

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2XS RB2BS xx RA2HL

2" Adjustable Track Luminaire with extra narrow spot optic, hex louver and standard bezel

Test Number

SP-01573

Test Date

2/19/2024

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

Summary of Results

Power

Input Watts	6.9 W
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Lumen Output

Output Lumens	507
Efficacy	73.54 lm/W

Luminous Dimensions

0° - 180° Size	-0.21
90° - 270° Size	-0.21
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.2
Two luminaires, plane 90°	0.2
Four luminaires	0.22

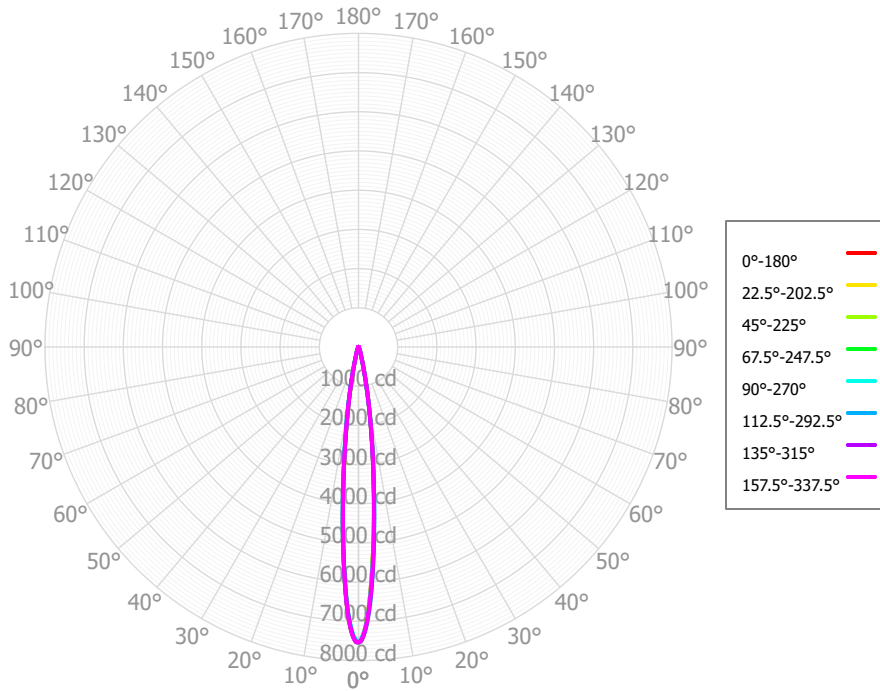
Full Beam Angle

0° - 180°	12°
90° - 270°	12°

IES File Header Contents

Keyword	Value
TEST	SP-01573
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/19/2024
ISSUEDATE	2/19/2024
LUMCAT	STR2 835 07 xx xx RD2XS RB2BS xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, hex louver and standard bezel
OTHER	Beam Angle: 12 deg
OTHER	80 CRI, 3500K tested
OTHER	CCT Output Multipliers: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
OTHER	CCT Output Multipliers: 927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87
OTHER	Total luminaire wattages are approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	331.11	65.25%	90.00° - 100.00°	0.90	0.18%
10.00° - 20.00°	120.00	23.65%	100.00° - 110.00°	0.90	0.18%
20.00° - 30.00°	32.44	6.39%	100.00° - 120.00°	1.75	0.34%
30.00° - 40.00°	12.28	2.42%	120.00° - 130.00°	0.81	0.16%
40.00° - 50.00°	2.65	0.52%	130.00° - 140.00°	0.68	0.13%
50.00° - 60.00°	0.90	0.18%	140.00° - 150.00°	0.58	0.11%
60.00° - 70.00°	0.82	0.16%	150.00° - 160.00°	0.45	0.09%
70.00° - 80.00°	0.87	0.17%	160.00° - 170.00°	0.26	0.05%
80.00° - 90.00°	0.86	0.17%	170.00° - 180.00°	0.08	0.02%
0.00° - 90.00°	501.92	98.92%	0.00° - 180.00°	507.43	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°	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12	7535.12
0.50°	7475.72	7514.99	7491.73	7468.93	7437.25	7486.56	7532.18	7521.35	7510.71	7503.41	7525.37	7502.77	7474.72	7491.53	7508.69	7478.78	7475.72
1.00°	7320.89	7337.29	7357.11	7329.37	7321.96	7384.83	7414.19	7418.30	7410.15	7404.50	7396.95	7410.10	7353.47	7365.88	7373.90	7340.09	7320.89
1.50°	7106.41	7106.53	7135.62	7118.44	7125.65	7174.62	7229.40	7228.73	7238.88	7218.27	7214.34	7220.00	7173.78	7185.45	7164.89	7140.08	7106.41
2.00°	6804.89	6832.60	6844.14	6851.21	6861.21	6925.74	6969.55	6981.77	6985.60	6969.36	6960.92	6945.67	6942.47	6928.03	6894.07	6866.35	6804.89
