

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2XS RB2BD xx RA2HL

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

Test Number

SP-01581

Test Date

2/19/2024

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	482
Efficacy	69.81 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.2
Two luminaires, plane 90°	0.21
Four luminaires	0.22

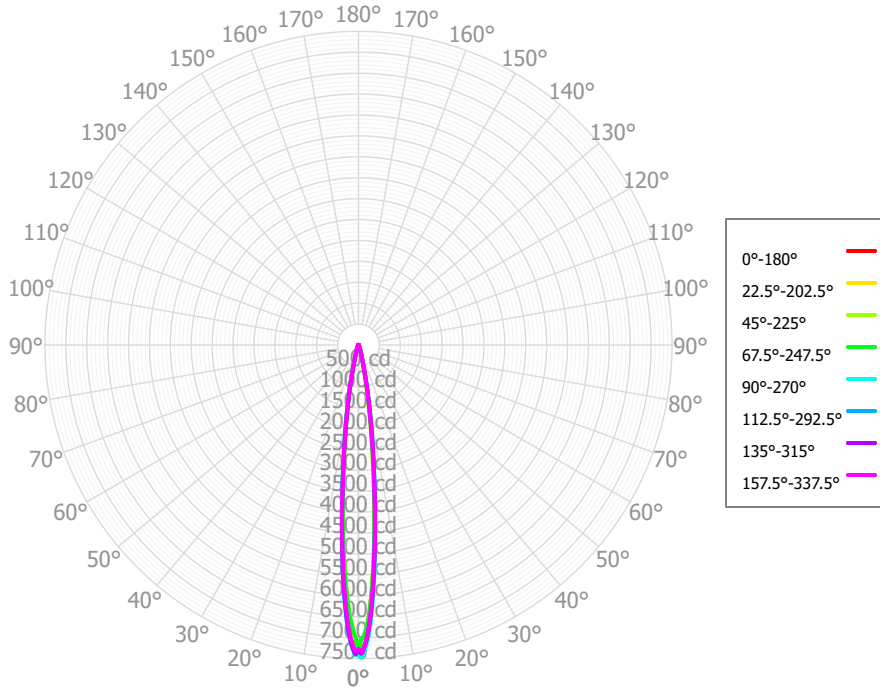
Full Beam Angle

0° - 180°	12°
90° - 270°	12°

IES File Header Contents

Keyword	Value
TEST	SP-01581
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/19/2024
ISSUEDATE	2/19/2024
LUMCAT	STR2 835 07 xx xx RD2XS RB2BD xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, hex louver and snoot/deep cutoff 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	321.94	66.83%	90.00° - 100.00°	0.84	0.17%
10.00° - 20.00°	117.81	24.46%	100.00° - 110.00°	0.85	0.18%
20.00° - 30.00°	27.37	5.68%	100.00° - 120.00°	1.67	0.35%
30.00° - 40.00°	4.97	1.03%	120.00° - 130.00°	0.77	0.16%
40.00° - 50.00°	0.94	0.20%	130.00° - 140.00°	0.66	0.14%
50.00° - 60.00°	0.81	0.17%	140.00° - 150.00°	0.55	0.11%
60.00° - 70.00°	0.83	0.17%	150.00° - 160.00°	0.43	0.09%
70.00° - 80.00°	0.90	0.19%	160.00° - 170.00°	0.25	0.05%
80.00° - 90.00°	0.89	0.18%	170.00° - 180.00°	0.08	0.02%
0.00° - 90.00°	476.46	98.91%	0.00° - 180.00°	481.70	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°	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45	7284.45
0.50°	7246.05	7134.86	7063.88	7052.93	7482.40	7403.91	7397.19	7324.24	7214.38	7080.98	7011.10	7007.58	7425.52	7377.68	7383.34	7336.76	7246.05
1.00°	7141.04	7040.48	6970.88	6967.17	7358.69	7304.20	7277.66	7203.49	7081.14	6943.79	6861.73	6864.64	7299.27	7262.78	7268.65	7234.46	7141.04
1.50°	6950.84	6865.53	6826.29	6811.53	7194.86	7136.93	7085.56	7015.65	6887.72	6720.15	6638.08	6661.84	7090.53	7090.90	7090.05	7049.79	6950.84
2.00°	6723.59	6638.18	6563.24	6580.05	6961.00	6889.71	6842.43	6758.28	6608.89	6430.49	6362.19	6407.66	6817.73	6824.00	6850.84	6799.84	6723.59
2.50°	6420.89	6338.31	6268.80	6282.73	6652.73	6581.24	6512.03	6434.27	6281.04	6108.26	6055.66	6111.81	6483.06	6484.71	6535.36	6466.22	6420.89
3.00°	6043.04	6010.64	5914.37	5938.84	6298.80	6224.32	6155.16	6065.80	5919.47	5754.44	5723.84	5771.40	6105.67	6127.12	6166.17	6110.54	6043.04
3.50°	5652.77	5616.03	5527.35	5547.85	5894.07	5829.70	5782.53	5684.50	5542.59	5407.57	5376.67	5420.05	5690.06	5716.32	5770.28	5708.87	5652.77
