

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

**Luminaire**

STR2 835 10 xx xx RD2FL RB2BD xx RA2HL

2" Adjustable Track Luminaire with flood optic, hex louver and snoot/deep cutoff bezel

**Test Number**

SP-01583\_1

**Test Date**

9/26/2023

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

### Summary of Results

#### Power

Input Watts	11.8 W
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#### Lumen Output

Output Lumens	734
Efficacy	62.24 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.51
Two luminaires, plane 90°	0.5
Four luminaires	0.47

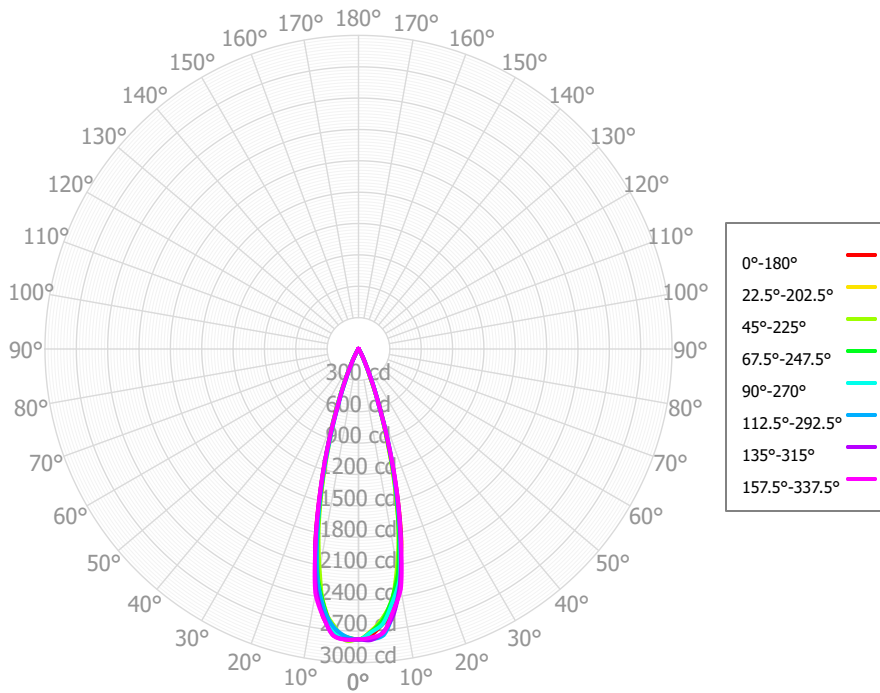
#### Full Beam Angle

0° - 180°	30°
90° - 270°	30°

### IES File Header Contents

Keyword	Value
TEST	SP-01583_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 10 xx xx RD2FL RB2BD xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, hex louver and snoot/deep cutoff bezel
OTHER	Beam Angle: 30 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°	244.74	33.33%	90.00° - 100.00°	1.34	0.18%
10.00° - 20.00°	365.57	49.78%	100.00° - 110.00°	1.24	0.17%
20.00° - 30.00°	98.45	13.41%	100.00° - 120.00°	2.45	0.33%
30.00° - 40.00°	11.19	1.52%	120.00° - 130.00°	1.07	0.15%
40.00° - 50.00°	1.55	0.21%	130.00° - 140.00°	1.00	0.14%
50.00° - 60.00°	1.09	0.15%	140.00° - 150.00°	0.88	0.12%
60.00° - 70.00°	1.22	0.17%	150.00° - 160.00°	0.67	0.09%
70.00° - 80.00°	1.30	0.18%	160.00° - 170.00°	0.41	0.06%
80.00° - 90.00°	1.33	0.18%	170.00° - 180.00°	0.13	0.02%
0.00° - 90.00°	726.44	98.92%	0.00° - 180.00°	734.39	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°	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39	2779.39
2.50°	2739.78	2701.57	2714.31	2709.70	2714.52	2754.21	2781.17	2784.83	2785.28	2755.12	2791.72	2758.75	2771.48	2779.67	2787.29	2763.91	2739.78
5.00°	2643.07	2597.10	2590.75	2610.83	2643.51	2676.37	2753.13	2754.38	2716.51	2698.40	2660.41	2715.44	2726.83	2749.36	2718.99	2725.74	2643.07
7.50°	2533.98	2430.88	2439.25	2426.77	2455.79	2520.48	2580.48	2588.00	2589.32	2488.28	2517.38	2494.62	2519.40	2551.42	2565.27	2532.80	2533.98
