

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 835 13 xx xx RD2FL RB2BS xx RA2LS

2" Adjustable Track Luminaire with flood optic, difusing lens and standard  
bezel

#### Test Number

SP-01592\_2

#### Test Date

9/27/2023

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

### Summary of Results

#### Power

Input Watts	14.4 W
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#### Lumen Output

Output Lumens	1279
Efficacy	88.79 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.54
Two luminaires, plane 90°	0.55
Four luminaires	0.53

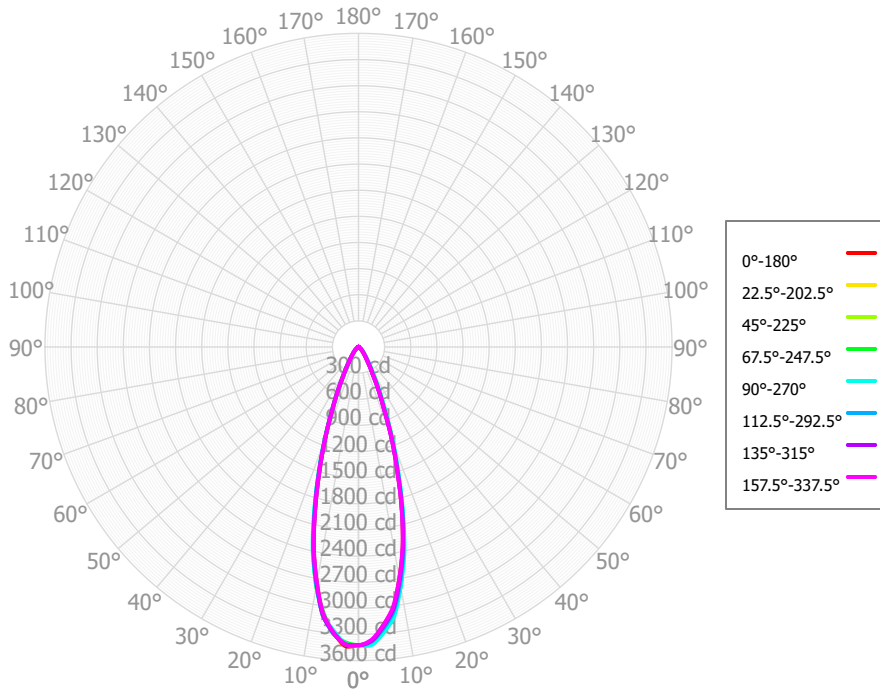
#### Full Beam Angle

0° - 180°	32°
90° - 270°	33°

### IES File Header Contents

Keyword	Value
TEST	SP-01592_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/03/2023
LUMCAT	STR2 835 13 xx xx RD2FL RB2BS xx RA2LS
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, difusing lens and standard bezel
OTHER	Beam Angle: 33 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
_CRI	80+
_CCTMULT	822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
_CCTMULTA	927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87
_LAMPMULT	07L x .55, 10L x .75

