

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 835 13 xx xx RD2XS RB2BD xx xx

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

#### Test Number

SP-01577\_2

#### Test Date

2/19/2024

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	1096
Efficacy	76.12 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.21
Two luminaires, plane 90°	0.21
Four luminaires	0.22

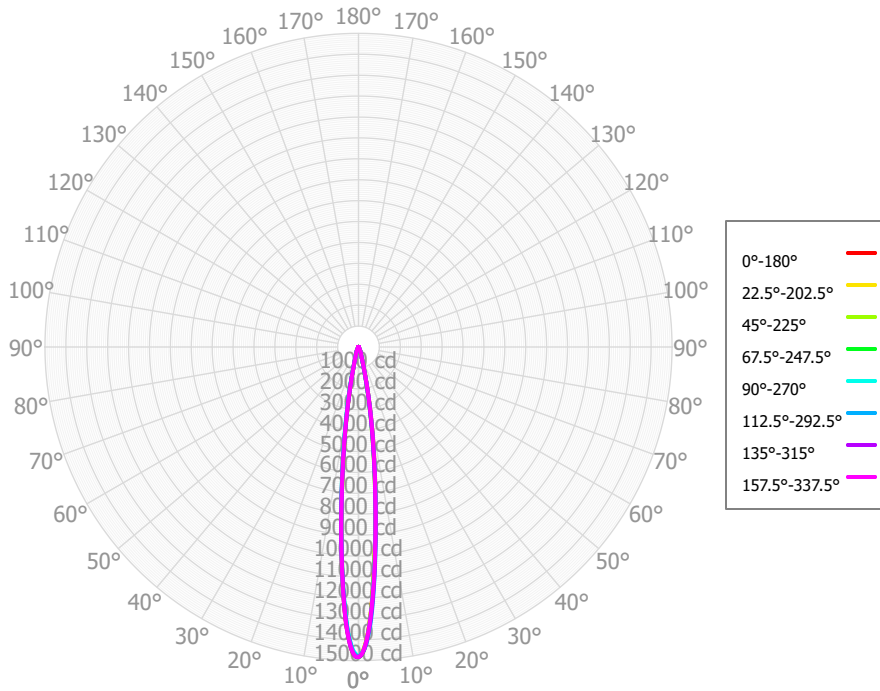
#### Full Beam Angle

0° - 180°	13°
90° - 270°	13°

### IES File Header Contents

Keyword	Value
TEST	SP-01577_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/19/2024
ISSUEDATE	2/19/2024
LUMCAT	STR2 835 13 xx xx RD2XS RB2BD xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic and snoot/deep cutoff bezel
OTHER	Beam Angle: 13 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°	685.94	62.57%	90.00° - 100.00°	1.67	0.15%
10.00° - 20.00°	277.76	25.34%	100.00° - 110.00°	1.63	0.15%
20.00° - 30.00°	85.66	7.81%	100.00° - 120.00°	3.19	0.29%
30.00° - 40.00°	26.31	2.40%	120.00° - 130.00°	1.50	0.14%
40.00° - 50.00°	3.86	0.35%	130.00° - 140.00°	1.26	0.11%
50.00° - 60.00°	1.69	0.15%	140.00° - 150.00°	1.06	0.10%
60.00° - 70.00°	1.58	0.14%	150.00° - 160.00°	0.82	0.07%
70.00° - 80.00°	1.63	0.15%	160.00° - 170.00°	0.49	0.04%
80.00° - 90.00°	1.63	0.15%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	1086.06	99.08%	0.00° - 180.00°	1096.19	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°	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42	14825.42
0.50°	14735.88	14709.06	14755.18	14751.81	14684.15	14750.78	14829.27	14809.16	14802.35	14784.16	14808.77	14788.68	14687.33	14685.86	14751.95	14730.50	14735.88
1.00°	14467.24	14425.33	14531.24	14507.21	14496.75	14616.24	14660.66	14638.75	14679.84	14642.54	14639.52	14602.20	14514.70	14515.79	14521.44	14484.55	14467.24
1.50°	14091.57	14070.06	14126.46	14166.60	14135.87	14210.17	14374.66	14310.20	14348.87	14323.22	14314.29	14260.38	14189.87	14219.92	14165.99	14101.38	14091.57
2.00°	13561.91	13579.47	13597.92	13628.81	13653.47	13777.30	13905.50	13874.57	13889.95	13847.70	13843.08	13805.51	13771.09	13751.17	13670.20	13602.80	13561.91
2.50°	12939.62	12936.45	12967.21	13021.29	13043.63	13160.96	13332.93	13324.31	13352.16	13277.17	13246.97	13246.31	13184.14	13231.98	13102.81	13003.22	12939.62
3.00°	12211.40	12244.15	12259.19	12300.34	12330.71	12459.11	12641.76	12639.22	12652.36	12567.79	12563.63	12560.02	12517.86	12548.00	12426.28	12307.10	12211.40
3.50°	11444.89	11507.87	11489.73	11490.83	11536.02	11691.01	11838.43	11862.02	11856.31	11794.28	11817.56	11838.11	11821.94	11789.06	11683.73	11572.68	11444.89
4.00°	10679.22	10730.39	10748.52	10727.61	10795.76	10915.35	11019.70	11029.53	11020.27	10951.26	10998.76	11053.93	11034.37	10996.62	10927.38	10835.34	10679.22
4.50°	9914.30	9931.42	9936.36	9958.22	10029.03	10128.21	10216.96	10226.98	10213.31	10123.48	10204.64	10237.37	10171.61	10203.14	10108.26	10041.98	9914.30
5.00°	9198.56	9167.41	9167.08	9217.24	9294.25	9353.12	9409.15	9413.48	9365.83	9319.05	9378.46	9433.83	9401.64	9404.37	9307.26	9264.24	9198.56
5.50°	8481.69	8438.67	8421.43	8460.16	8556.52	8604.45	8588.72	8607.00	8587.19	8496.70	8522.35	8611.40	8629.71	8588.72	8526.56	8509.70	8481.69
6.00°	7800.99	7722.04	7686.95	7744.74	7850.99	7870.25	7794.07	7831.27	7813.19	7740.25	7719.24	7783.45	7888.77	7863.37	7781.77	7796.45	7800.99
6.50°	7159.08	7071.43	7010.85	7069.02	7195.77	7159.89	7049.56	7091.81	7129.77	7034.41	6972.38	7053.19	7191.08	7158.92	7075.93	7114.32	7159.08
7.00°	6559.81	6451.48	6343.12	6431.47	6533.93	6478.64	6356.18	6409.59	6462.20	6369.20	6276.88	6376.66	6527.27	6498.81	6415.70	6508.03	6559.81
