

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 835 07 xx xx RD2SP RB2BSA1 xx xx  
2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel

#### Test Number

SP-01586

#### Test Date

9/27/2023

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

### Summary of Results

#### Power

Input Watts	6.9 W
-------------	-------

#### Lumen Output

Output Lumens	699
Efficacy	101.3 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

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

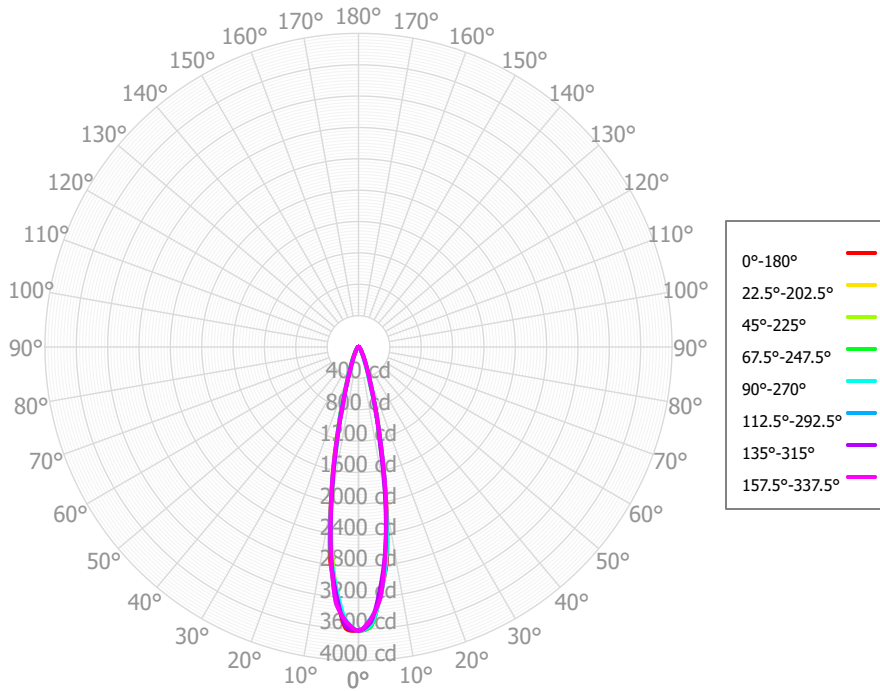
#### Full Beam Angle

0° - 180°	22°
90° - 270°	21°

### IES File Header Contents

Keyword	Value
TEST	SP-01586
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 07 xx xx RD2SP RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel
OTHER	Beam Angle: 21 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°	267.69	38.30%	90.00° - 100.00°	1.44	0.21%
10.00° - 20.00°	246.48	35.26%	100.00° - 110.00°	1.44	0.21%
20.00° - 30.00°	83.21	11.90%	100.00° - 120.00°	2.69	0.38%
30.00° - 40.00°	37.11	5.31%	120.00° - 130.00°	0.90	0.13%
40.00° - 50.00°	24.28	3.47%	130.00° - 140.00°	0.66	0.09%
50.00° - 60.00°	16.55	2.37%	140.00° - 150.00°	0.55	0.08%
60.00° - 70.00°	9.89	1.42%	150.00° - 160.00°	0.42	0.06%
70.00° - 80.00°	4.69	0.67%	160.00° - 170.00°	0.26	0.04%
80.00° - 90.00°	2.06	0.29%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	691.96	99.00%	0.00° - 180.00°	698.96	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°	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83	3618.83
2.50°	3568.64	3501.44	3521.63	3571.25	3553.82	3504.30	3574.40	3512.40	3600.36	3511.88	3521.12	3535.94	3510.42	3474.78	3521.88	3483.60	3568.64
5.00°	3172.64	3196.94	3199.33	3177.80	3191.48	3283.52	3192.15	3284.73	3191.84	3243.94	3148.48	3172.78	3133.41	3210.07	3114.15	3213.42	3172.64
7.50°	2763.51	2646.43	2701.60	2693.47	2727.93	2671.08	2706.87	2683.19	2758.34	2704.66	2611.54	2713.77	2679.09	2617.48	2619.23	2626.17	2763.51
10.00°	2034.41	2029.50	1978.08	2004.04	2006.22	2013.77	1970.14	2022.14	2033.18	2025.18	1970.83	2000.18	2005.23	2014.37	1961.96	2023.94	2034.41
