

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2XS RB2BS xx xx

2" Adjustable Track Luminaire with extra narrow spot optic and standard
bezel

Test Number

SP-01569_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	1220
Efficacy	84.71 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

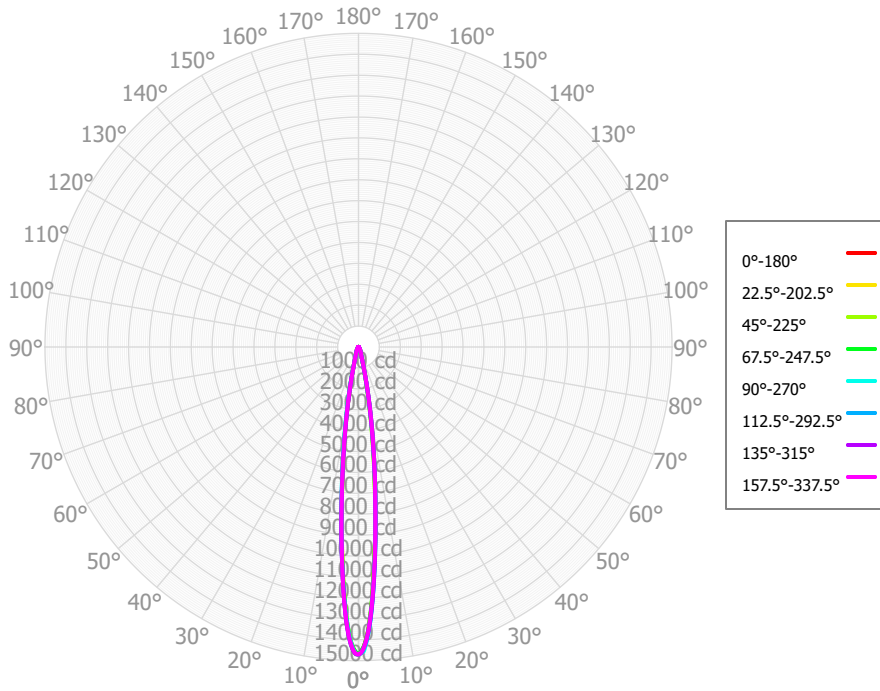
Full Beam Angle

0° - 180°	13°
90° - 270°	13°

IES File Header Contents

Keyword	Value
TEST	SP-01569_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 RB2BS xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic and standard 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°	681.27	55.85%	90.00° - 100.00°	1.62	0.13%
10.00° - 20.00°	282.10	23.13%	100.00° - 110.00°	1.48	0.12%
20.00° - 30.00°	103.35	8.47%	100.00° - 120.00°	2.92	0.24%
30.00° - 40.00°	71.95	5.90%	120.00° - 130.00°	1.33	0.11%
40.00° - 50.00°	43.82	3.59%	130.00° - 140.00°	1.12	0.09%
50.00° - 60.00°	20.13	1.65%	140.00° - 150.00°	1.03	0.08%
60.00° - 70.00°	4.77	0.39%	150.00° - 160.00°	0.75	0.06%
70.00° - 80.00°	1.69	0.14%	160.00° - 170.00°	0.45	0.04%
80.00° - 90.00°	1.43	0.12%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	1210.52	99.23%	0.00° - 180.00°	1219.87	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°	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64	14704.64
0.50°	14604.41	14586.40	14591.77	14535.33	14643.02	14661.59	14697.62	14660.50	14683.95	14668.26	14612.75	14590.07	14682.46	14641.54	14634.83	14612.88	14604.41
1.00°	14340.64	14419.61	14383.35	14341.82	14556.00	14512.63	14519.55	14501.13	14512.56	14457.84	14402.43	14400.02	14462.16	14419.86	14403.72	14398.46	14340.64
1.50°	13993.01	14055.02	14046.82	13993.03	14163.19	14228.67	14185.00	14203.49	14199.43	14136.60	14097.31	14077.75	14101.17	14122.06	14056.06	14035.33	13993.01
2.00°	13526.98	13558.77	13556.23	13522.05	13683.87	13741.53	13789.25	13725.84	13724.52	13658.21	13603.23	13597.03	13651.13	13635.86	13620.50	13566.81	13526.98
2.50°	12931.12	12947.93	12939.77	12877.80	13075.52	13157.02	13202.20	13186.09	13141.66	13067.43	13033.50	13010.38	13080.85	13095.58	13043.34	12957.46	12931.12
3.00°	12231.12	12253.61	12202.51	12167.21	12361.54	12477.93	12501.57	12496.10	12440.10	12340.67	12341.23	12334.58	12400.77	12404.88	12362.58	12274.78	12231.12
3.50°	11458.19	11502.94	11438.76	11422.02	11609.46	11679.86	11721.48	11766.92	11687.19	11562.33	11568.11	11586.03	11656.77	11652.67	11637.46	11515.76	11458.19
4.00°	10675.90	10692.55	10675.70	10614.29	10790.59	10895.90	10904.68	10925.31	10891.84	10755.47	10783.83	10812.49	10880.80	10872.79	10849.70	10742.88	10675.90
4.50°	9901.87	9907.15	9895.67	9845.04	10015.92	10092.82	10108.82	10103.42	10055.15	9941.12	9934.16	10015.00	10093.05	10086.74	10073.34	9967.39	9901.87
5.00°	9167.88	9149.82	9114.05	9107.47	9291.15	9316.77	9316.61	9288.09	9237.79	9124.21	9133.72	9211.48	9297.13	9284.69	9277.67	9194.55	9167.88
5.50°	8433.76	8363.12	8334.88	8379.37	8542.71	8554.23	8494.55	8509.60	8478.96	8367.49	8341.06	8410.76	8520.43	8513.57	8481.62	8426.34	8433.76
6.00°	7723.90	7661.19	7601.00	7655.63	7830.38	7815.62	7730.84	7753.41	7771.99	7661.22	7594.55	7648.24	7813.55	7789.33	7722.28	7722.55	7723.90
6.50°	7084.80	6983.72	6908.80	6980.72	7135.58	7098.23	6988.65	7047.15	7026.20	6990.40	6911.42	6971.61	7140.37	7123.27	7037.29	7070.72	7084.80
7.00°	6484.47	6349.41	6244.60	6316.36	6485.64	6446.61	6285.82	6389.77	6420.48	6342.13	6253.00	6344.12	6510.94	6511.35	6415.28	6452.32	6484.47
7.50°	5917.49	5753.55	5627.92	5716.67	5867.44	5819.23	5651.64	5770.66	5800.36	5738.88	5666.09	5766.64	5916.87	5910.11	5818.97	5868.56	5917.49
