

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

**Luminaire**

STR2 835 07 xx xx RD2SP RB2BD xx xx

2" Adjustable Track Luminaire with spot optic and snoot/deep cutoff bezel

**Test Number**

SP-01578

**Test Date**

9/26/2023

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	629
Efficacy	91.19 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.37
Two luminaires, plane 90°	0.36
Four luminaires	0.35

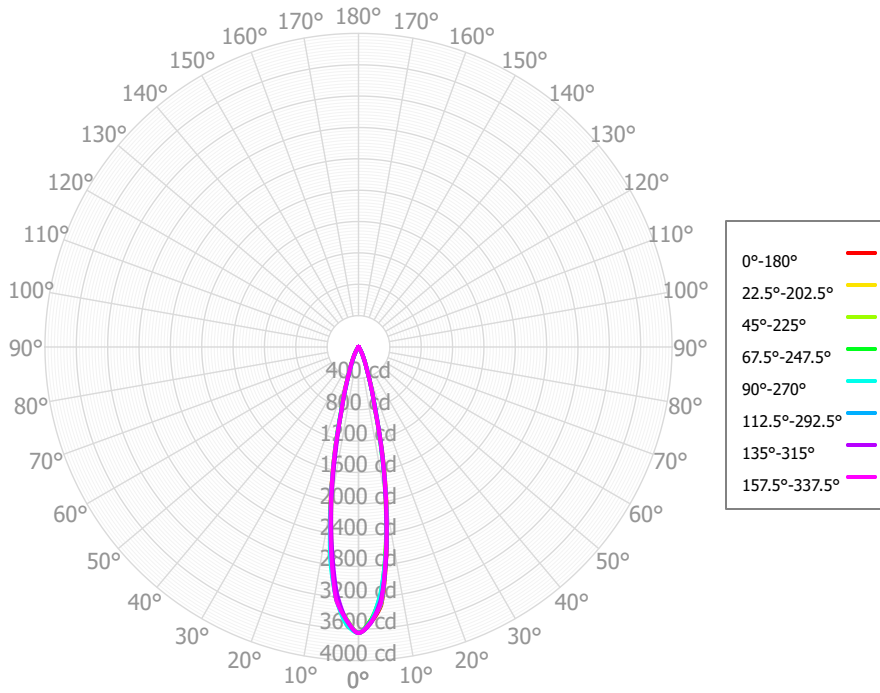
#### Full Beam Angle

0° - 180°	22°
90° - 270°	22°

### IES File Header Contents

Keyword	Value
TEST	SP-01578
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 07 xx xx RD2SP RB2BD xx xx
LUMINAIRE	2" Adjustable Track Luminaire with spot optic and snoot/deep cutoff bezel
OTHER	Beam Angle: 22 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°	268.38	42.65%	90.00° - 100.00°	0.93	0.15%
10.00° - 20.00°	250.56	39.82%	100.00° - 110.00°	0.89	0.14%
20.00° - 30.00°	77.40	12.30%	100.00° - 120.00°	1.71	0.27%
30.00° - 40.00°	20.08	3.19%	120.00° - 130.00°	0.76	0.12%
40.00° - 50.00°	3.46	0.55%	130.00° - 140.00°	0.73	0.12%
50.00° - 60.00°	1.00	0.16%	140.00° - 150.00°	0.61	0.10%
60.00° - 70.00°	0.91	0.14%	150.00° - 160.00°	0.48	0.08%
70.00° - 80.00°	0.89	0.14%	160.00° - 170.00°	0.29	0.05%
80.00° - 90.00°	0.96	0.15%	170.00° - 180.00°	0.09	0.01%
0.00° - 90.00°	623.64	99.11%	0.00° - 180.00°	629.23	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°	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47	3647.47
2.50°	3522.13	3514.52	3493.78	3494.52	3514.42	3484.56	3492.04	3487.77	3487.43	3491.09	3471.44	3504.35	3543.68	3510.28	3531.87	3519.07	3522.13
5.00°	3310.36	3239.41	3297.12	3189.55	3169.52	3226.71	3156.77	3245.51	3231.83	3226.36	3243.27	3232.03	3239.54	3288.78	3243.70	3280.98	3310.36
7.50°	2710.29	2660.27	2642.43	2639.12	2661.01	2634.84	2593.37	2666.65	2651.40	2686.10	2613.83	2705.20	2751.74	2689.69	2707.08	2668.76	2710.29
