

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2SP RB2BD xx RA2HL

2" Adjustable Track Luminaire with spot optic, hex louver and snoot/deep
cutoff bezel

Test Number

SP-01582

Test Date

9/26/2023

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	504
Efficacy	73.06 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.34
Two luminaires, plane 90°	0.34
Four luminaires	0.33

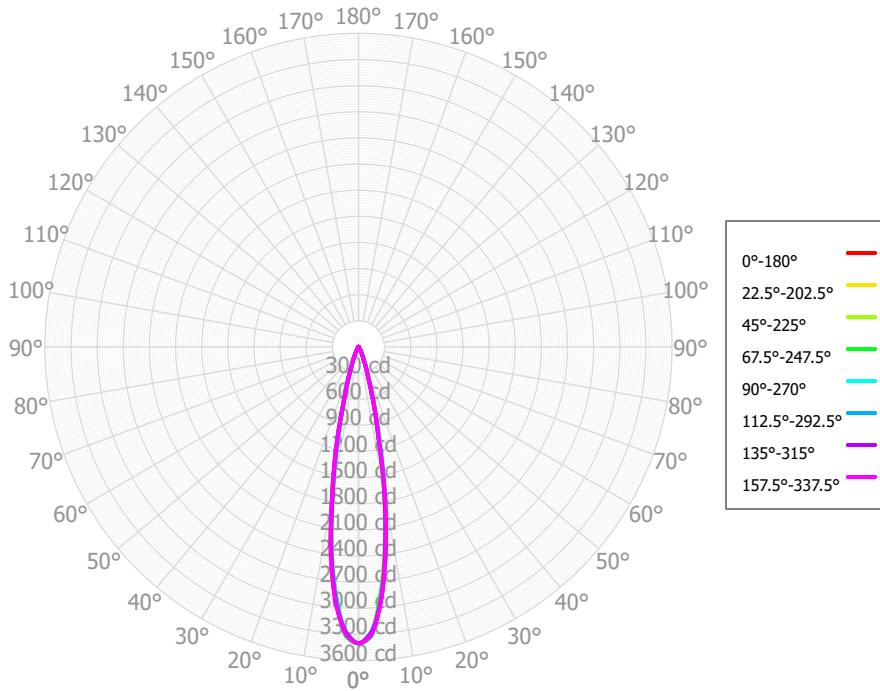
Full Beam Angle

0° - 180°	20°
90° - 270°	20°

IES File Header Contents

Keyword	Value
TEST	SP-01582
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 07 xx xx RD2SP RB2BD xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, hex louver and snoot/deep cutoff bezel
OTHER	Beam Angle: 20 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°	240.44	47.70%	90.00° - 100.00°	0.84	0.17%
10.00° - 20.00°	197.09	39.10%	100.00° - 110.00°	0.79	0.16%
20.00° - 30.00°	48.74	9.67%	100.00° - 120.00°	1.49	0.30%
30.00° - 40.00°	8.73	1.73%	120.00° - 130.00°	0.65	0.13%
40.00° - 50.00°	1.22	0.24%	130.00° - 140.00°	0.63	0.12%
50.00° - 60.00°	0.69	0.14%	140.00° - 150.00°	0.55	0.11%
60.00° - 70.00°	0.73	0.14%	150.00° - 160.00°	0.40	0.08%
70.00° - 80.00°	0.74	0.15%	160.00° - 170.00°	0.24	0.05%
80.00° - 90.00°	0.82	0.16%	170.00° - 180.00°	0.08	0.02%
0.00° - 90.00°	499.20	99.03%	0.00° - 180.00°	504.08	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°	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45	3401.45
2.50°	3311.42	3292.80	3294.43	3324.61	3277.94	3301.50	3280.47	3302.25	3300.18	3297.44	3295.14	3322.56	3278.53	3319.83	3287.82	3309.37	3311.42
5.00°	2930.78	2905.05	2866.37	2875.94	2938.83	2912.35	2966.88	2963.16	2949.78	2936.19	2891.29	2899.52	2923.14	2908.41	2941.91	2940.27	2930.78
7.50°	2390.41	2342.42	2306.51	2374.87	2392.17	2402.66	2387.97	2427.59	2428.36	2396.19	2358.50	2400.31	2362.04	2382.80	2336.85	2386.08	2390.41