12.50°	1328.71	1334.27	1357.11	1275.89	1356.35	1379.42	1317.83	1390.80	1340.05	1421.90	1281.52	1362.81	1287.39	1373.42	1270.03	1377.29	1328.71
15.00°	905.65	835.03	849.81	851.52	857.57	746.60	835.95	762.64	891.10	851.28	850.79	891.84	881.57	831.81	872.98	841.22	905.65
17.50°	515.57	534.96	515.09	467.86	482.05	511.45	475.86	519.35	489.97	555.00	521.58	531.72	520.85	575.66	522.08	572.37	515.57
20.00°	374.08	341.40	342.95	327.14	326.33	288.91	324.63	300.49	353.67	356.61	355.40	373.17	375.90	366.08	373.76	360.10	374.08
22.50°	245.20	239.81	231.47	207.87	210.16	216.69	213.25	227.17	232.45	252.69	241.06	250.65	251.15	267.68	247.52	260.98	245.20
25.00°	183.57	170.35	168.52	157.27	153.34	146.61	159.45	157.31	174.07	176.35	177.10	184.05	189.21	186.52	186.58	181.59	183.57
27.50°	128.17	124.77	123.37	109.57	109.44	112.65	116.92	121.71	122.75	131.42	125.77	131.94	130.48	139.46	129.64	135.73	128.17
30.00°	98.51	93.03	90.46	86.42	81.94	80.49	88.18	87.22	94.50	93.63	96.20	98.84	99.63	101.21	100.90	99.56	98.51
32.50°	72.67	69.97	68.60	63.83	61.67	65.91	67.95	70.67	70.42	74.28	70.87	74.02	69.63	77.78	73.07	77.47	72.67
35.00°	59.23	55.72	53.25	53.62	49.31	52.32	56.68	55.03	57.56	58.06	58.04	58.57	57.13	59.68	61.27	60.80	59.23
37.50°	48.14	46.10	43.99	43.75	41.22	45.41	48.13	48.06	46.87	49.45	47.02	47.79	45.21	49.11	49.79	50.81	48.14
40.00°	43.35	40.25	37.71	38.11	37.17	39.07	42.07	41.42	40.94	41.76	41.63	41.50	40.88	41.09	43.21	43.12	43.35
42.50°	38.39	36.09	32.83	32.62	33.13	35.50	36.76	36.91	35.56	36.39	36.76	36.23	36.56	36.13	36.82	37.82	38.39
45.00°	33.09	31.67	28.51	28.27	29.11	31.83	32.05	32.27	31.20	31.19	31.84	31.79	32.33	31.67	32.18	32.62	33.09
47.50°	28.26	27.16	24.93	24.22	25.36	27.83	28.36	27.03	27.45	27.33	26.92	27.77	28.12	27.71	27.72	27.49	28.26
50.00°	24.31	23.28	21.58	21.90	21.80	24.26	25.33	22.58	24.66	23.52	23.91	24.03	23.96	24.12	24.42	23.42	24.31
52.50°	21.05	19.59	19.06	19.79	19.70	22.02	22.20	21.03	21.86	21.08	20.92	21.11	20.21	20.85	21.22	20.15	21.05