10.00°	2228.05	2169.91	2121.57	2175.49	2250.54	2257.84	2334.96	2375.65	2273.36	2218.36	2142.68	2230.32	2256.62	2290.97	2285.99	2332.55	2228.05
12.50°	1894.86	1766.09	1778.13	1775.64	1832.50	1828.16	1908.34	1896.52	1908.89	1803.54	1760.40	1810.46	1823.54	1862.07	1855.33	1878.04	1894.86
15.00°	1417.74	1343.92	1320.85	1361.80	1393.44	1382.02	1404.82	1423.58	1417.79	1342.08	1324.39	1361.04	1393.20	1381.54	1404.47	1423.75	1417.74
17.50°	927.94	897.99	892.36	922.26	967.86	913.78	978.53	977.41	976.34	960.93	896.03	977.17	969.67	967.67	932.63	974.28	927.94
20.00°	599.87	547.17	565.04	559.07	543.04	553.84	579.01	582.04	641.56	600.22	606.86	602.17	605.52	570.20	576.73	545.91	599.87
22.50°	279.26	302.35	290.72	315.72	338.96	317.20	351.15	362.02	370.28	380.29	332.44	386.85	365.83	354.00	323.22	341.58	279.26
25.00°	176.69	149.98	168.39	148.74	141.30	162.82	171.81	181.38	214.54	187.62	208.61	185.13	185.93	171.53	171.58	155.34	176.69
27.50°	78.11	85.19	73.70	83.07	88.14	88.04	98.67	109.82	103.39	112.29	95.84	117.14	110.67	104.87	97.38	97.90	78.11
30.00°	50.19	45.08	43.75	39.77	37.48	43.13	48.80	52.98	61.47	53.76	59.67	54.94	56.18	53.45	52.67	46.87	50.19
32.50°	23.63	24.83	20.86	22.03	22.57	23.12	27.91	30.13	31.47	32.24	27.73	34.78	32.74	32.64	26.91	28.52	23.63
35.00°	14.00	12.88	11.70	10.88	8.92	11.55	11.84	13.38	17.10	14.31	16.91	15.32	16.48	14.46	13.63	12.85	14.00
37.50°	5.28	6.66	5.38	6.13	6.26	6.03	6.76	8.32	7.94	8.40	7.75	9.37	9.30	8.94	7.19	7.86	5.28
40.00°	3.75	3.66	3.74	3.27	3.83	3.29	2.93	4.54	4.59	3.09	5.08	3.79	4.59	3.99	4.05	3.74	3.75
42.50°	2.36	2.55	2.44	1.99	2.80	2.24	2.04	2.82	2.51	2.26	2.89	2.65	2.57	2.95	2.42	2.40	2.36
45.00°	1.78	1.82	1.62	1.37	1.91	1.72	1.34	1.67	1.66	1.49	2.21	1.64	1.56	1.94	1.87	1.41	1.78
47.50°	1.31	1.28	1.22	1.22	1.63	1.46	1.21	1.28	1.23	1.24	1.64	1.73	1.50	1.52	1.73	1.33	1.31
50.00°	1.27	1.09	1.32	1.16	1.40	1.28	1.09	1.12	1.17	1.02	1.39	1.74	1.39	1.13	1.49	1.23	1.27
