

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2XS RB2BD xx xx

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

Test Number

SP-01577_1

Test Date

2/19/2024

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	822
Efficacy	69.67 lm/W

Luminous Dimensions

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

Spacing Criterion

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

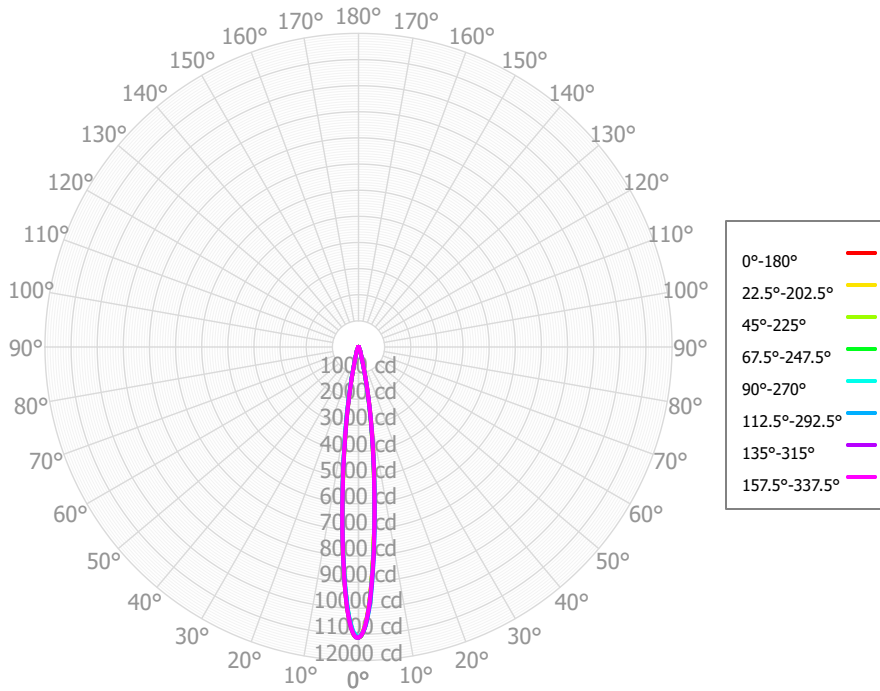
Full Beam Angle

0° - 180°	13°
90° - 270°	13°

IES File Header Contents

Keyword	Value
TEST	SP-01577_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/19/2024
ISSUEDATE	2/19/2024
LUMCAT	STR2 835 10 xx xx RD2XS RB2BD xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic and snoot/deep cutoff bezel
OTHER	Beam Angle: 13 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°	514.45	62.57%	90.00° - 100.00°	1.26	0.15%
10.00° - 20.00°	208.32	25.34%	100.00° - 110.00°	1.23	0.15%
20.00° - 30.00°	64.24	7.81%	100.00° - 120.00°	2.40	0.29%
30.00° - 40.00°	19.73	2.40%	120.00° - 130.00°	1.12	0.14%
40.00° - 50.00°	2.90	0.35%	130.00° - 140.00°	0.94	0.11%
50.00° - 60.00°	1.26	0.15%	140.00° - 150.00°	0.79	0.10%
60.00° - 70.00°	1.19	0.14%	150.00° - 160.00°	0.61	0.07%
70.00° - 80.00°	1.22	0.15%	160.00° - 170.00°	0.36	0.04%
80.00° - 90.00°	1.22	0.15%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	814.54	99.08%	0.00° - 180.00°	822.15	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°	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07	11119.07
0.50°	11051.91	11031.79	11066.39	11063.86	11013.11	11063.08	11121.95	11106.87	11101.77	11088.12	11106.58	11091.51	11015.50	11014.39	11063.97	11047.88	11013.11
1.00°	10850.43	10818.99	10898.43	10880.41	10872.56	10962.18	10995.49	10979.06	11009.88	10981.90	10979.64	10951.65	10886.02	10886.85	10891.08	10863.41	10818.99
1.50°	10568.68	10552.54	10594.85	10624.95	10601.90	10657.62	10780.99	10732.65	10761.65	10742.41	10735.72	10695.29	10642.40	10664.94	10624.50	10576.04	10552.54
2.00°	10171.43	10184.60	10198.44	10221.61	10240.10	10332.97	10429.13	10405.93	10417.46	10385.77	10382.31	10354.14	10328.32	10313.37	10252.65	10202.10	10184.60
2.50°	9704.71	9702.34	9725.41	9765.97	9782.72	9870.72	9999.70	9993.24	10014.12	9957.88	9935.23	9934.73	9888.11	9923.99	9827.11	9752.41	9702.34
3.00°	9158.55	9183.11	9194.39	9225.26	9248.03	9344.33	9481.32	9479.42	9489.27	9425.84	9422.72	9420.02	9388.40	9411.00	9319.71	9230.33	9158.55