2.50°	6467.87	6500.56	6507.13	6519.01	6513.63	6616.04	6650.99	6658.83	6672.23	6635.52	6632.32	6621.48	6630.64	6645.13	6576.83	6533.41	6467.87
3.00°	6082.08	6098.80	6137.46	6134.25	6122.15	6212.08	6266.96	6280.30	6296.59	6255.47	6267.18	6248.19	6274.31	6257.61	6235.25	6157.32	6082.08
3.50°	5679.30	5706.94	5731.53	5719.55	5724.83	5795.71	5841.44	5864.95	5869.52	5815.14	5860.07	5855.51	5877.67	5860.90	5831.98	5759.11	5679.30
4.00°	5287.49	5293.58	5308.84	5302.80	5335.27	5392.17	5422.04	5431.05	5427.13	5386.33	5438.23	5455.47	5455.14	5449.83	5426.30	5351.50	5287.49
4.50°	4874.33	4895.76	4890.87	4899.63	4940.53	4987.04	4996.46	5002.44	4991.16	4973.82	5012.10	5019.17	5030.62	5016.90	4984.10	4942.96	4874.33
5.00°	4479.78	4499.59	4493.43	4512.13	4554.53	4584.91	4571.18	4578.25	4566.68	4547.57	4572.05	4601.41	4612.13	4598.41	4560.58	4539.23	4479.78
5.50°	4103.87	4108.05	4098.13	4135.05	4172.88	4189.47	4151.55	4149.60	4144.46	4125.46	4143.11	4178.93	4199.19	4194.99	4135.53	4141.12	4103.87
6.00°	3753.02	3725.78	3731.80	3759.08	3800.41	3799.55	3749.16	3751.05	3750.71	3720.58	3727.56	3758.59	3804.10	3798.74	3751.90	3749.73	3753.02
6.50°	3416.05	3383.22	3368.76	3406.46	3441.04	3428.91	3373.18	3388.11	3390.39	3356.57	3333.46	3372.11	3439.93	3427.29	3386.52	3394.53	3416.05
7.00°	3086.29	3069.99	3037.87	3075.33	3109.87	3077.75	3015.20	3034.76	3048.75	3014.69	2973.70	3023.46	3107.19	3098.08	3039.80	3067.93	3086.29
7.50°	2782.04	2772.27	2734.97	2757.38	2792.29	2754.33	2677.98	2702.08	2718.15	2695.07	2649.04	2709.27	2784.05	2793.49	2745.53	2764.27	2782.04
8.00°	2507.25	2483.24	2443.91	2473.19	2501.19	2456.42	2368.90	2403.74	2411.66	2393.13	2353.51	2407.44	2490.95	2509.20	2445.70	2479.49	2507.25
8.50°	2251.97	2222.49	2168.38	2213.50	2226.35	2175.29	2099.83	2133.25	2141.94	2113.11	2083.97	2142.63	2222.55	2243.99	2184.36	2215.05	2251.97
9.00°	1999.40	1985.42	1923.43	1965.08	1980.46	1922.77	1845.91	1883.75	1888.79	1862.42	1837.49	1894.73	1978.74	1999.09	1940.98	1967.86	1999.40
9.50°	1767.19	1759.16	1700.92	1740.34	1749.58	1694.13	1633.17	1652.25	1652.32	1628.67	1606.42	1666.83	1741.91	1771.49	1717.57	1742.05	1767.19
10.00°	1557.08	1550.88	1494.44	1530.46	1531.12	1489.72	1432.33	1440.90	1440.14	1408.80	1398.36	1459.82	1520.81	1560.89	1510.70	1533.72	1557.08
10.50°	1363.89	1361.07	1305.17	1333.30	1333.66	1296.31	1244.22	1251.02	1244.97	1219.41	1209.74	1267.58	1323.99	1362.15	1321.99	1349.35	1363.89
11.00°	1184.48	1182.62	1133.07	1159.45	1152.72	1127.99	1076.98	1082.48	1072.28	1049.85	1044.13	1096.65	1147.34	1181.76	1149.30	1171.54	1184.48
