

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 07 xx xx RD2FL RB2BSA1 xx xx
2" Adjustable Track Luminaire with flood optic, acrylic .5" bezel

Test Number

SP-01587

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	746
Efficacy	108.15 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.56
Two luminaires, plane 90°	0.55
Four luminaires	0.51

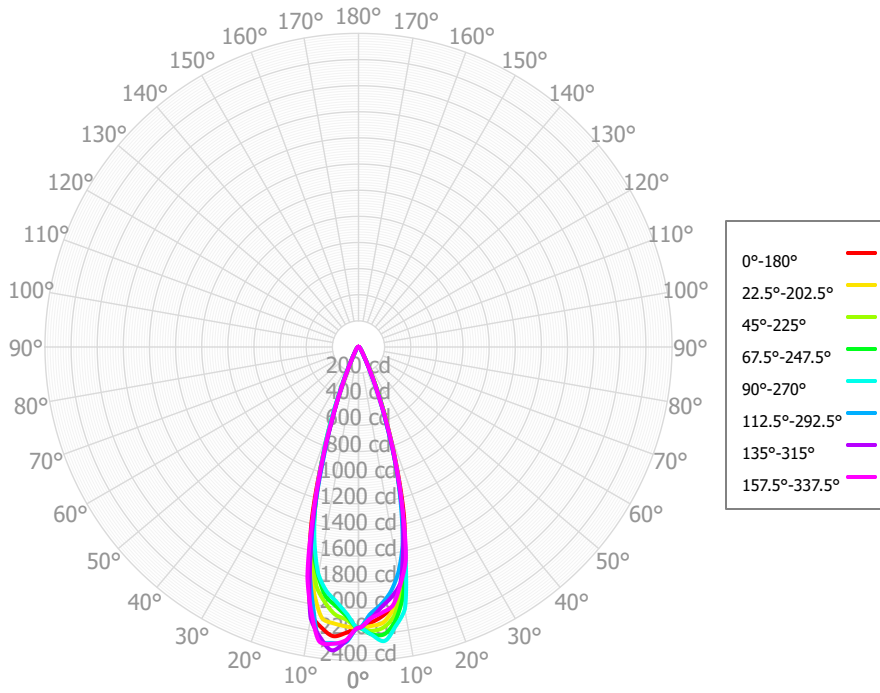
Full Beam Angle

0° - 180°	33°
90° - 270°	32°

IES File Header Contents

Keyword	Value
TEST	SP-01587
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 07 xx xx RD2FL RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, acrylic .5" bezel
OTHER	Beam Angle: 33 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°	199.36	26.71%	90.00° - 100.00°	1.43	0.19%
10.00° - 20.00°	344.11	46.11%	100.00° - 110.00°	1.47	0.20%
20.00° - 30.00°	118.80	15.92%	100.00° - 120.00°	2.79	0.37%
30.00° - 40.00°	31.69	4.25%	120.00° - 130.00°	0.98	0.13%
40.00° - 50.00°	18.56	2.49%	130.00° - 140.00°	0.73	0.10%
50.00° - 60.00°	12.62	1.69%	140.00° - 150.00°	0.59	0.08%
60.00° - 70.00°	7.84	1.05%	150.00° - 160.00°	0.48	0.06%
70.00° - 80.00°	3.98	0.53%	160.00° - 170.00°	0.27	0.04%
80.00° - 90.00°	1.95	0.26%	170.00° - 180.00°	0.09	0.01%
0.00° - 90.00°	738.91	99.01%	0.00° - 180.00°	746.27	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°	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00	2150.00
2.50°	2113.90	2138.81	2175.11	2199.39	2201.78	2263.29	2256.16	2247.59	2190.50	2141.63	2090.48	2062.83	2044.28	2046.61	2083.53	2081.07	2113.90
5.00°	2070.05	2120.08	2157.44	2209.78	2259.63	2275.92	2330.99	2280.76	2221.81	2125.02	2055.44	1990.29	1956.12	1978.27	2000.70	2042.62	2070.05
7.50°	2004.55	2030.42	2079.51	2124.37	2159.55	2269.33	2242.79	2277.27	2167.19	2099.73	1971.29	1925.45	1883.62	1889.89	1931.46	1998.51	2004.55
10.00°	1905.98	1881.34	1888.23	1949.34	2039.91	2007.90	2108.55	2067.54	2081.58	1933.60	1857.77	1777.53	1766.54	1753.88	1838.60	1847.88	1905.98
12.50°	1637.19	1618.73	1613.67	1661.63	1671.92	1721.20	1712.11	1806.08	1743.79	1695.47	1601.71	1592.15	1551.43	1557.53	1576.95	1672.34	1637.19
15.00°	1347.66	1283.66	1290.59	1293.28	1294.35	1300.74	1315.31	1358.09	1390.90	1336.02	1283.27	1288.99	1290.31	1254.98	1298.07	1316.30	1347.66
17.50°	989.61	963.55	940.97	960.66	950.26	883.08	917.27	942.60	967.16	931.23	940.83	947.71	954.85	946.77	946.95	969.17	989.61
20.00°	668.26	650.46	663.40	647.07	618.55	603.03	571.51	609.25	591.16	621.30	590.89	649.14	653.34	631.14	628.12	659.76	668.26
22.50°	431.58	431.66	414.40	427.67	408.98	341.53	359.00	345.95	364.78	335.94	373.61	359.85	393.56	390.99	400.06	392.72	431.58
25.00°	248.51	244.28	267.60	244.45	221.58	226.83	197.98	210.91	188.87	209.84	183.87	224.83	220.81	225.73	220.99	245.76	248.51
27.50°	157.31	158.90	149.23	156.11	148.98	126.64	131.91	118.67	124.39	108.79	121.13	108.58	128.90	129.27	141.98	134.29	157.31
30.00°	94.81	96.47	102.82	93.19	87.77	91.63	84.63	84.82	77.25	80.31	72.83	79.18	78.04	85.08	85.79	95.84	94.81
