

## 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 RD2FL RB2BD xx RA2HL

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

#### Test Number

SP-01583

#### 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
-------------	-------

#### Lumen Output

Output Lumens	539
Efficacy	78.05 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

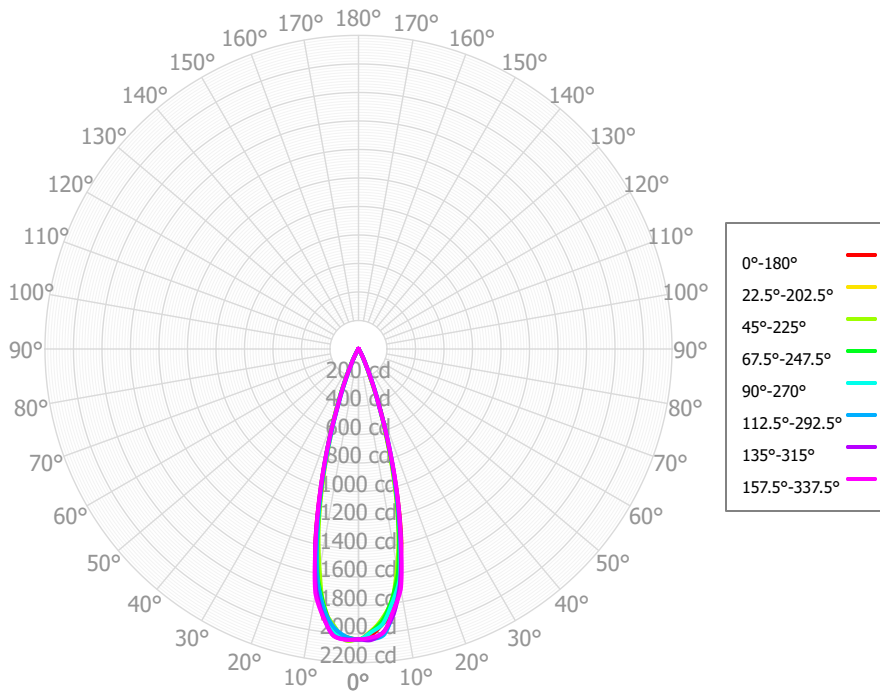
#### Full Beam Angle

0° - 180°	30°
90° - 270°	30°

### IES File Header Contents

Keyword	Value
TEST	SP-01583
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 07 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°	179.48	33.33%	90.00° - 100.00°	0.98	0.18%
10.00° - 20.00°	268.08	49.78%	100.00° - 110.00°	0.91	0.17%
20.00° - 30.00°	72.20	13.41%	100.00° - 120.00°	1.79	0.33%
30.00° - 40.00°	8.21	1.52%	120.00° - 130.00°	0.78	0.15%
40.00° - 50.00°	1.13	0.21%	130.00° - 140.00°	0.74	0.14%
50.00° - 60.00°	0.80	0.15%	140.00° - 150.00°	0.65	0.12%
60.00° - 70.00°	0.90	0.17%	150.00° - 160.00°	0.49	0.09%
70.00° - 80.00°	0.96	0.18%	160.00° - 170.00°	0.30	0.06%
80.00° - 90.00°	0.98	0.18%	170.00° - 180.00°	0.09	0.02%
0.00° - 90.00°	532.72	98.92%	0.00° - 180.00°	538.55	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°	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22	2038.22
2.50°	2009.17	1981.15	1990.49	1987.11	1990.65	2019.75	2039.53	2042.21	2042.54	2020.42	2047.26	2023.08	2032.42	2038.43	2044.01	2026.86	2009.17
5.00°	1938.25	1904.54	1899.88	1914.61	1938.57	1962.67	2018.96	2019.88	1992.11	1978.82	1950.97	1991.32	1999.67	2016.20	1993.92	1998.87	1938.25
7.50°	1858.26	1782.65	1788.79	1779.63	1800.91	1848.35	1892.35	1897.86	1898.83	1824.74	1846.08	1829.39	1847.56	1871.04	1881.20	1857.38	1858.26
10.00°	1633.91	1591.26	1555.82	1595.36	1650.40	1655.75	1712.31	1742.14	1667.13	1626.80	1571.30	1635.57	1654.85	1680.04	1676.39	1710.54	1633.91
