

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

**Luminaire**

STR2 835 10 xx xx RD2SP RB2BD xx xx

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

**Test Number**

SP-01578\_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	858
Efficacy	72.72 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

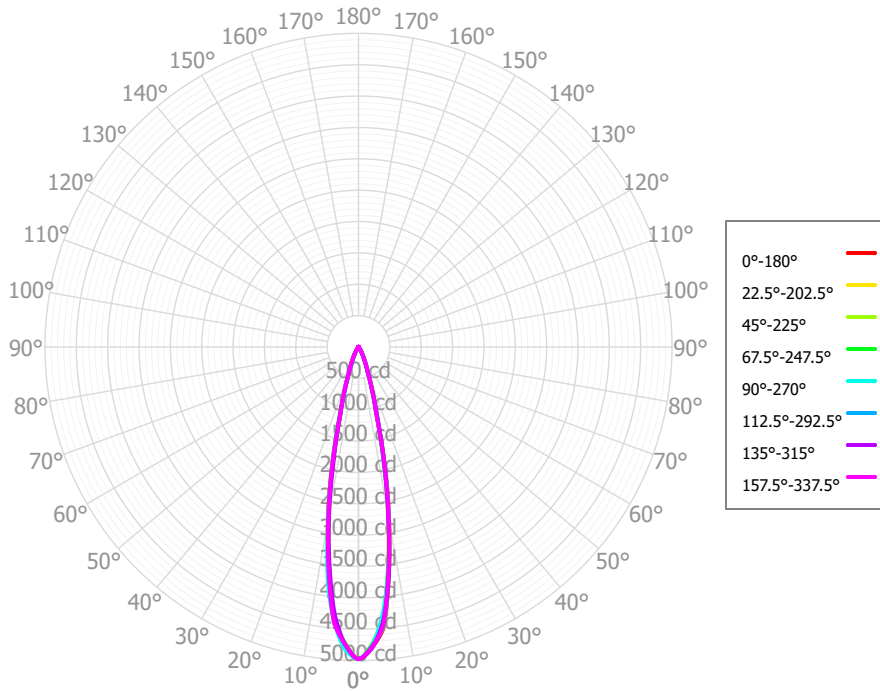
#### Full Beam Angle

0° - 180°	22°
90° - 270°	22°

### IES File Header Contents

Keyword	Value
TEST	SP-01578_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 10 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°	365.97	42.65%	90.00° - 100.00°	1.26	0.15%
10.00° - 20.00°	341.67	39.82%	100.00° - 110.00°	1.22	0.14%
20.00° - 30.00°	105.55	12.30%	100.00° - 120.00°	2.33	0.27%
30.00° - 40.00°	27.38	3.19%	120.00° - 130.00°	1.03	0.12%
40.00° - 50.00°	4.72	0.55%	130.00° - 140.00°	1.00	0.12%
50.00° - 60.00°	1.36	0.16%	140.00° - 150.00°	0.83	0.10%
60.00° - 70.00°	1.23	0.14%	150.00° - 160.00°	0.65	0.08%
70.00° - 80.00°	1.22	0.14%	160.00° - 170.00°	0.40	0.05%
80.00° - 90.00°	1.31	0.15%	170.00° - 180.00°	0.12	0.01%
0.00° - 90.00°	850.41	99.11%	0.00° - 180.00°	858.04	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°	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82	4973.82
2.50°	4802.91	4792.52	4764.24	4765.25	4792.40	4751.68	4761.88	4756.05	4755.59	4760.58	4733.78	4778.66	4832.29	4786.74	4816.19	4798.73	4802.91
5.00°	4514.13	4417.37	4496.07	4349.39	4322.07	4400.05	4304.69	4425.70	4407.05	4399.58	4422.65	4407.31	4417.56	4484.70	4423.22	4474.06	4514.13
7.50°	3695.85	3627.64	3603.31	3598.80	3628.64	3592.96	3536.41	3636.34	3615.55	3662.86	3564.31	3688.90	3752.38	3667.76	3691.47	3639.22	3695.85
10.00°	2800.69	2785.19	2711.98	2766.16	2772.34	2770.15	2705.04	2764.07	2806.09	2769.04	2708.37	2763.56	2778.05	2765.88	2720.12	2786.76	2800.69
12.50°	1945.61	1850.55	1873.67	1831.64	1818.30	1889.71	1806.20	1946.24	1924.48	1963.98	1885.25	1945.47	1923.23	1919.33	1889.87	1873.80	1945.61
15.00°	1095.05	1127.46	1060.14	1139.46	1180.67	1132.10	1153.05	1136.62	1156.85	1191.66	1107.32	1185.58	1203.53	1080.33	1149.41	1096.76	1095.05
17.50°	745.80	736.39	738.41	722.94	715.86	764.43	737.32	776.55	790.80	784.88	767.65	751.54	719.10	731.33	714.27	733.47	745.80
20.00°	439.93	450.21	431.57	444.55	462.54	458.52	467.34	471.73	481.39	496.12	453.80	475.39	474.95	433.45	456.24	435.21	439.93
22.50°	318.00	314.41	312.95	308.06	312.38	327.19	324.56	341.89	348.58	345.51	331.28	319.29	307.79	309.43	303.92	310.42	318.00
25.00°	206.63	208.86	200.14	208.48	216.11	215.62	222.43	228.10	233.12	234.38	217.53	215.79	211.67	199.04	207.36	204.46	206.63
27.50°	147.33	142.98	142.64	143.14	143.21	154.09	152.80	163.70	164.97	165.60	157.40	150.32	141.11	141.50	142.53	142.86	147.33
30.00°	89.77	92.05	88.73	93.62	94.21	100.63	102.07	102.37	106.34	107.19	101.95	99.59	92.18	86.59	92.62	91.54	89.77