7.50°	5973.39	5849.79	5715.90	5809.32	5914.46	5830.24	5675.66	5776.46	5822.84	5725.08	5624.19	5754.31	5900.30	5894.90	5804.72	5915.90	5973.39
8.00°	5427.47	5295.53	5149.71	5254.62	5321.28	5220.84	5064.71	5175.34	5214.87	5100.17	5026.95	5184.92	5318.12	5336.90	5232.35	5350.33	5427.47
8.50°	4910.54	4772.01	4626.82	4713.60	4767.98	4658.57	4502.94	4613.28	4632.80	4536.05	4475.28	4651.71	4782.92	4806.78	4709.07	4832.18	4910.54
9.00°	4412.91	4290.31	4121.42	4246.99	4264.68	4136.39	3968.85	4089.11	4108.82	4017.40	3971.80	4152.31	4287.56	4321.16	4224.21	4351.14	4412.91
9.50°	3953.30	3844.02	3675.81	3788.70	3796.48	3658.97	3524.10	3598.10	3631.15	3560.51	3507.67	3677.85	3827.73	3882.72	3762.72	3900.14	3953.30
10.00°	3529.44	3414.11	3260.00	3349.74	3352.97	3221.28	3095.61	3153.34	3178.58	3135.38	3081.49	3242.51	3391.32	3460.17	3338.19	3471.49	3529.44
10.50°	3121.81	3019.91	2864.94	2947.66	2947.43	2824.60	2701.33	2755.02	2766.26	2727.81	2689.64	2847.40	2982.32	3046.35	2949.34	3060.17	3121.81
11.00°	2738.62	2659.79	2521.90	2591.65	2567.39	2456.93	2351.07	2394.53	2388.06	2366.43	2333.63	2485.61	2613.91	2683.97	2589.69	2693.87	2738.62
11.50°	2391.81	2318.66	2201.39	2253.77	2227.97	2131.15	2043.28	2066.52	2055.50	2045.27	2020.95	2153.22	2266.90	2335.84	2255.44	2349.90	2391.81
12.00°	2080.74	2011.63	1909.31	1952.54	1921.13	1843.41	1757.46	1771.38	1763.71	1762.04	1743.15	1855.76	1946.76	2020.21	1948.63	2039.87	2080.74
12.50°	1793.91	1738.14	1644.29	1675.12	1648.92	1574.23	1512.88	1514.16	1506.99	1496.55	1493.91	1591.18	1670.47	1735.06	1681.35	1754.86	1793.91
13.00°	1533.11	1492.70	1420.79	1439.90	1409.20	1342.79	1298.71	1295.34	1284.58	1270.59	1277.07	1353.97	1431.40	1482.15	1445.95	1504.72	1533.11
13.50°	1311.98	1278.28	1221.90	1221.82	1202.08	1150.53	1114.50	1103.33	1100.66	1089.91	1095.31	1160.07	1222.54	1261.96	1235.65	1285.90	1311.98
14.00°	1124.79	1095.56	1044.32	1039.88	1027.95	994.11	964.46	952.70	945.98	940.02	938.19	994.66	1043.73	1078.35	1064.61	1100.64	1124.79
14.50°	961.67	941.86	903.14	898.52	887.41	858.10	841.14	826.51	817.92	812.55	815.70	858.40	898.42	929.49	920.30	942.99	961.67
15.00°	833.23	819.34	790.45	785.96	774.91	750.95	733.27	728.11	714.10	710.47	713.14	747.10	784.49	806.30	796.25	815.26	833.23
15.50°	730.36	717.92	694.55	686.71	679.99	666.33	650.44	644.92	634.15	628.15	633.18	660.65	692.62	705.90	701.44	714.72	730.36
16.00°	643.56	634.85	620.58	608.23	602.44	589.16	584.84	579.50	570.38	565.19	573.35	592.82	619.57	627.54	623.99	634.03	643.56
16.50°	576.51	568.02	555.38	547.08	541.60	531.62	526.81	522.79	514.31	514.73	520.18	536.16	561.54	564.14	557.80	573.11	576.51
17.00°	521.82	515.12	507.19	499.07	490.73	484.95	481.55	475.46	465.85	467.35	471.18	489.00	511.24	514.55	506.89	514.55	521.82
17.50°	474.48	471.28	457.86	455.34	450.82	446.50	442.08	434.08	432.10	430.63	431.75	451.53	469.49	467.41	465.08	471.62	474.48
18.00°	436.84	433.68	424.92	422.35	417.78	415.90	411.98	406.29	400.25	401.59	405.95	417.58	435.66	434.15	428.28	433.44	436.84
18.50°	403.65	404.76	401.47	392.09	390.12	388.02	385.61	382.92	374.47	375.71	376.66	385.34	405.31	399.11	393.62	397.69	403.65
19.00°	375.24	376.28	373.98	366.62	369.14	366.78	362.79	363.85	353.84	353.37	352.64	366.32	379.42	370.36	367.02	376.46	375.24
19.50°	354.72	354.11	354.09	345.07	346.87	348.31	346.63	343.14	334.92	332.90	332.77	347.80	355.94	349.23	345.92	355.20	354.72
20.00°	335.73	337.18	331.51	326.39	329.18	329.99	330.22	324.45	321.16	317.19	311.17	325.81	337.01	333.38	328.26	335.56	335.73
20.50°	315.57	316.03	310.82	309.90	310.49	307.00	307.30	308.27	303.07	299.40	298.06	306.39	317.16	316.72	309.38	312.19	315.57
21.00°	301.49	295.90	297.47	291.65	291.45	288.91	288.21	291.00	286.63	281.74	285.00	289.83	299.52	293.97	293.63	300.01	301.49

