

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 835 13 xx xx RD2XF RB2BS xx RA2HL

2" Adjustable Track Luminaire with extra wide flood optic, hex louver and standard bezel

#### Test Number

SP-01576\_2

#### Test Date

9/26/2023

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	863
Efficacy	59.91 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.82
Two luminaires, plane 90°	0.8
Four luminaires	0.74

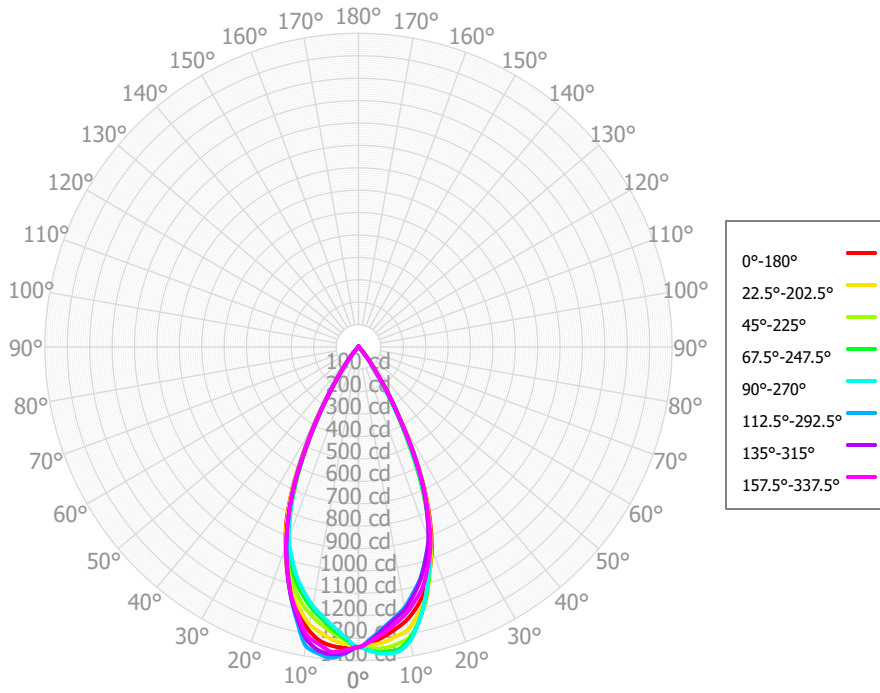
#### Full Beam Angle

0° - 180°	50°
90° - 270°	49°

### IES File Header Contents

Keyword	Value
TEST	SP-01576_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 13 xx xx RD2XF RB2BS xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with extra wide flood optic, hex louver and standard bezel
OTHER	Beam Angle: 50 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°	125.86	14.59%	90.00° - 100.00°	1.61	0.19%
10.00° - 20.00°	310.44	35.98%	100.00° - 110.00°	1.43	0.17%
20.00° - 30.00°	297.25	34.45%	100.00° - 120.00°	2.84	0.33%
30.00° - 40.00°	99.76	11.56%	120.00° - 130.00°	1.30	0.15%
40.00° - 50.00°	13.40	1.55%	130.00° - 140.00°	1.12	0.13%
50.00° - 60.00°	2.09	0.24%	140.00° - 150.00°	1.00	0.12%
60.00° - 70.00°	1.61	0.19%	150.00° - 160.00°	0.74	0.09%
70.00° - 80.00°	1.52	0.18%	160.00° - 170.00°	0.48	0.06%
80.00° - 90.00°	1.58	0.18%	170.00° - 180.00°	0.16	0.02%
0.00° - 90.00°	853.52	98.93%	0.00° - 180.00°	862.77	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°	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78	1339.78
2.50°	1322.47	1332.14	1347.57	1359.94	1361.44	1370.25	1366.85	1355.26	1345.13	1327.10	1311.63	1306.50	1298.99	1301.66	1308.76	1313.01	1322.47
5.00°	1298.22	1323.01	1349.85	1367.84	1374.80	1392.74	1376.94	1366.51	1339.82	1312.91	1283.77	1267.54	1255.93	1259.26	1265.91	1282.85	1298.22
7.50°	1270.07	1302.47	1336.93	1362.38	1371.84	1380.30	1366.27	1339.45	1323.04	1286.77	1251.96	1227.84	1214.40	1220.19	1227.07	1248.15	1270.07
10.00°	1238.58	1280.80	1316.58	1321.82	1332.62	1355.43	1328.24	1310.65	1283.16	1258.43	1215.32	1187.48	1173.85	1181.38	1190.17	1211.76	1238.58