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	299.70	23.44%	90.00° - 100.00°	1.35	0.11%
10.00° - 20.00°	519.81	40.66%	100.00° - 110.00°	1.32	0.10%
20.00° - 30.00°	268.54	21.00%	100.00° - 120.00°	2.60	0.20%
30.00° - 40.00°	102.44	8.01%	120.00° - 130.00°	1.20	0.09%
40.00° - 50.00°	48.61	3.80%	130.00° - 140.00°	1.08	0.08%
50.00° - 60.00°	21.37	1.67%	140.00° - 150.00°	0.97	0.08%
60.00° - 70.00°	6.33	0.50%	150.00° - 160.00°	0.74	0.06%
70.00° - 80.00°	1.85	0.14%	160.00° - 170.00°	0.44	0.03%
80.00° - 90.00°	1.39	0.11%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	1270.04	99.33%	0.00° - 180.00°	1278.56	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°	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89	3423.89
2.50°	3385.67	3381.46	3405.88	3393.24	3425.07	3415.12	3420.43	3416.33	3437.82	3416.98	3419.10	3395.48	3410.55	3386.45	3379.08	3367.51	3385.67
5.00°	3213.91	3227.36	3251.55	3291.30	3292.35	3300.07	3297.16	3289.67	3283.61	3285.50	3278.42	3308.53	3269.98	3248.91	3228.02	3213.21	3213.91
7.50°	3039.01	3038.49	3084.57	3074.87	3125.92	3111.61	3111.28	3094.54	3118.67	3097.10	3111.75	3078.93	3112.00	3069.08	3043.00	3019.49	3039.01
10.00°	2698.00	2710.27	2733.38	2791.29	2788.79	2778.96	2762.60	2751.01	2752.85	2755.00	2760.30	2794.20	2777.87	2753.07	2718.34	2700.42	2698.00
12.50°	2354.14	2344.46	2369.84	2375.35	2429.30	2402.93	2381.77	2370.62	2380.76	2380.20	2393.66	2390.49	2423.20	2384.20	2354.92	2338.38	2354.14
15.00°	1918.00	1918.87	1927.83	1950.62	1971.40	1948.95	1924.18	1917.34	1926.27	1925.45	1934.36	1945.26	1972.48	1950.29	1921.27	1913.52	1918.00
17.50°	1485.38	1479.06	1482.31	1510.05	1529.92	1520.29	1492.88	1491.49	1480.73	1494.93	1489.51	1522.09	1512.60	1493.59	1470.39	1469.33	1485.38
20.00°	1119.56	1120.34	1129.59	1121.10	1153.09	1133.36	1118.66	1115.25	1124.60	1118.21	1120.06	1105.82	1138.89	1117.01	1098.95	1100.16	1119.56
22.50°	764.43	778.48	779.27	817.49	811.60	808.64	794.84	795.80	785.30	793.77	780.49	813.08	771.35	765.64	744.59	751.51	764.43
25.00°	556.93	566.40	580.19	571.23	593.48	578.11	570.87	570.53	580.67	575.16	576.05	554.86	566.47	547.34	535.04	535.82	556.93
27.50°	359.66	377.59	383.53	413.08	403.79	399.38	390.46	393.05	390.31	397.13	392.94	405.18	369.55	366.38	352.42	352.29	359.66
30.00°	268.93	280.16	294.11	290.63	302.74	292.77	288.99	288.34	294.42	294.15	294.50	282.33	280.78	268.87	260.86	256.88	268.93
32.50°	183.87	196.60	206.37	218.65	215.46	211.56	208.08	207.61	206.48	211.59	208.13	213.93	194.95	192.45	183.72	180.46	183.87
35.00°	145.79	153.66	164.47	162.76	166.75	162.94	161.30	160.84	163.06	164.06	164.24	157.33	154.41	148.68	144.82	140.06	145.79
37.50°	109.75	115.83	123.60	127.83	125.07	125.14	123.10	123.41	123.05	125.03	124.97	125.40	114.43	112.14	110.96	106.38	109.75
40.00°	87.68	93.08	100.41	99.96	101.17	100.14	98.11	98.16	99.76	99.36	100.24	98.10	93.72	91.46	89.74	86.37	87.68
42.50°	67.22	71.86	77.87	80.58	79.78	80.36	77.43	78.15	78.27	78.55	78.30	79.38	73.28	73.82	69.86	68.52	67.22
45.00°	56.07	59.21	63.47	64.43	64.13	66.28	62.86	64.45	64.53	64.77	64.23	62.03	60.27	59.65	56.54	56.51	56.07
47.50°	45.33	47.23	49.49	51.87	50.36	53.50	50.45	52.23	51.52	52.44	51.28	50.98	47.43	46.06	43.77	45.26	45.33
50.00°	36.65	37.89	39.52	41.00	40.51	42.04	40.89	41.64	41.26	42.03	41.22	40.77	37.48	36.96	34.90	36.03	36.65
52.50°	28.41	28.69	29.97	31.87	32.08	32.30	32.16	32.30	31.68	32.79	32.09	32.12	27.77	28.47	26.26	27.03	28.41
55.00°	22.14	22.60	23.55	24.62	26.34	24.18	24.43	24.22	24.41	25.00	25.11	23.64	21.15	21.44	19.94	20.26	22.14
57.50°	16.21	16.61	17.39	19.14	20.40	17.63	17.63	17.80	17.72	18.25	18.80	17.59	14.86	14.58	13.70	13.69	16.21
60.00°	11.54	12.47	12.90	14.00	14.12	12.46	11.84	12.95	12.81	12.70	13.92	11.75	11.76	10.34	9.84	10.77	11.54
62.50°	7.49	8.37	8.74	9.16	9.04	8.79	8.00	9.23	8.57	8.66	9.59	8.59	8.69	6.34	6.03	8.08	7.49
65.00°	5.56	6.36	6.35	6.01	5.87	6.33	6.13	6.51	6.17	6.21	6.36	5.61	5.88	4.80	4.75	5.73	5.56
67.50°	3.80	4.36	4.23	4.21	3.67	4.40	4.70	4.37	4.19	4.44	3.88	4.06	3.31	3.43	3.48	3.40	3.80
70.00°	2.55	2.82	3.39	2.92	2.89	2.86	3.69	2.70	3.24	3.33	2.73	2.56	2.32	2.47	2.52	2.48	2.55
72.50°	1.58	1.34	2.58	2.02	2.26	1.99	2.75	1.79	2.41	2.56	1.89	2.06	1.48	1.53	1.60	1.58	1.58
75.00°	1.40	1.24	1.93	1.61	1.84	1.56	1.88	1.45	1.85	2.10	1.55	1.57	1.51	1.28	1.36	1.52	1.40
77.50°	1.25	1.18	1.39	1.52	1.53	1.39	1.46	1.26	1.51	1.75	1.32	1.32	1.49	1.05	1.14	1.45	1.25
80.00°	1.19	1.52	1.25	1.38	1.38	1.40	1.42	1.17	1.61	1.51	1.27	1.07	1.21	1.00	1.37	1.27	1.19
82.50°	1.14	1.84	1.17	1.21	1.29	1.41	1.26	1.06	1.63	1.39	1.26	1.07	1.00	0.95	1.56	1.09	1.14
85.00°	1.12	1.89	1.29	1.23	1.29	1.42	1.02	0.95	1.51	1.36	1.31	1.08	1.05	1.01	1.35	1.27	1.12
87.50°	1.14	1.90	1.37	1.38	1.23	1.42	0.98	1.01	1.37	1.47	1.32	1.24	1.12	1.06	1.14	1.43	1.14
90.00°	1.25	1.46	1.32	1.30	1.11	1.42	1.06	1.18	1.23	1.68	1.27	1.40	1.27	1.12	1.01	1.34	1.25
92.50°	1.32	1.07	1.35	1.12	1.06	1.27	1.07	1.11	1.19	1.55	1.29	1.42	1.39	1.18	0.91	1.26	1.32
95.00°	1.31	1.09	1.61	1.14	1.06	1.06	1.03	0.91	1.31	1.20	1.41	1.43	1.41	1.32	1.07	1.20	1.31
97.50°	1.33	1.12	1.73	1.26	1.15	1.05	1.10	1.03	1.31	1.10	1.36	1.32	1.36	1.44	1.21	1.14	1.33
100.00°	1.38	1.25	1.52	1.42	1.32	1.14	1.23	1.31	1.14	1.14	1.13	1.22	1.06	1.40	1.20	1.03	1.38
102.50°	1.40	1.34	1.39	1.61	1.35	1.15	1.13	1.35	1.11	1.23	1.07	1.23	0.89	1.35	1.19	0.95	1.40
105.00°	1.36	1.23	1.44	1.71	1.27	1.13	0.88	1.29	1.28	1.36	1.20	1.23	1.07	1.16	1.19	1.05	1.36

