

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2XS RB2BSA1 xx xx

2" Adjustable Track Luminaire with extra narrow spot optic, acrylic .5" bezel

Test Number

SP-01585_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	1170
Efficacy	81.23 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	0.23

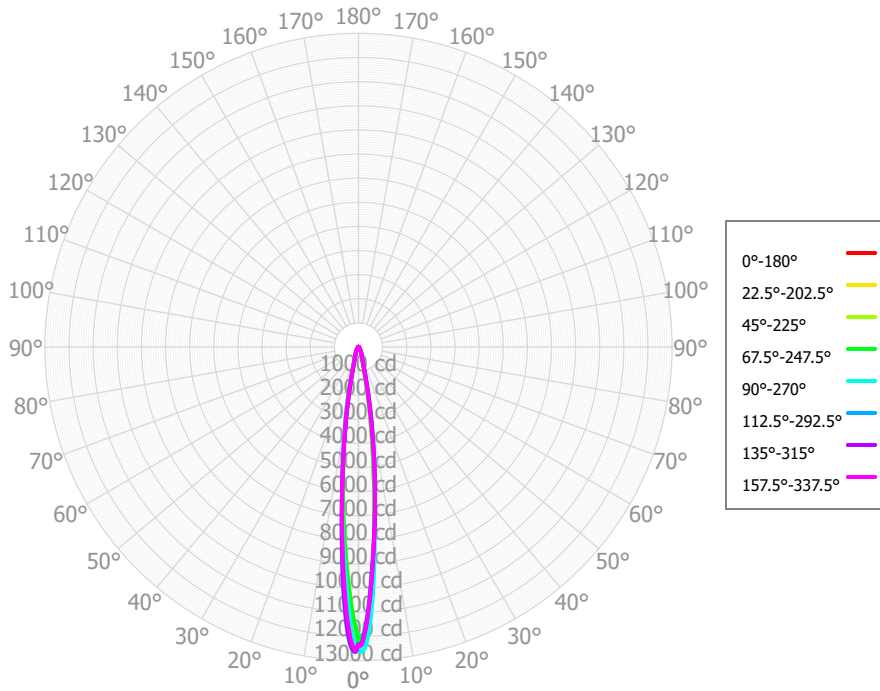
Full Beam Angle

0° - 180°	12°
90° - 270°	12°

IES File Header Contents

Keyword	Value
TEST	SP-01585_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 RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, acrylic .5" bezel
OTHER	Beam Angle: 12 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°	567.93	48.55%	90.00° - 100.00°	3.41	0.29%
10.00° - 20.00°	278.38	23.80%	100.00° - 110.00°	3.40	0.29%
20.00° - 30.00°	117.78	10.07%	100.00° - 120.00°	6.33	0.54%
30.00° - 40.00°	72.29	6.18%	120.00° - 130.00°	2.29	0.20%
40.00° - 50.00°	48.46	4.14%	130.00° - 140.00°	1.56	0.13%
50.00° - 60.00°	33.77	2.89%	140.00° - 150.00°	1.24	0.11%
60.00° - 70.00°	20.03	1.71%	150.00° - 160.00°	1.00	0.09%
70.00° - 80.00°	9.70	0.83%	160.00° - 170.00°	0.57	0.05%
80.00° - 90.00°	4.78	0.41%	170.00° - 180.00°	0.19	0.02%
0.00° - 90.00°	1153.12	98.58%	0.00° - 180.00°	1169.72	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°	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64	12329.64
0.50°	12331.76	12179.30	12012.54	11982.14	12662.98	12636.55	12636.12	12589.11	12370.38	11942.86	11683.54	11636.46	12414.74	12296.15	12342.75	12390.94	12331.76
1.00°	12126.85	12069.31	11950.79	11901.65	12572.92	12608.13	12576.13	12454.95	12084.46	11593.49	11275.86	11301.95	12051.39	11932.36	12037.67	12087.36	12126.85
1.50°	11750.00	11786.25	11726.01	11679.31	12327.64	12414.92	12361.36	12138.37	11706.88	11116.49	10765.34	10845.52	11615.67	11518.45	11623.20	11667.88	11750.00
2.00°	11241.23	11354.24	11343.68	11318.64	11900.26	12039.51	11967.68	11669.59	11125.55	10548.63	10242.86	10316.41	11061.39	10991.92	11105.95	11146.29	11241.23
2.50°	10690.19	10807.47	10863.66	10826.49	11365.87	11534.70	11402.04	11116.86	10500.86	9932.23	9682.99	9775.98	10432.02	10405.90	10543.32	10548.16	10690.19
3.00°	10043.82	10202.85	10271.48	10239.30	10724.62	10895.22	10763.11	10445.44	9845.40	9346.63	9160.06	9236.74	9788.52	9758.80	9947.53	9907.87	10043.82
3.50°	9390.28	9516.48	9585.11	9549.25	10030.12	10192.65	10087.60	9739.95	9200.85	8750.41	8621.15	8682.77	9158.66	9162.65	9343.78	9271.32	9390.28
4.00°	8718.48	8810.58	8868.09	8848.15	9262.90	9437.48	9347.92	9061.04	8596.57	8211.69	8099.64	8136.79	8596.67	8622.15	8737.79	8686.84	8718.48
4.50°	8089.00	8146.26	8170.69	8134.52	8502.20	8710.84	8608.50	8395.90	7994.57	7727.90	7614.82	7609.15	8052.86	8098.87	8184.21	8127.97	8089.00
5.00°	7498.92	7486.81	7492.42	7470.78	7806.62	7970.67	7909.18	7737.24	7442.06	7204.14	7100.44	7124.81	7528.51	7570.64	7629.20	7592.83	7498.92
5.50°	6939.86	6852.67	6835.75	6851.58	7144.54	7277.59	7241.51	7151.60	6907.39	6722.53	6617.90	6661.65	7028.15	7050.34	7078.22	7053.65	6939.86
6.00°	6398.09	6252.77	6199.01	6245.04	6532.34	6623.06	6603.14	6552.43	6381.37	6226.57	6139.84	6197.97	6513.38	6557.52	6553.70	6521.85	6398.09
6.50°	5872.75	5660.08	5593.26	5690.09	5967.13	6018.45	6000.71	5969.38	5891.63	5731.68	5690.63	5745.17	6029.50	6058.25	6048.67	6009.18	5872.75
7.00°	5356.46	5135.12	5034.63	5162.83	5428.61	5447.36	5440.55	5450.05	5401.37	5280.49	5250.94	5270.65	5558.38	5573.29	5552.30	5482.92	5356.46
7.50°	4873.63	4621.28	4526.16	4662.09	4932.22	4911.16	4907.68	4975.95	4953.96	4915.45	4840.50	4840.82	5123.25	5118.21	5061.42	4988.96	4873.63