32.50°	69.62	71.84	69.25	67.65	64.37	61.93	63.18	60.90	58.22	56.98	57.75	53.70	56.35	59.51	64.57	66.24	69.62
35.00°	51.58	52.24	53.13	48.44	45.60	48.32	48.14	47.36	43.97	45.55	44.00	43.57	43.03	44.65	48.74	50.30	51.58
37.50°	40.55	41.90	38.56	39.01	37.72	37.46	39.85	38.02	35.62	34.60	36.48	33.95	34.12	36.32	39.11	39.08	40.55
40.00°	32.94	32.17	33.85	30.38	31.46	32.62	33.57	32.05	29.98	30.45	29.38	29.23	28.96	30.72	32.00	33.32	32.94
42.50°	27.87	28.63	29.32	27.28	28.01	28.61	28.92	27.63	26.91	26.46	25.93	24.92	25.24	26.67	27.07	28.61	27.87
45.00°	23.90	25.13	25.79	24.19	24.70	25.91	25.10	24.14	23.56	23.58	22.49	22.75	21.73	23.07	23.39	24.82	23.90
47.50°	20.55	22.00	22.22	20.83	21.56	22.68	21.79	20.57	20.01	20.64	19.11	20.40	18.28	19.61	20.54	21.37	20.55
50.00°	18.33	18.91	18.31	17.69	18.94	18.82	19.10	16.97	17.50	17.50	16.23	17.47	16.61	16.18	17.88	18.15	18.33
52.50°	16.60	15.98	14.95	16.09	16.84	16.21	16.68	15.55	15.54	14.77	14.98	15.02	15.22	14.43	15.32	15.68	16.60
55.00°	14.56	13.50	13.91	14.58	14.90	14.76	14.77	14.80	14.04	13.15	13.75	13.72	13.54	12.86	13.48	13.58	14.56
57.50°	12.45	12.58	12.75	13.50	13.10	13.11	13.02	12.93	12.73	11.84	12.54	12.31	11.83	12.08	11.90	11.90	12.45
60.00°	10.96	11.36	11.29	12.11	11.11	11.30	11.58	10.82	10.88	11.13	10.94	10.74	10.19	11.27	10.76	10.37	10.96
62.50°	9.58	9.38	9.72	9.86	9.02	9.68	10.20	9.27	8.88	9.75	8.67	9.24	8.56	9.59	9.72	8.93	9.58
65.00°	8.22	7.92	7.93	7.89	7.62	8.16	8.31	7.78	7.75	7.40	6.94	7.85	7.19	7.92	7.94	7.51	8.22
67.50°	6.86	7.38	6.51	6.48	6.50	6.62	6.36	6.47	6.76	5.70	5.90	6.40	5.89	6.35	6.06	6.50	6.86
70.00°	5.59	6.52	5.69	5.37	5.32	5.07	5.66	5.20	5.70	4.69	5.04	4.89	5.14	4.90	5.43	5.54	5.59
72.50°	4.35	5.23	4.74	4.72	4.13	4.03	4.99	4.45	4.64	3.87	4.34	3.91	4.46	4.05	4.87	4.51	4.35
75.00°	3.58	4.06	3.66	3.95	3.69	3.12	3.96	3.72	4.36	3.21	3.47	3.33	4.08	3.33	3.91	3.48	3.58
77.50°	2.84	3.01	2.94	3.04	3.40	2.76	2.96	3.10	4.05	2.66	2.48	2.98	3.48	3.03	2.97	2.85	2.84
80.00°	2.34	2.34	2.52	2.53	2.93	2.49	2.26	2.52	3.18	2.17	2.12	2.75	2.28	2.62	2.41	2.26	2.34
82.50°	1.91	1.95	2.05	2.36	2.45	2.21	1.70	2.05	2.37	1.78	2.12	2.14	1.43	2.01	1.92	2.04	1.91
85.00°	1.84	1.80	1.56	1.91	1.93	1.92	1.82	1.67	1.96	1.44	1.79	1.37	1.32	1.54	1.84	1.82	1.84
87.50°	1.75	1.79	1.35	1.28	1.43	1.73	1.80	1.59	1.58	1.32	1.32	1.24	1.21	1.31	1.72	1.61	1.75
90.00°	1.59	1.59	1.29	1.16	1.49	1.57	1.33	1.55	1.36	1.27	1.17	1.30	1.11	1.19	1.45	1.41	1.59
92.50°	1.40	1.30	1.26	1.29	1.51	1.69	1.08	1.60	1.20	1.25	1.11	1.26	1.14	1.21	1.26	1.27	1.40
95.00°	1.16	1.29	1.25	1.41	1.32	1.76	1.35	1.62	1.17	1.24	1.06	1.20	1.31	1.20	1.30	1.17	1.16
97.50°	1.13	1.36	1.20	1.52	1.17	1.42	1.50	1.59	1.21	1.24	1.01	1.36	1.42	1.14	1.29	1.15	1.13
100.00°	1.42	1.42	1.13	1.46	1.24	1.13	1.46	1.51	1.37	1.24	1.28	1.53	1.48	1.23	1.19	1.17	1.42
102.50°	1.47	1.48	1.49	1.35	1.29	1.01	1.46	1.36	1.46	1.38	1.58	1.42	1.57	1.41	1.22	1.25	1.47
105.00°	1.24	1.45	1.92	1.23	1.26	1.00	1.49	1.28	1.43	1.52	1.52	1.30	1.68	1.42	1.44	1.32	1.24