4.00°	5246.28	5214.31	5160.53	5152.29	5469.04	5418.55	5379.05	5296.67	5167.81	5050.09	5012.15	5038.13	5299.74	5301.97	5344.81	5299.33	5246.28
4.50°	4847.26	4818.53	4753.29	4745.85	5034.59	4994.12	4952.08	4893.18	4791.01	4682.17	4636.71	4660.04	4920.03	4887.78	4925.69	4891.85	4847.26
5.00°	4455.97	4390.52	4332.00	4340.79	4608.60	4563.48	4526.90	4474.06	4406.94	4296.92	4261.82	4281.70	4548.62	4493.78	4511.14	4486.93	4455.97
5.50°	4056.66	3987.79	3925.50	3957.55	4201.19	4149.59	4108.84	4070.38	4014.04	3931.88	3892.27	3926.70	4152.47	4111.41	4095.58	4090.29	4056.66
6.00°	3674.14	3588.15	3529.86	3575.72	3792.35	3739.85	3703.12	3701.79	3670.37	3587.19	3530.65	3571.58	3788.08	3738.33	3703.11	3702.35	3674.14
6.50°	3303.77	3212.48	3150.81	3213.80	3419.95	3350.09	3321.08	3331.50	3336.32	3260.86	3201.88	3245.77	3444.65	3380.24	3335.59	3324.98	3303.77
7.00°	2961.38	2855.55	2800.76	2876.56	3078.94	3002.42	2969.33	2998.42	3017.67	2955.50	2899.20	2931.37	3114.17	3048.19	3006.09	2991.92	2961.38
7.50°	2642.20	2528.83	2482.50	2571.88	2751.92	2693.88	2650.33	2687.71	2733.50	2669.52	2606.81	2643.52	2803.80	2743.53	2687.62	2681.82	2642.20
8.00°	2346.60	2230.08	2196.98	2292.57	2458.73	2405.75	2359.30	2408.68	2455.75	2405.35	2339.32	2373.18	2523.78	2461.57	2395.68	2379.73	2346.60
8.50°	2071.89	1964.33	1937.94	2033.19	2188.93	2143.71	2097.41	2148.13	2212.10	2158.09	2098.15	2131.11	2260.33	2205.51	2123.74	2110.85	2071.89
9.00°	1807.34	1725.37	1697.76	1791.56	1933.80	1906.08	1862.83	1916.46	1981.83	1925.06	1873.70	1907.39	2015.37	1967.14	1891.01	1867.57	1807.34
9.50°	1573.41	1505.54	1477.92	1572.62	1698.41	1683.80	1641.69	1694.54	1768.26	1707.77	1665.60	1699.77	1793.96	1748.15	1669.33	1632.35	1573.41
10.00°	1363.71	1310.74	1286.12	1371.07	1488.05	1477.79	1444.94	1494.86	1561.88	1509.61	1481.30	1510.71	1582.91	1546.13	1460.99	1425.80	1363.71
10.50°	1170.09	1119.09	1106.91	1186.13	1291.59	1286.53	1256.93	1314.12	1369.59	1335.17	1310.88	1339.44	1389.59	1351.39	1273.10	1232.07	1170.09
11.00°	998.20	963.22	941.64	1016.07	1107.74	1113.75	1095.81	1145.32	1196.64	1171.05	1150.74	1182.24	1216.20	1188.16	1103.92	1063.55	998.20
11.50°	849.05	819.72	808.23	864.09	950.91	957.09	944.66	995.69	1042.60	1022.21	1009.92	1039.51	1056.95	1028.50	948.24	906.76	849.05