8.00°	4394.66	4139.43	4062.46	4203.94	4459.35	4441.04	4421.52	4497.82	4535.27	4474.07	4446.28	4446.45	4726.08	4685.04	4587.14	4524.65	4394.66
8.50°	3940.94	3701.32	3639.42	3775.83	4012.11	4003.13	3976.89	4063.78	4130.80	4093.59	4073.86	4063.03	4315.48	4268.22	4146.55	4081.75	3940.94
9.00°	3527.46	3304.38	3240.32	3383.19	3599.36	3584.38	3561.52	3660.29	3746.85	3714.85	3717.19	3704.93	3943.45	3882.38	3727.45	3648.16	3527.46
9.50°	3128.22	2925.90	2866.15	3027.58	3212.18	3201.67	3186.71	3295.72	3381.88	3379.36	3379.03	3337.70	3572.58	3511.60	3347.40	3257.64	3128.22
10.00°	2759.01	2576.21	2516.27	2685.03	2852.38	2848.29	2843.98	2942.91	3045.54	3050.53	3054.01	3024.60	3220.85	3162.23	2996.22	2891.46	2759.01
10.50°	2421.77	2269.22	2205.81	2363.59	2521.89	2512.80	2516.42	2618.20	2726.25	2734.90	2751.46	2736.70	2888.47	2845.31	2662.88	2552.37	2421.77
11.00°	2124.37	1983.45	1922.90	2070.77	2220.84	2198.88	2217.27	2327.71	2430.90	2451.89	2470.24	2456.85	2587.35	2528.92	2351.01	2233.96	2124.37
11.50°	1851.94	1727.89	1668.53	1805.64	1946.43	1929.77	1945.27	2061.14	2159.29	2197.81	2215.94	2193.23	2290.76	2238.74	2061.27	1956.04	1851.94
12.00°	1614.22	1507.23	1451.83	1572.75	1700.00	1671.91	1702.23	1810.60	1907.17	1947.59	1970.37	1943.60	2017.38	1979.36	1803.21	1699.97	1614.22
12.50°	1404.47	1314.20	1267.77	1371.37	1482.96	1448.66	1485.98	1588.12	1677.12	1720.07	1743.58	1711.13	1771.04	1727.04	1577.79	1471.53	1404.47
13.00°	1220.73	1151.84	1106.03	1195.48	1293.52	1265.22	1297.48	1393.68	1475.16	1513.75	1535.94	1495.05	1544.71	1514.46	1377.88	1280.61	1220.73
13.50°	1069.54	1017.64	977.69	1045.22	1131.29	1101.35	1135.81	1222.53	1288.83	1330.49	1348.00	1306.49	1347.95	1317.76	1203.64	1119.60	1069.54
14.00°	940.77	900.85	866.96	922.93	998.82	972.40	1006.96	1074.27	1128.19	1163.22	1182.63	1146.32	1180.09	1157.42	1056.78	985.66	940.77
14.50°	838.27	805.47	778.57	822.35	886.51	859.73	889.71	950.03	997.26	1018.63	1039.74	1008.55	1034.37	1020.97	936.97	874.99	838.27
15.00°	751.35	730.64	707.28	741.55	797.45	773.53	799.04	843.69	885.21	902.34	915.47	895.41	915.08	902.88	831.58	782.72	751.35
15.50°	686.37	666.56	649.43	677.95	719.75	697.91	719.69	759.73	784.45	806.38	818.32	800.00	816.01	809.11	746.25	705.25	686.37
16.00°	630.02	611.73	598.96	625.03	663.69	638.48	655.23	690.21	705.12	724.86	732.60	720.26	733.32	728.64	677.69	643.50	630.02
16.50°	576.09	566.92	557.04	578.39	612.86	592.66	602.69	627.98	643.29	655.77	667.76	655.24	667.35	660.83	624.30	592.05	576.09
17.00°	534.48	527.99	519.77	537.96	564.58	550.45	557.23	574.77	590.15	601.74	607.80	599.57	611.30	608.16	572.45	545.72	534.48
17.50°	500.09	493.76	486.62	500.29	525.13	513.39	519.55	531.83	546.17	551.35	563.47	552.95	562.58	563.39	534.92	510.70	500.09
18.00°	471.00	464.21	455.86	472.09	498.82	480.71	485.65	499.65	509.48	515.59	520.92	513.68	524.44	522.49	500.04	482.39	471.00
18.50°	443.17	435.61	431.71	445.79	468.76	453.61	456.88	471.68	477.40	480.63	489.31	481.31	493.58	486.29	465.24	453.48	443.17
19.00°	422.17	415.86	411.80	425.40	443.27	430.48	433.24	443.48	448.71	454.27	460.57	456.45	469.70	456.77	437.79	428.32	422.17
19.50°	403.09	396.64	391.81	408.95	421.12	411.73	411.92	420.63	427.63	433.68	433.63	428.82	445.04	431.61	417.56	406.45	403.09
20.00°	387.55	377.84	372.65	386.80	400.64	393.13	396.09	399.80	405.81	409.81	409.73	408.65	420.90	411.34	398.51	387.12	387.55
20.50°	371.77	364.48	355.55	366.68	386.91	377.22	377.12	383.17	387.02	391.64	389.14	385.72	394.42	392.40	380.80	369.00	371.77
21.00°	354.90	347.87	344.70	356.92	372.09	359.49	361.87	368.15	371.42	373.01	371.27	365.99	377.02	373.51	363.24	352.49	354.90

