

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2SP RB2BS xx RA2HL

2" Adjustable Track Luminaire with spot optic, hex louver and standard bezel

Test Number

SP-01574_1

Test Date

9/26/2023

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	706
Efficacy	59.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.34
Two luminaires, plane 90°	0.34
Four luminaires	0.33

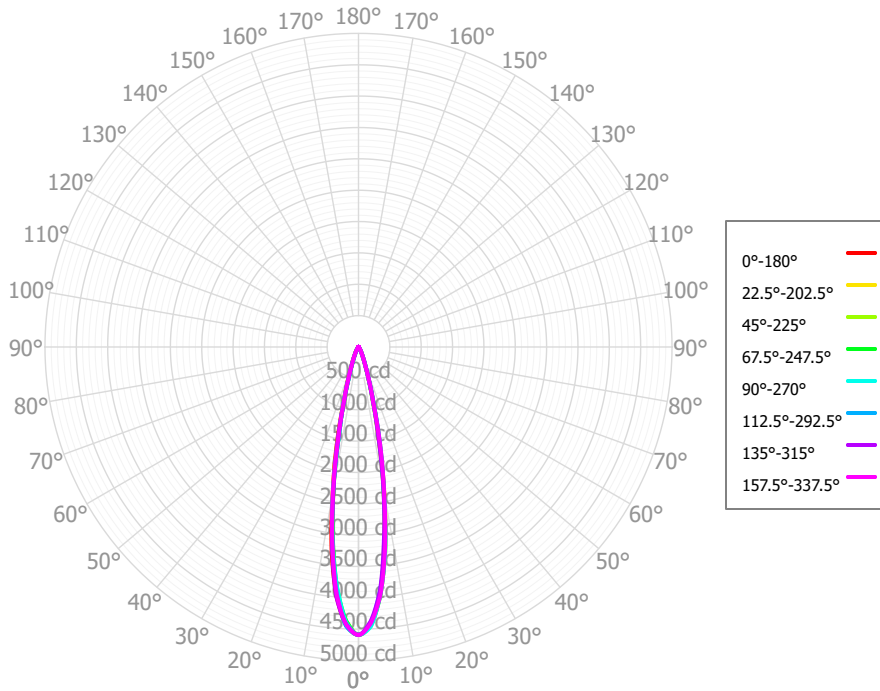
Full Beam Angle

0° - 180°	20°
90° - 270°	20°

IES File Header Contents

Keyword	Value
TEST	SP-01574_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 10 xx xx RD2SP RB2BS xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, hex louver and standard bezel
OTHER	Beam Angle: 20 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°	323.96	45.88%	90.00° - 100.00°	1.22	0.17%
10.00° - 20.00°	268.46	38.02%	100.00° - 110.00°	1.16	0.16%
20.00° - 30.00°	72.00	10.20%	100.00° - 120.00°	2.23	0.32%
30.00° - 40.00°	23.76	3.36%	120.00° - 130.00°	1.04	0.15%
40.00° - 50.00°	5.80	0.82%	130.00° - 140.00°	0.93	0.13%
50.00° - 60.00°	1.39	0.20%	140.00° - 150.00°	0.78	0.11%
60.00° - 70.00°	1.19	0.17%	150.00° - 160.00°	0.62	0.09%
70.00° - 80.00°	1.15	0.16%	160.00° - 170.00°	0.36	0.05%
80.00° - 90.00°	1.16	0.16%	170.00° - 180.00°	0.11	0.02%
0.00° - 90.00°	698.87	98.97%	0.00° - 180.00°	706.17	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°	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65	4590.65
2.50°	4422.82	4455.32	4405.23	4440.61	4465.17	4461.85	4430.08	4438.02	4445.05	4449.25	4383.16	4382.73	4405.59	4405.38	4383.25	4417.02	4422.82
5.00°	3943.61	3958.79	3972.74	3985.84	3968.67	3955.02	4011.56	3969.29	4003.10	3912.29	3966.63	3880.70	3868.13	3915.55	3910.29	3979.00	3943.61
7.50°	3202.39	3273.37	3125.92	3241.47	3273.40	3191.14	3220.62	3181.86	3279.83	3193.19	3169.90	3123.07	3164.12	3217.30	3107.28	3244.44	3202.39
10.00°	2368.12	2341.97	2285.96	2300.50	2321.28	2333.62	2282.66	2348.40	2368.61	2341.01	2281.81	2303.95	2321.50	2333.25	2290.36	2348.77	2368.12