10.00°	2053.84	2042.47	1988.79	2028.52	2033.05	2031.45	1983.70	2026.99	2057.80	2030.63	1986.14	2026.61	2037.24	2028.31	1994.75	2043.62	2053.84
12.50°	1426.78	1357.07	1374.03	1343.20	1333.42	1385.79	1324.54	1427.24	1411.28	1440.25	1382.51	1426.68	1410.37	1407.51	1385.90	1374.12	1426.78
15.00°	803.04	826.80	777.44	835.60	865.83	830.20	845.57	833.52	848.35	873.88	812.04	869.43	882.59	792.24	842.90	804.29	803.04
17.50°	546.92	540.02	541.50	530.16	524.96	560.58	540.70	569.47	579.92	575.58	562.95	551.13	527.34	536.31	523.80	537.88	546.92
20.00°	322.61	330.16	316.49	326.00	339.20	336.25	342.72	345.94	353.02	363.82	332.79	348.62	348.30	317.86	334.58	319.15	322.61
22.50°	233.20	230.57	229.50	225.91	229.08	239.94	238.01	250.72	255.63	253.37	242.94	234.15	225.71	226.91	222.87	227.64	233.20
25.00°	151.53	153.17	146.77	152.88	158.48	158.12	163.11	167.27	170.96	171.88	159.52	158.25	155.22	145.96	152.06	149.94	151.53
27.50°	108.04	104.85	104.60	104.97	105.02	113.00	112.05	120.05	120.98	121.44	115.43	110.24	103.48	103.77	104.52	104.77	108.04
30.00°	65.83	67.50	65.07	68.65	69.09	73.79	74.85	75.07	77.98	78.61	74.76	73.03	67.60	63.50	67.92	67.13	65.83
32.50°	44.99	43.11	44.77	42.21	40.00	47.83	47.64	51.32	51.78	53.16	51.29	48.83	42.72	44.01	44.96	45.53	44.99
35.00°	24.49	25.89	26.13	25.50	25.42	27.81	30.34	28.38	30.40	31.41	30.39	29.14	26.36	25.00	27.71	28.15	24.49
37.50°	17.06	16.33	17.49	16.26	15.90	19.63	19.58	20.43	19.49	20.99	20.63	18.67	16.02	18.17	18.17	18.79	17.06
40.00°	9.78	9.67	9.65	9.99	9.97	12.41	12.01	12.69	10.82	12.57	12.05	11.00	9.89	11.40	11.53	11.09	9.78
42.50°	6.25	5.87	5.78	5.79	5.12	6.94	6.32	8.09	6.50	8.08	7.86	6.88	5.74	7.07	7.23	6.29	6.25
45.00°	2.88	3.48	2.51	3.23	3.12	3.23	3.50	3.62	3.41	4.17	4.30	3.70	2.83	2.90	3.70	2.98	2.88
47.50°	2.01	2.34	1.70	1.71	1.86	2.38	2.22	2.75	2.48	2.90	2.76	2.70	1.62	2.23	2.44	1.98	2.01
50.00°	1.20	1.56	1.04	1.05	1.28	1.71	1.56	1.89	1.78	1.93	1.57	2.19	1.38	1.59	1.84	1.27	1.20
52.50°	1.11	1.07	0.90	0.88	0.85	1.29	1.21	1.30	1.45	1.42	1.35	1.60	1.13	1.56	1.37	0.94	1.11