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	ptc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	1389	1389	1389	1389	1354	1354	1354	1354	1290	1290	1290	1232	1232	1232	1178	1178	1153
	1	1334	1306	1281	1259	1304	1280	1258	1237	1230	1213	1197	1184	1171	1158	1142	1132	1108
	2	1284	1237	1198	1165	1258	1216	1181	1151	1176	1148	1123	1140	1117	1097	1106	1088	1066
	3	1238	1178	1131	1094	1215	1161	1119	1085	1129	1094	1066	1100	1071	1047	1073	1050	1029
	4	1197	1128	1078	1039	1177	1114	1068	1032	1089	1050	1019	1065	1032	1006	1043	1015	996
	5	1160	1085	1033	995	1142	1074	1026	990	1053	1012	980	1033	998	970	1015	985	967
	6	1126	1048	996	958	1110	1039	990	954	1021	979	947	1005	968	940	990	958	941
	7	1095	1015	963	927	1081	1007	959	924	993	950	919	979	941	913	966	933	918
	8	1067	986	936	901	1054	980	932	899	967	925	894	956	918	890	945	911	886
	9	1041	960	911	878	1030	955	908	876	944	902	873	934	897	869	925	891	866
	10	1017	937	889	857	1007	932	887	856	923	882	853	915	877	851	907	873	848

