

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 10 xx xx RD2XS RB2BS xx RA2LL

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

Test Number

SP-01590_1

Test Date

9/27/2023

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

Summary of Results

Power

Input Watts	11.8 W
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Lumen Output

Output Lumens	764
Efficacy	64.76 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.26
Two luminaires, plane 90°	0.67
Four luminaires	0.37

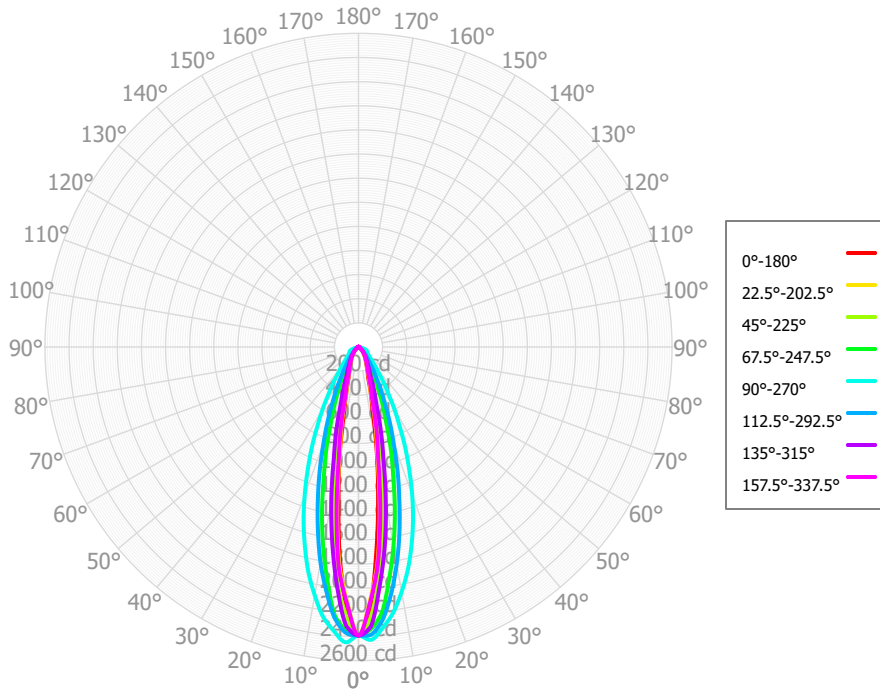
Full Beam Angle

0° - 180°	15°
90° - 270°	42°

IES File Header Contents

Keyword	Value
TEST	SP-01590_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/03/2023
LUMCAT	STR2 835 10 xx xx RD2XS RB2BS xx RA2LL
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, linear spread lens and standard bezel
OTHER	Beam Angle: 15 x 42 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°	171.46	22.44%	90.00° - 100.00°	1.06	0.14%
10.00° - 20.00°	233.40	30.54%	100.00° - 110.00°	1.05	0.14%
20.00° - 30.00°	157.65	20.63%	100.00° - 120.00°	2.06	0.27%
30.00° - 40.00°	91.82	12.02%	120.00° - 130.00°	0.93	0.12%
40.00° - 50.00°	51.14	6.69%	130.00° - 140.00°	0.81	0.11%
50.00° - 60.00°	28.51	3.73%	140.00° - 150.00°	0.69	0.09%
60.00° - 70.00°	16.45	2.15%	150.00° - 160.00°	0.53	0.07%
70.00° - 80.00°	6.07	0.79%	160.00° - 170.00°	0.32	0.04%
80.00° - 90.00°	1.14	0.15%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	757.66	99.15%	0.00° - 180.00°	764.17	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°	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24	2392.24
2.50°	2176.03	2115.31	2253.45	2341.08	2430.45	2373.35	2316.65	2137.93	2180.20	2122.65	2240.57	2353.29	2451.06	2388.09	2322.56	2131.96	2176.03
5.00°	1699.99	1804.39	1938.26	2215.01	2335.45	2258.77	2008.62	1851.96	1767.63	1817.46	1978.39	2239.09	2362.66	2275.15	1997.80	1821.13	1699.99
7.50°	1244.42	1349.49	1587.32	1943.63	2219.43	2043.25	1656.38	1389.89	1265.16	1352.50	1572.15	1962.97	2255.98	2067.39	1667.28	1382.96	1244.42
10.00°	865.95	897.08	1200.68	1672.05	2061.37	1815.29	1300.61	938.56	892.72	888.66	1201.19	1685.71	2090.34	1826.46	1303.16	939.08	865.95
12.50°	537.27	643.49	879.28	1391.99	1891.17	1554.41	944.31	670.13	551.66	636.36	863.47	1396.94	1916.31	1569.55	957.12	675.03	537.27
15.00°	390.56	392.86	621.74	1113.57	1700.02	1300.78	704.53	412.43	393.93	385.85	608.48	1108.18	1715.95	1307.20	712.23	418.07	390.56
17.50°	265.89	308.33	435.93	893.71	1503.00	1065.82	481.57	321.31	279.78	305.90	429.85	886.92	1513.12	1075.78	487.21	324.52	265.89
20.00°	220.61	224.97	318.91	676.24	1300.67	847.43	364.24	233.89	226.54	226.71	309.71	666.08	1302.76	854.60	369.17	236.51	220.61
22.50°	179.82	192.13	238.95	530.14	1096.89	670.66	261.45	199.13	187.31	196.08	242.46	522.65	1098.41	679.64	262.49	199.47	179.82
25.00°	154.71	159.60	193.84	386.37	913.47	511.75	211.79	165.34	161.47	165.64	194.24	379.87	911.86	519.81	214.69	163.89	154.71
27.50°	131.46	138.37	159.54	302.20	735.44	396.61	169.09	144.24	138.62	144.00	163.08	299.44	736.37	403.98	170.55	141.92	131.46