10.00°	1751.74	1713.62	1669.85	1708.05	1732.41	1724.46	1708.74	1750.87	1751.79	1712.83	1667.07	1708.17	1732.37	1724.54	1710.33	1750.83	1751.74
12.50°	1076.58	1055.80	1014.18	1051.29	1183.90	1154.45	1159.92	1183.30	1180.82	1149.76	1101.38	1108.59	1057.52	1039.71	1064.35	1075.95	1076.58
15.00°	694.82	677.10	666.46	698.28	675.91	691.45	641.43	670.93	678.37	654.17	646.97	667.44	648.24	676.34	650.50	683.49	694.82
17.50°	381.21	376.74	357.78	376.61	434.18	408.52	415.90	411.14	407.50	397.14	378.48	364.32	359.12	341.61	384.96	383.24	381.21
20.00°	256.73	250.44	245.84	255.84	252.82	253.37	225.28	235.62	239.60	231.59	225.78	229.25	224.72	238.05	240.36	251.47	256.73
22.50°	154.74	151.77	142.78	150.49	170.04	160.78	156.70	155.80	157.33	152.83	142.81	140.30	136.36	139.70	149.50	152.73	154.74
25.00°	108.90	105.39	98.76	99.61	98.54	99.41	93.00	95.29	100.01	94.61	89.96	91.18	91.02	96.30	98.75	104.94	108.90
27.50°	65.57	62.71	58.03	57.65	65.50	63.47	64.33	65.24	66.37	62.26	58.87	57.64	52.90	56.92	59.68	61.63	65.57
30.00°	42.61	41.39	37.91	36.20	34.36	35.87	37.76	37.91	36.59	33.07	33.79	33.71	34.32	37.35	38.12	39.66	42.61
32.50°	21.82	21.47	20.35	19.82	21.06	22.02	23.37	24.80	22.82	21.05	20.92	20.17	17.29	20.61	19.40	19.06	21.82
35.00°	13.54	12.66	11.70	11.56	9.25	10.82	11.21	12.38	10.29	9.92	9.93	10.98	10.79	12.30	11.76	12.40	13.54
37.50°	6.58	5.21	5.15	5.86	5.81	7.17	6.55	7.68	6.46	6.51	6.09	6.63	4.81	5.96	4.95	6.46	6.58
40.00°	4.02	3.27	3.29	3.04	2.98	4.17	3.06	3.57	2.95	3.44	2.71	3.60	3.21	3.52	3.25	3.99	4.02
42.50°	2.04	1.75	1.94	1.61	2.13	2.60	2.13	2.42	1.99	2.26	1.91	2.30	1.81	1.85	1.71	2.01	2.04
45.00°	1.31	1.34	1.38	1.31	1.47	1.15	1.43	1.47	1.16	1.29	1.20	1.25	1.27	1.23	1.36	1.43	1.31
47.50°	0.86	1.02	1.03	1.04	1.21	1.02	1.08	1.08	0.87	1.02	1.08	1.01	0.86	0.94	1.04	0.99	0.86
50.00°	0.80	0.85	0.93	0.80	0.99	0.92	0.89	0.80	0.65	0.83	0.96	0.82	0.82	0.96	0.85	0.86	0.80
52.50°	0.78	0.77	0.86	0.70	0.82	0.93	0.89	0.75	0.66	0.83	0.84	0.75	0.76	0.93	0.70	0.77	0.78