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	407.6 fc	1.2 ft
6.5 ft	291.8 fc	1.4 ft
7.5 ft	219.2 fc	1.6 ft
8.0 ft	192.7 fc	1.7 ft
10.0 ft	123.3 fc	2.1 ft
12.0 ft	85.6 fc	2.5 ft
14.0 ft	62.9 fc	3.0 ft
16.0 ft	48.2 fc	3.4 ft
20.0 ft	30.8 fc	4.2 ft
24.0 ft	21.4 fc	5.1 ft
28.0 ft	15.7 fc	5.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	3831703	3831703	3831703
45.00°	25816	26254	27552
55.00°	19325	19464	21042
65.00°	13851	14213	14906
75.00°	9549	12101	10721
85.00°	15802	17196	14467

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	16.4	17.4	16.8	17.7	18.1	16.1	17.1	16.4	17.4	17.8
	3H	17.2	18.1	17.6	18.5	18.9	17.1	18.0	17.5	18.4	18.8
	4H	17.5	18.3	17.9	18.7	19.1	17.5	18.3	17.9	18.7	19.1
	6H	17.7	18.5	18.1	18.9	19.3	17.8	18.6	18.2	19.0	19.4
	8H	17.8	18.6	18.3	19.0	19.4	18.0	18.7	18.4	19.1	19.5
	12H	18.0	18.7	18.5	19.1	19.6	18.1	18.8	18.6	19.2	19.7
4H	2H	16.5	17.4	17.0	17.8	18.2	16.4	17.2	16.8	17.6	18.0
	3H	17.5	18.2	18.0	18.7	19.1	17.6	18.3	18.1	18.7	19.2
	4H	17.9	18.5	18.4	19.0	19.5	18.1	18.7	18.5	19.1	19.6
	6H	18.3	18.8	18.8	19.3	19.8	18.5	19.1	19.0	19.5	20.0
	8H	18.5	19.0	19.0	19.5	20.0	18.7	19.2	19.2	19.7	20.2
	12H	18.8	19.2	19.3	19.7	20.2	19.0	19.4	19.5	19.9	20.4
8H	4H	18.0	18.5	18.5	19.0	19.5	18.3	18.7	18.8	19.2	19.7
	6H	18.5	18.9	19.0	19.4	19.9	18.9	19.2	19.4	19.8	20.3
	8H	18.8	19.2	19.4	19.7	20.3	19.1	19.5	19.7	20.0	20.6
	12H	19.3	19.6	19.8	20.1	20.7	19.6	19.9	20.1	20.4	21.0
12H	4H	18.0	18.4	18.5	18.9	19.4	18.3	18.7	18.8	19.2	19.7
	6H	18.5	18.9	19.1	19.4	19.9	18.9	19.2	19.5	19.7	20.3
	8H	18.9	19.2	19.5	19.7	20.4	19.3	19.6	19.8	20.1	20.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0