

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 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_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	770
Efficacy	65.23 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

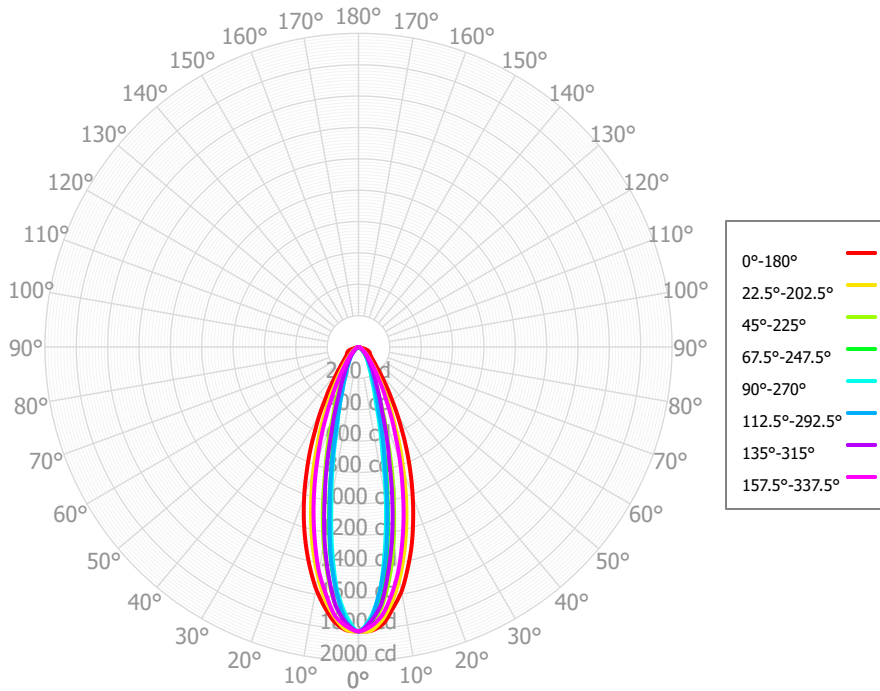
Full Beam Angle

0° - 180°	44°
90° - 270°	22°

IES File Header Contents

Keyword	Value
TEST	SP-01591_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 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°	146.83	19.08%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	237.29	30.83%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	170.07	22.09%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	100.46	13.05%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	56.86	7.39%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	31.87	4.14%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	18.30	2.38%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	6.83	0.89%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.22	0.16%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	769.72	100.00%	0.00° - 180.00°	769.72	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°	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87	1813.87
2.50°	1812.20	1810.71	1776.76	1769.59	1730.70	1754.21	1764.83	1783.15	1807.88	1804.91	1768.03	1764.67	1721.98	1744.02	1754.87	1784.61	1812.20
5.00°	1774.95	1747.30	1668.96	1590.04	1564.73	1580.49	1659.13	1721.39	1760.42	1731.35	1661.57	1572.26	1561.49	1562.28	1650.45	1719.66	1774.95
7.50°	1681.44	1638.81	1496.85	1371.29	1292.05	1349.30	1468.15	1591.19	1669.91	1626.74	1482.81	1359.58	1294.10	1338.33	1450.63	1599.91	1681.44
10.00°	1582.85	1504.36	1283.02	1077.65	1007.48	1056.00	1247.92	1454.00	1564.52	1486.07	1277.09	1075.98	995.88	1059.37	1234.55	1457.77	1582.85
12.50°	1448.28	1344.41	1045.07	813.73	714.53	796.39	999.35	1280.93	1435.76	1331.89	1049.68	804.26	753.25	773.50	996.15	1285.71	1448.28
15.00°	1310.17	1176.30	826.70	583.79	520.55	559.56	778.84	1107.77	1300.34	1166.67	818.48	608.86	519.24	592.12	763.59	1111.10	1310.17
17.50°	1158.94	1006.51	614.86	425.72	367.19	414.57	574.76	934.11	1158.56	999.40	644.33	439.83	408.24	422.50	594.32	934.41	1158.94
20.00°	1010.18	836.47	474.96	317.67	285.88	305.34	436.71	768.12	1012.78	844.04	478.36	346.76	304.72	338.56	442.14	773.27	1010.18
22.50°	866.28	688.63	345.53	249.49	219.11	243.92	321.04	620.31	864.64	691.43	379.57	270.08	250.57	264.00	351.79	619.90	866.28
25.00°	729.30	545.60	276.72	197.94	181.82	191.43	255.25	488.39	729.08	564.74	290.48	220.87	202.66	218.60	275.22	498.28	729.30
27.50°	600.72	437.29	211.92	163.70	147.23	159.87	196.92	379.06	597.69	445.26	237.16	181.99	173.07	180.08	226.32	385.09	600.72