### 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>	1520	1520	1520	1520	1484	1484	1484	1484	1416	1416	1416	1354	1354	1354	1297	1297	1270
	<b>1</b>	1459	1427	1399	1374	1427	1399	1374	1351	1346	1327	1308	1298	1282	1268	1253	1241	1216
	<b>2</b>	1399	1345	1301	1263	1371	1323	1283	1248	1281	1248	1220	1242	1216	1193	1207	1186	1162
	<b>3</b>	1343	1273	1218	1175	1318	1255	1205	1165	1221	1180	1146	1190	1156	1127	1161	1133	1111
	<b>4</b>	1290	1208	1148	1103	1268	1194	1138	1096	1166	1119	1082	1141	1101	1069	1117	1084	1064
	<b>5</b>	1240	1150	1088	1041	1220	1138	1080	1036	1116	1065	1027	1095	1051	1017	1075	1038	1019
	<b>6</b>	1193	1098	1034	989	1176	1088	1029	985	1070	1017	978	1052	1006	971	1036	996	978
	<b>7</b>	1150	1051	987	942	1134	1043	982	940	1027	973	934	1012	965	929	998	956	941
	<b>8</b>	1109	1008	945	901	1095	1001	941	899	988	934	895	975	927	891	963	920	905
	<b>9</b>	1071	969	906	864	1058	963	903	863	951	897	860	940	892	857	930	886	873
	<b>10</b>	1035	933	871	831	1023	927	869	829	917	864	827	908	859	825	899	855	842