8.00°	5358.73	5197.41	5047.72	5155.81	5277.98	5202.67	5043.14	5186.37	5221.29	5172.40	5096.50	5195.26	5352.59	5345.61	5247.71	5314.33	5358.73
8.50°	4812.46	4684.06	4510.19	4628.93	4728.26	4653.91	4496.66	4635.24	4677.56	4638.74	4559.25	4691.75	4822.63	4827.77	4721.32	4788.08	4812.46
9.00°	4331.36	4189.40	4027.74	4146.96	4227.55	4148.52	3999.31	4117.00	4181.31	4133.16	4076.19	4184.44	4336.52	4350.48	4223.82	4282.58	4331.36
9.50°	3863.53	3731.98	3578.33	3684.36	3756.83	3684.71	3539.00	3661.84	3708.44	3664.59	3609.10	3736.85	3884.02	3907.45	3775.25	3831.97	3863.53
10.00°	3424.62	3301.97	3135.61	3251.58	3313.47	3252.48	3125.84	3220.18	3258.67	3229.21	3183.50	3308.83	3451.55	3481.89	3343.88	3408.78	3424.62
10.50°	3009.49	2898.97	2751.93	2860.23	2903.24	2856.96	2754.36	2820.43	2857.37	2834.86	2799.40	2920.99	3052.06	3082.99	2941.94	3005.72	3009.49
11.00°	2639.98	2540.80	2406.56	2481.25	2524.17	2499.94	2414.19	2470.53	2489.19	2476.23	2448.89	2571.31	2675.59	2710.70	2582.31	2638.18	2639.98
11.50°	2293.42	2207.00	2094.03	2158.87	2186.98	2171.50	2097.28	2146.53	2156.41	2150.60	2135.45	2237.94	2338.12	2361.66	2255.08	2294.17	2293.42
12.00°	1994.45	1909.00	1810.26	1858.50	1887.58	1866.38	1810.87	1850.02	1862.67	1860.90	1845.90	1940.63	2016.89	2044.41	1953.32	1979.29	1994.45
12.50°	1704.37	1642.64	1562.93	1593.75	1616.86	1598.78	1557.53	1587.75	1599.85	1596.89	1589.73	1673.68	1740.13	1766.29	1683.24	1697.95	1704.37
13.00°	1469.64	1409.93	1340.73	1363.17	1383.18	1366.66	1338.95	1363.70	1372.63	1366.42	1369.51	1438.01	1482.31	1517.08	1449.81	1462.89	1469.64
13.50°	1258.34	1209.07	1152.99	1163.15	1181.79	1171.35	1151.34	1172.48	1177.78	1168.14	1175.93	1234.50	1271.68	1291.40	1242.52	1247.17	1258.34
14.00°	1077.57	1041.05	994.92	1004.73	1018.48	1007.51	993.15	1007.64	1010.64	1005.75	1011.60	1062.58	1099.22	1104.66	1068.26	1071.01	1077.57
14.50°	929.48	903.57	870.01	871.53	883.84	871.85	865.26	876.76	878.54	876.56	878.58	917.19	942.61	958.74	925.17	923.36	929.48
15.00°	809.39	789.28	760.04	763.46	775.39	769.63	763.48	772.42	773.33	764.93	771.74	799.78	826.59	831.35	806.85	805.55	809.39
15.50°	711.99	697.64	677.23	672.91	682.93	681.32	677.43	683.61	685.46	682.86	683.00	707.94	731.09	725.70	711.92	711.35	711.99
16.00°	639.87	623.47	610.26	604.04	610.67	608.77	605.20	614.74	612.99	611.15	610.50	634.84	652.21	651.27	636.03	638.33	639.87
16.50°	576.06	566.07	550.15	546.02	552.46	555.19	549.79	555.43	556.51	556.49	553.00	572.44	586.59	584.45	573.88	570.76	576.06
17.00°	520.51	513.31	502.79	500.61	507.81	504.68	502.19	507.04	505.84	502.98	504.52	520.29	533.40	531.52	521.82	519.90	520.51
17.50°	478.45	476.42	467.17	459.71	465.81	465.82	464.79	465.90	463.64	463.98	465.79	478.94	488.49	489.49	478.93	480.41	478.45
18.00°	442.84	437.06	432.47	431.82	433.29	432.94	434.89	433.39	431.65	431.77	430.77	442.57	460.45	453.73	438.41	444.43	442.84
18.50°	412.82	412.69	406.25	404.36	407.50	409.89	407.24	407.30	400.80	401.50	401.32	415.73	429.67	422.48	413.36	412.07	412.82
19.00°	387.32	384.27	377.74	376.86	380.61	386.23	384.34	383.91	379.56	380.79	375.29	389.13	400.54	392.37	387.55	386.99	387.32
19.50°	366.41	364.21	363.87	354.58	363.75	363.14	364.63	364.87	362.60	358.55	357.65	364.06	374.28	365.88	366.49	363.56	366.41
20.00°	345.28	344.69	345.55	337.30	342.77	344.19	345.45	344.76	343.05	338.10	339.88	343.62	353.13	350.59	347.74	345.04	345.28
20.50°	329.32	331.26	327.16	321.74	326.19	330.77	334.95	323.28	327.71	320.03	318.25	327.48	340.75	331.32	329.08	328.21	329.32
21.00°	314.24	313.93	311.13	307.20	314.12	316.64	318.80	313.59	312.63	308.15	306.69	315.38	323.99	314.05	312.98	312.40	314.24