55.00°	1.00	0.86	0.82	0.87	0.99	1.03	1.11	0.77	1.24	0.94	1.18	0.99	0.88	1.51	0.94	0.83	1.00
57.50°	0.84	0.84	0.95	0.94	1.23	0.95	1.10	0.97	1.22	0.80	1.16	0.87	0.87	1.30	0.90	0.99	0.84
60.00°	0.70	1.00	1.06	0.89	0.95	0.89	1.07	1.13	1.15	0.67	1.16	0.81	0.98	1.10	0.94	1.05	0.70
62.50°	0.66	1.28	1.14	0.79	0.59	0.84	1.03	0.90	1.01	0.79	1.23	1.07	0.95	0.99	0.87	0.99	0.66
65.00°	0.66	1.06	1.14	0.86	0.63	0.82	1.02	0.73	0.91	0.92	1.20	1.36	0.88	0.89	0.78	0.94	0.66
67.50°	0.79	0.53	0.99	1.01	0.72	0.83	1.02	0.90	0.86	0.79	0.97	1.18	0.85	0.85	0.81	0.90	0.79
70.00°	0.89	0.48	0.89	0.90	0.74	0.82	1.02	1.05	0.84	0.67	0.79	0.96	0.84	0.84	0.86	0.83	0.89
72.50°	0.77	0.69	0.92	0.70	0.75	0.79	1.02	1.01	0.87	0.76	0.68	0.78	0.73	1.01	0.79	0.74	0.77
75.00°	0.74	0.81	0.88	0.72	0.84	0.90	0.94	1.01	0.88	0.84	0.65	0.60	0.59	1.12	0.70	0.77	0.74
77.50°	1.06	0.90	0.74	0.79	0.94	1.12	0.84	1.23	0.85	0.78	0.75	0.72	0.70	0.97	0.74	0.91	1.06
80.00°	1.27	0.93	0.65	0.71	0.94	1.12	1.05	1.39	0.84	0.73	0.78	0.86	0.89	0.84	0.80	0.97	1.27
82.50°	1.12	0.94	0.62	0.58	0.94	0.94	1.32	1.38	0.85	0.97	0.72	0.96	0.84	0.83	0.80	0.97	1.12
85.00°	1.03	0.99	0.64	0.57	0.84	0.87	1.02	1.32	0.87	1.17	0.70	1.07	0.75	0.79	0.81	0.87	1.03
87.50°	1.11	1.06	0.72	0.57	0.75	0.90	0.60	1.07	0.89	1.04	0.72	0.90	0.78	0.69	0.74	0.69	1.11
90.00°	1.11	0.99	0.83	0.80	0.83	0.83	0.70	0.86	0.93	0.93	0.75	0.74	0.84	0.71	0.66	0.72	1.11
92.50°	0.91	0.86	0.97	1.08	0.90	0.70	0.87	0.80	0.99	0.97	0.78	0.86	0.76	1.05	0.63	0.89	0.91
95.00°	0.78	0.82	1.00	1.05	0.81	0.72	0.83	0.79	0.96	1.01	0.76	0.96	0.65	1.24	0.60	0.85	0.78
97.50°	0.84	0.80	0.88	0.97	0.72	0.83	0.76	0.94	0.87	1.01	0.69	0.84	0.73	1.07	0.77	0.67	0.84
100.00°	0.84	0.74	0.75	0.82	0.65	0.88	0.72	1.04	0.87	1.00	0.71	0.74	0.84	0.95	0.93	0.72	0.84
102.50°	0.74	0.67	0.60	0.66	0.59	0.89	0.68	1.00	0.93	0.90	0.81	0.81	0.86	0.99	0.90	0.88	0.74
105.00°	0.68	0.94	0.62	0.70	0.67	0.87	0.93	0.97	0.91	0.81	0.89	0.88	0.87	1.05	0.86	0.87	0.68

