

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STT4PC 50L 35K WD xx xx LN4AGL
Nom 4" diam Euro Series track light

Test Number

SP-01365

Test Date

7/8/2022

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

Summary of Results

Power

Input Watts	35 W
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Lumen Output

Output Lumens	3431
Efficacy	98.02 lm/W

Luminous Dimensions

0° - 180° Size	-0.33
90° - 270° Size	-0.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.77
Two luminaires, plane 90°	0.8
Four luminaires	0.74

Full Beam Angle

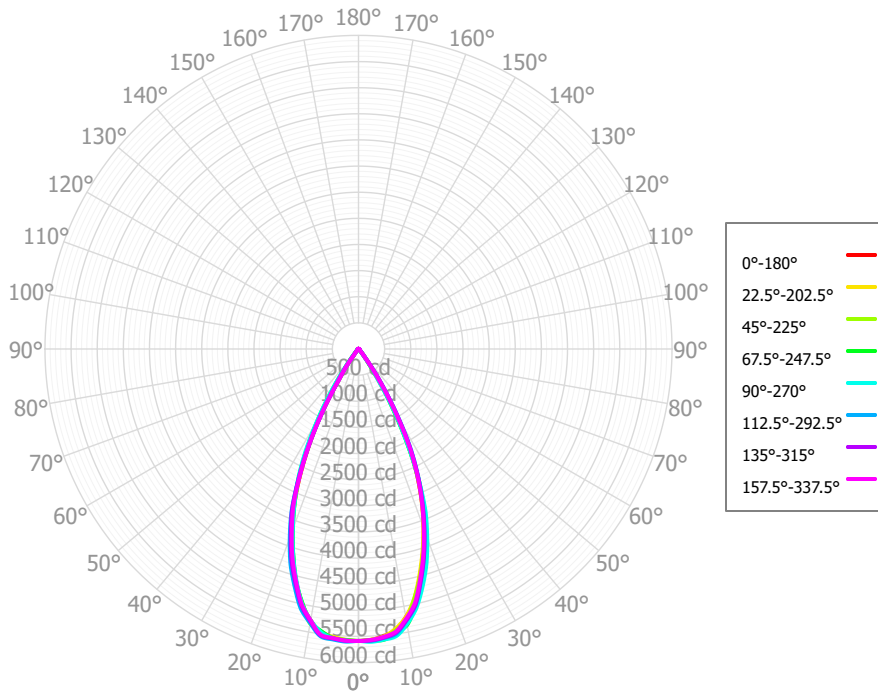
0° - 180°	49°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-01365
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	7/8/2022
ISSUEDATE	7/18/2022
LUMCAT	STT4PC 50L 35K WD xx xx LN4AGL
LUMINAIRE	Nom 4" diam Euro Series track light
OTHER	WD optic, Clear glass lens
OTHER	Beam Angle: 49 deg
LAMPCAT	N/A
LAMP	N/A, 19mm LES, PC
OTHER	Reference project SL484.13
OTHER	CCT Output Multipliers: 27K x 0.95, 30K x 0.98, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.95, 30K x 0.98, 40K x 1.03