3.50°	8583.66	8630.90	8617.30	8618.12	8652.02	8768.26	8878.82	8896.51	8892.23	8845.71	8863.17	8878.58	8866.45	8841.80	8762.80	8679.51	8583.66
4.00°	8009.41	8047.79	8061.39	8045.70	8096.82	8186.51	8264.78	8272.14	8265.20	8213.44	8249.07	8290.45	8275.78	8247.47	8195.54	8126.50	8009.41
4.50°	7435.72	7448.57	7452.27	7468.67	7521.77	7596.16	7662.72	7670.24	7659.98	7592.61	7653.48	7678.03	7628.71	7652.36	7581.20	7531.48	7435.72
5.00°	6898.92	6875.56	6875.31	6912.93	6970.69	7014.84	7056.86	7060.11	7024.38	6989.29	7033.85	7075.38	7051.23	7053.27	6980.44	6948.18	6898.92
5.50°	6361.27	6329.00	6316.07	6345.12	6417.39	6453.33	6441.54	6455.25	6440.39	6372.52	6391.76	6458.55	6472.29	6441.54	6394.92	6382.27	6361.27
6.00°	5850.74	5791.53	5765.21	5808.55	5888.24	5902.69	5845.56	5873.45	5859.89	5805.19	5789.43	5837.59	5916.58	5897.53	5836.33	5847.34	5850.74
6.50°	5369.31	5303.58	5258.14	5301.77	5396.83	5369.91	5287.17	5318.85	5347.33	5275.81	5229.29	5289.89	5393.31	5369.19	5306.95	5335.74	5369.31
7.00°	4919.86	4838.61	4757.34	4823.60	4900.45	4858.98	4767.13	4807.19	4846.65	4776.90	4707.66	4782.49	4895.46	4874.11	4811.78	4881.02	4919.86
7.50°	4480.04	4387.34	4286.93	4356.99	4435.85	4372.68	4256.75	4332.34	4367.13	4293.81	4218.15	4315.73	4425.23	4421.17	4353.54	4436.93	4480.04
8.00°	4070.60	3971.64	3862.28	3940.96	3990.96	3915.63	3798.54	3881.50	3911.15	3825.13	3770.21	3888.69	3988.59	4002.67	3924.26	4012.75	4070.60
8.50°	3682.90	3579.01	3470.12	3535.20	3575.99	3493.93	3377.20	3459.96	3474.60	3402.04	3356.46	3488.78	3587.19	3605.08	3531.80	3624.14	3682.90
9.00°	3309.68	3217.73	3091.07	3185.24	3198.51	3102.29	2976.64	3066.84	3081.61	3013.05	2978.85	3114.24	3215.67	3240.87	3168.16	3263.36	3309.68
9.50°	2964.97	2883.01	2756.86	2841.52	2847.36	2744.23	2643.08	2698.57	2723.36	2670.39	2630.75	2758.38	2870.80	2912.04	2822.04	2925.11	2964.97
10.00°	2647.08	2560.58	2445.00	2512.30	2514.73	2415.96	2321.71	2365.00	2383.94	2351.54	2311.11	2431.88	2543.49	2595.13	2503.64	2603.62	2647.08
10.50°	2341.35	2264.93	2148.70	2210.74	2210.57	2118.45	2026.00	2066.27	2074.70	2045.86	2017.23	2135.55	2236.74	2284.76	2212.01	2295.13	2341.35
11.00°	2053.97	1994.84	1891.42	1943.74	1925.54	1842.70	1763.30	1795.90	1791.04	1774.82	1750.23	1864.21	1960.43	2012.98	1942.27	2020.40	2053.97
11.50°	1793.86	1738.99	1651.04	1690.33	1670.98	1598.36	1532.46	1549.89	1541.62	1533.95	1515.71	1614.92	1700.18	1751.88	1691.58	1762.42	1793.86