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>ptc</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>	748	748	748	748	730	730	730	730	696	696	696	665	665	665	637	637	624
	<b>1</b>	723	710	698	688	708	696	686	676	670	662	655	646	640	634	624	619	607
	<b>2</b>	700	678	660	645	687	668	651	637	647	634	623	628	618	609	611	603	591
	<b>3</b>	680	651	630	612	668	643	623	607	627	610	597	612	598	587	598	587	576
	<b>4</b>	660	628	604	586	650	621	599	582	608	590	575	596	581	568	585	572	562
	<b>5</b>	642	607	582	564	633	601	579	562	591	571	556	581	564	551	572	558	548
	<b>6</b>	625	588	563	545	617	584	560	543	575	555	540	567	549	536	559	544	535
	<b>7</b>	609	571	546	529	603	567	544	528	560	540	525	553	535	522	547	531	523
	<b>8</b>	595	556	531	514	588	552	529	513	546	526	511	541	522	509	535	519	511
	<b>9</b>	581	541	517	501	575	539	516	500	533	513	499	529	510	497	524	507	500
	<b>10</b>	567	528	505	489	563	526	503	488	521	501	487	517	499	486	513	496	490

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	120.6 fc	2.1 ft
6.5 ft	86.3 fc	2.5 ft
7.5 ft	64.8 fc	2.9 ft
8.0 ft	57.0 fc	3.1 ft
10.0 ft	36.5 fc	3.9 ft
12.0 ft	25.3 fc	4.6 ft
14.0 ft	18.6 fc	5.4 ft
16.0 ft	14.2 fc	6.2 ft
20.0 ft	9.1 fc	7.7 ft
24.0 ft	6.3 fc	9.3 ft
28.0 ft	4.7 fc	10.8 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1133531	1133531	1133531
<b>45.00°</b>	1265	1102	1370
<b>55.00°</b>	544	444	534
<b>65.00°</b>	482	842	463
<b>75.00°</b>	888	1061	1007
<b>85.00°</b>	3657	2279	3010

### 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	-6.5	-5.6	-6.1	-5.2	-4.9	-6.3	-5.4	-5.9	-5.0	-4.7
	3H	-3.7	-2.9	-3.3	-2.5	-2.1	-3.0	-2.2	-2.6	-1.9	-1.5
	4H	-2.0	-1.3	-1.6	-0.9	-0.5	-1.7	-0.9	-1.2	-0.6	-0.1
	6H	1.3	2.0	1.8	2.4	2.8	0.6	1.3	1.1	1.7	2.1
	8H	2.8	3.5	3.3	3.9	4.3	1.9	2.5	2.4	2.9	3.4
	12H	4.2	4.8	4.7	5.2	5.7	3.1	3.7	3.6	4.1	4.6
4H	2H	-5.3	-4.5	-4.8	-4.2	-3.7	-4.8	-4.1	-4.4	-3.7	-3.3
	3H	-2.4	-1.8	-2.0	-1.4	-1.0	-1.7	-1.1	-1.3	-0.7	-0.2
	4H	-0.6	0.0	-0.1	0.4	0.9	-0.2	0.3	0.3	0.8	1.2
	6H	2.8	3.2	3.2	3.7	4.2	2.3	2.8	2.8	3.3	3.8
	8H	4.3	4.8	4.8	5.2	5.7	3.7	4.1	4.2	4.5	5.0
	12H	5.8	6.2	6.4	6.7	7.2	5.0	5.3	5.5	5.8	6.3
8H	4H	0.2	0.6	0.7	1.1	1.6	0.6	1.0	1.1	1.5	2.0
	6H	3.6	3.9	4.1	4.4	4.9	3.5	3.8	4.0	4.3	4.8
	8H	5.3	5.6	5.9	6.2	6.7	5.0	5.3	5.5	5.8	6.3
	12H	7.1	7.3	7.6	7.9	8.5	6.6	6.8	7.1	7.3	7.9
12H	4H	0.4	0.8	0.9	1.3	1.8	0.9	1.3	1.4	1.8	2.3
	6H	3.8	4.1	4.3	4.6	5.1	3.9	4.2	4.5	4.7	5.3
	8H	5.6	5.9	6.2	6.4	7.0	5.5	5.8	6.1	6.3	6.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0