STT4PC 50L 35K WD xx xx LN4AGL

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	529.61	15.44%	90.00° - 100.00°	1.44	0.04%
10.00° - 20.00°	1268.55	36.98%	100.00° - 110.00°	1.41	0.04%
20.00° - 30.00°	1179.57	34.38%	100.00° - 120.00°	2.67	0.08%
30.00° - 40.00°	330.94	9.65%	120.00° - 130.00°	1.35	0.04%
40.00° - 50.00°	40.72	1.19%	130.00° - 140.00°	1.47	0.04%
50.00° - 60.00°	28.09	0.82%	140.00° - 150.00°	1.38	0.04%
60.00° - 70.00°	23.27	0.68%	150.00° - 160.00°	1.18	0.03%
70.00° - 80.00°	14.59	0.43%	160.00° - 170.00°	0.70	0.02%
80.00° - 90.00°	4.86	0.14%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	3420.21	99.70%	0.00° - 180.00°	3430.62	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°	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09	5588.09
2.50°	5571.69	5567.92	5573.76	5585.56	5608.52	5604.62	5590.20	5585.67	5585.31	5570.19	5574.56	5576.91	5587.24	5590.44	5581.20	5572.43	5571.69
5.00°	5518.90	5523.75	5546.72	5585.46	5582.26	5580.27	5562.26	5554.00	5546.73	5532.08	5561.33	5554.58	5559.09	5551.39	5544.47	5530.48	5518.90
7.50°	5430.33	5405.46	5433.68	5478.21	5541.58	5547.16	5530.37	5517.72	5500.75	5473.94	5452.82	5450.01	5469.50	5501.77	5476.63	5457.36	5430.33
10.00°	5214.97	5214.35	5273.83	5361.65	5344.75	5326.38	5293.88	5274.67	5272.37	5278.06	5334.88	5304.57	5274.26	5276.30	5273.29	5243.72	5214.97
12.50°	4947.99	4906.72	4911.61	5024.11	5091.20	5093.56	5038.25	5012.70	5019.39	4989.13	4984.47	4974.53	4995.19	5032.56	5022.47	4984.48	4947.99
15.00°	4530.23	4498.15	4534.55	4675.29	4723.07	4714.31	4652.47	4610.69	4619.33	4605.05	4620.48	4615.20	4589.93	4599.75	4601.50	4560.15	4530.23
17.50°	4102.15	4072.53	4105.74	4242.22	4320.41	4323.98	4259.75	4201.49	4205.16	4165.52	4155.88	4149.68	4153.60	4161.95	4165.54	4124.32	4102.15
20.00°	3648.36	3634.10	3664.98	3805.46	3841.83	3844.71	3791.20	3731.37	3727.52	3697.49	3688.84	3681.05	3676.75	3688.63	3685.40	3653.59	3648.36
22.50°	3172.41	3160.80	3189.13	3252.67	3344.24	3338.19	3318.27	3257.74	3246.36	3214.98	3190.41	3202.91	3198.60	3210.01	3198.38	3172.19	3172.41
25.00°	2649.66	2664.80	2657.25	2691.57	2679.72	2672.00	2664.37	2634.54	2620.60	2629.98	2686.02	2694.26	2718.96	2703.20	2694.36	2663.73	2649.66
27.50°	2084.68	2064.20	1987.57	1981.04	1982.17	2005.50	2010.31	2009.02	1991.42	2000.64	2057.93	2108.09	2169.95	2174.50	2148.95	2114.64	2084.68
30.00°	1442.20	1404.01	1354.73	1288.82	1341.55	1337.61	1352.73	1341.50	1341.61	1380.54	1437.28	1528.86	1551.64	1552.07	1515.30	1478.30	1442.20
32.50°	886.59	875.05	798.74	787.38	709.74	742.17	724.03	706.09	708.89	763.86	900.96	964.80	1008.48	974.22	951.62	915.96	886.59
35.00°	468.18	410.14	378.22	329.73	413.19	415.83	418.47	406.40	410.22	421.57	405.90	512.47	530.58	550.61	515.46	491.63	468.18
37.50°	190.68	199.69	203.42	196.35	153.44	156.11	142.97	136.83	132.09	163.85	236.80	268.74	253.13	214.59	212.29	198.21	190.68
40.00°	108.54	96.55	86.34	80.29	96.37	99.40	94.34	91.07	90.03	88.51	89.38	106.45	128.99	129.00	120.94	114.80	108.54
42.50°	58.20	58.35	59.39	59.52	53.96	55.37	51.74	51.12	51.90	58.95	67.46	74.93	69.27	64.73	62.52	61.23	58.20
45.00°	46.11	43.19	41.92	41.53	44.18	44.20	43.77	43.28	44.08	47.63	48.33	53.24	52.22	52.52	49.44	49.66	46.11
47.50°	38.60	37.62	37.45	35.76	35.51	35.61	36.39	36.45	36.99	40.02	42.00	45.39	43.38	43.31	41.15	41.58	38.60
50.00°	35.90	34.92	34.09	30.83	32.75	32.70	31.61	34.05	34.08	37.03	36.74	40.01	39.23	40.34	38.63	37.77	35.90
52.50°	34.14	32.93	32.06	28.92	29.95	29.54	27.42	31.44	31.45	34.75	35.43	37.62	37.63	38.33	36.42	35.60	34.14
55.00°	33.27	31.12	29.42	26.60	25.76	25.91	25.30	28.06	30.09	33.20	33.97	35.38	37.29	38.07	34.52	35.21	33.27
57.50°	30.81	29.46	26.13	23.09	21.71	22.91	23.48	25.35	28.58	31.73	32.02	33.30	35.80	37.06	33.03	34.18	30.81
60.00°	27.10	27.83	23.63	20.09	19.63	20.92	22.62	24.63	26.50	30.31	30.08	31.94	33.82	34.91	31.94	32.55	27.10
62.50°	24.91	25.37	21.85	18.35	17.61	18.77	20.76	23.21	24.41	28.90	28.16	31.27	32.90	33.06	30.25	30.43	24.91
65.00°	23.76	22.78	19.73	17.04	16.06	16.39	16.41	20.00	22.27	26.30	26.35	29.91	32.35	31.61	28.09	27.91	23.76
67.50°	22.40	20.91	17.32	16.63	14.54	13.99	13.08	17.16	19.88	23.66	24.77	28.01	29.59	29.83	26.60	25.32	22.40
70.00°	20.93	19.11	14.72	15.19	13.19	11.59	11.93	15.09	16.83	20.68	22.81	25.39	26.17	27.65	25.59	22.68	20.93
72.50°	18.43	15.57	11.97	11.87	11.71	9.55	10.27	12.89	13.85	17.70	20.12	22.26	23.68	24.90	22.76	19.57	18.43
75.00°	15.41	11.91	9.90	9.00	9.52	7.90	7.67	10.43	11.03	14.73	16.86	18.70	21.44	21.57	18.84	16.18	15.41
77.50°	11.97	9.53	8.22	6.83	7.33	6.29	5.55	7.96	8.38	11.76	12.65	14.86	17.74	17.76	15.38	13.86	11.97
80.00°	8.33	7.19	6.62	5.18	5.09	4.70	4.21	5.45	6.06	8.80	9.18	12.13	13.75	13.50	12.16	12.12	8.33
82.50°	5.89	6.06	5.05	4.22	3.10	3.63	3.02	3.73	3.99	5.94	6.76	10.00	9.55	9.86	8.81	8.90	5.89
85.00°	3.90	4.91	3.67	3.06	1.95	2.98	2.03	3.10	2.36	3.94	4.54	7.23	5.31	6.70	5.40	4.99	3.90
87.50°	2.65	3.37	2.38	1.66	1.12	2.15	1.42	2.47	1.40	2.21	2.57	4.16	3.13	4.13	3.21	2.87	2.65
90.00°	1.64	1.92	1.58	1.19	1.18	1.20	1.24	1.82	1.38	2.13	1.64	2.75	1.17	1.98	1.49	1.44	1.64
92.50°	1.44	1.75	0.96	1.67	1.17	0.89	1.15	1.40	1.30	2.05	1.83	1.99	0.95	1.24	1.06	1.01	1.44
95.00°	1.47	1.56	0.94	1.78	1.02	0.97	1.15	1.22	1.13	1.94	1.86	1.58	0.84	1.34	1.04	0.92	1.47
97.50°	1.42	1.25	1.10	1.54	0.95	1.00	1.11	1.20	1.15	1.82	1.72	1.29	0.84	1.24	1.19	0.88	1.42
100.00°	1.36	0.99	1.17	1.41	1.05	0.99	1.02	1.33	1.37	1.62	1.43	1.28	0.84	1.04	1.37	0.86	1.36