30.00°	114.50	117.34	135.20	219.72	594.82	295.81	143.18	123.55	122.24	122.54	137.97	219.59	592.82	302.15	145.11	120.26	114.50
32.50°	98.52	102.31	114.60	174.96	463.94	229.32	119.36	108.21	107.25	107.63	118.18	176.27	462.56	233.89	120.95	105.90	98.52
35.00°	85.83	87.41	97.37	131.23	370.73	172.03	101.73	93.09	93.84	92.80	100.50	133.37	369.70	176.03	103.08	91.68	85.83
37.50°	73.92	76.38	82.12	107.82	287.01	136.22	84.86	80.57	80.76	80.02	84.65	110.20	287.21	138.77	85.90	78.94	73.92
40.00°	64.53	65.41	68.65	84.86	232.52	105.36	70.98	68.25	69.71	67.34	70.63	87.23	233.13	107.70	72.00	66.23	64.53
42.50°	55.37	55.84	56.93	70.12	185.16	85.90	57.45	58.12	59.06	57.20	58.16	72.27	185.85	86.98	58.68	55.98	55.37
45.00°	46.90	46.34	46.74	55.75	156.25	68.92	47.20	48.06	49.87	47.11	47.41	57.50	156.71	69.33	48.00	45.76	46.90
47.50°	38.89	38.18	37.45	47.61	131.71	57.53	37.30	38.72	40.96	38.07	38.07	49.09	131.79	57.96	37.91	37.89	38.89
50.00°	32.28	30.15	28.94	39.59	116.16	47.89	29.80	29.63	33.29	29.18	30.23	40.72	117.86	48.41	30.40	30.02	32.28
52.50°	25.79	24.43	22.34	33.51	102.68	42.08	22.54	23.08	25.84	23.58	23.62	33.65	105.72	41.07	23.37	23.71	25.79
55.00°	19.66	18.73	17.35	27.54	95.32	36.29	17.87	16.75	19.14	18.03	17.83	26.73	98.21	34.36	18.42	17.40	19.66
57.50°	14.05	13.43	13.09	23.35	89.31	30.56	13.46	12.33	12.57	13.18	12.71	23.19	91.77	29.40	13.84	13.07	14.05
60.00°	9.98	8.33	9.44	19.19	85.41	25.28	10.47	8.17	9.12	8.47	9.29	19.61	88.01	24.92	10.80	8.76	9.98
62.50°	6.51	6.40	6.70	15.48	81.96	20.95	7.61	6.14	6.20	6.13	7.21	15.28	84.27	21.23	7.97	6.41	6.51
65.00°	4.78	4.51	4.71	11.85	77.52	17.13	5.91	4.23	4.61	3.87	5.27	11.05	80.57	17.75	5.96	4.08	4.78
67.50°	3.33	3.26	3.44	9.20	72.87	14.37	4.31	3.25	3.23	2.76	3.44	8.83	74.24	13.59	4.03	3.09	3.33
70.00°	2.68	2.07	2.75	6.58	63.03	11.15	3.22	2.34	2.25	1.71	2.40	6.63	61.61	9.27	2.45	2.11	2.68
72.50°	2.09	1.76	2.08	4.38	52.16	7.01	2.17	1.91	1.33	1.61	1.95	4.73	46.40	6.40	1.19	1.82	2.09
75.00°	1.65	1.46	1.43	2.30	33.36	3.73	1.57	1.50	1.22	1.51	1.56	2.89	25.16	3.90	1.21	1.53	1.65
77.50°	1.27	1.32	1.14	1.59	13.04	2.13	1.00	1.20	1.23	1.22	1.22	1.94	8.90	2.51	1.18	1.15	1.27
80.00°	1.06	1.19	1.14	0.95	6.09	1.05	0.93	0.92	1.12	0.95	1.11	1.07	4.11	1.39	1.02	0.79	1.06
82.50°	0.91	1.12	1.15	1.01	1.60	0.95	0.89	0.84	1.00	0.98	1.16	1.17	0.79	1.05	0.91	0.90	0.91
85.00°	0.90	1.06	1.19	1.06	0.88	0.86	0.92	0.77	0.98	1.01	1.08	1.25	0.77	0.89	0.94	1.00	0.90
87.50°	0.89	1.03	1.12	1.05	0.84	0.79	0.95	0.75	0.98	0.98	0.92	1.11	0.79	0.96	1.01	1.01	0.89
90.00°	0.88	1.00	0.99	1.04	0.88	0.85	0.91	0.75	1.07	0.94	0.82	0.98	0.87	1.08	1.19	1.01	0.88
92.50°	0.87	0.99	1.01	1.08	0.93	1.18	0.87	0.86	1.18	0.90	0.78	1.06	0.94	0.98	1.28	0.95	0.87
95.00°	0.87	0.99	1.14	1.10	0.94	1.29	0.92	0.94	1.06	0.86	0.77	1.13	0.98	0.83	1.05	0.88	0.87
97.50°	0.92	1.07	1.18	0.98	0.95	1.01	0.97	0.89	0.92	0.94	0.78	1.05	1.00	0.80	0.90	0.94	0.92
100.00°	1.09	1.15	1.17	0.88	0.96	0.81	0.99	0.85	1.02	1.01	0.86	0.97	0.98	0.79	0.97	0.99	1.09
102.50°	1.20	1.29	1.12	0.93	0.97	0.78	1.02	0.84	1.16	1.05	0.98	0.90	0.94	0.87	1.02	1.02	1.20
105.00°	1.14	1.40	1.04	0.96	0.86	0.76	0.98	0.85	1.15	1.08	1.03	0.86	0.86	0.97	1.01	1.05	1.14

