

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2SP RB2BS xx RA2LL

2" Adjustable Track Luminaire with extra narrow spot optic, linear spread lens
and standard bezel

Test Number

SP-01591

Test Date

9/27/2023

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

Summary of Results

Power

Input Watts	6.9 W
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Lumen Output

Output Lumens	564
Efficacy	81.81 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.68
Two luminaires, plane 90°	0.36
Four luminaires	0.47

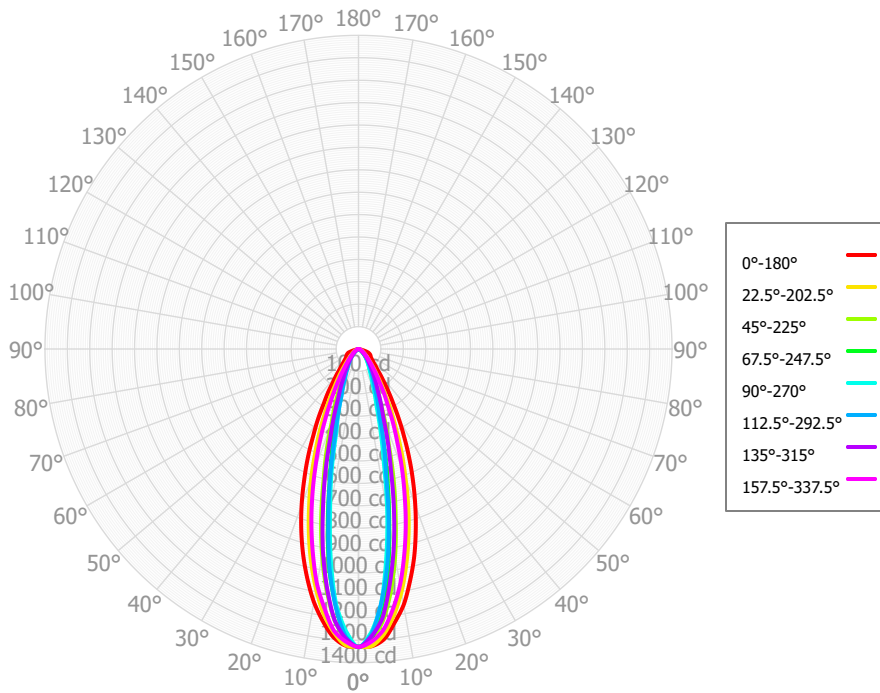
Full Beam Angle

0° - 180°	44°
90° - 270°	22°

IES File Header Contents

Keyword	Value
TEST	SP-01591
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/03/2023
LUMCAT	STR2 835 07 xx xx RD2SP RB2BS xx RA2LL
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, linear spread lens and standard bezel
OTHER	Beam Angle: 44 x 22 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	107.68	19.08%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	174.01	30.83%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	124.72	22.09%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	73.67	13.05%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	41.69	7.39%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	23.37	4.14%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	13.42	2.38%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.01	0.89%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.89	0.16%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	564.46	100.00%	0.00° - 180.00°	564.46	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°	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17	1330.17
2.50°	1328.94	1327.85	1302.96	1297.70	1269.18	1286.42	1294.20	1307.64	1325.78	1323.60	1296.55	1294.09	1262.79	1278.95	1286.91	1308.71	1328.94
5.00°	1301.63	1281.36	1223.91	1166.03	1147.47	1159.03	1216.70	1262.35	1290.98	1269.66	1218.49	1152.99	1145.09	1145.67	1210.33	1261.09	1301.63
7.50°	1233.05	1201.79	1097.69	1005.61	947.50	989.48	1076.64	1166.87	1224.60	1192.94	1087.40	997.02	949.01	981.44	1063.80	1173.27	1233.05
10.00°	1160.75	1103.20	940.88	790.28	738.82	774.40	915.14	1066.26	1147.31	1089.78	936.54	789.05	730.31	776.87	905.33	1069.03	1160.75
12.50°	1062.07	985.90	766.38	596.74	523.99	584.02	732.85	939.35	1052.89	976.72	769.76	589.79	552.38	567.23	730.51	942.85	1062.07
15.00°	960.79	862.62	606.24	428.11	381.73	410.34	571.15	812.36	953.58	855.56	600.22	446.50	380.77	434.22	559.96	814.81	960.79
17.50°	849.89	738.11	450.90	312.19	269.27	304.02	421.49	685.01	849.61	732.89	472.51	322.54	299.38	309.83	435.84	685.24	849.89
20.00°	740.80	613.41	348.30	232.96	209.64	223.91	320.25	563.28	742.71	618.96	350.80	254.29	223.46	248.27	324.23	567.07	740.80
22.50°	635.27	505.00	253.39	182.96	160.68	178.88	235.43	454.90	634.07	507.05	278.35	198.06	183.75	193.60	257.98	454.59	635.27