55.00°	0.80	0.81	0.81	0.66	0.77	0.91	0.89	0.77	0.65	0.79	0.73	0.68	0.66	0.86	0.63	0.74	0.80
57.50°	0.74	0.80	0.74	0.73	0.84	0.80	0.90	0.88	0.62	0.71	0.66	0.61	0.61	0.85	0.59	0.75	0.74
60.00°	0.62	0.75	0.66	0.83	0.78	0.75	0.81	0.92	0.66	0.63	0.70	0.58	0.63	0.88	0.62	0.78	0.62
62.50°	0.66	0.73	0.61	0.85	0.61	0.80	0.65	0.89	0.78	0.55	0.93	0.72	0.64	0.85	0.67	0.88	0.66
65.00°	0.77	0.72	0.58	0.85	0.57	0.79	0.61	0.81	0.80	0.58	0.98	0.81	0.63	0.82	0.77	1.01	0.77
67.50°	0.79	0.72	0.61	0.71	0.59	0.68	0.62	0.71	0.71	0.70	0.83	0.78	0.58	0.79	0.75	1.03	0.79
70.00°	0.78	0.73	0.66	0.57	0.63	0.62	0.70	0.74	0.80	0.68	0.77	0.74	0.51	0.78	0.61	0.98	0.78
72.50°	0.74	0.59	0.72	0.54	0.67	0.61	0.80	0.83	1.00	0.58	0.78	0.70	0.52	0.67	0.64	0.88	0.74
75.00°	0.71	0.40	0.77	0.52	0.70	0.60	0.68	0.93	0.87	0.66	0.80	0.70	0.58	0.57	0.78	0.78	0.71
77.50°	0.67	0.43	0.68	0.61	0.72	0.59	0.52	1.03	0.60	0.82	0.82	0.74	0.72	0.71	0.73	0.69	0.67
80.00°	0.63	0.49	0.59	0.69	0.67	0.64	0.55	0.94	0.67	0.79	0.88	0.73	0.89	0.84	0.60	0.62	0.63
82.50°	0.81	0.70	0.62	0.74	0.62	0.72	0.58	0.81	0.85	0.73	0.96	0.69	0.80	0.71	0.68	0.77	0.81
85.00°	0.98	0.90	0.63	0.79	0.72	0.76	0.63	0.81	0.83	0.77	0.91	0.60	0.66	0.62	0.83	0.93	0.98
87.50°	0.86	0.80	0.60	0.83	0.81	0.79	0.67	0.82	0.78	0.82	0.82	0.47	0.84	0.70	0.83	0.79	0.86
90.00°	0.76	0.71	0.61	0.87	0.83	0.73	0.71	0.78	0.73	0.85	0.79	0.56	1.02	0.76	0.81	0.67	0.76
92.50°	0.71	0.67	0.72	0.92	0.83	0.65	0.74	0.74	0.69	0.89	0.76	0.75	0.84	0.74	0.83	0.70	0.71
95.00°	0.66	0.68	0.84	0.88	0.76	0.64	0.78	0.65	0.77	0.84	0.76	0.75	0.68	0.83	0.85	0.76	0.66
97.50°	0.56	0.80	0.95	0.76	0.69	0.63	0.81	0.59	0.84	0.79	0.76	0.71	0.65	1.13	0.86	0.94	0.56
100.00°	0.51	0.86	0.96	0.71	0.61	0.77	0.81	0.67	0.78	0.64	0.79	0.67	0.62	1.19	0.86	1.07	0.51
102.50°	0.55	0.77	0.82	0.72	0.57	0.89	0.83	0.72	0.75	0.56	0.80	0.63	0.63	0.91	0.73	1.04	0.55
105.00°	0.59	0.75	0.67	0.70	0.62	0.85	0.88	0.70	0.85	0.67	0.68	0.73	0.67	0.76	0.66	0.96	0.59