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	908	908	908	908	886	886	886	886	845	845	845	808	808	808	774	774	758
	1	866	845	826	809	847	828	811	796	796	782	770	766	756	746	739	731	716
	2	824	788	757	732	807	774	746	723	748	726	706	725	706	690	703	688	674
	3	785	737	700	671	769	726	692	665	705	677	654	686	663	643	668	649	636
	4	749	693	653	622	735	684	647	618	667	635	610	651	624	602	637	614	602
	5	715	655	612	581	703	647	608	578	633	599	573	620	590	567	608	582	571
	6	684	620	577	547	673	614	574	545	602	567	540	591	560	536	581	554	544
	7	656	590	547	517	646	585	544	515	575	539	512	565	533	509	556	528	519
	8	630	563	520	491	621	558	518	490	549	513	488	541	509	485	534	505	497
	9	605	538	496	468	597	534	494	467	527	491	466	520	487	464	513	484	476
	10	583	515	475	448	576	512	473	447	506	470	446	500	467	444	494	464	458

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	79.1 fc	1.5 ft
6.5 ft	56.6 fc	1.8 ft
7.5 ft	42.5 fc	2.0 ft
8.0 ft	37.4 fc	2.2 ft
10.0 ft	23.9 fc	2.7 ft
12.0 ft	16.6 fc	3.2 ft
14.0 ft	12.2 fc	3.8 ft
16.0 ft	9.3 fc	4.3 ft
20.0 ft	6.0 fc	5.4 ft
24.0 ft	4.2 fc	6.5 ft
28.0 ft	3.1 fc	7.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	743440	743440	743440
45.00°	20613	20543	68673
55.00°	10649	9403	51645
65.00°	3514	3462	57004
75.00°	1981	1715	40054
85.00°	3200	4227	3138

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	11.2	12.2	11.6	12.6	12.9	18.6	19.7	19.0	20.0	20.4
	3H	11.3	12.2	11.7	12.6	13.0	22.3	23.3	22.7	23.6	24.0
	4H	11.3	12.2	11.8	12.6	13.0	23.1	24.0	23.6	24.4	24.8
	6H	11.3	12.1	11.8	12.5	12.9	23.2	24.0	23.6	24.4	24.8
	8H	11.3	12.1	11.8	12.5	12.9	23.1	23.9	23.6	24.3	24.7
	12H	11.4	12.1	11.8	12.5	13.0	23.1	23.8	23.5	24.2	24.6
4H	2H	11.2	12.1	11.6	12.4	12.8	18.4	19.3	18.8	19.6	20.0
	3H	11.4	12.1	11.8	12.5	12.9	22.1	22.8	22.5	23.2	23.6
	4H	11.4	12.0	11.9	12.5	13.0	22.9	23.5	23.3	24.0	24.4
	6H	11.5	12.0	12.0	12.5	13.0	22.9	23.5	23.4	23.9	24.4
	8H	11.5	12.0	12.0	12.5	13.0	22.9	23.4	23.4	23.8	24.3
	12H	11.6	12.1	12.1	12.6	13.1	22.8	23.3	23.3	23.8	24.3
8H	4H	11.4	11.9	11.9	12.4	12.9	22.7	23.2	23.2	23.7	24.2
	6H	11.5	11.9	12.0	12.4	13.0	22.7	23.1	23.3	23.7	24.2
	8H	11.6	12.0	12.2	12.5	13.0	22.7	23.0	23.2	23.6	24.1
	12H	11.9	12.2	12.4	12.7	13.3	22.6	23.0	23.2	23.5	24.1
12H	4H	11.4	11.8	11.9	12.3	12.8	22.7	23.1	23.2	23.6	24.1
	6H	11.5	11.9	12.1	12.4	12.9	22.7	23.0	23.2	23.5	24.1
	8H	11.7	12.0	12.2	12.5	13.1	22.6	23.0	23.2	23.5	24.1

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0