12.50°	1192.50	1222.74	1250.99	1252.29	1251.92	1259.98	1249.00	1233.58	1223.51	1201.34	1171.50	1137.96	1121.50	1125.35	1135.17	1162.69	1192.50
15.00°	1135.05	1161.93	1165.87	1159.05	1156.67	1161.99	1159.65	1155.44	1146.28	1141.16	1111.28	1081.14	1062.46	1068.44	1072.48	1109.12	1135.05
17.50°	1053.96	1055.54	1057.62	1048.03	1046.30	1052.10	1056.68	1051.65	1055.39	1052.54	1029.27	1004.11	989.80	992.10	995.61	1028.89	1053.96
20.00°	956.16	947.81	940.61	926.79	930.28	939.28	943.68	947.01	951.98	958.92	927.20	912.47	910.06	915.26	913.47	940.87	956.16
22.50°	832.81	824.12	803.91	798.69	809.00	814.98	818.38	815.59	839.86	830.39	801.24	792.38	797.51	800.81	800.48	815.17	832.81
25.00°	693.29	695.83	660.62	647.69	664.80	681.66	672.76	682.28	696.48	695.86	658.90	653.63	669.90	684.98	677.53	682.29	693.29
27.50°	536.08	527.93	503.29	482.94	501.37	518.20	504.51	518.08	533.66	527.80	498.80	506.78	517.59	518.63	526.21	519.76	536.08
30.00°	368.88	366.42	341.83	341.00	356.18	364.89	357.03	358.13	385.11	367.74	354.68	355.19	355.29	354.81	366.87	365.41	368.88
32.50°	244.33	247.33	232.37	211.42	224.72	241.38	230.32	244.16	244.49	246.14	226.30	240.33	236.31	237.00	251.24	240.26	244.33
35.00°	141.13	139.45	135.96	131.99	137.09	137.64	140.94	137.65	154.77	139.20	138.25	144.57	132.62	124.98	146.34	133.84	141.13
37.50°	83.69	91.37	85.46	77.01	79.80	85.38	85.07	90.64	90.87	91.24	85.89	87.17	79.15	80.24	90.48	84.93	83.69
40.00°	47.12	48.50	44.60	44.98	44.35	43.25	47.82	47.36	54.11	49.90	50.91	47.71	41.30	38.56	44.67	44.61	47.12
42.50°	27.62	29.20	26.47	22.82	22.39	24.26	25.55	28.01	29.53	31.22	29.72	27.11	23.79	24.52	26.40	27.22	27.62
45.00°	14.97	12.86	12.25	11.86	11.20	10.19	12.67	11.06	16.11	15.67	16.03	14.41	11.79	11.73	12.74	13.33	14.97
47.50°	8.44	8.01	6.94	5.14	5.92	6.03	6.75	6.90	7.10	9.38	7.73	8.32	7.31	7.64	7.51	7.61	8.44
50.00°	4.05	4.02	2.93	2.94	3.45	3.15	3.63	3.36	3.95	4.47	3.77	4.66	4.56	4.00	3.44	3.49	4.05
