

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2XF RB2BS xx RA2HL

2" Adjustable Track Luminaire with extra wide flood optic, hex louver and standard bezel

Test Number

SP-01576_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	647
Efficacy	54.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.82
Two luminaires, plane 90°	0.8
Four luminaires	0.74

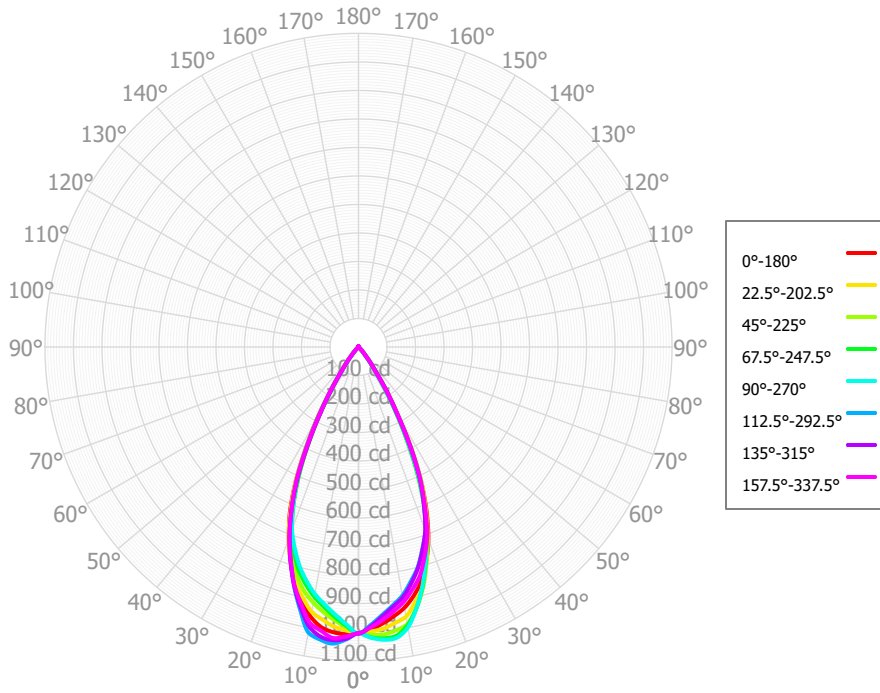
Full Beam Angle

0° - 180°	50°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-01576_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 RD2XF RB2BS xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with extra wide flood optic, hex louver and standard bezel
OTHER	Beam Angle: 50 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°	94.40	14.59%	90.00° - 100.00°	1.21	0.19%
10.00° - 20.00°	232.83	35.98%	100.00° - 110.00°	1.07	0.17%
20.00° - 30.00°	222.94	34.45%	100.00° - 120.00°	2.13	0.33%
30.00° - 40.00°	74.82	11.56%	120.00° - 130.00°	0.98	0.15%
40.00° - 50.00°	10.05	1.55%	130.00° - 140.00°	0.84	0.13%
50.00° - 60.00°	1.57	0.24%	140.00° - 150.00°	0.75	0.12%
60.00° - 70.00°	1.21	0.19%	150.00° - 160.00°	0.56	0.09%
70.00° - 80.00°	1.14	0.18%	160.00° - 170.00°	0.36	0.06%
80.00° - 90.00°	1.18	0.18%	170.00° - 180.00°	0.12	0.02%
0.00° - 90.00°	640.14	98.93%	0.00° - 180.00°	647.08	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°	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83	1004.83
2.50°	991.85	999.10	1010.67	1019.96	1021.08	1027.68	1025.14	1016.44	1008.84	995.32	983.72	979.87	974.24	976.25	981.57	984.76	991.85
5.00°	973.66	992.26	1012.38	1025.88	1031.10	1044.55	1032.70	1024.88	1004.86	984.68	962.83	950.65	941.95	944.45	949.43	962.13	973.66
7.50°	952.55	976.85	1002.70	1021.78	1028.88	1035.22	1024.71	1004.59	992.28	965.08	938.97	920.88	910.80	915.14	920.31	936.11	952.55
10.00°	928.94	960.60	987.43	991.37	999.47	1016.57	996.18	982.98	962.37	943.83	911.49	890.61	880.38	886.04	892.63	908.82	928.94
12.50°	894.38	917.05	938.24	939.21	938.94	944.99	936.75	925.19	917.63	901.01	878.62	853.47	841.12	844.01	851.37	872.02	894.38
15.00°	851.29	871.45	874.40	869.29	867.51	871.49	869.74	866.58	859.71	855.87	833.46	810.86	796.85	801.33	804.36	831.84	851.29
17.50°	790.47	791.65	793.22	786.02	784.72	789.08	792.51	788.74	791.54	789.40	771.95	753.08	742.35	744.07	746.71	771.67	790.47
20.00°	717.12	710.86	705.46	695.09	697.71	704.46	707.76	710.26	713.98	719.19	695.40	684.35	682.54	686.44	685.10	705.65	717.12
22.50°	624.60	618.09	602.94	599.02	606.75	611.24	613.79	611.69	629.89	622.79	600.93	594.28	598.13	600.61	600.36	611.38	624.60
25.00°	519.97	521.87	495.46	485.76	498.60	511.24	504.57	511.71	522.36	521.89	494.17	490.22	502.42	513.74	508.14	511.72	519.97
27.50°	402.06	395.95	377.47	362.20	376.03	388.65	378.38	388.56	400.24	395.85	374.10	380.09	388.19	388.97	394.66	389.82	402.06
30.00°	276.66	274.82	256.37	255.75	267.14	273.67	267.78	268.60	288.83	275.81	266.01	266.39	266.47	266.11	275.15	274.06	276.66