12.50°	1472.55	1561.77	1456.30	1540.26	1535.05	1431.45	1544.66	1478.47	1610.86	1448.62	1552.15	1445.57	1437.39	1586.94	1458.90	1593.25	1472.55
15.00°	914.19	930.25	858.21	872.35	913.02	904.81	862.01	915.46	928.95	944.50	845.64	902.71	931.83	934.42	890.14	893.83	914.19
17.50°	519.95	540.28	525.65	533.46	530.66	507.80	557.87	537.28	579.14	515.57	561.36	510.75	500.63	566.78	531.85	554.98	519.95
20.00°	325.64	332.21	312.94	315.21	327.37	329.21	318.96	338.75	348.74	350.55	306.11	322.41	334.76	342.79	324.96	315.47	325.64
22.50°	201.98	212.70	204.13	209.46	208.15	200.79	224.90	220.79	237.99	213.55	223.57	203.30	197.71	223.72	208.93	214.43	201.98
25.00°	141.83	142.97	135.61	132.19	135.76	142.15	143.56	155.06	156.81	159.15	144.78	143.87	143.57	143.26	141.99	137.08	141.83
27.50°	96.70	101.71	93.72	94.06	92.93	93.07	108.12	105.81	115.24	108.36	110.04	98.22	92.90	101.58	96.99	101.09	96.70
30.00°	71.86	72.29	66.55	61.90	62.27	69.25	74.08	75.75	79.50	83.58	77.33	73.65	69.23	69.55	70.42	68.68	71.86
32.50°	49.91	53.56	46.57	46.23	44.46	46.96	55.46	49.62	59.44	59.89	56.61	51.90	46.64	49.54	49.77	50.73	49.91
35.00°	36.33	37.91	32.92	31.75	30.39	35.24	37.89	36.58	40.41	45.07	37.81	37.97	32.94	31.37	37.86	33.46	36.33
37.50°	23.31	27.40	21.50	22.78	21.73	23.86	27.64	25.06	30.39	31.35	26.18	24.59	20.50	22.61	27.78	23.99	23.31
40.00°	16.71	17.86	15.01	14.14	14.08	16.25	18.32	18.72	20.64	22.80	16.27	17.49	13.99	14.49	18.65	15.16	16.71
42.50°	10.34	12.08	9.68	9.85	9.49	9.27	12.91	12.65	14.27	14.85	10.79	10.65	8.31	9.67	9.64	10.77	10.34
45.00°	6.59	6.68	6.36	5.90	5.19	5.82	8.02	8.36	8.39	8.79	6.28	6.55	5.17	5.07	5.85	6.81	6.59
47.50°	3.25	4.29	3.32	4.02	3.53	2.95	4.60	4.37	5.45	4.20	3.56	3.00	2.82	3.24	2.36	4.66	3.25
50.00°	2.22	2.07	2.48	2.40	1.99	2.10	2.12	3.07	2.91	2.84	1.95	2.41	2.22	1.65	1.94	2.86	2.22
52.50°	1.38	1.73	1.78	1.76	1.75	1.45	1.58	1.90	1.86	1.89	1.90	1.89	1.73	1.52	1.55	2.06	1.38