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	4082	4082	4082	4082	3985	3985	3985	3985	3806	3806	3806	3642	3642	3642	3491	3491	3491
	1	3907	3819	3740	3668	3823	3744	3673	3609	3604	3548	3496	3475	3431	3391	3357	3323	3291
	2	3738	3585	3459	3353	3662	3526	3412	3315	3415	3321	3241	3312	3237	3171	3217	3157	3103
	3	3576	3377	3224	3101	3509	3330	3189	3076	3240	3123	3026	3158	3060	2978	3081	3000	2931
	4	3423	3191	3022	2892	3363	3153	2996	2875	3080	2946	2840	3012	2899	2807	2949	2853	2774
	5	3278	3023	2845	2714	3225	2992	2826	2701	2931	2787	2677	2875	2751	2653	2823	2716	2630
	6	3142	2870	2689	2558	3094	2844	2673	2549	2794	2643	2531	2747	2615	2514	2703	2587	2497
	7	3013	2731	2548	2420	2970	2708	2536	2413	2666	2512	2400	2626	2489	2387	2589	2467	2375
	8	2891	2602	2420	2295	2852	2583	2410	2290	2547	2392	2281	2513	2373	2271	2481	2356	2261
	9	2777	2484	2304	2183	2741	2467	2296	2179	2436	2281	2171	2407	2266	2164	2380	2251	2157
	10	2669	2374	2198	2080	2637	2360	2191	2077	2333	2178	2071	2308	2166	2066	2284	2154	2060