12.00°	1560.55	1508.72	1431.98	1464.41	1440.85	1382.56	1318.09	1328.54	1322.78	1321.53	1307.36	1391.82	1460.07	1515.16	1461.48	1529.90	1560.55
12.50°	1345.44	1303.60	1233.21	1256.34	1236.69	1180.67	1134.66	1135.62	1130.24	1122.41	1120.43	1193.39	1252.85	1301.29	1261.01	1316.14	1345.44
13.00°	1149.83	1119.53	1065.60	1079.93	1056.90	1007.09	974.03	971.50	963.44	952.94	957.80	1015.48	1073.55	1111.61	1084.46	1128.54	1149.83
13.50°	983.99	958.71	916.42	916.37	901.56	862.90	835.87	827.50	825.49	817.43	821.48	870.05	916.91	946.47	926.74	964.43	983.99
14.00°	843.59	821.67	783.24	779.91	770.96	745.58	723.35	714.53	709.49	705.02	703.64	745.99	782.80	808.76	798.46	825.48	843.59
14.50°	721.25	706.40	677.35	673.89	665.56	643.57	630.86	619.88	613.44	609.41	611.77	643.80	673.82	697.12	690.22	707.24	721.25
15.00°	624.92	614.50	592.84	589.47	581.18	563.21	549.95	546.08	535.57	532.86	534.85	560.33	588.37	604.73	597.19	611.44	624.92
15.50°	547.77	538.44	520.91	515.03	509.99	499.75	487.83	483.69	475.62	471.11	474.89	495.49	519.47	529.42	526.08	536.04	547.77
16.00°	482.67	476.14	465.43	456.18	451.83	441.87	438.63	434.63	427.79	423.89	430.01	444.62	464.68	470.66	467.99	475.52	482.67
16.50°	432.38	426.02	416.53	410.31	406.20	398.71	395.11	392.09	385.73	386.05	390.14	402.12	421.16	423.11	418.35	429.83	432.38
17.00°	391.37	386.34	380.39	374.30	368.05	363.71	361.16	356.59	349.38	350.51	353.38	366.75	383.43	385.91	380.17	385.91	391.37
17.50°	355.86	353.46	343.39	341.50	338.12	334.88	331.56	325.56	324.07	322.97	323.81	338.65	352.12	350.56	348.81	353.72	355.86
18.00°	327.63	325.26	318.69	316.76	313.34	311.93	308.98	304.72	300.19	301.19	304.46	313.19	326.75	325.61	321.21	325.08	327.63
18.50°	302.74	303.57	301.10	294.07	292.59	291.02	289.21	287.19	280.85	281.78	282.49	289.00	303.98	299.33	295.22	298.27	302.74
19.00°	281.43	282.21	280.49	274.96	276.86	275.09	272.09	272.88	265.38	265.03	264.48	274.74	284.56	277.77	275.26	282.34	281.43
19.50°	266.04	265.58	265.57	258.80	260.16	261.23	259.98	257.36	251.19	249.67	249.58	260.85	266.95	261.92	259.44	266.40	266.04
20.00°	251.80	252.88	248.63	244.79	246.88	247.49	247.66	243.34	240.87	237.89	233.38	244.36	252.76	250.04	246.20	251.67	251.80
20.50°	236.68	237.02	233.11	232.43	232.87	230.25	230.47	231.20	227.30	224.55	223.55	229.79	237.87	237.54	232.03	234.14	236.68
21.00°	226.12	221.92	223.10	218.73	218.59	216.69	216.15	218.25	214.97	211.31	213.75	217.37	224.64	220.48	220.22	225.01	226.12