30.00°	490.45	337.36	173.52	133.05	127.00	130.22	163.66	291.88	493.22	353.58	190.60	153.56	147.05	153.47	184.98	308.02	490.45
32.50°	393.76	264.53	138.52	114.72	107.92	112.01	131.87	223.90	392.62	273.07	157.80	131.28	126.94	130.58	152.66	235.52	393.76
35.00°	319.60	202.64	114.56	97.27	93.86	94.92	110.56	174.36	322.61	215.39	129.84	112.76	109.87	111.69	126.51	190.47	319.60
37.50°	255.55	160.31	93.08	83.44	80.90	82.37	90.64	134.38	255.86	168.16	107.73	96.98	95.92	96.48	104.86	148.05	255.55
40.00°	211.14	126.30	76.21	70.17	70.38	70.32	75.33	108.31	212.32	133.99	88.77	82.19	83.26	83.66	87.38	120.32	211.14
42.50°	171.25	101.25	61.69	59.32	60.44	59.32	61.12	86.30	173.25	107.87	72.14	70.11	71.39	71.07	71.74	95.59	171.25
45.00°	148.45	82.18	49.78	49.04	51.27	49.14	49.00	70.78	148.88	87.86	58.84	58.47	60.15	58.56	58.99	79.05	148.45
47.50°	127.27	67.14	40.15	40.05	42.19	40.00	39.09	56.14	128.09	72.98	47.02	47.50	49.12	47.78	46.89	64.45	127.27
50.00°	114.36	56.72	32.10	31.97	33.18	32.14	31.67	47.81	113.88	60.40	38.63	36.89	39.23	37.32	37.50	52.88	114.36
52.50°	102.37	48.09	25.53	25.07	26.12	25.30	25.33	39.93	102.54	51.91	31.02	29.40	29.53	30.23	28.51	43.36	102.37
55.00°	94.70	40.90	19.55	19.15	20.00	19.51	19.71	34.91	94.38	44.39	24.43	22.43	22.82	23.39	22.91	35.82	94.70
57.50°	88.39	33.98	15.69	14.02	15.01	14.22	14.97	29.91	88.98	37.82	18.01	17.30	16.35	18.00	17.52	30.26	88.39
60.00°	85.35	30.26	12.23	10.17	10.31	9.87	10.59	24.93	85.48	31.47	13.27	12.45	11.60	12.84	13.13	25.85	85.35
62.50°	81.64	26.61	8.68	6.95	7.69	5.76	7.75	20.47	81.56	27.94	9.12	8.14	7.56	8.51	9.35	21.44	81.64
65.00°	76.99	22.27	5.34	5.26	5.32	4.49	5.23	16.84	77.48	24.28	7.71	5.08	6.08	5.22	7.03	17.02	76.99
67.50°	70.40	17.78	4.54	3.96	4.24	3.48	3.99	13.18	71.96	20.00	6.15	3.46	4.72	4.07	5.09	13.53	70.40
70.00°	62.14	12.69	3.65	2.99	3.17	2.77	2.84	9.49	66.15	15.68	4.25	2.68	3.62	3.06	3.69	10.18	62.14
72.50°	46.79	8.16	2.37	2.07	2.20	2.09	2.09	6.29	48.29	11.28	2.87	2.53	2.64	2.22	2.67	7.79	46.79
75.00°	27.69	4.83	1.40	1.60	1.46	1.56	1.44	3.40	30.09	7.19	2.24	2.01	1.79	1.60	1.98	5.43	27.69
77.50°	14.27	2.49	1.10	1.17	1.31	1.17	1.23	2.07	14.74	3.55	1.73	1.33	1.35	1.15	1.46	3.24	14.27
80.00°	2.48	1.40	0.93	1.04	1.26	1.15	1.06	1.30	2.23	1.59	1.31	1.14	1.19	1.01	1.01	1.49	2.48
82.50°	1.19	0.96	0.92	1.02	1.35	1.12	0.98	1.12	1.58	1.14	1.12	1.05	1.17	1.00	0.92	1.23	1.19
85.00°	1.06	1.03	0.91	1.32	1.33	1.08	0.98	1.04	1.11	0.98	1.05	0.93	1.20	0.98	0.93	1.09	1.06
87.50°	1.05	0.96	0.91	1.43	1.22	1.08	1.09	1.18	1.01	0.98	1.10	0.83	1.15	0.95	0.95	1.17	1.05
90.00°	1.05	0.84	0.96	1.24	1.27	1.15	1.12	1.31	1.02	0.92	1.17	1.02	1.08	1.17	0.98	1.14	1.05