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	1450	1450	1450	1450	1415	1415	1415	1415	1350	1350	1350	1291	1291	1291	1236	1236	1211
	1	1402	1377	1354	1334	1372	1350	1330	1312	1300	1284	1270	1254	1242	1231	1211	1202	1194
	2	1357	1315	1279	1249	1332	1294	1262	1235	1254	1229	1207	1218	1198	1180	1184	1169	1155
	3	1316	1261	1219	1185	1294	1245	1206	1175	1214	1182	1156	1185	1159	1137	1158	1137	1119
	4	1279	1216	1170	1134	1260	1203	1160	1127	1177	1142	1114	1154	1125	1101	1133	1108	1088
	5	1245	1176	1129	1093	1228	1166	1121	1088	1145	1107	1078	1126	1094	1069	1109	1081	1059
	6	1213	1142	1094	1059	1199	1133	1088	1056	1116	1077	1048	1101	1067	1041	1086	1057	1034
	7	1185	1111	1064	1030	1172	1104	1059	1027	1090	1051	1022	1077	1043	1017	1065	1035	1011
	8	1158	1084	1037	1005	1147	1078	1034	1003	1066	1027	999	1056	1021	995	1045	1014	991
	9	1134	1060	1014	983	1124	1055	1011	982	1045	1006	979	1036	1001	975	1027	995	972
	10	1112	1038	994	964	1103	1034	991	963	1025	987	960	1017	982	958	1010	978	955

