

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2FL RB2BS xx RA2LS

2" Adjustable Track Luminaire with flood optic, difusing lens and standard
bezel

Test Number

SP-01592_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	959
Efficacy	81.26 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.54
Two luminaires, plane 90°	0.55
Four luminaires	0.53

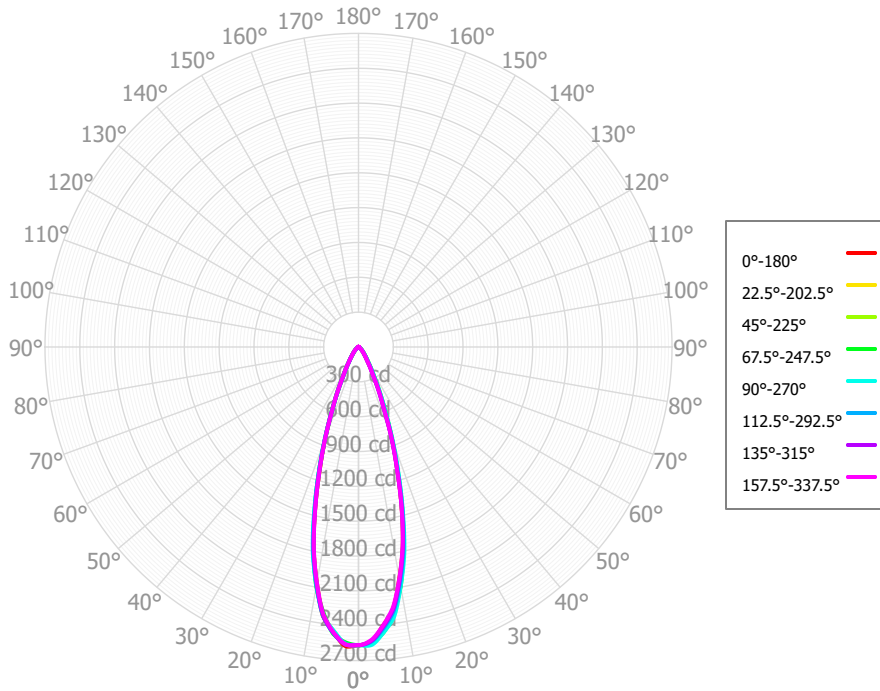
Full Beam Angle

0° - 180°	32°
90° - 270°	33°

IES File Header Contents

Keyword	Value
TEST	SP-01592_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 RD2FL RB2BS xx RA2LS
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, difusing lens and standard 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°	224.77	23.44%	90.00° - 100.00°	1.01	0.11%
10.00° - 20.00°	389.86	40.66%	100.00° - 110.00°	0.99	0.10%
20.00° - 30.00°	201.41	21.00%	100.00° - 120.00°	1.95	0.20%
30.00° - 40.00°	76.83	8.01%	120.00° - 130.00°	0.90	0.09%
40.00° - 50.00°	36.45	3.80%	130.00° - 140.00°	0.81	0.08%
50.00° - 60.00°	16.02	1.67%	140.00° - 150.00°	0.72	0.08%
60.00° - 70.00°	4.75	0.50%	150.00° - 160.00°	0.56	0.06%
70.00° - 80.00°	1.39	0.14%	160.00° - 170.00°	0.33	0.03%
80.00° - 90.00°	1.05	0.11%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	952.53	99.33%	0.00° - 180.00°	958.92	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°	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91	2567.91
2.50°	2539.25	2536.09	2554.41	2544.93	2568.80	2561.34	2565.32	2562.25	2578.37	2562.74	2564.32	2546.61	2557.91	2539.84	2534.31	2525.63	2539.25
5.00°	2410.43	2420.52	2438.66	2468.47	2469.26	2475.05	2472.87	2467.25	2462.71	2464.12	2458.82	2481.39	2452.49	2436.68	2421.02	2409.90	2410.43
7.50°	2279.26	2278.87	2313.43	2306.16	2344.44	2333.71	2333.46	2320.90	2339.00	2322.82	2333.82	2309.20	2334.00	2301.81	2282.25	2264.62	2279.26
10.00°	2023.50	2032.70	2050.04	2093.47	2091.59	2084.22	2071.95	2063.26	2064.64	2066.25	2070.22	2095.65	2083.40	2064.80	2038.75	2025.31	2023.50