### 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%	10%
	<b>0</b>	1303	1303	1303	1303	1271	1271	1271	1271	1212	1212	1212	1159	1159	1159	1109	1109	1086
	<b>1</b>	1265	1244	1226	1209	1238	1220	1204	1189	1175	1162	1151	1133	1124	1115	1095	1088	1066
	<b>2</b>	1231	1197	1169	1145	1208	1178	1153	1132	1143	1123	1106	1111	1095	1081	1081	1069	1048
	<b>3</b>	1201	1158	1124	1098	1182	1143	1113	1089	1115	1091	1071	1090	1070	1053	1066	1050	1031
	<b>4</b>	1174	1125	1089	1061	1157	1113	1080	1055	1091	1063	1042	1070	1048	1029	1051	1033	1014
	<b>5</b>	1149	1096	1059	1031	1134	1086	1052	1027	1068	1040	1018	1052	1028	1009	1036	1016	999
	<b>6</b>	1126	1071	1034	1007	1113	1063	1028	1003	1048	1019	997	1035	1009	990	1022	1000	984
	<b>7</b>	1105	1048	1012	986	1094	1042	1008	983	1030	1000	978	1019	993	973	1008	985	970
	<b>8</b>	1085	1028	992	968	1076	1023	989	966	1013	983	962	1003	977	958	995	971	954
	<b>9</b>	1067	1010	975	951	1059	1006	972	950	997	967	947	989	963	944	982	958	941
	<b>10</b>	1050	993	959	937	1043	990	957	935	982	953	933	976	949	931	969	945	933

