

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire

STT3PC 30L 35K MD XX NL
Nominal 3" Diameter STT tracklight

Test Number

SP-00596_15

Test Date

4/30/2019

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

Summary of Results

Power

Input Watts	22 W
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Lumen Output

Output Lumens	1955
Efficacy	88.88 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

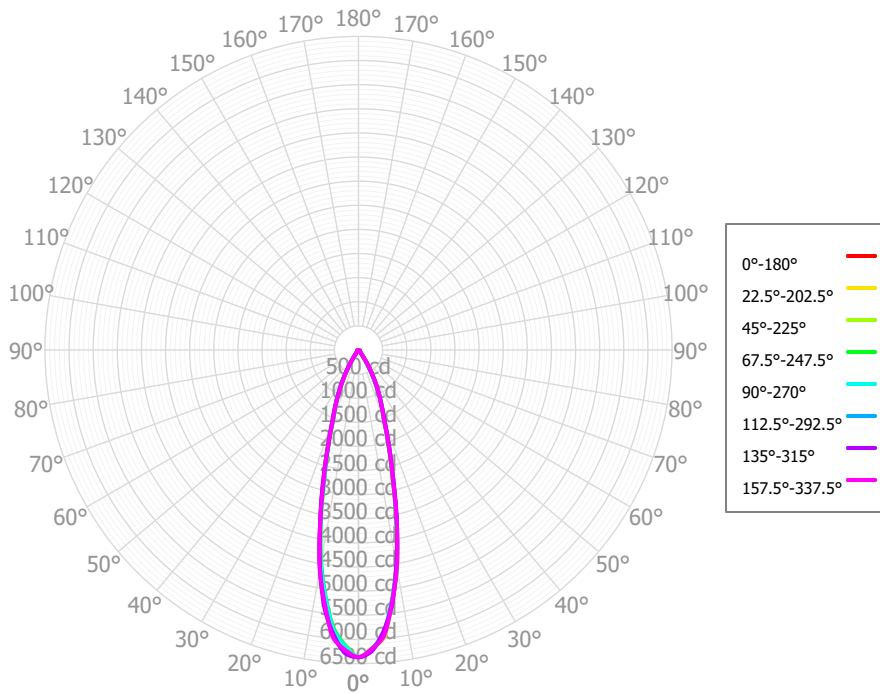
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00596_15
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	4/30/2019
ISSUEDATE	5/28/2020
LUMCAT	STT3PC 30L 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	522.72	26.73%	90.00° - 100.00°	0.07	0.00%
10.00° - 20.00°	766.68	39.21%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	441.39	22.57%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	114.59	5.86%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	26.88	1.37%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	22.63	1.16%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	30.12	1.54%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	23.73	1.21%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	6.49	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,955.23	100.00%	0.00° - 180.00°	1,955.29	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°	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88	6,368.88
2.50°	6,221.24	6,200.60	6,194.41	6,209.47	6,216.88	6,256.11	6,295.97	6,229.26	6,220.43	6,145.63	6,133.90	6,143.34	6,156.40	6,207.46	6,253.28	6,207.17	6,221.24
5.00°	5,918.04	5,997.65	5,947.26	5,927.98	5,960.20	5,978.62	5,925.47	5,996.75	5,898.09	5,898.37	5,830.18	5,815.92	5,851.82	5,897.37	5,870.02	5,969.62	5,918.04
7.50°	5,317.87	5,300.89	5,286.24	5,292.34	5,298.99	5,337.21	5,399.84	5,331.44	5,318.30	5,223.19	5,203.62	5,195.30	5,207.52	5,262.96	5,332.52	5,299.95	5,317.87
10.00°	4,516.81	4,588.96	4,531.76	4,563.52	4,581.39	4,612.14	4,596.61	4,626.33	4,581.61	4,541.47	4,513.58	4,468.32	4,500.44	4,531.08	4,520.27	4,585.32	4,516.81
12.50°	3,646.06	3,642.59	3,626.69	3,629.45	3,641.00	3,668.79	3,666.62	3,677.27	3,652.81	3,627.29	3,611.32	3,612.75	3,624.11	3,655.42	3,681.71	3,669.43	3,646.06
15.00°	2,731.08	2,721.59	2,691.02	2,778.55	2,762.79	2,802.31	2,850.23	2,776.49	2,824.71	2,718.00	2,766.43	2,714.13	2,720.10	2,740.20	2,799.28	2,736.29	2,731.08
17.50°	2,074.77	2,108.66	2,083.75	2,098.36	2,108.46	2,121.81	2,082.10	2,137.52	2,112.51	2,109.84	2,097.73	2,086.58	2,109.00	2,115.94	2,080.79	2,124.86	2,074.77
20.00°	1,572.23	1,527.62	1,536.04	1,553.27	1,540.99	1,558.27	1,609.49	1,554.88	1,582.39	1,511.72	1,528.00	1,542.53	1,539.85	1,564.59	1,618.43	1,535.27	1,572.23
22.50°	1,234.40	1,263.47	1,240.36	1,267.01	1,259.92	1,257.75	1,253.42	1,245.38	1,249.31	1,224.03	1,238.47	1,225.22	1,245.53	1,251.81	1,243.55	1,257.87	1,234.40
25.00°	988.21	1,001.92	985.09	991.95	983.90	971.36	965.97	946.27	951.53	937.92	955.90	971.91	985.15	993.20	996.90	996.29	988.21
27.50°	755.54	762.13	740.48	736.96	723.23	714.58	703.58	692.54	689.67	684.19	691.55	706.79	721.16	735.97	753.16	761.16	755.54
30.00°	529.90	527.71	497.37	496.34	477.53	476.16	476.02	453.76	461.92	435.75	449.50	438.64	456.78	479.02	513.46	526.94	529.90
32.50°	345.10	331.91	309.74	279.79	273.69	273.62	260.19	274.19	266.81	267.20	261.61	266.81	281.18	296.18	314.41	342.57	345.10
35.00°	180.12	155.52	128.80	127.48	115.31	126.23	150.52	124.04	141.00	109.05	118.35	117.50	113.21	126.86	167.88	159.08	180.12