12.50°	1765.61	1758.34	1777.38	1781.51	1821.98	1802.20	1786.33	1777.97	1785.57	1785.15	1795.25	1792.86	1817.40	1788.15	1766.19	1753.79	1765.61
15.00°	1438.50	1439.15	1445.87	1462.96	1478.55	1461.71	1443.13	1438.00	1444.70	1444.09	1450.77	1458.95	1479.36	1462.72	1440.96	1435.14	1438.50
17.50°	1114.03	1109.29	1111.73	1132.54	1147.44	1140.22	1119.66	1118.62	1110.55	1121.20	1117.13	1141.57	1134.45	1120.19	1102.79	1102.00	1114.03
20.00°	839.67	840.25	847.19	840.82	864.81	850.02	838.99	836.44	843.45	838.65	840.05	829.36	854.17	837.76	824.21	825.12	839.67
22.50°	573.32	583.86	584.45	613.12	608.70	606.48	596.13	596.85	588.98	595.33	585.36	609.81	578.51	574.23	558.44	563.63	573.32
25.00°	417.69	424.80	435.14	428.43	445.11	433.58	428.15	427.90	435.50	431.37	432.04	416.15	424.85	410.51	401.28	401.87	417.69
27.50°	269.75	283.19	287.65	309.81	302.84	299.53	292.85	294.79	292.73	297.85	294.71	303.89	277.16	274.78	264.31	264.22	269.75
30.00°	201.70	210.12	220.58	217.98	227.06	219.57	216.74	216.25	220.81	220.61	220.88	211.75	210.58	201.65	195.65	192.66	201.70
32.50°	137.90	147.45	154.78	163.98	161.59	158.67	156.06	155.70	154.86	158.69	156.10	160.45	146.21	144.34	137.79	135.34	137.90
35.00°	109.34	115.25	123.35	122.07	125.07	122.20	120.98	120.63	122.30	123.05	123.18	118.00	115.81	111.51	108.62	105.05	109.34
37.50°	82.31	86.87	92.70	95.87	93.81	93.85	92.32	92.56	92.29	93.77	93.73	94.05	85.82	84.11	83.22	79.79	82.31
40.00°	65.76	69.81	75.30	74.97	75.88	75.11	73.58	73.62	74.82	74.52	75.18	73.57	70.29	68.59	67.30	64.78	65.76
42.50°	50.42	53.89	58.40	60.43	59.83	60.27	58.07	58.62	58.70	58.91	58.73	59.53	54.96	55.36	52.40	51.39	50.42
45.00°	42.06	44.41	47.60	48.33	48.10	49.71	47.14	48.34	48.40	48.58	48.17	46.52	45.20	44.74	42.40	42.38	42.06
47.50°	34.00	35.42	37.12	38.90	37.77	40.12	37.84	39.17	38.64	39.33	38.46	38.23	35.57	34.55	32.83	33.95	34.00
50.00°	27.48	28.41	29.64	30.75	30.39	31.53	30.66	31.23	30.94	31.52	30.92	30.57	28.11	27.72	26.17	27.02	27.48
52.50°	21.31	21.52	22.48	23.90	24.06	24.23	24.12	24.22	23.76	24.59	24.07	24.09	20.83	21.35	19.70	20.27	21.31
