9	13.3
	12H	13.2	13.8	13.6	14.2	14.6	11.9	12.6	12.4	13.0	13.4
4H	2H	6.6	7.4	7.1	7.8	8.2	6.3	7.1	6.7	7.4	7.8
	3H	11.3	12.0	11.8	12.4	12.8	10.7	11.3	11.1	11.8	12.2
	4H	12.7	13.3	13.1	13.7	14.2	12.0	12.5	12.4	13.0	13.4
	6H	13.9	14.4	14.4	14.9	15.3	12.9	13.4	13.4	13.9	14.3
	8H	14.3	14.8	14.8	15.2	15.7	13.2	13.7	13.7	14.1	14.6
	12H	14.5	14.9	15.0	15.4	15.8	13.3	13.7	13.8	14.2	14.7
8H	4H	13.0	13.5	13.5	14.0	14.4	12.3	12.8	12.8	13.3	13.7
	6H	14.4	14.8	14.9	15.3	15.8	13.4	13.8	14.0	14.3	14.8
	8H	14.9	15.2	15.4	15.7	16.2	13.8	14.1	14.4	14.7	15.2
	12H	15.2	15.4	15.7	15.9	16.5	14.0	14.3	14.6	14.8	15.4
12H	4H	13.1	13.5	13.6	14.0	14.4	12.4	12.8	12.9	13.3	13.7
	6H	14.4	14.8	15.0	15.2	15.8	13.5	13.8	14.0	14.3	14.9
	8H	15.0	15.3	15.5	15.8	16.3	13.9	14.2	14.5	14.7	15.3

Corrected UGR values based on total output lumens

SHR = 1.0