11.50°	1024.13	1022.35	981.90	1006.37	994.36	975.93	928.44	932.83	914.74	898.38	892.54	941.18	987.57	1017.28	992.55	1013.65	1024.13
12.00°	881.30	879.28	845.43	865.76	853.62	834.81	797.54	796.92	778.94	761.89	760.23	801.68	844.27	869.62	854.46	874.13	881.30
12.50°	754.91	751.93	726.76	738.81	726.36	712.56	682.08	674.75	661.53	646.44	642.26	680.35	716.53	738.07	731.50	749.39	754.91
13.00°	643.13	641.36	618.20	628.74	616.80	605.84	581.13	572.84	562.00	549.73	551.06	579.83	606.09	627.78	627.36	636.28	643.13
13.50°	546.23	547.34	526.69	532.95	523.16	514.70	497.47	490.65	479.77	467.82	467.63	492.84	514.59	534.83	534.78	543.13	546.23
14.00°	464.94	466.16	452.19	454.08	445.83	443.47	427.00	418.79	410.88	398.84	402.46	422.58	439.17	454.22	457.95	463.93	464.94
14.50°	397.59	397.67	389.05	390.68	383.02	381.21	369.50	358.05	354.65	345.83	349.99	366.71	378.29	392.99	396.60	398.10	397.59
15.00°	344.14	343.97	338.70	338.68	330.06	331.97	322.53	312.73	307.34	300.72	305.35	320.78	328.28	340.88	346.74	343.78	344.14
15.50°	298.83	301.31	297.01	294.36	287.56	288.62	282.88	277.45	270.56	264.99	269.61	280.51	288.18	298.09	302.13	298.58	298.83
16.00°	260.96	264.94	258.04	256.66	252.61	253.28	251.31	244.17	238.71	235.39	240.17	251.22	255.83	262.50	267.17	265.19	260.96
16.50°	232.99	235.14	232.85	230.05	224.68	225.61	224.35	217.89	212.51	211.00	216.65	223.16	230.18	238.29	240.88	236.78	232.99
17.00°	212.24	210.61	208.78	207.69	204.61	202.44	201.93	199.47	193.88	192.15	196.34	206.56	210.27	213.91	218.48	214.28	212.24
17.50°	192.21	194.58	192.13	187.92	185.26	183.97	185.43	181.56	178.83	176.71	181.09	188.52	191.97	196.64	198.50	194.83	192.21
18.00°	173.01	174.38	174.06	170.51	168.68	168.80	170.72	165.90	161.65	161.99	166.50	174.66	175.92	178.35	182.64	177.23	173.01
18.50°	160.43	159.25	160.92	156.90	152.99	157.33	156.19	156.99	151.32	148.59	152.92	162.67	162.77	165.32	166.25	161.08	160.43
19.00°	148.02	147.80	149.22	145.87	144.62	146.40	145.36	143.25	139.42	137.12	142.62	150.01	151.11	152.69	153.21	148.65	148.02
19.50°	138.12	136.87	139.70	135.57	134.32	135.58	135.88	132.11	130.07	129.61	134.19	137.63	141.62	140.25	144.93	139.09	138.12
20.00°	128.05	128.19	129.21	126.01	125.52	125.66	127.22	125.49	122.88	122.48	126.90	130.04	133.68	133.43	132.54	131.24	128.05
20.50°	120.31	120.59	121.00	118.41	115.92	118.83	121.07	118.90	116.42	113.03	117.35	122.95	125.84	124.80	124.24	124.08	120.31
21.00°	113.61	113.54	112.83	110.80	111.70	113.04	114.42	112.48	105.56	105.47	108.86	115.75	118.31	116.90	117.48	117.01	113.61