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	916	916	916	916	895	895	895	895	855	855	855	819	819	819	785	785	770
	1	872	851	831	813	853	834	816	800	803	789	776	774	763	753	748	739	724
	2	829	791	759	733	812	777	749	724	752	729	709	729	710	693	708	693	679
	3	788	738	700	669	772	727	692	664	707	677	653	688	664	643	671	650	638
	4	750	692	650	617	736	683	644	614	667	633	606	651	622	599	637	613	601
	5	714	651	607	574	702	644	603	572	630	594	567	617	586	562	606	579	568
	6	682	615	570	538	671	609	567	536	598	560	533	587	554	529	577	548	539
	7	652	583	538	507	642	578	536	506	568	530	503	559	525	500	551	521	512
	8	624	554	510	480	615	550	508	479	542	504	477	534	500	475	527	496	488
	9	599	528	485	456	591	525	483	455	517	480	453	511	477	452	505	473	466
	10	575	505	462	434	568	502	461	434	495	458	433	490	456	431	484	453	446

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	60.0 fc	4.4 ft
6.5 ft	42.9 fc	5.2 ft
7.5 ft	32.2 fc	6.0 ft
8.0 ft	28.3 fc	6.4 ft
10.0 ft	18.1 fc	8.0 ft
12.0 ft	12.6 fc	9.6 ft
14.0 ft	9.3 fc	11.2 ft
16.0 ft	7.1 fc	12.8 ft
20.0 ft	4.5 fc	16.0 ft
24.0 ft	3.1 fc	19.2 ft
28.0 ft	2.3 fc	22.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	563698	563698	563698
45.00°	65243	21877	22532
55.00°	51312	10593	10837
65.00°	56615	3924	3912
75.00°	33251	1683	1754
85.00°	3787	3252	4758

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	19.3	20.4	19.7	20.7	21.0	12.3	13.4	12.7	13.8	14.1
	3H	22.6	23.6	23.0	23.9	24.3	12.5	13.5	12.9	13.8	14.2
	4H	23.4	24.2	23.8	24.6	25.0	12.5	13.4	12.9	13.8	14.2
	6H	23.4	24.2	23.8	24.6	25.0	12.5	13.3	12.9	13.7	14.1
	8H	23.4	24.1	23.8	24.5	24.9	12.5	13.3	13.0	13.7	14.1
	12H	23.3	24.1	23.8	24.4	24.9	12.6	13.3	13.0	13.7	14.2
4H	2H	19.1	20.0	19.5	20.3	20.7	12.4	13.3	12.8	13.6	14.0
	3H	22.4	23.1	22.8	23.6	24.0	12.6	13.3	13.0	13.7	14.1
	4H	23.1	23.8	23.6	24.2	24.6	12.6	13.3	13.1	13.7	14.2
	6H	23.2	23.8	23.7	24.2	24.7	12.7	13.2	13.1	13.7	14.2
	8H	23.1	23.7	23.6	24.1	24.6	12.7	13.3	13.2	13.7	14.2
	12H	23.1	23.5	23.6	24.0	24.5	12.9	13.3	13.4	13.8	14.3
8H	4H	23.0	23.5	23.4	23.9	24.4	12.7	13.3	13.2	13.7	14.2
	6H	23.0	23.4	23.5	23.9	24.4	12.8	13.2	13.3	13.7	14.2
	8H	23.0	23.3	23.5	23.9	24.4	12.9	13.3	13.4	13.8	14.3
	12H	22.9	23.2	23.4	23.7	24.3	13.1	13.5	13.7	14.0	14.5
12H	4H	22.9	23.3	23.4	23.8	24.3	12.7	13.2	13.2	13.7	14.1
	6H	23.0	23.3	23.5	23.8	24.3	12.8	13.2	13.3	13.7	14.2
	8H	22.9	23.2	23.4	23.7	24.3	12.9	13.3	13.5	13.8	14.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0