12.50°	1389.56	1295.14	1303.96	1302.13	1343.84	1340.65	1399.45	1390.78	1399.86	1322.60	1290.96	1327.67	1337.27	1365.52	1360.58	1377.23	1389.56
15.00°	1039.68	985.54	968.62	998.66	1021.85	1013.48	1030.20	1043.96	1039.71	984.19	971.22	998.09	1021.68	1013.13	1029.95	1044.09	1039.68
17.50°	680.49	658.53	654.40	676.32	709.76	670.11	717.59	716.76	715.98	704.68	657.09	716.59	711.09	709.62	683.93	714.48	680.49
20.00°	439.91	401.26	414.36	409.98	398.23	406.15	424.61	426.83	470.48	440.16	445.03	441.59	444.05	418.14	422.94	400.33	439.91
22.50°	204.79	221.72	213.20	231.53	248.57	232.61	257.51	265.48	271.54	278.88	243.79	283.69	268.27	259.60	237.03	250.49	204.79
25.00°	129.57	109.99	123.48	109.07	103.62	119.40	125.99	133.01	157.33	137.59	152.98	135.76	136.35	125.79	125.82	113.91	129.57
27.50°	57.28	62.47	54.04	60.92	64.63	64.57	72.36	80.53	75.82	82.35	70.28	85.90	81.16	76.91	71.41	71.79	57.28
30.00°	36.81	33.06	32.08	29.17	27.48	31.63	35.79	38.85	45.08	39.42	43.76	40.29	41.20	39.20	38.63	34.37	36.81
32.50°	17.33	18.21	15.30	16.16	16.55	16.96	20.47	22.10	23.07	23.65	20.34	25.50	24.01	23.93	19.74	20.91	17.33
35.00°	10.27	9.44	8.58	7.98	6.54	8.47	8.68	9.81	12.54	10.49	12.40	11.23	12.08	10.60	10.00	9.42	10.27
37.50°	3.87	4.89	3.94	4.50	4.59	4.42	4.96	6.10	5.82	6.16	5.68	6.87	6.82	6.56	5.27	5.76	3.87
40.00°	2.75	2.68	2.74	2.40	2.81	2.42	2.15	3.33	3.36	2.26	3.72	2.78	3.36	2.92	2.97	2.74	2.75
42.50°	1.73	1.87	1.79	1.46	2.05	1.64	1.49	2.07	1.84	1.66	2.12	1.94	1.88	2.16	1.77	1.76	1.73
45.00°	1.31	1.34	1.19	1.01	1.40	1.26	0.99	1.22	1.21	1.09	1.62	1.20	1.15	1.43	1.37	1.03	1.31
47.50°	0.96	0.94	0.89	0.90	1.19	1.07	0.89	0.94	0.90	0.91	1.21	1.27	1.10	1.11	1.27	0.98	0.96
50.00°	0.93	0.80	0.97	0.85	1.03	0.94	0.80	0.82	0.85	0.75	1.02	1.27	1.02	0.83	1.09	0.90	0.93
52.50°	0.92	0.76	0.98	0.84	1.01	0.83	0.82	0.90	0.88	0.85	0.93	0.99	0.91	0.90	0.89	0.77	0.92
55.00°	0.95	0.72	0.92	0.81	0.99	0.90	0.86	0.91	0.96	0.92	1.05	0.77	0.85	0.95	0.84	0.75	0.95