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	486.1 fc	1.2 ft
6.5 ft	348.0 fc	1.4 ft
7.5 ft	261.4 fc	1.7 ft
8.0 ft	229.8 fc	1.8 ft
10.0 ft	147.0 fc	2.2 ft
12.0 ft	102.1 fc	2.6 ft
14.0 ft	75.0 fc	3.1 ft
16.0 ft	57.4 fc	3.5 ft
20.0 ft	36.8 fc	4.4 ft
24.0 ft	25.5 fc	5.3 ft
28.0 ft	18.8 fc	6.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	4569787	4569787	4569787
45.00°	25491	24884	21324
55.00°	11612	11815	11914
65.00°	3207	3436	3127
75.00°	1753	1765	2125
85.00°	3944	5941	4421

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	10.5	11.5	10.9	11.8	12.2	10.8	11.7	11.2	12.1	12.4
	3H	10.5	11.4	10.9	11.7	12.1	10.8	11.6	11.2	11.9	12.3
	4H	10.5	11.3	11.0	11.7	12.1	10.7	11.5	11.2	11.9	12.3
	6H	10.5	11.2	11.0	11.6	12.0	10.8	11.5	11.2	11.9	12.3
	8H	10.5	11.2	11.0	11.6	12.0	10.8	11.5	11.2	11.9	12.3
	12H	10.6	11.2	11.1	11.6	12.1	10.9	11.5	11.3	11.9	12.3
4H	2H	10.4	11.2	10.8	11.5	11.9	10.6	11.4	11.0	11.8	12.2
	3H	10.4	11.1	10.9	11.5	11.9	10.6	11.2	11.0	11.7	12.1
	4H	10.5	11.1	11.0	11.5	12.0	10.6	11.2	11.1	11.6	12.1
	6H	10.6	11.1	11.1	11.5	12.0	10.8	11.2	11.2	11.7	12.2
	8H	10.7	11.1	11.2	11.6	12.1	10.9	11.3	11.4	11.8	12.3
	12H	10.8	11.2	11.3	11.7	12.2	11.0	11.4	11.5	11.9	12.4
8H	4H	10.4	10.8	10.9	11.3	11.8	10.5	10.9	11.0	11.4	11.9
	6H	10.6	10.9	11.1	11.5	12.0	10.8	11.1	11.3	11.7	12.2
	8H	10.8	11.1	11.3	11.6	12.1	11.0	11.4	11.6	11.9	12.4
	12H	11.2	11.4	11.7	12.0	12.6	11.3	11.6	11.9	12.1	12.7
12H	4H	10.3	10.7	10.8	11.2	11.7	10.5	10.8	11.0	11.3	11.8
	6H	10.6	10.9	11.1	11.4	11.9	10.8	11.1	11.3	11.6	12.1
	8H	10.8	11.1	11.4	11.6	12.2	11.1	11.4	11.6	11.9	12.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0