32.50°	183.25	185.50	174.28	158.56	168.54	181.03	172.74	183.12	183.36	184.61	169.72	180.24	177.23	177.75	188.43	180.20	183.25
35.00°	105.85	104.59	101.97	98.99	102.82	103.23	105.71	103.24	116.08	104.40	103.69	108.43	99.46	93.73	109.76	100.38	105.85
37.50°	62.76	68.53	64.09	57.76	59.85	64.03	63.81	67.98	68.15	68.43	64.42	65.38	59.36	60.18	67.86	63.70	62.76
40.00°	35.34	36.38	33.45	33.73	33.26	32.44	35.87	35.52	40.58	37.43	38.18	35.79	30.98	28.92	33.50	33.46	35.34
42.50°	20.71	21.90	19.85	17.11	16.80	18.20	19.16	21.01	22.14	23.42	22.29	20.34	17.84	18.39	19.80	20.42	20.71
45.00°	11.23	9.64	9.18	8.90	8.40	7.64	9.51	8.30	12.08	11.76	12.02	10.81	8.84	8.80	9.55	10.00	11.23
47.50°	6.33	6.01	5.21	3.86	4.44	4.52	5.07	5.18	5.32	7.04	5.80	6.24	5.48	5.73	5.63	5.71	6.33
50.00°	3.04	3.02	2.20	2.21	2.59	2.36	2.72	2.52	2.96	3.36	2.83	3.49	3.42	3.00	2.58	2.61	3.04
52.50°	2.04	2.13	1.67	1.67	1.77	1.93	1.77	1.92	2.10	2.38	1.98	2.41	2.50	2.22	1.81	2.02	2.04
55.00°	1.73	1.42	1.42	1.40	1.44	1.58	1.39	1.43	1.78	1.64	1.67	1.86	1.81	1.54	1.29	1.51	1.73
57.50°	1.43	1.19	1.53	1.20	1.33	1.36	1.34	1.36	1.62	1.46	1.66	1.70	1.58	1.38	1.33	1.17	1.43
60.00°	1.12	1.07	1.67	1.12	1.30	1.25	1.29	1.28	1.41	1.33	1.52	1.64	1.43	1.24	1.41	1.00	1.12
62.50°	1.25	1.26	1.32	1.08	1.30	1.29	1.23	1.18	1.20	1.29	1.30	1.47	1.49	1.20	1.35	1.13	1.25
65.00°	1.47	1.38	0.94	1.00	1.33	1.25	1.19	1.12	1.16	1.24	1.16	1.27	1.57	1.15	1.28	1.16	1.47
67.50°	1.24	1.36	1.00	0.91	1.37	1.11	1.14	1.22	1.16	1.14	1.06	1.21	1.44	1.06	1.10	1.06	1.24
70.00°	0.93	1.30	1.06	1.10	1.17	0.98	1.14	1.23	1.07	1.12	1.03	1.17	1.28	1.01	0.93	1.02	0.93
72.50°	1.02	1.16	1.15	1.35	0.89	0.86	1.16	1.05	0.97	1.22	1.02	1.13	1.31	1.04	1.03	1.07	1.02
75.00°	1.17	1.10	1.22	1.28	0.93	0.80	1.13	0.93	1.02	1.23	0.99	1.09	1.34	1.06	1.13	1.06	1.17
77.50°	1.19	1.17	1.16	1.17	1.04	0.81	1.07	0.97	1.10	1.08	0.96	1.09	1.11	1.03	1.08	0.99	1.19
80.00°	1.19	1.12	1.11	1.11	1.07	0.85	1.05	1.04	1.16	1.04	1.01	1.09	0.87	0.99	1.04	1.02	1.19
82.50°	1.11	0.89	1.11	1.05	1.09	0.91	1.04	1.17	1.21	1.15	1.10	1.12	1.01	0.95	0.96	1.16	1.11
85.00°	1.03	0.83	1.11	1.11	1.05	0.95	1.13	1.27	1.14	1.20	1.15	1.15	1.16	0.93	0.89	1.21	1.03
87.50°	1.02	1.02	1.08	1.17	1.01	0.97	1.23	1.33	1.06	1.18	1.20	1.16	1.26	0.94	0.96	1.17	1.02
90.00°	1.01	1.10	1.06	1.12	0.98	1.00	1.16	1.37	1.21	1.20	1.12	1.16	1.35	0.95	1.04	1.14	1.01
92.50°	0.97	1.03	1.06	1.05	0.97	1.05	1.03	1.37	1.38	1.26	1.02	1.11	1.25	0.98	1.14	1.13	0.97
95.00°	0.92	1.06	1.06	1.05	1.03	1.10	1.05	1.34	1.26	1.27	1.04	1.06	1.16	0.97	1.22	1.13	0.92
97.50°	1.01	1.22	1.11	1.05	1.10	1.16	1.09	1.27	1.14	1.25	1.10	1.00	1.13	0.90	1.16	1.15	1.01
100.00°	1.10	1.21	1.12	1.04	1.10	1.12	1.04	1.19	1.09	1.20	0.99	0.93	1.10	0.91	1.09	1.10	1.10
102.50°	1.04	1.03	0.95	1.04	1.10	1.03	0.96	1.11	1.05	1.12	0.86	0.85	1.00	1.04	0.99	1.02	1.04
105.00°	1.00	0.99	0.84	0.98	1.01	1.04	1.00	1.08	0.95	1.03	0.91	0.79	0.92	1.09	0.92	0.97	1.00