12.00°	717.96	693.57	688.06	734.69	807.71	812.85	815.62	859.15	902.55	886.77	881.15	898.38	907.91	888.32	811.53	772.75	717.96
12.50°	607.08	588.82	584.48	626.55	687.80	689.64	696.12	735.62	778.16	764.50	763.56	778.87	775.75	758.43	693.95	653.90	607.08
13.00°	513.77	501.70	497.43	531.62	584.95	586.38	595.21	632.92	666.02	658.21	655.75	669.03	657.06	645.10	587.78	551.69	513.77
13.50°	435.11	428.69	427.38	457.62	499.32	499.09	509.87	541.73	568.18	562.26	562.99	568.56	559.79	543.92	497.28	467.55	435.11
14.00°	370.88	366.89	370.67	394.19	427.54	426.97	439.55	469.89	486.65	482.47	483.93	486.20	472.96	458.34	421.72	398.97	370.88
14.50°	318.60	318.66	323.05	343.27	371.26	371.20	381.09	405.70	417.10	412.68	414.33	415.50	402.50	390.56	362.53	342.25	318.60
15.00°	278.63	279.09	285.11	302.28	323.95	321.85	332.12	355.33	359.47	355.66	358.85	356.20	345.04	333.66	312.25	296.02	278.63
15.50°	247.52	245.59	251.85	267.45	285.19	280.71	291.77	314.99	314.56	307.36	307.59	306.05	297.06	287.04	267.97	259.05	247.52
16.00°	219.68	220.19	225.27	239.21	255.89	252.89	261.20	278.63	277.19	269.10	269.23	267.41	259.49	251.02	236.99	228.72	219.68
16.50°	198.62	200.50	203.01	217.37	230.33	225.09	232.30	248.83	249.24	237.33	238.31	236.96	228.32	220.97	211.85	206.17	198.62
17.00°	178.57	184.08	186.20	198.74	208.61	204.42	210.43	225.77	219.93	211.65	211.17	209.28	203.60	196.02	190.62	188.56	178.57
17.50°	163.40	166.78	170.86	182.74	189.27	186.61	189.37	204.96	200.18	189.99	189.84	188.27	183.60	174.52	173.46	168.63	163.40
18.00°	149.85	152.50	155.95	169.32	173.65	171.38	176.30	186.05	183.15	173.22	171.48	170.84	165.36	158.66	159.25	152.77	149.85
18.50°	136.60	140.13	143.95	157.39	158.37	156.86	161.42	172.75	166.53	159.98	155.95	157.50	151.13	142.21	145.29	141.92	136.60
19.00°	128.02	131.31	133.51	144.77	148.48	143.40	149.80	161.85	153.15	143.92	143.05	142.08	139.91	133.91	133.18	132.62	128.02
19.50°	122.28	120.17	122.66	132.64	140.41	134.05	136.06	150.21	141.96	134.13	132.01	131.31	129.34	122.82	123.57	122.48	122.28
20.00°	113.33	113.85	113.00	124.06	133.05	127.15	129.41	140.14	132.92	122.67	121.53	119.65	118.98	114.74	115.44	115.50	113.33
20.50°	105.59	103.27	106.08	115.03	120.65	119.30	122.40	130.10	122.61	115.29	110.84	110.73	112.36	105.14	108.24	108.09	105.59
21.00°	99.22	98.10	99.34	110.50	113.97	110.05	113.35	122.53	115.50	104.19	102.12	102.45	104.54	97.99	101.19	101.39	99.22