52.50°	2.72	2.84	2.23	2.23	2.36	2.58	2.36	2.56	2.80	3.17	2.64	3.22	3.34	2.95	2.41	2.69	2.72
55.00°	2.31	1.89	1.89	1.87	1.92	2.11	1.85	1.91	2.37	2.19	2.22	2.49	2.41	2.06	1.71	2.01	2.31
57.50°	1.91	1.58	2.04	1.60	1.77	1.82	1.79	1.82	2.15	1.95	2.22	2.27	2.11	1.84	1.77	1.56	1.91
60.00°	1.50	1.43	2.23	1.50	1.73	1.67	1.72	1.71	1.88	1.78	2.02	2.18	1.91	1.66	1.88	1.34	1.50
62.50°	1.66	1.68	1.76	1.43	1.73	1.72	1.64	1.57	1.60	1.73	1.73	1.96	1.98	1.60	1.79	1.51	1.66
65.00°	1.96	1.84	1.26	1.33	1.78	1.67	1.58	1.50	1.55	1.65	1.55	1.70	2.09	1.53	1.70	1.55	1.96
67.50°	1.65	1.81	1.33	1.21	1.83	1.48	1.52	1.62	1.55	1.52	1.42	1.61	1.91	1.42	1.47	1.41	1.65
70.00°	1.24	1.73	1.42	1.47	1.56	1.31	1.52	1.64	1.43	1.49	1.37	1.56	1.71	1.35	1.24	1.36	1.24
72.50°	1.36	1.55	1.53	1.80	1.19	1.15	1.55	1.40	1.29	1.63	1.36	1.51	1.74	1.39	1.37	1.42	1.36
75.00°	1.56	1.47	1.63	1.71	1.24	1.07	1.50	1.25	1.36	1.64	1.32	1.45	1.79	1.41	1.50	1.42	1.56
77.50°	1.58	1.56	1.55	1.57	1.39	1.08	1.43	1.30	1.47	1.43	1.27	1.45	1.48	1.37	1.44	1.32	1.58
80.00°	1.59	1.49	1.47	1.48	1.43	1.13	1.40	1.39	1.54	1.38	1.35	1.46	1.16	1.33	1.38	1.36	1.59
82.50°	1.49	1.18	1.48	1.40	1.46	1.22	1.39	1.56	1.61	1.53	1.47	1.50	1.35	1.27	1.27	1.55	1.49
85.00°	1.37	1.10	1.48	1.48	1.41	1.27	1.50	1.69	1.52	1.60	1.54	1.54	1.55	1.24	1.18	1.61	1.37
87.50°	1.36	1.36	1.44	1.56	1.34	1.29	1.64	1.77	1.41	1.58	1.60	1.54	1.68	1.25	1.28	1.55	1.36
90.00°	1.35	1.47	1.41	1.49	1.31	1.34	1.54	1.82	1.62	1.60	1.50	1.54	1.80	1.27	1.39	1.52	1.35
92.50°	1.29	1.38	1.41	1.41	1.29	1.40	1.38	1.82	1.85	1.68	1.35	1.48	1.67	1.31	1.52	1.50	1.29
95.00°	1.22	1.42	1.42	1.40	1.37	1.47	1.40	1.79	1.69	1.70	1.39	1.41	1.54	1.30	1.62	1.51	1.22
97.50°	1.34	1.62	1.48	1.40	1.47	1.55	1.46	1.69	1.52	1.67	1.47	1.33	1.51	1.20	1.55	1.53	1.34
100.00°	1.46	1.61	1.50	1.39	1.47	1.50	1.38	1.59	1.46	1.60	1.33	1.24	1.46	1.21	1.46	1.47	1.46
102.50°	1.39	1.37	1.27	1.38	1.47	1.37	1.29	1.48	1.40	1.49	1.15	1.14	1.34	1.38	1.32	1.35	1.39
105.00°	1.34	1.31	1.11	1.31	1.35	1.39	1.33	1.44	1.27	1.37	1.22	1.05	1.23	1.45	1.22	1.29	1.34