37.50°	100.87	100.86	80.27	76.09	74.53	79.55	73.76	80.04	77.54	74.74	75.82	70.67	73.75	75.90	75.98	103.04	100.87
40.00°	60.39	52.98	45.18	42.82	44.07	47.17	49.25	45.05	45.31	43.11	45.26	45.44	43.06	44.04	50.40	47.91	60.39
42.50°	43.52	42.73	38.13	36.24	38.37	39.22	39.59	39.81	39.48	37.55	39.86	38.08	36.11	36.42	34.61	40.14	43.52
45.00°	36.57	34.10	33.41	31.60	33.33	33.52	35.89	34.99	34.45	32.36	34.53	34.08	30.38	32.22	30.00	32.54	36.57
47.50°	32.21	33.45	31.71	29.64	29.74	31.43	33.74	31.43	30.05	30.30	29.37	31.30	28.12	29.00	26.85	29.97	32.21
50.00°	28.85	32.38	30.21	27.33	26.18	28.83	30.01	28.51	27.22	28.21	25.53	28.71	25.99	25.89	25.28	27.41	28.85
52.50°	27.44	29.43	27.82	24.56	22.65	25.45	25.91	27.42	25.56	25.82	24.15	27.52	25.46	23.63	23.82	25.09	27.44
55.00°	26.74	27.17	25.39	22.88	20.37	23.17	25.09	26.49	24.58	23.83	23.09	26.53	24.97	21.45	22.48	23.00	26.74
57.50°	28.11	27.67	26.40	22.54	20.53	22.45	24.96	25.98	24.07	24.31	22.61	26.36	24.88	22.57	22.57	24.33	28.11
60.00°	30.18	28.84	27.52	23.68	21.62	23.12	27.08	26.40	25.36	25.06	23.85	26.28	24.84	23.96	24.02	25.83	30.18
62.50°	34.30	32.49	29.98	26.49	24.42	25.64	29.62	29.07	27.83	27.35	27.85	29.08	28.85	26.89	26.63	29.40	34.30
65.00°	39.06	35.56	32.46	28.83	27.14	27.88	31.98	31.35	29.67	29.48	30.76	32.19	32.77	29.93	30.29	32.69	39.06
67.50°	37.79	36.64	32.91	30.64	29.73	29.77	34.32	32.76	31.13	30.85	32.02	33.02	33.92	31.81	31.63	33.33	37.79
70.00°	34.82	35.92	33.27	29.16	29.36	28.61	30.26	31.45	28.66	31.13	30.80	33.66	34.79	33.63	31.04	33.34	34.82
72.50°	30.66	29.63	27.67	24.34	24.27	23.88	25.26	24.46	23.90	26.58	26.04	28.73	29.30	28.44	27.71	28.10	30.66
75.00°	26.20	24.39	22.18	19.82	19.42	19.27	21.15	19.12	19.80	21.98	21.44	23.41	23.94	23.03	22.21	23.04	26.20
77.50°	23.01	22.06	18.98	15.57	14.91	14.79	17.14	16.74	16.03	17.21	17.02	20.48	20.17	19.52	18.24	19.28	23.01
80.00°	20.09	18.33	15.12	11.46	10.64	11.29	12.59	13.21	11.46	12.91	13.54	17.27	16.19	15.85	15.34	15.47	20.09
82.50°	12.73	12.62	8.98	7.43	6.60	8.13	8.06	8.71	7.31	9.33	10.66	11.53	11.47	11.11	10.83	11.52	12.73
85.00°	6.27	6.16	4.52	3.48	3.49	3.69	3.73	3.96	4.63	4.25	4.27	6.14	6.04	6.25	6.07	6.38	6.27
87.50°	1.93	1.92	1.71	1.48	1.34	0.82	1.03	1.32	1.04	1.36	1.88	2.18	2.15	2.25	2.18	2.14	1.93
90.00°	1.07	0.97	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.13	1.09	0.99	0.94	1.07
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	2,328	2,328	2,328	2,328	2,274	2,274	2,274	2,274	2,173	2,173	2,173	2,080	2,080	2,080	1,995	1,995	1,955
	1	2,231	2,181	2,137	2,097	2,183	2,139	2,100	2,064	2,061	2,029	2,001	1,989	1,964	1,941	1,922	1,903	1,865
	2	2,140	2,056	1,987	1,929	2,098	2,023	1,960	1,907	1,961	1,910	1,866	1,904	1,862	1,826	1,851	1,818	1,782
	3	2,056	1,948	1,865	1,799	2,019	1,922	1,846	1,784	1,872	1,809	1,756	1,826	1,774	1,729	1,784	1,740	1,708
	4	1,979	1,855	1,764	1,695	1,946	1,833	1,749	1,685	1,793	1,722	1,665	1,756	1,695	1,646	1,721	1,670	1,640
	5	1,907	1,772	1,677	1,608	1,878	1,754	1,666	1,601	1,721	1,645	1,587	1,691	1,625	1,573	1,662	1,606	1,578
	6	1,840	1,697	1,602	1,533	1,814	1,683	1,593	1,528	1,656	1,577	1,518	1,630	1,561	1,508	1,606	1,546	1,520
	7	1,777	1,630	1,534	1,468	1,754	1,618	1,528	1,464	1,595	1,515	1,457	1,574	1,503	1,450	1,554	1,491	1,467
	8	1,718	1,568	1,474	1,409	1,698	1,558	1,469	1,407	1,539	1,459	1,401	1,521	1,449	1,396	1,504	1,439	1,417
	9	1,663	1,512	1,419	1,357	1,645	1,503	1,415	1,355	1,487	1,407	1,351	1,472	1,399	1,347	1,457	1,391	1,371
	10	1,611	1,460	1,369	1,309	1,595	1,453	1,366	1,307	1,438	1,359	1,304	1,425	1,352	1,301	1,413	1,346	1,327