25.00°	534.82	400.10	202.93	145.16	133.33	140.38	187.18	358.15	534.66	414.15	213.02	161.97	148.62	160.31	201.83	365.40	534.82
27.50°	440.53	320.68	155.41	120.05	107.97	117.23	144.40	277.98	438.30	326.53	173.92	133.46	126.92	132.06	165.97	282.40	440.53
30.00°	359.67	247.39	127.25	97.57	93.13	95.49	120.02	214.05	361.69	259.29	139.78	112.61	107.84	112.55	135.65	225.88	359.67
32.50°	288.76	193.99	101.58	84.13	79.14	82.14	96.70	164.19	287.92	200.25	115.72	96.27	93.09	95.76	111.95	172.72	288.76
35.00°	234.37	148.61	84.01	71.33	68.83	69.61	81.08	127.86	236.58	157.95	95.22	82.69	80.57	81.91	92.77	139.68	234.37
37.50°	187.40	117.56	68.26	61.19	59.33	60.41	66.47	98.54	187.63	123.32	79.00	71.12	70.34	70.75	76.89	108.57	187.40
40.00°	154.84	92.62	55.89	51.46	51.61	51.57	55.24	79.43	155.70	98.26	65.10	60.28	61.05	61.35	64.08	88.24	154.84
42.50°	125.58	74.25	45.24	43.50	44.32	43.50	44.82	63.29	127.05	79.10	52.90	51.41	52.35	52.12	52.61	70.10	125.58
45.00°	108.86	60.27	36.50	35.96	37.60	36.04	35.93	51.91	109.18	64.43	43.15	42.87	44.11	42.94	43.26	57.97	108.86
47.50°	93.33	49.24	29.44	29.37	30.94	29.33	28.66	41.17	93.93	53.52	34.48	34.83	36.02	35.04	34.38	47.26	93.33
50.00°	83.86	41.60	23.54	23.44	24.33	23.57	23.22	35.06	83.51	44.29	28.33	27.06	28.77	27.37	27.50	38.78	83.86
52.50°	75.07	35.26	18.72	18.39	19.15	18.55	18.57	29.28	75.20	38.06	22.75	21.56	21.66	22.17	20.91	31.79	75.07
55.00°	69.45	29.99	14.34	14.04	14.67	14.31	14.45	25.60	69.21	32.55	17.92	16.45	16.73	17.15	16.80	26.27	69.45
57.50°	64.82	24.92	11.50	10.28	11.00	10.43	10.98	21.93	65.25	27.74	13.21	12.69	11.99	13.20	12.85	22.19	64.82
60.00°	62.59	22.19	8.97	7.46	7.56	7.24	7.76	18.29	62.68	23.08	9.73	9.13	8.51	9.41	9.63	18.96	62.59
62.50°	59.87	19.51	6.37	5.10	5.64	4.22	5.69	15.01	59.81	20.49	6.69	5.97	5.54	6.24	6.86	15.72	59.87
65.00°	56.46	16.33	3.91	3.85	3.90	3.29	3.84	12.35	56.82	17.81	5.65	3.72	4.46	3.83	5.15	12.48	56.46
67.50°	51.63	13.04	3.33	2.90	3.11	2.55	2.92	9.67	52.77	14.66	4.51	2.54	3.46	2.99	3.73	9.92	51.63
70.00°	45.57	9.30	2.67	2.19	2.33	2.03	2.08	6.96	48.51	11.50	3.11	1.97	2.65	2.24	2.71	7.47	45.57
72.50°	34.31	5.99	1.74	1.52	1.62	1.53	1.53	4.61	35.42	8.27	2.11	1.85	1.93	1.62	1.96	5.71	34.31
75.00°	20.31	3.54	1.03	1.17	1.07	1.14	1.06	2.49	22.06	5.27	1.64	1.47	1.31	1.17	1.45	3.98	20.31
77.50°	10.46	1.82	0.81	0.86	0.96	0.86	0.90	1.52	10.81	2.60	1.27	0.98	0.99	0.84	1.07	2.37	10.46
80.00°	1.82	1.02	0.68	0.76	0.92	0.85	0.78	0.95	1.64	1.17	0.96	0.84	0.88	0.74	0.74	1.09	1.82
82.50°	0.87	0.70	0.67	0.75	0.99	0.82	0.72	0.82	1.16	0.83	0.82	0.77	0.86	0.74	0.68	0.90	0.87
85.00°	0.78	0.76	0.67	0.97	0.98	0.79	0.72	0.77	0.81	0.72	0.77	0.68	0.88	0.72	0.69	0.80	0.78
87.50°	0.77	0.71	0.67	1.05	0.89	0.80	0.80	0.86	0.74	0.72	0.80	0.61	0.84	0.70	0.70	0.85	0.77
90.00°	0.77	0.61	0.70	0.91	0.93	0.84	0.82	0.96	0.75	0.67	0.86	0.74	0.79	0.86	0.72	0.84	0.77