57.50°	0.97	0.68	0.83	0.79	0.94	1.04	0.97	0.87	0.96	0.82	1.07	0.88	0.83	0.80	0.82	0.90	0.97
60.00°	0.94	0.90	0.70	0.76	0.89	0.93	1.07	0.81	0.91	0.74	0.93	0.95	0.81	0.72	0.79	0.97	0.94
62.50°	0.94	1.18	0.86	0.73	0.84	0.75	1.07	0.75	0.96	0.82	0.87	0.91	0.79	1.02	0.77	0.94	0.94
65.00°	1.00	0.97	1.23	0.78	0.81	0.83	1.05	0.79	1.07	0.89	0.94	0.86	0.92	1.20	0.82	0.89	1.00
67.50°	0.97	0.66	1.17	0.87	0.80	0.98	0.91	0.90	1.10	0.88	0.98	0.78	1.12	0.92	0.88	0.81	0.97
70.00°	0.81	0.73	0.83	0.92	0.81	0.99	0.82	0.90	1.10	0.89	1.00	0.73	1.12	0.74	0.85	0.82	0.81
72.50°	0.72	0.87	0.69	0.97	0.85	0.98	1.04	0.82	1.02	0.96	0.98	0.76	1.04	0.90	0.81	0.94	0.72
75.00°	0.78	1.02	0.65	0.93	0.84	1.05	1.20	0.84	0.91	0.99	0.91	0.79	0.89	1.00	0.80	1.00	0.78
77.50°	0.81	1.18	0.75	0.86	0.77	1.12	1.11	0.93	0.99	0.87	0.84	0.84	0.71	0.94	0.79	1.01	0.81
80.00°	0.82	1.10	0.91	0.98	0.77	1.01	1.02	0.88	1.12	0.85	0.76	0.83	0.81	0.93	0.83	0.95	0.82
82.50°	0.87	1.00	0.93	1.14	0.83	0.89	0.91	0.78	1.03	1.04	0.75	0.73	0.99	1.04	0.88	0.83	0.87
85.00°	0.96	0.90	0.91	0.97	0.83	0.91	0.84	0.81	0.88	1.12	0.80	0.71	0.92	1.07	0.92	0.78	0.96
87.50°	0.97	0.81	0.96	0.77	0.77	0.94	0.90	0.89	0.87	0.99	0.77	0.81	0.80	0.96	0.94	0.77	0.97
90.00°	0.90	0.80	1.03	0.80	0.83	0.99	0.93	0.93	0.87	0.90	0.70	0.86	0.85	0.87	0.90	0.89	0.90
92.50°	0.91	0.78	1.00	0.86	1.00	1.03	0.89	0.96	0.88	0.85	0.80	0.85	0.93	0.81	0.86	1.08	0.91
95.00°	0.98	0.73	0.96	0.98	1.00	0.92	0.86	0.90	0.89	0.83	1.00	0.96	0.93	0.85	0.85	1.04	0.98
97.50°	0.95	0.70	0.81	1.10	0.85	0.83	0.81	0.82	0.82	0.84	0.98	1.19	0.92	1.02	0.85	0.90	0.95
100.00°	0.83	0.77	0.65	0.89	0.78	0.94	0.79	0.94	0.75	0.81	0.86	1.20	0.89	1.06	0.82	0.94	0.83
102.50°	0.76	0.83	0.73	0.69	0.76	1.03	0.80	1.10	0.77	0.76	0.84	1.03	0.85	0.94	0.81	1.06	0.76
105.00°	0.73	0.84	0.85	0.82	0.76	0.93	0.78	0.97	0.79	0.78	0.87	0.95	0.85	0.90	0.88	0.97	0.73

