

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 9DW 10 xx xx RD2SP RB2BS xx RA2LL
2" Adjustable Track Luminaire with spot optic, linear spread lens and
standard bezel

Test Number

SP-01597

Test Date

9/28/2023

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	14.3 W
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Lumen Output

Output Lumens	847
Efficacy	59.26 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	1.01
Four luminaires	0.61

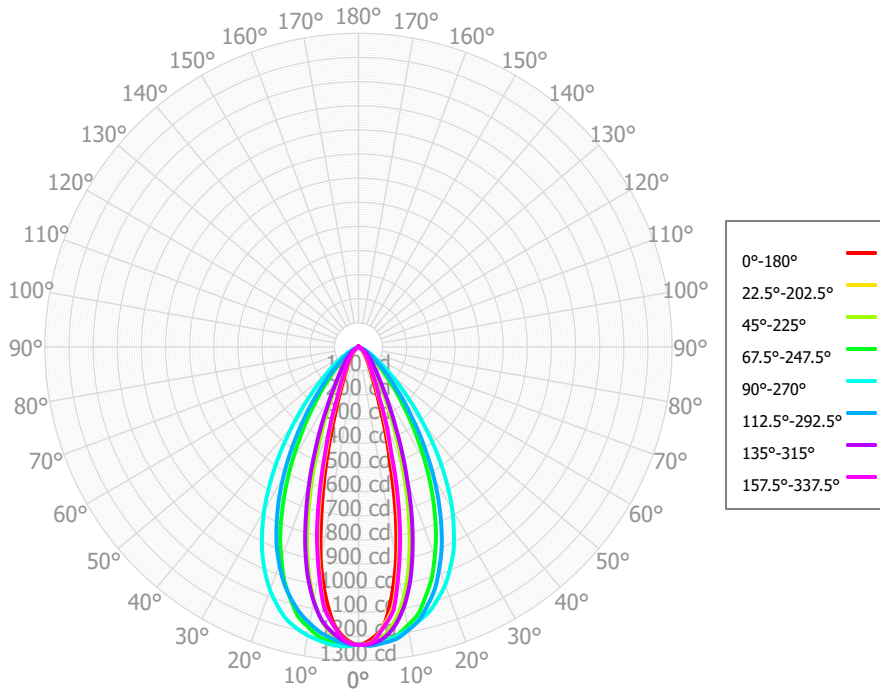
Full Beam Angle

0° - 180°	27°
90° - 270°	69°

IES File Header Contents

Keyword	Value
TEST	SP-01597
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/28/2023
ISSUEDATE	10/03/2023
LUMCAT	STR2 9DW 10 xx xx RD2SP RB2BS xx RA2LL
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, linear spread lens and standard bezel
OTHER	Beam Angle: 27 x 69 deg
OTHER	90 CRI, Dim to Warm 3000K to 1800K tested
OTHER	CCT Output Multipliers: N/A, dim to warm
OTHER	Only available in 1000 lumens
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°	111.43	13.15%	90.00° - 100.00°	1.49	0.18%
10.00° - 20.00°	231.48	27.32%	100.00° - 110.00°	1.53	0.18%
20.00° - 30.00°	210.45	24.83%	100.00° - 120.00°	2.94	0.35%
30.00° - 40.00°	147.74	17.43%	120.00° - 130.00°	1.28	0.15%
40.00° - 50.00°	82.46	9.73%	130.00° - 140.00°	1.20	0.14%
50.00° - 60.00°	37.95	4.48%	140.00° - 150.00°	0.99	0.12%
60.00° - 70.00°	12.44	1.47%	150.00° - 160.00°	0.73	0.09%
70.00° - 80.00°	2.77	0.33%	160.00° - 170.00°	0.44	0.05%
80.00° - 90.00°	1.50	0.18%	170.00° - 180.00°	0.15	0.02%
0.00° - 90.00°	838.22	98.91%	0.00° - 180.00°	847.42	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°	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13	1235.13
2.50°	1212.97	1226.02	1227.06	1238.01	1235.30	1231.89	1222.91	1220.06	1212.29	1218.99	1228.38	1241.13	1242.50	1239.21	1231.68	1227.63	1212.97
5.00°	1166.87	1164.93	1203.00	1222.72	1227.16	1215.52	1192.17	1162.22	1156.51	1163.79	1198.94	1228.51	1240.05	1231.02	1210.69	1169.49	1166.87
7.50°	1048.43	1090.88	1148.26	1206.88	1209.28	1194.83	1147.14	1089.36	1044.86	1086.78	1149.28	1214.94	1228.36	1219.71	1164.43	1103.20	1048.43