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	599	599	599	599	584	584	584	584	557	557	557	533	533	533	510	510	499
	1	580	570	561	553	568	559	551	544	538	532	526	519	514	510	501	498	487
	2	563	546	532	520	552	537	525	514	521	511	503	506	498	491	492	486	477
	3	547	526	509	496	538	519	504	492	506	494	484	494	484	476	483	475	466
	4	533	508	490	477	525	503	486	474	493	479	468	483	472	462	474	465	456
	5	520	493	474	461	513	489	471	459	480	466	454	472	460	450	465	455	447
	6	507	479	461	447	501	476	458	445	469	454	442	462	449	439	456	445	438
	7	496	467	448	435	490	464	446	434	458	443	432	453	439	429	448	436	429
	8	485	456	437	425	480	453	436	424	448	433	422	444	430	420	440	427	421
	9	475	445	427	415	471	443	426	414	439	424	413	435	421	412	432	419	413
	10	465	436	418	406	461	434	417	406	430	415	405	427	413	404	424	411	406

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	112.4 fc	2.0 ft
6.5 ft	80.5 fc	2.3 ft
7.5 ft	60.5 fc	2.7 ft
8.0 ft	53.1 fc	2.9 ft
10.0 ft	34.0 fc	3.6 ft
12.0 ft	23.6 fc	4.3 ft
14.0 ft	17.4 fc	5.0 ft
16.0 ft	13.3 fc	5.8 ft
20.0 ft	8.5 fc	7.2 ft
24.0 ft	5.9 fc	8.6 ft
28.0 ft	4.3 fc	10.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1057074	1057074	1057074
45.00°	578	605	647
55.00°	432	441	417
65.00°	568	426	419
75.00°	851	920	835
85.00°	3499	2246	2563

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	-6.9	-6.0	-6.5	-5.7	-5.3	-7.4	-6.5	-7.0	-6.1	-5.8
	3H	-3.0	-2.2	-2.6	-1.8	-1.5	-4.3	-3.5	-3.9	-3.2	-2.8
	4H	-1.5	-0.8	-1.1	-0.4	0.0	-2.6	-1.9	-2.1	-1.5	-1.1
	6H	0.0	0.6	0.4	1.0	1.5	-0.1	0.5	0.3	0.9	1.4
	8H	1.3	1.9	1.7	2.3	2.7	1.1	1.7	1.6	2.2	2.6
	12H	3.2	3.8	3.7	4.2	4.7	2.4	3.0	2.9	3.4	3.9
4H	2H	-6.1	-5.4	-5.7	-5.0	-4.6	-6.0	-5.3	-5.6	-4.9	-4.5
	3H	-2.0	-1.4	-1.6	-1.0	-0.6	-2.8	-2.2	-2.4	-1.8	-1.4
	4H	-0.5	0.1	0.0	0.5	1.0	-1.0	-0.5	-0.6	-0.1	0.4
	6H	1.2	1.7	1.7	2.1	2.6	1.5	1.9	1.9	2.4	2.9
	8H	2.7	3.1	3.2	3.6	4.1	2.8	3.2	3.3	3.6	4.1
	12H	4.9	5.2	5.4	5.7	6.2	4.1	4.5	4.6	5.0	5.5
8H	4H	0.2	0.6	0.7	1.1	1.6	-0.1	0.3	0.4	0.8	1.3
	6H	2.1	2.4	2.6	3.0	3.5	2.5	2.9	3.1	3.4	3.9
	8H	3.8	4.1	4.4	4.6	5.2	4.0	4.3	4.5	4.8	5.3
	12H	6.3	6.5	6.8	7.1	7.7	5.6	5.8	6.1	6.3	6.9
12H	4H	0.4	0.7	0.9	1.2	1.7	0.2	0.6	0.7	1.1	1.6
	6H	2.4	2.7	3.0	3.2	3.8	2.9	3.2	3.5	3.7	4.3
	8H	4.3	4.5	4.8	5.1	5.7	4.5	4.8	5.1	5.3	5.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0