### 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>	640	640	640	640	624	624	624	624	595	595	595	569	569	569	544	544	533
	<b>1</b>	618	606	596	586	604	594	585	577	572	564	558	551	545	540	532	528	517
	<b>2</b>	597	578	562	548	586	569	554	542	551	539	529	535	525	517	519	512	502
	<b>3</b>	579	554	534	519	569	546	529	515	532	518	506	519	507	498	507	498	488
	<b>4</b>	561	532	511	495	552	526	507	492	515	499	486	505	491	480	495	484	475
	<b>5</b>	545	513	492	475	537	509	488	473	499	482	469	491	476	464	483	470	462
	<b>6</b>	529	496	474	458	523	492	472	456	485	467	453	477	462	450	471	457	450
	<b>7</b>	515	481	458	443	509	477	456	442	471	452	439	465	449	437	459	445	438
	<b>8</b>	501	466	444	429	496	463	443	428	458	439	426	453	436	424	448	433	427
	<b>9</b>	488	453	431	416	483	450	430	416	446	427	414	441	425	413	437	422	416
	<b>10</b>	476	440	419	405	471	438	418	404	434	416	403	430	414	402	427	412	406

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	67.4 fc	3.0 ft
6.5 ft	48.2 fc	3.5 ft
7.5 ft	36.2 fc	4.1 ft
8.0 ft	31.8 fc	4.3 ft
10.0 ft	20.4 fc	5.4 ft
12.0 ft	14.2 fc	6.5 ft
14.0 ft	10.4 fc	7.6 ft
16.0 ft	8.0 fc	8.6 ft
20.0 ft	5.1 fc	10.8 ft
24.0 ft	3.5 fc	13.0 ft
28.0 ft	2.6 fc	15.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	633420	633420	633420
<b>45.00°</b>	574	522	615
<b>55.00°</b>	515	500	536
<b>65.00°</b>	733	904	593
<b>75.00°</b>	931	779	1008
<b>85.00°</b>	3432	3252	2972

### 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	-5.3	-4.9	-5.6	-4.7	-5.2	-4.4	-4.1
	3H	-3.0	-2.2	-2.6	-1.9	-1.5	-2.3	-1.5	-1.8	-1.1	-0.7
	4H	-1.1	-0.4	-0.7	0.0	0.4	-0.5	0.2	-0.1	0.6	1.0
	6H	1.1	1.8	1.6	2.2	2.6	1.2	1.9	1.7	2.3	2.7
	8H	2.3	2.9	2.8	3.3	3.8	2.4	3.0	2.9	3.4	3.9
	12H	3.8	4.4	4.2	4.8	5.2	3.7	4.3	4.2	4.7	5.2
4H	2H	-5.0	-4.3	-4.5	-3.9	-3.5	-4.5	-3.8	-4.1	-3.4	-3.0
	3H	-1.7	-1.1	-1.2	-0.6	-0.2	-1.0	-0.5	-0.6	0.0	0.4
	4H	0.6	1.1	1.1	1.6	2.1	0.9	1.5	1.4	1.9	2.4
	6H	3.1	3.5	3.6	4.0	4.5	2.9	3.4	3.4	3.9	4.4
	8H	4.2	4.7	4.7	5.1	5.6	4.1	4.5	4.6	5.0	5.5
	12H	5.7	6.0	6.2	6.6	7.1	5.5	5.8	6.0	6.3	6.8
8H	4H	1.3	1.7	1.8	2.2	2.7	1.8	2.2	2.3	2.7	3.2
	6H	4.1	4.4	4.6	5.0	5.5	4.1	4.4	4.6	4.9	5.4
	8H	5.5	5.8	6.1	6.3	6.9	5.3	5.6	5.9	6.2	6.7
	12H	7.1	7.4	7.7	7.9	8.5	6.9	7.1	7.4	7.6	8.3
12H	4H	1.6	1.9	2.1	2.4	2.9	2.0	2.4	2.5	2.9	3.4
	6H	4.4	4.7	5.0	5.2	5.8	4.4	4.7	4.9	5.1	5.7
	8H	6.0	6.2	6.5	6.7	7.3	5.8	6.0	6.3	6.5	7.1

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0