52.50°	1.25	1.03	1.33	1.14	1.38	1.13	1.12	1.23	1.20	1.15	1.27	1.34	1.23	1.23	1.22	1.06	1.25
55.00°	1.30	0.98	1.26	1.11	1.35	1.23	1.17	1.25	1.31	1.26	1.43	1.05	1.16	1.29	1.14	1.02	1.30
57.50°	1.32	0.93	1.13	1.07	1.28	1.42	1.32	1.18	1.31	1.11	1.47	1.20	1.13	1.09	1.12	1.22	1.32
60.00°	1.28	1.22	0.96	1.03	1.21	1.27	1.46	1.10	1.24	1.01	1.27	1.30	1.10	0.98	1.08	1.33	1.28
62.50°	1.28	1.61	1.17	0.99	1.14	1.02	1.46	1.02	1.32	1.12	1.19	1.24	1.08	1.38	1.04	1.28	1.28
65.00°	1.36	1.32	1.68	1.07	1.10	1.14	1.44	1.07	1.46	1.22	1.28	1.18	1.25	1.64	1.11	1.21	1.36
67.50°	1.33	0.90	1.59	1.18	1.09	1.33	1.24	1.23	1.50	1.20	1.34	1.06	1.53	1.25	1.20	1.10	1.33
70.00°	1.10	1.00	1.13	1.26	1.11	1.35	1.12	1.22	1.50	1.21	1.37	0.99	1.53	1.01	1.16	1.12	1.10
72.50°	0.98	1.18	0.94	1.33	1.15	1.34	1.42	1.11	1.39	1.32	1.34	1.03	1.42	1.22	1.10	1.28	0.98
75.00°	1.06	1.39	0.88	1.27	1.15	1.43	1.63	1.15	1.24	1.35	1.25	1.08	1.21	1.36	1.09	1.36	1.06
77.50°	1.11	1.61	1.02	1.18	1.06	1.53	1.52	1.27	1.35	1.19	1.15	1.14	0.97	1.28	1.07	1.38	1.11
80.00°	1.12	1.50	1.24	1.34	1.05	1.38	1.40	1.21	1.53	1.16	1.04	1.13	1.11	1.27	1.14	1.29	1.12
82.50°	1.18	1.36	1.27	1.55	1.13	1.22	1.24	1.06	1.40	1.42	1.02	0.99	1.35	1.42	1.20	1.13	1.18
85.00°	1.31	1.23	1.24	1.32	1.14	1.25	1.15	1.10	1.20	1.53	1.09	0.97	1.25	1.46	1.25	1.06	1.31
87.50°	1.33	1.10	1.31	1.04	1.05	1.28	1.23	1.21	1.18	1.35	1.06	1.11	1.09	1.31	1.29	1.06	1.33
90.00°	1.23	1.08	1.40	1.09	1.14	1.35	1.27	1.27	1.19	1.22	0.96	1.17	1.16	1.19	1.22	1.21	1.23
92.50°	1.24	1.07	1.37	1.17	1.37	1.40	1.22	1.31	1.20	1.16	1.09	1.15	1.27	1.10	1.17	1.47	1.24
95.00°	1.34	1.00	1.31	1.33	1.36	1.26	1.17	1.23	1.21	1.13	1.36	1.30	1.27	1.16	1.16	1.42	1.34
97.50°	1.29	0.95	1.11	1.50	1.16	1.13	1.11	1.12	1.12	1.14	1.34	1.62	1.26	1.40	1.15	1.23	1.29
100.00°	1.13	1.04	0.88	1.21	1.06	1.29	1.08	1.28	1.02	1.11	1.17	1.64	1.21	1.45	1.12	1.28	1.13
102.50°	1.04	1.13	1.00	0.95	1.03	1.40	1.10	1.50	1.05	1.03	1.15	1.41	1.16	1.29	1.11	1.45	1.04
105.00°	0.99	1.15	1.16	1.12	1.04	1.27	1.06	1.32	1.08	1.07	1.19	1.29	1.16	1.23	1.20	1.32	0.99