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</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>	1025	1025	1025	1025	1000	1000	1000	1000	953	953	953	911	911	911	872	872	854
	<b>1</b>	981	959	939	921	959	940	922	906	903	889	876	870	859	849	839	830	813
	<b>2</b>	939	900	869	842	919	885	856	832	856	833	812	829	810	794	804	789	773
	<b>3</b>	898	848	809	778	880	835	800	772	812	782	758	790	766	745	770	750	735
	<b>4</b>	859	801	758	725	843	790	751	720	771	738	711	753	725	702	737	713	699
	<b>5</b>	822	758	713	679	808	749	707	676	733	697	669	718	687	663	705	678	665
	<b>6</b>	787	718	672	639	774	711	668	637	698	660	632	686	652	627	674	645	634
	<b>7</b>	754	682	636	604	743	676	633	602	665	626	598	655	620	594	645	614	604
	<b>8</b>	723	649	603	572	712	644	601	570	635	595	567	626	590	565	617	585	576
	<b>9</b>	693	619	573	543	684	615	571	541	606	567	539	598	563	537	591	559	550
	<b>10</b>	666	591	546	516	657	587	544	515	580	541	513	573	537	512	566	534	526

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	44.3 fc	5.1 ft
6.5 ft	31.7 fc	6.1 ft
7.5 ft	23.8 fc	7.0 ft
8.0 ft	20.9 fc	7.5 ft
10.0 ft	13.4 fc	9.3 ft
12.0 ft	9.3 fc	11.2 ft
14.0 ft	6.8 fc	13.0 ft
16.0 ft	5.2 fc	14.9 ft
20.0 ft	3.3 fc	18.6 ft
24.0 ft	2.3 fc	22.4 ft
28.0 ft	1.7 fc	26.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	416364	416364	416364
<b>45.00°</b>	6579	5382	4920
<b>55.00°</b>	1253	1026	1040
<b>65.00°</b>	1441	926	1306
<b>75.00°</b>	1869	1960	1483
<b>85.00°</b>	4899	5262	5013

### 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	-3.6	-2.7	-3.2	-2.3	-2.0	-2.0	-1.1	-1.6	-0.8	-0.4
	3H	-0.3	0.5	0.1	0.9	1.3	0.6	1.4	1.0	1.8	2.2
	4H	1.4	2.2	1.9	2.5	3.0	1.9	2.7	2.4	3.0	3.5
	6H	3.6	4.2	4.0	4.6	5.0	3.4	4.1	3.9	4.5	4.9
	8H	4.6	5.3	5.1	5.7	6.1	4.4	5.0	4.8	5.4	5.9
	12H	5.8	6.4	6.2	6.8	7.2	5.6	6.2	6.1	6.7	7.1
4H	2H	-2.7	-1.9	-2.2	-1.6	-1.1	-1.4	-0.7	-1.0	-0.3	0.1
	3H	0.8	1.4	1.2	1.8	2.3	1.4	2.0	1.8	2.4	2.9
	4H	2.7	3.2	3.2	3.7	4.1	2.9	3.4	3.3	3.8	4.3
	6H	5.0	5.4	5.4	5.9	6.4	4.6	5.1	5.1	5.6	6.1
	8H	6.1	6.5	6.6	7.0	7.5	5.7	6.2	6.2	6.6	7.1
	12H	7.4	7.7	7.9	8.2	8.7	7.2	7.6	7.7	8.1	8.6
8H	4H	3.4	3.9	3.9	4.3	4.8	3.5	3.9	4.0	4.3	4.9
	6H	5.9	6.2	6.4	6.8	7.3	5.5	5.9	6.1	6.4	6.9
	8H	7.2	7.5	7.8	8.1	8.6	6.9	7.2	7.4	7.7	8.2
	12H	8.7	9.0	9.3	9.5	10.1	8.6	8.8	9.1	9.3	9.9
12H	4H	3.6	4.0	4.1	4.5	5.0	3.6	4.0	4.2	4.5	5.0
	6H	6.2	6.5	6.7	7.0	7.5	5.9	6.1	6.4	6.6	7.2
	8H	7.6	7.9	8.2	8.4	9.0	7.3	7.6	7.9	8.1	8.7

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0