10.00°	895.45	939.64	1066.01	1172.39	1188.82	1163.64	1070.45	945.60	901.59	936.21	1066.16	1182.18	1214.06	1191.80	1090.98	954.13	895.45
12.50°	712.50	774.01	954.54	1136.38	1162.95	1127.43	972.05	795.53	710.44	778.25	955.41	1147.33	1193.15	1159.29	991.51	795.86	712.50
15.00°	516.94	599.10	819.25	1072.92	1135.85	1080.29	853.43	620.01	534.51	598.82	825.19	1084.94	1165.33	1108.06	866.60	620.07	516.94
17.50°	374.30	422.81	679.77	1007.89	1094.55	1026.53	722.44	457.10	379.45	437.06	680.35	1020.33	1121.97	1052.36	733.44	442.83	374.30
20.00°	251.44	313.03	537.23	924.49	1050.59	960.02	596.30	337.42	262.55	320.86	546.51	935.23	1072.75	978.71	592.94	331.30	251.44
22.50°	183.20	211.14	417.76	839.88	992.70	886.89	472.84	234.51	193.15	224.31	420.03	848.44	1011.88	901.51	469.97	223.15	183.20
25.00°	133.00	163.42	313.54	744.72	932.64	802.30	371.45	182.03	142.90	172.86	324.06	749.36	944.47	811.38	360.97	174.73	133.00
27.50°	105.13	120.35	239.47	649.60	856.13	715.14	281.04	137.10	114.02	130.84	246.61	650.49	865.38	719.13	277.81	127.84	105.13
30.00°	83.61	98.80	183.43	554.80	777.57	623.98	219.62	112.26	92.11	107.93	192.99	552.77	781.80	624.17	213.34	105.96	83.61
32.50°	69.35	78.51	145.00	462.00	689.60	533.65	170.91	90.71	77.27	88.49	152.41	457.91	691.08	528.86	167.81	84.36	69.35
35.00°	56.87	66.62	115.94	380.24	600.74	444.47	138.98	76.92	64.97	75.39	124.36	376.72	600.23	442.05	134.68	72.10	56.87
37.50°	47.86	55.01	95.37	302.37	511.41	363.30	113.62	64.58	55.02	63.74	102.39	300.05	509.20	356.10	110.88	60.03	47.86
40.00°	39.58	47.29	78.86	242.53	422.06	292.28	94.70	55.24	46.74	54.49	86.94	241.86	424.51	291.24	92.52	51.79	39.58
42.50°	34.24	39.65	66.55	187.00	347.97	231.09	78.02	46.66	39.84	46.00	74.32	188.24	348.11	227.88	77.79	43.67	34.24
45.00°	29.39	34.82	56.04	148.54	274.44	181.22	65.84	39.51	32.68	38.62	63.15	150.81	280.26	184.18	64.96	36.90	29.39
47.50°	24.52	29.98	47.72	114.00	219.44	140.38	55.00	32.70	25.32	31.75	52.55	117.25	222.55	141.35	54.67	30.35	24.52
50.00°	19.64	24.79	40.22	92.68	164.98	108.87	46.04	26.48	19.42	25.56	44.45	95.41	174.82	114.92	45.57	25.67	19.64