55.00°	16.61	16.95	17.66	18.46	19.75	18.13	18.32	18.17	18.31	18.75	18.83	17.73	15.86	16.08	14.95	15.20	16.61
57.50°	12.16	12.46	13.04	14.35	15.30	13.23	13.22	13.35	13.29	13.69	14.10	13.19	11.15	10.93	10.28	10.27	12.16
60.00°	8.66	9.36	9.67	10.50	10.59	9.35	8.88	9.71	9.61	9.52	10.44	8.81	8.82	7.76	7.38	8.08	8.66
62.50°	5.62	6.28	6.55	6.87	6.78	6.60	6.00	6.92	6.43	6.50	7.19	6.44	6.52	4.75	4.52	6.06	5.62
65.00°	4.17	4.77	4.76	4.51	4.40	4.74	4.60	4.88	4.63	4.65	4.77	4.20	4.41	3.60	3.56	4.30	4.17
67.50°	2.85	3.27	3.17	3.15	2.75	3.30	3.53	3.28	3.14	3.33	2.91	3.04	2.49	2.57	2.61	2.55	2.85
70.00°	1.91	2.11	2.54	2.19	2.17	2.15	2.77	2.02	2.43	2.50	2.05	1.92	1.74	1.85	1.89	1.86	1.91
72.50°	1.19	1.00	1.94	1.52	1.69	1.49	2.06	1.34	1.81	1.92	1.41	1.54	1.11	1.15	1.20	1.19	1.19
75.00°	1.05	0.93	1.45	1.20	1.38	1.17	1.41	1.09	1.39	1.57	1.16	1.18	1.13	0.96	1.02	1.14	1.05
77.50°	0.94	0.88	1.04	1.14	1.15	1.04	1.10	0.94	1.13	1.31	0.99	0.99	1.12	0.78	0.86	1.09	0.94
80.00°	0.90	1.14	0.94	1.04	1.03	1.05	1.06	0.88	1.21	1.13	0.95	0.80	0.91	0.75	1.03	0.95	0.90
82.50°	0.86	1.38	0.88	0.90	0.97	1.05	0.95	0.80	1.22	1.04	0.95	0.80	0.75	0.71	1.17	0.82	0.86
85.00°	0.84	1.42	0.97	0.92	0.97	1.06	0.77	0.71	1.13	1.02	0.98	0.81	0.79	0.75	1.01	0.95	0.84
87.50°	0.85	1.42	1.03	1.03	0.92	1.07	0.73	0.76	1.03	1.10	0.99	0.93	0.84	0.80	0.86	1.07	0.85
90.00°	0.94	1.09	0.99	0.98	0.83	1.07	0.80	0.89	0.92	1.26	0.95	1.05	0.95	0.84	0.76	1.01	0.94
92.50°	0.99	0.81	1.01	0.84	0.79	0.96	0.80	0.83	0.89	1.16	0.97	1.06	1.04	0.89	0.68	0.94	0.99
95.00°	0.99	0.82	1.21	0.85	0.80	0.79	0.77	0.68	0.98	0.90	1.06	1.07	1.06	0.99	0.81	0.90	0.99
97.50°	1.00	0.84	1.30	0.94	0.86	0.79	0.82	0.77	0.98	0.82	1.02	0.99	1.02	1.08	0.91	0.85	1.00
100.00°	1.04	0.94	1.14	1.07	0.99	0.86	0.93	0.98	0.85	0.85	0.84	0.92	0.80	1.05	0.90	0.78	1.04
102.50°	1.05	1.01	1.04	1.21	1.01	0.86	0.84	1.01	0.83	0.93	0.81	0.92	0.67	1.01	0.89	0.71	1.05
105.00°	1.02	0.93	1.08	1.29	0.95	0.84	0.66	0.96	0.96	1.02	0.90	0.92	0.80	0.87	0.89	0.79	1.02