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	572	572	572	572	558	558	558	558	532	532	532	509	509	509	487	487	476
	1	556	547	539	532	544	537	530	524	517	511	507	498	494	491	482	479	469
	2	542	528	516	506	532	519	509	500	504	496	488	490	483	477	476	471	462
	3	530	512	497	486	521	505	492	482	493	483	474	482	473	466	471	465	456
	4	519	498	483	471	511	493	479	468	483	472	463	474	465	457	466	458	450
	5	509	486	471	460	502	482	468	457	474	463	453	467	457	449	460	452	444
	6	499	476	461	450	494	473	459	448	467	454	445	461	450	442	455	446	439
	7	491	468	452	442	486	465	451	441	460	447	438	455	444	436	450	441	434
	8	483	460	445	435	479	457	443	434	453	441	432	449	438	430	445	435	429
	9	476	453	438	428	473	451	437	428	447	435	426	443	433	425	440	431	424
	10	470	446	432	423	466	444	431	422	441	429	421	438	428	420	436	426	420

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	240.8 fc	1.1 ft
6.5 ft	172.4 fc	1.3 ft
7.5 ft	129.5 fc	1.6 ft
8.0 ft	113.8 fc	1.7 ft
10.0 ft	72.8 fc	2.1 ft
12.0 ft	50.6 fc	2.5 ft
14.0 ft	37.2 fc	2.9 ft
16.0 ft	28.5 fc	3.3 ft
20.0 ft	18.2 fc	4.1 ft
24.0 ft	12.6 fc	5.0 ft
28.0 ft	9.3 fc	5.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2263801	2263801	2263801
45.00°	395	521	480
55.00°	434	349	433
65.00°	673	642	260
75.00°	711	1228	1068
85.00°	2544	2453	3239

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	-5.3	-4.4	-4.9	-4.0	-3.7	-5.3	-4.5	-5.0	-4.1	-3.8
	3H	-2.1	-1.4	-1.7	-1.0	-0.6	-2.8	-2.1	-2.4	-1.7	-1.3
	4H	-1.0	-0.3	-0.6	0.1	0.5	-0.9	-0.2	-0.5	0.2	0.6
	6H	0.7	1.3	1.1	1.7	2.2	2.1	2.8	2.5	3.2	3.6
	8H	1.8	2.4	2.3	2.9	3.3	3.3	3.9	3.8	4.3	4.8
	12H	3.1	3.6	3.5	4.0	4.5	4.4	5.0	4.9	5.4	5.9
4H	2H	-4.5	-3.8	-4.1	-3.4	-3.0	-4.4	-3.7	-3.9	-3.3	-2.9
	3H	-1.2	-0.6	-0.8	-0.2	0.2	-1.6	-1.0	-1.1	-0.6	-0.1
	4H	0.2	0.7	0.7	1.2	1.7	0.6	1.1	1.0	1.6	2.0
	6H	2.1	2.6	2.6	3.0	3.5	3.7	4.2	4.2	4.6	5.1
	8H	3.3	3.8	3.8	4.2	4.7	5.0	5.4	5.5	5.9	6.4
	12H	4.7	5.1	5.2	5.6	6.1	6.2	6.6	6.8	7.1	7.6
8H	4H	1.2	1.6	1.7	2.1	2.6	1.8	2.2	2.3	2.7	3.2
	6H	3.4	3.7	3.9	4.2	4.7	5.0	5.4	5.6	5.9	6.4
	8H	4.7	4.9	5.2	5.5	6.0	6.4	6.7	7.0	7.3	7.8
	12H	6.3	6.5	6.8	7.0	7.6	7.8	8.1	8.4	8.6	9.2
12H	4H	1.5	1.8	2.0	2.3	2.8	2.0	2.4	2.6	2.9	3.4
	6H	3.8	4.1	4.4	4.6	5.2	5.4	5.7	5.9	6.2	6.7
	8H	5.2	5.5	5.8	6.0	6.6	6.9	7.1	7.4	7.7	8.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0