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	490.1 fc	1.2 ft
6.5 ft	350.9 fc	1.4 ft
7.5 ft	263.6 fc	1.7 ft
8.0 ft	231.6 fc	1.8 ft
10.0 ft	148.3 fc	2.2 ft
12.0 ft	103.0 fc	2.6 ft
14.0 ft	75.6 fc	3.1 ft
16.0 ft	57.9 fc	3.5 ft
20.0 ft	37.1 fc	4.4 ft
24.0 ft	25.7 fc	5.3 ft
28.0 ft	18.9 fc	6.2 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	4607323	4607323	4607323
<b>45.00°</b>	1446	2138	1803
<b>55.00°</b>	1172	960	964
<b>65.00°</b>	1195	1113	1352
<b>75.00°</b>	1712	2923	1989
<b>85.00°</b>	5340	6330	5717

### 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	-5.1	-4.2	-4.7	-3.9	-3.6	-4.9	-4.0	-4.5	-3.7	-3.3
	3H	-0.9	-0.1	-0.5	0.2	0.6	-1.1	-0.3	-0.7	0.1	0.4
	4H	1.0	1.7	1.4	2.0	2.5	0.5	1.2	1.0	1.6	2.0
	6H	2.9	3.6	3.4	4.0	4.4	2.4	3.1	2.9	3.5	3.9
	8H	4.1	4.7	4.6	5.1	5.6	3.6	4.2	4.1	4.6	5.1
	12H	5.4	6.0	5.8	6.4	6.8	4.9	5.5	5.4	5.9	6.4
4H	2H	-4.2	-3.5	-3.8	-3.1	-2.7	-3.9	-3.1	-3.4	-2.8	-2.3
	3H	0.9	1.5	1.4	1.9	2.4	-0.1	0.4	0.3	0.9	1.3
	4H	2.8	3.4	3.3	3.8	4.3	1.7	2.2	2.2	2.7	3.2
	6H	4.8	5.3	5.3	5.7	6.2	3.8	4.2	4.2	4.7	5.2
	8H	6.0	6.4	6.5	6.9	7.4	5.0	5.4	5.5	5.9	6.4
	12H	7.3	7.7	7.8	8.2	8.7	6.4	6.8	6.9	7.3	7.8
8H	4H	3.6	4.0	4.1	4.5	5.0	2.5	2.9	3.0	3.3	3.8
	6H	5.9	6.2	6.5	6.8	7.3	4.7	5.0	5.2	5.5	6.0
	8H	7.3	7.6	7.9	8.1	8.7	6.0	6.3	6.5	6.8	7.3
	12H	8.9	9.1	9.4	9.6	10.2	7.6	7.8	8.1	8.3	8.9
12H	4H	3.8	4.2	4.3	4.7	5.2	2.7	3.0	3.2	3.5	4.0
	6H	6.3	6.6	6.8	7.0	7.6	5.0	5.3	5.6	5.8	6.4
	8H	7.8	8.1	8.3	8.6	9.2	6.4	6.7	7.0	7.2	7.8

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0