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%	30%
	0	887	887	887	887	865	865	865	865	825	825	825	788	788	788	755	755	739
	1	851	833	817	802	833	817	802	789	785	774	764	757	748	740	730	723	709
	2	818	787	762	741	802	774	751	732	749	731	715	727	712	699	705	694	680
	3	787	748	717	693	773	737	709	687	717	694	675	699	680	664	682	666	653
	4	759	713	679	654	746	704	673	650	688	662	641	673	651	633	659	641	629
	5	732	682	647	621	721	675	643	618	662	634	612	649	625	607	638	617	606
	6	707	654	619	594	697	649	615	591	638	609	587	627	602	583	618	596	586
	7	684	629	594	569	675	625	591	568	615	586	564	607	581	561	599	576	566
	8	662	607	572	548	654	603	570	547	595	565	544	587	561	542	580	557	548
	9	642	586	551	528	634	582	550	527	576	546	525	569	543	523	563	539	531
	10	623	567	533	511	616	563	531	510	558	528	508	552	526	507	547	523	515

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	71.1 fc	3.2 ft
6.5 ft	50.9 fc	3.8 ft
7.5 ft	38.2 fc	4.4 ft
8.0 ft	33.6 fc	4.7 ft
10.0 ft	21.5 fc	5.8 ft
12.0 ft	14.9 fc	7.0 ft
14.0 ft	11.0 fc	8.2 ft
16.0 ft	8.4 fc	9.4 ft
20.0 ft	5.4 fc	11.7 ft
24.0 ft	3.7 fc	14.0 ft
28.0 ft	2.7 fc	16.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	668160	668160	668160
45.00°	10502	11335	10854
55.00°	7891	7535	8076
65.00°	6047	5828	5601
75.00°	4300	4397	4436
85.00°	6571	5552	6869

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	10.9	11.9	11.3	12.2	12.5	11.1	12.1	11.5	12.4	12.7
	3H	12.2	13.0	12.6	13.4	13.8	12.1	13.0	12.5	13.3	13.7
	4H	12.6	13.4	13.0	13.7	14.2	12.5	13.3	12.9	13.6	14.1
	6H	12.9	13.6	13.3	14.0	14.4	12.9	13.6	13.3	14.0	14.4
	8H	13.0	13.7	13.5	14.1	14.5	13.0	13.7	13.5	14.1	14.6
	12H	13.2	13.8	13.6	14.2	14.7	13.2	13.9	13.7	14.3	14.7
4H	2H	11.3	12.0	11.7	12.4	12.8	11.4	12.2	11.8	12.5	13.0
	3H	12.8	13.4	13.2	13.8	14.3	12.6	13.2	13.0	13.6	14.1
	4H	13.2	13.8	13.7	14.3	14.7	13.0	13.6	13.5	14.0	14.5
	6H	13.6	14.1	14.1	14.6	15.1	13.6	14.0	14.0	14.5	15.0
	8H	13.8	14.3	14.3	14.8	15.3	13.8	14.2	14.3	14.7	15.2
	12H	14.1	14.5	14.6	15.0	15.5	14.0	14.4	14.6	14.9	15.4
8H	4H	13.4	13.8	13.9	14.3	14.8	13.1	13.6	13.6	14.1	14.6
	6H	13.9	14.3	14.4	14.8	15.3	13.8	14.2	14.4	14.7	15.2
	8H	14.2	14.5	14.8	15.1	15.6	14.2	14.5	14.7	15.0	15.6
	12H	14.6	14.9	15.2	15.4	16.0	14.6	14.9	15.1	15.4	16.0
12H	4H	13.4	13.8	13.9	14.3	14.8	13.1	13.5	13.6	14.0	14.5
	6H	13.9	14.3	14.5	14.8	15.3	13.9	14.2	14.4	14.7	15.2
	8H	14.3	14.6	14.9	15.1	15.7	14.3	14.6	14.8	15.1	15.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0