32.50°	61.35	58.79	61.05	57.56	54.55	65.23	64.96	69.99	70.61	72.49	69.94	66.59	58.25	60.02	61.32	62.09	61.35
35.00°	33.39	35.31	35.63	34.77	34.66	37.92	41.37	38.71	41.46	42.83	41.45	39.74	35.94	34.08	37.78	38.39	33.39
37.50°	23.26	22.26	23.85	22.18	21.68	26.77	26.69	27.86	26.57	28.62	28.13	25.47	21.85	24.78	24.78	25.62	23.26
40.00°	13.34	13.19	13.16	13.62	13.59	16.92	16.37	17.30	14.75	17.14	16.43	15.00	13.49	15.54	15.72	15.13	13.34
42.50°	8.52	8.00	7.89	7.90	6.98	9.46	8.62	11.03	8.86	11.02	10.72	9.39	7.83	9.63	9.86	8.57	8.52
45.00°	3.92	4.74	3.42	4.41	4.25	4.41	4.77	4.94	4.65	5.68	5.86	5.05	3.86	3.96	5.04	4.06	3.92
47.50°	2.74	3.19	2.32	2.34	2.54	3.25	3.02	3.74	3.38	3.95	3.77	3.68	2.21	3.03	3.32	2.70	2.74
50.00°	1.64	2.13	1.42	1.43	1.74	2.33	2.13	2.57	2.43	2.63	2.14	2.98	1.88	2.17	2.50	1.73	1.64
52.50°	1.51	1.46	1.22	1.20	1.16	1.76	1.65	1.77	1.98	1.93	1.84	2.18	1.54	2.12	1.87	1.28	1.51
55.00°	1.37	1.17	1.12	1.19	1.34	1.40	1.51	1.06	1.70	1.29	1.61	1.36	1.20	2.05	1.29	1.13	1.37
57.50°	1.15	1.14	1.29	1.28	1.68	1.30	1.51	1.33	1.66	1.09	1.58	1.18	1.19	1.77	1.23	1.35	1.15
60.00°	0.96	1.36	1.45	1.22	1.30	1.21	1.46	1.54	1.57	0.91	1.59	1.11	1.33	1.50	1.28	1.43	0.96
62.50°	0.91	1.75	1.55	1.08	0.80	1.15	1.40	1.23	1.38	1.08	1.68	1.45	1.30	1.35	1.18	1.35	0.91
65.00°	0.89	1.44	1.56	1.18	0.86	1.12	1.39	1.00	1.25	1.25	1.64	1.85	1.20	1.21	1.06	1.28	0.89
67.50°	1.08	0.73	1.35	1.37	0.99	1.13	1.39	1.23	1.17	1.08	1.33	1.61	1.16	1.15	1.10	1.23	1.08
70.00°	1.21	0.66	1.22	1.23	1.01	1.12	1.39	1.43	1.15	0.92	1.07	1.31	1.15	1.14	1.17	1.13	1.21
72.50°	1.05	0.94	1.25	0.96	1.02	1.08	1.40	1.37	1.19	1.04	0.92	1.06	1.00	1.38	1.07	1.01	1.05
75.00°	1.01	1.11	1.21	0.98	1.14	1.22	1.29	1.38	1.19	1.15	0.88	0.81	0.81	1.53	0.96	1.05	1.01
77.50°	1.44	1.23	1.01	1.08	1.28	1.53	1.14	1.67	1.15	1.06	1.02	0.98	0.96	1.32	1.01	1.24	1.44
80.00°	1.73	1.27	0.88	0.97	1.28	1.53	1.43	1.90	1.14	1.00	1.07	1.17	1.21	1.15	1.09	1.32	1.73
82.50°	1.52	1.28	0.85	0.79	1.28	1.28	1.80	1.89	1.16	1.32	0.99	1.31	1.15	1.13	1.09	1.33	1.52
85.00°	1.40	1.35	0.87	0.77	1.15	1.19	1.39	1.80	1.19	1.60	0.96	1.46	1.02	1.08	1.10	1.19	1.40
87.50°	1.51	1.45	0.99	0.78	1.02	1.23	0.82	1.46	1.21	1.42	0.99	1.23	1.06	0.94	1.00	0.94	1.51
90.00°	1.52	1.34	1.13	1.10	1.13	1.14	0.95	1.18	1.27	1.27	1.02	1.00	1.14	0.96	0.90	0.99	1.52
92.50°	1.23	1.17	1.32	1.47	1.22	0.95	1.18	1.09	1.35	1.32	1.06	1.17	1.03	1.43	0.86	1.22	1.23
95.00°	1.06	1.11	1.36	1.43	1.10	0.98	1.13	1.08	1.31	1.37	1.04	1.32	0.88	1.70	0.82	1.15	1.06
97.50°	1.14	1.09	1.20	1.33	0.98	1.13	1.04	1.29	1.19	1.38	0.94	1.15	1.00	1.45	1.05	0.91	1.14
100.00°	1.15	1.01	1.02	1.12	0.88	1.19	0.98	1.42	1.19	1.36	0.96	1.01	1.15	1.30	1.27	0.98	1.15
102.50°	1.01	0.91	0.82	0.90	0.80	1.22	0.93	1.36	1.26	1.22	1.10	1.11	1.17	1.35	1.22	1.20	1.01
105.00°	0.92	1.28	0.84	0.96	0.91	1.19	1.26	1.33	1.24	1.11	1.22	1.20	1.18	1.44	1.17	1.18	0.92