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%	30%
	0	672	672	672	672	656	656	656	656	627	627	627	600	600	600	576	576	564
	1	640	624	609	597	626	612	599	587	589	578	569	568	560	552	548	542	531
	2	608	580	557	537	595	570	549	531	552	535	520	535	521	508	519	508	498
	3	578	541	513	491	566	533	507	487	519	497	479	505	487	471	492	477	468
	4	550	507	476	453	540	501	472	450	489	464	445	478	456	439	467	449	441
	5	524	478	445	421	515	472	442	419	462	436	416	453	430	412	444	424	417
	6	500	451	418	395	492	447	416	393	438	411	391	430	406	388	423	402	395
	7	478	428	395	372	471	424	393	371	417	389	369	410	385	367	404	382	375
	8	458	406	374	352	451	403	372	351	397	369	350	392	366	348	386	364	358
	9	439	387	356	334	433	385	354	334	379	352	332	375	349	331	370	347	342
	10	422	370	339	318	417	368	338	318	363	336	317	359	334	316	355	332	327

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	44.0 fc	4.4 ft
6.5 ft	31.5 fc	5.2 ft
7.5 ft	23.6 fc	6.0 ft
8.0 ft	20.8 fc	6.4 ft
10.0 ft	13.3 fc	8.0 ft
12.0 ft	9.2 fc	9.6 ft
14.0 ft	6.8 fc	11.2 ft
16.0 ft	5.2 fc	12.8 ft
20.0 ft	3.3 fc	16.0 ft
24.0 ft	2.3 fc	19.2 ft
28.0 ft	1.7 fc	22.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	413379	413379	413379
45.00°	47845	16043	16524
55.00°	37629	7768	7947
65.00°	41518	2878	2869
75.00°	24384	1234	1286
85.00°	2777	2385	3489

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	18.2	19.3	18.6	19.6	19.9	11.3	12.4	11.6	12.7	13.0
	3H	21.6	22.5	21.9	22.9	23.2	11.4	12.4	11.8	12.7	13.1
	4H	22.3	23.2	22.7	23.5	23.9	11.4	12.3	11.8	12.7	13.1
	6H	22.3	23.2	22.8	23.5	23.9	11.4	12.3	11.8	12.6	13.0
	8H	22.3	23.1	22.7	23.5	23.9	11.5	12.2	11.9	12.6	13.0
	12H	22.2	23.0	22.7	23.4	23.8	11.5	12.3	12.0	12.6	13.1
4H	2H	18.0	18.9	18.4	19.2	19.6	11.3	12.2	11.7	12.5	12.9
	3H	21.3	22.1	21.8	22.5	22.9	11.5	12.3	11.9	12.7	13.1
	4H	22.0	22.7	22.5	23.1	23.6	11.6	12.2	12.0	12.6	13.1
	6H	22.1	22.7	22.6	23.1	23.6	11.6	12.2	12.1	12.6	13.1
	8H	22.1	22.6	22.5	23.0	23.5	11.7	12.2	12.1	12.6	13.1
	12H	22.0	22.5	22.5	22.9	23.4	11.8	12.2	12.3	12.7	13.2
8H	4H	21.9	22.4	22.4	22.8	23.3	11.7	12.2	12.1	12.6	13.1
	6H	21.9	22.4	22.5	22.9	23.3	11.7	12.2	12.2	12.7	13.1
	8H	21.9	22.3	22.4	22.8	23.3	11.8	12.2	12.4	12.7	13.2
	12H	21.9	22.2	22.4	22.7	23.2	12.1	12.4	12.6	12.9	13.5
12H	4H	21.8	22.3	22.3	22.8	23.2	11.6	12.1	12.1	12.6	13.1
	6H	21.9	22.3	22.4	22.7	23.3	11.7	12.1	12.3	12.6	13.1
	8H	21.8	22.2	22.4	22.7	23.2	11.9	12.2	12.4	12.7	13.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0