55.00°	18.88	17.50	16.75	18.54	18.43	19.70	19.02	19.15	19.04	18.67	17.65	18.68	18.22	18.81	18.55	17.63	18.88
57.50°	16.30	15.78	14.81	16.89	16.87	17.17	16.38	16.28	16.36	16.78	14.49	16.49	16.27	17.68	16.00	15.60	16.30
60.00°	13.17	13.51	12.95	13.95	15.16	14.62	14.00	13.71	13.83	14.79	12.79	14.42	14.42	15.73	13.92	13.65	13.17
62.50°	10.82	11.14	11.85	11.26	12.22	12.00	11.60	11.86	11.54	11.70	11.06	12.29	12.48	13.26	11.91	11.74	10.82
65.00°	9.35	9.71	10.86	9.27	8.78	9.68	9.21	10.26	9.48	8.87	8.97	10.13	10.30	11.03	10.11	10.06	9.35
67.50°	8.23	8.40	8.62	7.46	7.38	7.89	7.68	9.12	7.99	7.81	7.05	8.73	8.33	8.93	8.28	8.48	8.23
70.00°	7.45	6.54	6.25	6.03	6.66	6.43	6.43	7.67	6.96	6.74	6.12	7.59	6.85	7.11	6.42	6.67	7.45
72.50°	6.04	4.62	5.49	4.89	5.40	5.47	5.51	5.66	5.68	5.56	5.19	6.42	5.53	5.43	4.89	4.77	6.04
75.00°	4.09	3.59	4.84	4.29	4.00	4.43	4.68	4.29	4.21	4.44	4.26	5.23	4.55	4.20	4.02	3.94	4.09
77.50°	3.09	2.60	3.60	3.62	3.03	3.32	3.50	3.83	3.34	3.60	3.31	3.90	3.59	3.15	3.27	3.45	3.09
80.00°	2.75	2.32	2.36	2.85	2.16	2.46	2.24	3.17	2.83	2.79	2.27	2.55	2.69	2.92	2.70	3.18	2.75
82.50°	2.36	2.05	1.99	2.22	2.05	1.87	1.89	2.25	2.31	2.11	1.48	2.10	2.06	2.93	2.23	2.97	2.36
85.00°	1.93	1.84	1.63	1.79	2.06	1.62	1.67	1.68	1.78	1.59	1.37	1.81	1.81	2.27	1.89	2.36	1.93
87.50°	1.53	1.62	1.46	1.42	1.58	1.67	1.60	1.46	1.52	1.44	1.33	1.69	1.63	1.46	1.60	1.68	1.53
90.00°	1.13	1.34	1.31	1.11	1.06	1.63	1.53	1.50	1.36	1.33	1.46	1.59	1.53	1.33	1.35	1.70	1.13
92.50°	0.99	1.10	1.39	0.99	1.08	1.50	1.34	1.77	1.45	1.27	1.49	1.49	1.40	1.34	1.16	1.83	0.99
95.00°	0.95	1.24	1.45	1.06	1.13	1.42	1.13	1.63	1.61	1.21	1.36	1.38	1.24	1.20	1.04	1.79	0.95
97.50°	1.22	1.35	1.38	1.12	1.39	1.35	1.29	1.18	1.46	1.13	1.28	1.39	1.21	1.04	1.06	1.74	1.22
100.00°	1.59	1.24	1.34	1.20	1.65	1.30	1.44	1.02	1.21	1.17	1.27	1.41	1.31	1.27	1.21	1.58	1.59
102.50°	1.33	1.18	1.47	1.15	1.56	1.26	1.42	1.07	1.32	1.38	1.34	1.57	1.45	1.53	1.36	1.41	1.33
105.00°	0.89	1.28	1.58	1.03	1.49	1.25	1.40	1.26	1.51	1.44	1.50	1.71	1.62	1.28	1.52	1.23	0.89