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	769	769	769	769	750	750	750	750	715	715	715	683	683	683	654	654	640
	1	736	719	704	691	719	705	691	679	677	667	657	652	644	636	629	623	610
	2	704	675	652	632	689	664	642	624	642	624	609	622	608	595	603	592	580
	3	673	636	607	584	660	627	600	579	609	587	569	593	574	559	578	563	551
	4	644	600	568	544	633	593	563	540	578	553	533	565	544	526	553	535	524
	5	616	568	534	510	606	562	530	507	550	523	502	539	515	497	528	508	499
	6	590	539	504	479	581	534	501	478	524	495	474	514	489	470	505	484	475
	7	565	512	477	453	557	507	475	451	499	470	449	491	465	446	484	461	453
	8	542	487	452	429	534	483	450	428	476	447	425	469	443	423	463	439	432
	9	520	464	430	407	513	461	428	406	455	425	404	449	422	403	443	419	413
	10	499	443	409	387	493	440	408	386	435	405	385	430	403	384	425	400	394

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	33.2 fc	5.1 ft
6.5 ft	23.8 fc	6.1 ft
7.5 ft	17.9 fc	7.0 ft
8.0 ft	15.7 fc	7.5 ft
10.0 ft	10.0 fc	9.3 ft
12.0 ft	7.0 fc	11.2 ft
14.0 ft	5.1 fc	13.0 ft
16.0 ft	3.9 fc	14.9 ft
20.0 ft	2.5 fc	18.6 ft
24.0 ft	1.7 fc	22.4 ft
28.0 ft	1.3 fc	26.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	312273	312273	312273
45.00°	4934	4036	3690
55.00°	940	769	780
65.00°	1081	694	980
75.00°	1402	1470	1113
85.00°	3674	3946	3760

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	-4.6	-3.7	-4.2	-3.3	-3.0	-3.0	-2.1	-2.6	-1.8	-1.4
	3H	-1.3	-0.5	-0.9	-0.1	0.3	-0.4	0.4	0.0	0.8	1.2
	4H	0.4	1.2	0.9	1.5	2.0	0.9	1.7	1.4	2.0	2.5
	6H	2.6	3.2	3.0	3.6	4.0	2.4	3.1	2.9	3.5	3.9
	8H	3.6	4.3	4.1	4.7	5.1	3.4	4.0	3.8	4.4	4.9
	12H	4.8	5.4	5.2	5.8	6.2	4.6	5.2	5.1	5.7	6.1
4H	2H	-3.7	-2.9	-3.2	-2.6	-2.1	-2.4	-1.7	-2.0	-1.3	-0.9
	3H	-0.2	0.4	0.2	0.8	1.3	0.4	1.0	0.8	1.4	1.9
	4H	1.7	2.2	2.2	2.7	3.1	1.9	2.4	2.3	2.8	3.3
	6H	4.0	4.4	4.4	4.9	5.4	3.6	4.1	4.1	4.6	5.1
	8H	5.1	5.5	5.6	6.0	6.5	4.7	5.2	5.2	5.6	6.1
	12H	6.4	6.7	6.9	7.2	7.8	6.2	6.6	6.7	7.1	7.6
8H	4H	2.4	2.9	2.9	3.3	3.8	2.5	2.9	3.0	3.4	3.9
	6H	4.9	5.2	5.4	5.8	6.3	4.5	4.9	5.1	5.4	5.9
	8H	6.2	6.5	6.8	7.1	7.6	5.9	6.2	6.4	6.7	7.2
	12H	7.7	8.0	8.3	8.5	9.1	7.6	7.8	8.1	8.3	8.9
12H	4H	2.6	3.0	3.1	3.5	4.0	2.6	3.0	3.2	3.5	4.0
	6H	5.2	5.5	5.7	6.0	6.5	4.9	5.1	5.4	5.6	6.2
	8H	6.6	6.9	7.2	7.4	8.0	6.3	6.6	6.9	7.1	7.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0