52.50°	15.01	19.63	33.27	72.97	130.18	83.89	37.56	20.89	14.52	19.77	37.20	75.34	137.70	88.89	38.42	21.02	15.01
55.00°	10.41	14.80	26.50	58.06	95.93	65.05	30.88	16.23	10.79	14.45	29.67	60.01	106.83	72.34	32.10	16.55	10.41
57.50°	8.12	10.24	22.19	44.55	74.95	48.96	24.60	11.93	7.77	10.33	22.06	45.82	82.00	55.92	25.84	12.28	8.12
60.00°	5.99	8.22	18.60	34.71	54.39	35.22	17.65	8.10	6.03	7.50	16.02	34.34	61.10	43.41	19.61	9.06	5.99
62.50°	4.95	6.28	13.65	25.62	40.01	24.48	10.59	5.53	4.97	5.55	10.39	23.76	43.66	31.12	14.73	6.13	4.95
65.00°	3.95	4.98	8.35	18.24	26.15	16.05	7.28	4.53	3.96	4.48	7.37	15.07	29.47	22.40	10.29	4.52	3.95
67.50°	3.33	3.77	5.98	12.07	17.71	9.87	4.55	3.52	2.97	3.51	4.91	8.42	17.84	14.02	7.11	3.12	3.33
70.00°	2.72	3.05	4.21	8.41	9.79	5.25	3.30	2.53	2.57	2.65	3.54	5.63	10.51	9.23	4.28	2.59	2.72
72.50°	2.02	2.35	3.20	5.43	6.04	2.96	2.22	1.92	2.42	2.02	2.37	3.52	6.25	4.80	3.01	2.08	2.02
75.00°	1.33	1.82	2.32	3.73	2.71	2.13	1.92	1.69	2.08	1.59	1.97	2.57	3.57	3.27	2.11	1.67	1.33
77.50°	1.26	1.39	1.95	2.42	2.10	1.68	1.68	1.54	1.65	1.35	1.69	1.96	1.92	1.92	1.67	1.36	1.26
80.00°	1.20	1.35	1.65	1.76	1.57	1.45	1.37	1.45	1.53	1.25	1.39	1.88	1.31	1.70	1.32	1.40	1.20
82.50°	1.49	1.33	1.49	1.38	1.46	1.32	1.05	1.30	1.51	1.30	1.09	1.75	1.31	1.49	1.35	1.38	1.49
85.00°	1.75	1.38	1.34	1.41	1.37	1.25	1.07	1.11	1.62	1.45	1.15	1.57	1.31	1.39	1.43	1.22	1.75
87.50°	1.59	1.42	1.37	1.45	1.32	1.33	1.10	1.13	1.77	1.46	1.24	1.45	1.31	1.33	1.35	1.13	1.59
90.00°	1.43	1.42	1.40	1.50	1.24	1.48	1.06	1.31	1.65	1.38	1.24	1.41	1.27	1.42	1.25	1.19	1.43
92.50°	1.28	1.48	1.34	1.51	1.05	1.36	1.01	1.28	1.46	1.42	1.23	1.39	1.21	1.49	1.38	1.23	1.28
95.00°	1.17	1.68	1.27	1.47	0.96	1.13	1.03	1.12	1.60	1.54	1.35	1.40	1.24	1.48	1.54	1.22	1.17
97.50°	1.29	1.77	1.45	1.51	1.21	1.17	1.06	1.14	1.82	1.37	1.47	1.45	1.30	1.51	1.58	1.23	1.29
100.00°	1.39	1.58	1.64	1.65	1.37	1.31	1.27	1.28	1.63	1.08	1.60	1.55	1.36	1.68	1.62	1.27	1.39
102.50°	1.41	1.47	1.49	1.63	1.30	1.29	1.47	1.37	1.37	1.22	1.74	1.60	1.42	1.75	1.35	1.33	1.41
105.00°	1.40	1.51	1.35	1.45	1.26	1.24	1.68	1.45	1.35	1.54	1.77	1.60	1.40	1.48	1.07	1.40	1.40