### 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>	830	830	830	830	810	810	810	810	773	773	773	738	738	738	707	707	692
	<b>1</b>	798	781	766	753	780	766	752	740	736	726	716	709	701	694	685	679	665
	<b>2</b>	768	739	716	696	752	727	706	688	704	687	672	682	669	657	663	652	639
	<b>3</b>	740	703	675	653	726	693	668	647	675	653	636	658	640	625	642	627	615
	<b>4</b>	714	672	641	618	702	664	636	614	649	625	606	635	615	599	622	605	594
	<b>5</b>	690	645	613	590	680	638	609	587	626	601	581	615	593	576	604	585	575
	<b>6</b>	669	621	589	566	659	616	586	564	606	579	560	596	573	556	587	567	558
	<b>7</b>	649	600	568	546	641	595	565	544	587	560	541	579	555	538	571	551	542
	<b>8</b>	630	581	549	528	623	577	547	527	570	543	524	563	539	522	557	536	527
	<b>9</b>	613	563	533	512	607	560	531	511	554	528	509	548	525	508	543	521	514
	<b>10</b>	597	548	518	498	592	545	516	497	540	514	496	535	511	494	530	508	501

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	119.6 fc	2.1 ft
6.5 ft	85.7 fc	2.5 ft
7.5 ft	64.3 fc	2.9 ft
8.0 ft	56.5 fc	3.1 ft
10.0 ft	36.2 fc	3.8 ft
12.0 ft	25.1 fc	4.6 ft
14.0 ft	18.5 fc	5.3 ft
16.0 ft	14.1 fc	6.1 ft
20.0 ft	9.0 fc	7.6 ft
24.0 ft	6.3 fc	9.2 ft
28.0 ft	4.6 fc	10.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1124629	1124629	1124629
<b>45.00°</b>	14545	12531	12792
<b>55.00°</b>	10228	9076	9986
<b>65.00°</b>	6872	7988	6455
<b>75.00°</b>	4913	5807	4799
<b>85.00°</b>	6894	5817	7345

### 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	12.8	13.8	13.2	14.2	14.5	13.3	14.2	13.6	14.6	14.9
	3H	14.0	14.9	14.4	15.2	15.6	14.2	15.1	14.6	15.5	15.8
	4H	14.3	15.1	14.7	15.5	15.9	14.6	15.4	15.0	15.8	16.2
	6H	14.5	15.2	14.9	15.6	16.1	14.8	15.5	15.2	15.9	16.3
	8H	14.6	15.3	15.1	15.7	16.2	14.8	15.5	15.3	16.0	16.4
	12H	14.8	15.4	15.2	15.8	16.3	15.0	15.6	15.4	16.0	16.5
4H	2H	13.2	14.0	13.6	14.4	14.8	13.4	14.2	13.9	14.6	15.0
	3H	14.5	15.1	14.9	15.6	16.0	14.6	15.3	15.1	15.7	16.1
	4H	14.8	15.4	15.3	15.9	16.3	15.1	15.7	15.6	16.1	16.6
	6H	15.2	15.7	15.6	16.1	16.6	15.4	15.9	15.9	16.4	16.9
	8H	15.3	15.8	15.8	16.3	16.8	15.5	16.0	16.0	16.5	17.0
	12H	15.6	16.0	16.1	16.5	17.0	15.7	16.1	16.2	16.6	17.1
8H	4H	14.9	15.4	15.4	15.9	16.4	15.2	15.7	15.7	16.1	16.6
	6H	15.4	15.7	15.9	16.3	16.8	15.6	16.0	16.1	16.5	17.0
	8H	15.7	16.0	16.2	16.6	17.1	15.8	16.1	16.3	16.7	17.2
	12H	16.1	16.4	16.6	16.9	17.5	16.1	16.4	16.6	16.9	17.5
12H	4H	14.9	15.3	15.4	15.8	16.3	15.2	15.6	15.7	16.1	16.6
	6H	15.4	15.7	15.9	16.2	16.8	15.6	15.9	16.1	16.4	17.0
	8H	15.8	16.1	16.3	16.6	17.2	15.8	16.1	16.4	16.6	17.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0