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	210.5 fc	2.7 ft
6.5 ft	150.7 fc	3.2 ft
7.5 ft	113.2 fc	3.7 ft
8.0 ft	99.5 fc	3.9 ft
10.0 ft	63.7 fc	4.9 ft
12.0 ft	44.2 fc	5.9 ft
14.0 ft	32.5 fc	6.9 ft
16.0 ft	24.9 fc	7.9 ft
20.0 ft	15.9 fc	9.9 ft
24.0 ft	11.1 fc	11.8 ft
28.0 ft	8.1 fc	13.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	153,291	153,291	153,291
45.00°	1,245	1,137	1,134
55.00°	1,122	1,065	855
65.00°	2,224	1,849	1,546
75.00°	2,437	2,062	1,806
85.00°	1,733	1,249	965

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	4.1	5.1	4.5	5.4	5.7	3.5	4.5	3.9	4.8	5.1
	3H	9.1	10.0	9.5	10.3	10.7	8.4	9.2	8.7	9.5	9.9
	4H	10.5	11.3	10.9	11.6	12.0	9.6	10.4	10.0	10.8	11.2
	6H	11.6	12.3	12.0	12.7	13.1	10.5	11.2	10.9	11.6	12.0
	8H	11.9	12.6	12.4	13.0	13.4	10.7	11.4	11.2	11.8	12.2
	12H	12.1	12.7	12.5	13.1	13.6	10.8	11.5	11.3	11.9	12.3
4H	2H	5.6	6.3	6.0	6.7	7.1	5.2	6.0	5.6	6.3	6.7
	3H	10.2	10.9	10.7	11.3	11.7	9.6	10.2	10.0	10.7	11.1
	4H	11.6	12.2	12.0	12.6	13.1	10.9	11.5	11.3	11.9	12.3
	6H	12.8	13.3	13.3	13.8	14.2	11.8	12.3	12.3	12.8	13.2
	8H	13.2	13.7	13.7	14.1	14.6	12.1	12.6	12.6	13.0	13.5
	12H	13.4	13.8	13.9	14.3	14.8	12.2	12.6	12.7	13.1	13.6
8H	4H	12.0	12.4	12.4	12.9	13.3	11.3	11.7	11.7	12.2	12.6
	6H	13.3	13.7	13.8	14.2	14.7	12.3	12.7	12.9	13.2	13.7
	8H	13.8	14.1	14.3	14.6	15.1	12.7	13.1	13.3	13.6	14.1
	12H	14.1	14.3	14.6	14.8	15.4	13.0	13.2	13.5	13.7	14.3
12H	4H	12.0	12.4	12.5	12.9	13.3	11.3	11.7	11.8	12.2	12.6
	6H	13.3	13.7	13.9	14.1	14.7	12.4	12.7	12.9	13.2	13.8
	8H	13.9	14.2	14.4	14.7	15.2	12.8	13.1	13.4	13.6	14.2

Corrected UGR values based on total output lumens

SHR = 1.0