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%	0%
	0	1007	1007	1007	1007	982	982	982	982	936	936	936	895	895	895	856	856	838
	1	956	932	909	889	934	912	892	874	876	860	846	843	830	819	812	803	786
	2	906	862	826	796	886	846	814	786	817	790	767	790	769	749	766	748	732
	3	857	800	755	720	839	787	746	713	763	729	701	741	713	689	721	697	683
	4	811	744	695	658	795	734	688	653	714	675	644	696	663	636	679	651	638
	5	769	695	643	605	754	686	638	602	670	628	596	655	618	590	640	609	597
	6	729	651	598	561	716	644	594	558	630	586	554	617	579	549	605	571	561
	7	693	612	559	522	681	606	556	521	594	549	517	583	543	514	572	537	528
	8	660	577	525	489	649	571	522	487	561	517	485	552	512	482	543	507	498
	9	629	545	494	459	619	541	492	458	532	487	456	524	483	454	516	479	471
	10	600	517	467	433	591	513	465	432	505	461	431	498	458	429	491	454	447

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	40.8 fc	2.7 ft
6.5 ft	29.2 fc	3.2 ft
7.5 ft	22.0 fc	3.7 ft
8.0 ft	19.3 fc	3.9 ft
10.0 ft	12.4 fc	4.9 ft
12.0 ft	8.6 fc	5.9 ft
14.0 ft	6.3 fc	6.8 ft
16.0 ft	4.8 fc	7.8 ft
20.0 ft	3.1 fc	9.8 ft
24.0 ft	2.1 fc	11.7 ft
28.0 ft	1.6 fc	13.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	383844	383844	383844
45.00°	12919	24631	120616
55.00°	5642	14356	51977
65.00°	2907	6141	19233
75.00°	1599	2787	3257
85.00°	6235	4790	4889

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	9.3	10.4	9.7	10.7	11.1	20.4	21.5	20.8	21.8	22.1
	3H	9.6	10.6	10.0	11.0	11.4	20.5	21.4	20.9	21.8	22.2
	4H	9.7	10.6	10.1	11.0	11.4	20.4	21.3	20.8	21.7	22.1
	6H	9.8	10.6	10.2	11.0	11.4	20.3	21.2	20.8	21.5	22.0
	8H	9.9	10.7	10.4	11.1	11.6	20.3	21.1	20.7	21.5	21.9
	12H	10.3	11.0	10.7	11.4	11.9	20.3	21.0	20.7	21.4	21.9
4H	2H	10.2	11.1	10.6	11.5	11.9	20.1	21.0	20.6	21.4	21.8
	3H	10.6	11.3	11.1	11.8	12.2	20.3	21.0	20.7	21.4	21.8
	4H	10.7	11.4	11.2	11.8	12.3	20.2	20.8	20.6	21.3	21.7
	6H	10.8	11.4	11.3	11.9	12.4	20.1	20.7	20.6	21.1	21.6
	8H	11.0	11.5	11.5	12.0	12.5	20.1	20.6	20.6	21.0	21.5
	12H	11.4	11.9	11.9	12.4	12.9	20.0	20.5	20.5	21.0	21.5
8H	4H	10.8	11.4	11.3	11.8	12.3	20.0	20.5	20.5	21.0	21.5
	6H	11.1	11.5	11.6	12.0	12.5	20.0	20.4	20.5	20.9	21.4
	8H	11.3	11.7	11.9	12.3	12.8	19.9	20.3	20.5	20.8	21.3
	12H	11.9	12.3	12.5	12.8	13.4	19.9	20.2	20.4	20.7	21.3
12H	4H	10.8	11.3	11.3	11.8	12.3	20.0	20.4	20.5	20.9	21.4
	6H	11.1	11.5	11.7	12.0	12.5	19.9	20.3	20.4	20.7	21.3
	8H	11.5	11.8	12.0	12.3	12.9	19.9	20.2	20.4	20.7	21.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0