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	113.2 fc	3.2 ft
6.5 ft	81.0 fc	3.8 ft
7.5 ft	60.9 fc	4.3 ft
8.0 ft	53.5 fc	4.6 ft
10.0 ft	34.2 fc	5.8 ft
12.0 ft	23.8 fc	7.0 ft
14.0 ft	17.5 fc	8.1 ft
16.0 ft	13.4 fc	9.3 ft
20.0 ft	8.6 fc	11.6 ft
24.0 ft	5.9 fc	13.9 ft
28.0 ft	4.4 fc	16.2 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	1064047	1064047	1064047
<b>45.00°</b>	24645	27894	28187
<b>55.00°</b>	11998	12759	14271
<b>65.00°</b>	4091	4669	4318
<b>75.00°</b>	1683	2319	2208
<b>85.00°</b>	3987	4617	4595

### 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	10.6	11.5	10.9	11.8	12.2	11.5	12.4	11.8	12.7	13.1
	3H	10.7	11.5	11.1	11.8	12.2	11.5	12.3	11.9	12.7	13.1
	4H	10.6	11.4	11.0	11.8	12.2	11.5	12.3	11.9	12.6	13.0
	6H	10.6	11.3	11.0	11.7	12.1	11.5	12.2	11.9	12.6	13.0
	8H	10.6	11.3	11.1	11.7	12.1	11.5	12.1	11.9	12.5	13.0
	12H	10.7	11.3	11.1	11.7	12.2	11.5	12.1	11.9	12.5	13.0
4H	2H	10.5	11.3	10.9	11.6	12.0	11.4	12.2	11.8	12.5	12.9
	3H	10.6	11.3	11.1	11.7	12.1	11.5	12.1	11.9	12.5	13.0
	4H	10.6	11.2	11.1	11.6	12.1	11.5	12.0	11.9	12.5	12.9
	6H	10.7	11.1	11.1	11.6	12.1	11.5	12.0	12.0	12.4	12.9
	8H	10.7	11.2	11.2	11.6	12.1	11.5	12.0	12.0	12.4	12.9
	12H	10.9	11.3	11.4	11.8	12.3	11.6	12.0	12.1	12.5	13.0
8H	4H	10.5	11.0	11.0	11.4	11.9	11.3	11.8	11.8	12.3	12.7
	6H	10.6	11.0	11.2	11.5	12.0	11.4	11.8	11.9	12.3	12.8
	8H	10.8	11.1	11.4	11.7	12.2	11.5	11.8	12.1	12.4	12.9
	12H	11.2	11.4	11.7	11.9	12.5	11.7	12.0	12.3	12.5	13.1
12H	4H	10.5	10.8	11.0	11.3	11.8	11.3	11.7	11.8	12.2	12.7
	6H	10.6	10.9	11.2	11.4	12.0	11.4	11.7	11.9	12.2	12.8
	8H	10.9	11.1	11.4	11.7	12.2	11.5	11.8	12.1	12.3	12.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0