### 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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1020	1020	1020	1020	995	995	995	995	949	949	949	907	907	907	869	869	869	850
	1	986	968	952	938	965	949	935	922	914	903	893	881	873	865	851	845	839	828
	2	955	925	900	879	937	910	888	869	882	865	849	857	843	830	833	822	812	806
	3	927	888	859	835	911	877	850	828	854	832	814	834	816	801	815	801	788	785
	4	900	856	824	799	886	847	817	794	829	804	784	812	792	775	797	780	766	766
	5	876	828	794	769	864	820	789	766	806	779	759	792	770	752	780	760	745	747
	6	853	802	768	744	842	796	764	741	784	756	736	773	749	731	762	742	726	730
	7	831	779	745	721	822	774	742	719	764	736	715	755	730	712	746	724	708	713
	8	811	758	724	701	802	753	722	700	745	717	697	737	712	694	730	708	691	697
	9	792	738	705	683	784	734	703	682	727	699	680	721	696	678	715	692	675	682
	10	774	720	688	667	767	717	686	666	711	683	664	705	680	662	700	677	660	668

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	164.4 fc	2.1 ft
6.5 ft	117.7 fc	2.5 ft
7.5 ft	88.4 fc	2.9 ft
8.0 ft	77.7 fc	3.1 ft
10.0 ft	49.7 fc	3.9 ft
12.0 ft	34.5 fc	4.6 ft
14.0 ft	25.4 fc	5.4 ft
16.0 ft	19.4 fc	6.2 ft
20.0 ft	12.4 fc	7.7 ft
24.0 ft	8.6 fc	9.3 ft
28.0 ft	6.3 fc	10.8 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1545724	1545724	1545724
<b>45.00°</b>	1725	1502	1868
<b>55.00°</b>	742	605	728
<b>65.00°</b>	657	1148	632
<b>75.00°</b>	1211	1447	1373
<b>85.00°</b>	4986	3108	4105

### 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	-3.8	-5.2	-4.3	-4.8	-4.0	-3.6
	3H	-2.6	-1.8	-2.2	-1.5	-1.1	-1.9	-1.2	-1.5	-0.8	-0.4
	4H	-0.9	-0.2	-0.5	0.2	0.6	-0.6	0.1	-0.2	0.5	0.9
	6H	2.4	3.1	2.8	3.5	3.9	1.7	2.4	2.2	2.8	3.2
	8H	3.9	4.5	4.4	4.9	5.4	3.0	3.6	3.4	4.0	4.4
	12H	5.3	5.9	5.8	6.3	6.7	4.2	4.8	4.7	5.2	5.6
4H	2H	-4.2	-3.5	-3.7	-3.1	-2.7	-3.7	-3.0	-3.3	-2.6	-2.2
	3H	-1.4	-0.8	-0.9	-0.3	0.1	-0.6	0.0	-0.2	0.4	0.8
	4H	0.5	1.0	1.0	1.5	1.9	0.9	1.4	1.3	1.9	2.3
	6H	3.8	4.3	4.3	4.8	5.2	3.4	3.9	3.9	4.3	4.8
	8H	5.4	5.8	5.9	6.3	6.8	4.7	5.2	5.2	5.6	6.1
	12H	6.9	7.3	7.4	7.8	8.3	6.1	6.4	6.6	6.9	7.4
8H	4H	1.3	1.7	1.8	2.2	2.7	1.7	2.1	2.2	2.5	3.0
	6H	4.7	5.0	5.2	5.5	6.0	4.5	4.9	5.1	5.4	5.9
	8H	6.4	6.7	7.0	7.2	7.8	6.1	6.3	6.6	6.9	7.4
	12H	8.2	8.4	8.7	8.9	9.5	7.6	7.9	8.2	8.4	9.0
12H	4H	1.5	1.8	2.0	2.3	2.8	2.0	2.4	2.5	2.9	3.4
	6H	4.9	5.2	5.4	5.6	6.2	5.0	5.3	5.5	5.8	6.3
	8H	6.7	6.9	7.2	7.5	8.1	6.6	6.9	7.2	7.4	8.0

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0