55.00°	1.23	1.42	1.51	1.27	1.53	1.29	1.29	1.37	1.05	1.61	1.80	1.56	1.45	1.38	1.42	1.51	1.23
57.50°	1.12	1.38	1.27	1.17	1.47	1.24	1.38	0.98	0.86	1.43	1.67	1.35	1.35	1.23	1.31	1.47	1.12
60.00°	1.08	1.34	1.33	1.17	1.41	1.37	1.34	1.04	0.80	1.39	1.50	1.44	1.48	1.08	1.26	1.48	1.08
62.50°	1.07	1.36	1.34	1.35	1.30	1.40	1.13	1.10	1.00	1.39	1.30	1.46	1.45	0.96	1.20	1.57	1.07
65.00°	1.09	1.34	1.04	1.35	1.19	1.28	1.06	1.15	1.11	1.44	1.09	1.36	1.26	0.95	1.07	1.53	1.09
67.50°	1.12	1.20	0.85	1.12	1.03	1.15	1.11	1.19	1.09	1.27	0.88	1.24	1.17	1.14	1.00	1.36	1.12
70.00°	1.14	1.09	1.01	1.11	0.94	1.00	1.03	1.19	1.21	0.96	1.00	1.08	1.15	1.25	1.03	1.26	1.14
72.50°	1.12	1.05	1.05	1.36	1.01	0.92	0.86	1.16	1.48	0.96	1.28	1.04	1.14	1.24	1.00	1.23	1.12
75.00°	1.06	1.04	0.77	1.33	1.05	0.88	0.87	1.08	1.59	1.13	1.24	1.13	1.13	1.09	0.89	1.27	1.06
77.50°	1.06	1.07	0.67	1.07	1.02	0.88	0.97	1.05	1.59	1.08	1.11	1.12	1.13	0.78	0.87	1.35	1.06
80.00°	1.12	1.12	0.86	0.99	0.94	0.92	0.96	1.05	1.52	0.95	1.11	1.03	1.14	0.76	0.97	1.27	1.12
82.50°	1.18	1.19	1.03	1.03	0.81	0.86	0.91	0.96	1.42	1.14	1.13	0.98	1.12	0.98	0.98	1.11	1.18
85.00°	1.23	1.15	1.16	1.01	0.91	0.76	1.02	0.80	1.23	1.42	1.12	0.97	1.10	1.12	0.90	0.97	1.23
87.50°	1.36	0.99	1.29	0.96	1.21	0.83	1.17	0.79	0.99	1.35	1.10	1.05	1.10	1.20	0.87	0.83	1.36
90.00°	1.53	1.05	1.41	0.87	1.22	0.96	1.32	0.88	1.03	1.22	1.09	1.16	1.10	1.18	0.88	0.89	1.53
92.50°	1.27	1.25	1.43	0.76	1.04	1.05	1.46	0.98	1.16	1.19	1.08	1.11	1.11	1.12	0.93	1.00	1.27
95.00°	0.87	1.36	1.39	0.88	1.09	1.13	1.31	1.09	1.10	1.16	1.23	1.02	1.13	1.05	1.00	1.13	0.87
97.50°	0.91	1.44	1.27	1.04	1.27	1.04	1.14	1.11	1.00	1.29	1.36	0.99	1.13	0.98	0.96	1.26	0.91
100.00°	1.03	1.25	1.10	1.10	1.28	0.94	0.99	1.09	1.05	1.40	1.20	0.99	1.13	1.02	0.87	1.22	1.03
102.50°	1.01	0.96	1.11	1.13	1.23	1.07	0.86	1.13	1.12	1.23	1.06	1.06	1.10	1.08	0.80	1.18	1.01
105.00°	0.98	1.12	1.19	1.05	1.23	1.21	1.03	1.18	1.04	1.06	0.97	1.15	1.07	1.20	0.74	1.17	0.98