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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1140	1140	1140	1140	1113	1113	1113	1113	1062	1062	1062	1015	1015	1015	973	973	973	953
	1	1094	1071	1049	1031	1070	1049	1031	1014	1010	995	981	973	962	951	940	931	923	912
	2	1049	1009	975	947	1028	992	962	936	961	936	915	932	912	895	905	889	875	872
	3	1007	954	914	881	989	941	904	874	916	885	859	892	867	845	871	850	832	833
	4	967	906	861	827	951	895	854	822	875	839	812	856	826	802	838	813	792	798
	5	930	863	816	781	915	854	810	777	837	799	770	821	789	763	806	778	756	765
	6	895	824	776	741	882	816	771	739	802	763	733	789	755	728	777	747	723	734
	7	862	788	740	707	850	782	737	705	770	730	701	759	723	697	749	717	693	705
	8	832	756	709	676	821	751	706	674	741	700	671	731	695	668	722	690	665	679
	9	803	727	680	648	793	722	677	647	713	673	645	705	669	642	698	664	640	654
	10	776	699	654	623	767	696	652	622	688	648	620	681	644	619	674	641	617	632

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	84.9 fc	3.2 ft
6.5 ft	60.8 fc	3.8 ft
7.5 ft	45.7 fc	4.3 ft
8.0 ft	40.1 fc	4.6 ft
10.0 ft	25.7 fc	5.8 ft
12.0 ft	17.8 fc	7.0 ft
14.0 ft	13.1 fc	8.1 ft
16.0 ft	10.0 fc	9.3 ft
20.0 ft	6.4 fc	11.6 ft
24.0 ft	4.5 fc	13.9 ft
28.0 ft	3.3 fc	16.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	798035	798035	798035
45.00°	18483	20920	21140
55.00°	8999	9569	10703
65.00°	3069	3502	3238
75.00°	1262	1739	1656
85.00°	2990	3462	3446

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	9.6	10.5	9.9	10.8	11.2	10.5	11.4	10.8	11.7	12.1
	3H	9.7	10.5	10.1	10.8	11.2	10.5	11.3	10.9	11.7	12.1
	4H	9.6	10.4	10.0	10.8	11.2	10.5	11.3	10.9	11.6	12.0
	6H	9.6	10.3	10.0	10.7	11.1	10.5	11.2	10.9	11.6	12.0
	8H	9.6	10.3	10.1	10.7	11.1	10.5	11.1	10.9	11.5	12.0
	12H	9.7	10.3	10.1	10.7	11.2	10.5	11.1	10.9	11.5	12.0
4H	2H	9.5	10.3	9.9	10.6	11.0	10.4	11.2	10.8	11.5	11.9
	3H	9.6	10.3	10.1	10.7	11.1	10.5	11.1	10.9	11.5	12.0
	4H	9.6	10.2	10.1	10.6	11.1	10.5	11.0	10.9	11.5	11.9
	6H	9.7	10.1	10.1	10.6	11.1	10.5	11.0	11.0	11.4	11.9
	8H	9.7	10.2	10.2	10.6	11.1	10.5	11.0	11.0	11.4	11.9
	12H	9.9	10.3	10.4	10.8	11.3	10.6	11.0	11.1	11.5	12.0
8H	4H	9.5	10.0	10.0	10.4	10.9	10.3	10.8	10.8	11.3	11.7
	6H	9.6	10.0	10.2	10.5	11.0	10.4	10.8	10.9	11.3	11.8
	8H	9.8	10.1	10.4	10.7	11.2	10.5	10.8	11.1	11.4	11.9
	12H	10.2	10.4	10.7	10.9	11.5	10.7	11.0	11.3	11.5	12.1
12H	4H	9.5	9.8	10.0	10.3	10.8	10.3	10.7	10.8	11.2	11.7
	6H	9.6	9.9	10.2	10.4	11.0	10.4	10.7	10.9	11.2	11.8
	8H	9.9	10.1	10.4	10.7	11.2	10.5	10.8	11.1	11.3	11.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0