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	184.7 fc	5.0 ft
6.5 ft	132.3 fc	5.9 ft
7.5 ft	99.3 fc	6.8 ft
8.0 ft	87.3 fc	7.2 ft
10.0 ft	55.9 fc	9.0 ft
12.0 ft	38.8 fc	10.8 ft
14.0 ft	28.5 fc	12.6 ft
16.0 ft	21.8 fc	14.4 ft
20.0 ft	14.0 fc	18.0 ft
24.0 ft	9.7 fc	21.6 ft
28.0 ft	7.1 fc	25.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	703259	703259	703259
45.00°	8206	7460	7863
55.00°	7299	6455	5652
65.00°	7075	5874	4783
75.00°	7493	4812	4631
85.00°	5632	5305	2811

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	9.2	10.1	9.5	10.4	10.7	8.5	9.4	8.9	9.7	10.1
	3H	11.2	12.1	11.6	12.4	12.8	10.9	11.7	11.2	12.0	12.4
	4H	12.0	12.8	12.5	13.2	13.6	11.8	12.6	12.2	12.9	13.3
	6H	12.6	13.3	13.0	13.6	14.0	12.5	13.2	12.9	13.6	14.0
	8H	12.7	13.4	13.2	13.8	14.2	12.8	13.4	13.2	13.8	14.2
	12H	12.8	13.4	13.3	13.8	14.3	12.9	13.5	13.3	13.9	14.3
4H	2H	9.7	10.5	10.1	10.8	11.2	9.0	9.8	9.5	10.2	10.6
	3H	12.0	12.6	12.5	13.1	13.5	11.6	12.2	12.0	12.6	13.0
	4H	12.9	13.5	13.4	13.9	14.4	12.6	13.2	13.1	13.6	14.1
	6H	13.6	14.1	14.1	14.5	15.0	13.5	13.9	13.9	14.4	14.9
	8H	13.8	14.2	14.3	14.7	15.2	13.8	14.2	14.2	14.7	15.1
	12H	13.9	14.3	14.4	14.8	15.3	13.9	14.3	14.4	14.8	15.3
8H	4H	13.2	13.7	13.7	14.1	14.6	12.8	13.3	13.3	13.7	14.2
	6H	14.1	14.4	14.6	14.9	15.4	13.8	14.1	14.3	14.6	15.1
	8H	14.4	14.7	14.9	15.2	15.7	14.2	14.5	14.7	15.0	15.5
	12H	14.7	14.9	15.2	15.4	16.0	14.5	14.8	15.1	15.3	15.9
12H	4H	13.2	13.6	13.7	14.1	14.6	12.8	13.2	13.3	13.7	14.2
	6H	14.1	14.4	14.7	14.9	15.5	13.8	14.1	14.3	14.6	15.1
	8H	14.5	14.8	15.1	15.3	15.9	14.3	14.5	14.8	15.0	15.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0