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	839	839	839	839	819	819	819	819	781	781	781	746	746	746	714	714	699
	1	812	797	784	772	794	781	770	759	752	743	735	725	718	712	700	695	681
	2	787	762	742	725	772	750	732	717	727	713	700	706	694	684	686	677	664
	3	764	733	709	689	751	723	701	684	705	687	672	688	673	661	672	660	648
	4	743	707	681	661	731	699	675	657	684	664	649	671	654	641	658	644	633
	5	723	684	657	637	713	678	653	634	666	645	628	655	637	622	644	629	618
	6	705	664	637	617	696	659	633	615	649	627	610	640	621	606	631	615	604
	7	688	646	618	599	680	641	616	598	633	611	594	626	606	591	618	601	592
	8	672	629	602	584	665	625	600	582	619	596	580	612	592	577	606	588	579
	9	657	614	587	570	651	611	586	569	605	582	567	599	579	565	594	576	568
	10	643	600	574	557	637	597	572	556	592	570	554	587	567	553	583	565	557

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	151.8 fc	2.0 ft
6.5 ft	108.7 fc	2.3 ft
7.5 ft	81.6 fc	2.7 ft
8.0 ft	71.7 fc	2.9 ft
10.0 ft	45.9 fc	3.6 ft
12.0 ft	31.9 fc	4.3 ft
14.0 ft	23.4 fc	5.0 ft
16.0 ft	17.9 fc	5.8 ft
20.0 ft	11.5 fc	7.2 ft
24.0 ft	8.0 fc	8.7 ft
28.0 ft	5.9 fc	10.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1426645	1426645	1426645
45.00°	2898	2794	2283
55.00°	669	817	831
65.00°	803	766	873
75.00°	1270	930	1256
85.00°	4391	4142	3241

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	-4.0	-3.1	-3.6	-2.8	-2.4	-4.2	-3.3	-3.8	-3.0	-2.7
	3H	-1.1	-0.4	-0.7	0.0	0.4	-1.5	-0.7	-1.1	-0.4	0.0
	4H	0.4	1.1	0.8	1.5	1.9	0.0	0.8	0.5	1.1	1.6
	6H	2.3	2.9	2.7	3.3	3.8	1.9	2.5	2.3	2.9	3.4
	8H	3.4	4.0	3.9	4.5	4.9	2.8	3.4	3.3	3.9	4.3
	12H	4.8	5.4	5.3	5.8	6.3	4.0	4.6	4.4	5.0	5.4
4H	2H	-3.4	-2.7	-3.0	-2.3	-1.9	-3.6	-2.9	-3.2	-2.5	-2.1
	3H	-0.2	0.4	0.2	0.8	1.2	-0.6	0.0	-0.1	0.4	0.9
	4H	1.6	2.2	2.1	2.6	3.1	1.2	1.7	1.6	2.1	2.6
	6H	3.8	4.3	4.3	4.7	5.2	3.2	3.7	3.7	4.1	4.6
	8H	5.0	5.5	5.5	5.9	6.4	4.3	4.7	4.8	5.1	5.6
	12H	6.5	6.9	7.0	7.4	7.9	5.5	5.9	6.0	6.4	6.9
8H	4H	2.1	2.5	2.6	3.0	3.5	1.9	2.3	2.4	2.8	3.3
	6H	4.6	5.0	5.2	5.5	6.0	4.1	4.5	4.7	5.0	5.5
	8H	6.1	6.4	6.7	6.9	7.5	5.4	5.6	5.9	6.2	6.7
	12H	7.8	8.0	8.3	8.6	9.2	6.8	7.1	7.3	7.6	8.2
12H	4H	2.2	2.6	2.7	3.1	3.6	2.1	2.4	2.6	2.9	3.4
	6H	4.9	5.2	5.4	5.7	6.2	4.5	4.7	5.0	5.2	5.8
	8H	6.5	6.7	7.0	7.2	7.8	5.8	6.0	6.3	6.6	7.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0