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	ptc	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%
	0	603	603	603	603	588	588	588	588	561	561	561	536	536	536	513	513	502
	1	585	576	568	560	573	565	557	551	544	538	533	524	520	516	507	503	493
	2	570	555	542	531	560	546	534	525	529	520	513	514	507	501	500	495	485
	3	557	537	522	509	548	530	516	505	517	506	497	505	496	489	494	487	478
	4	544	522	505	493	536	516	501	490	506	494	484	496	486	478	488	479	471
	5	533	509	492	480	526	505	489	478	496	483	473	489	478	469	481	472	464
	6	523	498	481	469	517	494	479	467	487	474	464	481	470	461	475	465	458
	7	514	488	471	460	508	485	469	458	479	466	456	474	462	454	469	459	452
	8	505	479	463	452	500	477	461	451	472	458	449	468	456	447	463	453	446
	9	497	471	455	445	493	469	454	444	465	452	442	461	450	441	458	447	441
	10	490	464	449	438	486	462	448	438	459	446	437	456	444	435	453	442	436

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	249.1 fc	1.2 ft
6.5 ft	178.3 fc	1.4 ft
7.5 ft	134.0 fc	1.6 ft
8.0 ft	117.7 fc	1.7 ft
10.0 ft	75.4 fc	2.1 ft
12.0 ft	52.3 fc	2.5 ft
14.0 ft	38.4 fc	2.9 ft
16.0 ft	29.4 fc	3.4 ft
20.0 ft	18.8 fc	4.2 ft
24.0 ft	13.1 fc	5.0 ft
28.0 ft	9.6 fc	5.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2341704	2341704	2341704
45.00°	1857	884	1101
55.00°	487	559	559
65.00°	813	679	709
75.00°	958	742	1065
85.00°	3893	2344	2671

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	-5.1	-4.2	-4.7	-3.9	-3.6	-4.9	-4.0	-4.5	-3.7	-3.4
	3H	-2.4	-1.6	-2.0	-1.2	-0.8	-2.4	-1.6	-2.0	-1.3	-0.9
	4H	-0.8	0.0	-0.3	0.3	0.8	-0.7	0.0	-0.2	0.4	0.8
	6H	0.8	1.5	1.2	1.9	2.3	1.3	2.0	1.8	2.4	2.8
	8H	2.2	2.8	2.7	3.2	3.7	2.2	2.8	2.6	3.2	3.7
	12H	4.2	4.8	4.7	5.2	5.7	3.1	3.7	3.6	4.1	4.6
4H	2H	-4.5	-3.7	-4.0	-3.4	-2.9	-4.6	-3.9	-4.2	-3.5	-3.1
	3H	-1.3	-0.7	-0.8	-0.2	0.2	-1.7	-1.1	-1.2	-0.7	-0.2
	4H	0.5	1.0	1.0	1.5	1.9	0.2	0.7	0.6	1.2	1.6
	6H	2.3	2.7	2.7	3.2	3.7	2.5	2.9	2.9	3.4	3.9
	8H	3.7	4.1	4.2	4.6	5.1	3.5	4.0	4.0	4.4	4.9
	12H	5.7	6.1	6.2	6.6	7.1	4.7	5.0	5.2	5.5	6.0
8H	4H	1.2	1.7	1.7	2.1	2.6	0.7	1.2	1.2	1.6	2.1
	6H	3.3	3.6	3.8	4.1	4.6	3.4	3.7	3.9	4.2	4.7
	8H	4.7	5.0	5.3	5.6	6.1	4.7	5.0	5.3	5.5	6.1
	12H	6.8	7.1	7.4	7.6	8.2	6.1	6.3	6.6	6.8	7.4
12H	4H	1.5	1.9	2.0	2.4	2.9	0.9	1.3	1.5	1.8	2.3
	6H	3.7	4.0	4.2	4.5	5.0	3.7	4.0	4.2	4.5	5.0
	8H	5.2	5.5	5.7	6.0	6.6	5.2	5.4	5.7	5.9	6.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0