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	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	977	977	977	977	953	953	953	953	909	909	909	869	869	869	832	832	815
	1	949	933	919	907	929	915	903	892	881	872	863	850	843	837	821	816	800
	2	923	898	877	859	906	884	865	849	857	842	830	833	821	811	810	802	786
	3	901	868	843	823	886	857	835	816	836	818	803	817	802	790	799	788	773
	4	880	843	816	796	868	835	810	791	818	798	781	803	786	772	788	774	761
	5	862	822	794	774	851	815	789	770	801	780	763	789	771	756	777	762	749
	6	844	803	775	755	835	797	771	753	786	764	747	776	757	742	767	750	738
	7	829	786	759	739	820	781	756	737	772	750	734	764	744	730	756	739	727
	8	814	771	744	726	807	767	742	724	760	737	721	753	733	718	746	729	718
	9	800	757	731	713	794	754	729	712	748	726	710	742	722	708	736	719	708
	10	788	745	720	703	782	742	718	702	737	715	700	732	712	698	727	709	699

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	367.6 fc	1.2 ft
6.5 ft	263.2 fc	1.4 ft
7.5 ft	197.7 fc	1.7 ft
8.0 ft	173.7 fc	1.8 ft
10.0 ft	111.2 fc	2.2 ft
12.0 ft	77.2 fc	2.6 ft
14.0 ft	56.7 fc	3.1 ft
16.0 ft	43.4 fc	3.5 ft
20.0 ft	27.8 fc	4.4 ft
24.0 ft	19.3 fc	5.3 ft
28.0 ft	14.2 fc	6.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	3455493	3455493	3455493
45.00°	1084	1604	1352
55.00°	879	720	723
65.00°	896	835	1014
75.00°	1284	2193	1491
85.00°	4005	4747	4288

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	-6.1	-5.2	-5.7	-4.9	-4.6	-5.9	-5.0	-5.5	-4.7	-4.3
	3H	-1.9	-1.1	-1.5	-0.8	-0.4	-2.1	-1.3	-1.7	-0.9	-0.6
	4H	0.0	0.7	0.4	1.0	1.5	-0.5	0.2	0.0	0.6	1.0
	6H	1.9	2.6	2.4	3.0	3.4	1.4	2.1	1.9	2.5	2.9
	8H	3.1	3.7	3.6	4.1	4.6	2.6	3.2	3.1	3.6	4.1
	12H	4.4	5.0	4.8	5.4	5.8	3.9	4.5	4.4	4.9	5.4
4H	2H	-5.2	-4.5	-4.8	-4.1	-3.7	-4.9	-4.1	-4.4	-3.8	-3.3
	3H	-0.1	0.5	0.4	0.9	1.4	-1.1	-0.6	-0.7	-0.1	0.3
	4H	1.8	2.4	2.3	2.8	3.3	0.7	1.2	1.2	1.7	2.2
	6H	3.8	4.3	4.3	4.7	5.2	2.8	3.2	3.2	3.7	4.2
	8H	5.0	5.4	5.5	5.9	6.4	4.0	4.4	4.5	4.9	5.4
	12H	6.3	6.7	6.8	7.2	7.7	5.4	5.8	5.9	6.3	6.8
8H	4H	2.6	3.0	3.1	3.5	4.0	1.5	1.9	2.0	2.3	2.8
	6H	4.9	5.2	5.5	5.8	6.3	3.7	4.0	4.2	4.5	5.0
	8H	6.3	6.6	6.9	7.1	7.7	5.0	5.3	5.5	5.8	6.3
	12H	7.9	8.1	8.4	8.6	9.2	6.6	6.8	7.1	7.3	7.9
12H	4H	2.8	3.2	3.3	3.7	4.2	1.7	2.0	2.2	2.5	3.0
	6H	5.3	5.6	5.8	6.0	6.6	4.0	4.3	4.6	4.8	5.4
	8H	6.8	7.1	7.3	7.6	8.2	5.4	5.7	6.0	6.2	6.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0