### 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>	872	872	872	872	851	851	851	851	812	812	812	775	775	775	742	742	726
	<b>1</b>	842	827	812	800	824	810	798	786	779	770	761	751	744	737	725	720	705
	<b>2</b>	815	788	766	748	799	775	756	739	751	735	722	729	716	705	708	699	685
	<b>3</b>	789	755	729	708	775	745	721	702	726	706	690	708	692	678	691	679	666
	<b>4</b>	765	726	697	675	753	718	692	671	702	680	663	688	670	655	675	659	647
	<b>5</b>	743	700	670	648	732	694	666	645	681	657	639	669	649	633	658	641	630
	<b>6</b>	722	677	646	625	713	671	643	622	661	636	618	651	630	614	642	624	613
	<b>7</b>	702	655	625	604	694	651	622	602	642	617	599	634	612	595	626	607	597
	<b>8</b>	683	636	606	585	676	632	603	584	624	599	581	618	595	579	611	591	582
	<b>9</b>	666	617	588	568	659	614	586	567	608	583	565	602	579	563	596	576	567
	<b>10</b>	649	600	571	552	643	598	570	551	592	567	550	587	564	548	582	562	554

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	91.9 fc	3.0 ft
6.5 ft	65.8 fc	3.5 ft
7.5 ft	49.4 fc	4.1 ft
8.0 ft	43.4 fc	4.3 ft
10.0 ft	27.8 fc	5.4 ft
12.0 ft	19.3 fc	6.5 ft
14.0 ft	14.2 fc	7.6 ft
16.0 ft	10.9 fc	8.6 ft
20.0 ft	6.9 fc	10.8 ft
24.0 ft	4.8 fc	13.0 ft
28.0 ft	3.5 fc	15.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	863755	863755	863755
<b>45.00°</b>	783	712	838
<b>55.00°</b>	702	682	731
<b>65.00°</b>	999	1233	808
<b>75.00°</b>	1270	1062	1375
<b>85.00°</b>	4681	4434	4053

### 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	-5.4	-4.5	-5.0	-4.2	-3.9	-4.5	-3.7	-4.2	-3.3	-3.0
	3H	-1.9	-1.2	-1.5	-0.8	-0.4	-1.2	-0.4	-0.8	0.0	0.4
	4H	0.0	0.7	0.4	1.1	1.5	0.6	1.3	1.0	1.7	2.1
	6H	2.2	2.9	2.7	3.3	3.7	2.3	3.0	2.8	3.4	3.8
	8H	3.4	4.0	3.9	4.4	4.9	3.5	4.1	3.9	4.5	4.9
	12H	4.9	5.4	5.3	5.8	6.3	4.8	5.4	5.2	5.8	6.2
4H	2H	-3.9	-3.2	-3.5	-2.8	-2.4	-3.4	-2.7	-3.0	-2.3	-1.9
	3H	-0.6	0.0	-0.1	0.4	0.9	0.0	0.6	0.5	1.1	1.5
	4H	1.7	2.2	2.2	2.7	3.1	2.0	2.5	2.5	3.0	3.5
	6H	4.1	4.6	4.6	5.1	5.6	4.0	4.5	4.5	4.9	5.4
	8H	5.3	5.7	5.8	6.2	6.7	5.2	5.6	5.7	6.1	6.6
	12H	6.8	7.1	7.3	7.6	8.1	6.6	6.9	7.1	7.4	7.9
8H	4H	2.4	2.8	2.9	3.3	3.8	2.9	3.3	3.4	3.8	4.3
	6H	5.2	5.5	5.7	6.0	6.6	5.1	5.5	5.7	6.0	6.5
	8H	6.6	6.9	7.1	7.4	7.9	6.4	6.7	7.0	7.3	7.8
	12H	8.2	8.4	8.7	9.0	9.6	8.0	8.2	8.5	8.7	9.3
12H	4H	2.6	3.0	3.1	3.5	4.0	3.1	3.4	3.6	3.9	4.5
	6H	5.5	5.8	6.1	6.3	6.9	5.4	5.7	6.0	6.2	6.8
	8H	7.0	7.3	7.6	7.8	8.4	6.8	7.1	7.4	7.6	8.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0