

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 9DW 10 xx xx RD2XS RB2BS xx RA2LL

2" Adjustable Track Luminaire with extra narrow spot optic, linear spread lens  
and standard bezel

#### Test Number

SP-01595

#### 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	851
Efficacy	59.5 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°	0.98
Four luminaires	0.49

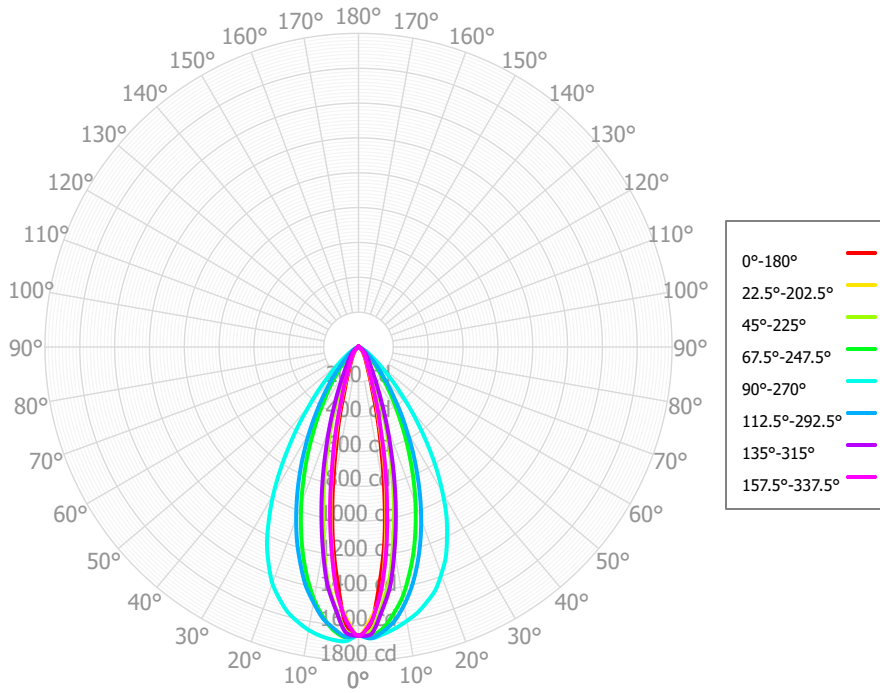
#### Full Beam Angle

0° - 180°	20°
90° - 270°	65°

### IES File Header Contents

Keyword	Value
TEST	SP-01595
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 RD2XS RB2BS xx RA2LL
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic, linear spread lens and standard bezel
OTHER	Beam Angle: 20 x 65 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°	136.23	16.01%	90.00° - 100.00°	1.80	0.21%
10.00° - 20.00°	241.86	28.42%	100.00° - 110.00°	1.72	0.20%
20.00° - 30.00°	206.51	24.27%	100.00° - 120.00°	3.35	0.39%
30.00° - 40.00°	137.28	16.13%	120.00° - 130.00°	1.45	0.17%
40.00° - 50.00°	71.21	8.37%	130.00° - 140.00°	1.30	0.15%
50.00° - 60.00°	31.96	3.76%	140.00° - 150.00°	1.15	0.13%
60.00° - 70.00°	10.76	1.26%	150.00° - 160.00°	0.86	0.10%
70.00° - 80.00°	2.75	0.32%	160.00° - 170.00°	0.50	0.06%
80.00° - 90.00°	1.78	0.21%	170.00° - 180.00°	0.17	0.02%
0.00° - 90.00°	840.35	98.76%	0.00° - 180.00°	850.92	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°	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39	1657.39
2.50°	1597.05	1565.48	1630.75	1660.06	1674.23	1665.72	1641.99	1576.33	1600.37	1561.28	1634.58	1669.57	1690.57	1673.33	1650.63	1586.20	1597.05
5.00°	1370.61	1440.03	1503.69	1621.00	1653.99	1622.76	1510.84	1415.63	1364.65	1426.96	1505.63	1633.50	1687.28	1638.32	1525.15	1427.52	1370.61
7.50°	1134.54	1181.11	1350.56	1544.39	1628.51	1571.03	1373.24	1179.78	1124.87	1170.78	1355.12	1562.25	1673.02	1585.98	1388.05	1205.81	1134.54
10.00°	855.18	919.09	1144.06	1457.10	1596.94	1488.84	1177.17	938.55	853.82	920.17	1147.29	1471.11	1649.89	1505.43	1188.16	941.71	855.18
12.50°	600.42	685.30	940.74	1341.19	1562.79	1402.30	982.98	694.52	597.88	683.25	934.95	1357.52	1615.34	1410.40	989.64	710.11	600.42
15.00°	414.75	465.75	741.92	1220.85	1515.69	1288.35	796.94	506.97	420.60	479.98	746.64	1232.10	1574.20	1298.90	795.52	493.43	414.75
17.50°	268.26	332.83	570.07	1089.02	1465.14	1172.83	623.07	339.46	269.20	333.94	563.78	1097.29	1513.63	1178.82	617.12	351.13	268.26
20.00°	194.51	218.30	424.85	956.69	1388.80	1045.95	482.51	246.13	195.99	227.59	432.47	961.48	1445.56	1051.67	471.46	231.58	194.51
22.50°	140.58	168.41	315.41	825.86	1308.86	919.45	360.71	168.46	137.98	168.25	311.37	825.11	1348.35	922.96	349.93	176.47	140.58
25.00°	112.85	127.63	231.51	696.92	1202.31	795.45	272.98	134.23	110.91	127.90	238.09	697.19	1243.91	793.35	262.87	132.42	112.85
27.50°	92.32	107.18	178.71	581.63	1093.64	674.17	204.83	104.12	88.91	103.84	175.31	572.48	1112.69	672.29	198.17	110.38	92.32
30.00°	78.49	89.39	141.16	471.74	965.03	563.09	161.32	87.30	73.99	85.75	141.86	468.50	978.12	554.60	156.54	89.90	78.49
32.50°	66.13	75.75	118.10	382.26	835.82	458.28	128.84	71.19	61.33	71.24	113.33	369.27	835.05	454.60	127.54	78.10	66.13
35.00°	54.72	64.02	99.84	300.74	702.57	368.19	106.42	62.22	50.97	60.39	93.88	297.54	692.63	358.91	107.69	66.57	54.72
37.50°	46.29	54.38	86.30	238.74	573.50	288.98	89.53	53.50	42.67	51.01	78.41	229.07	564.13	287.07	92.31	57.28	46.29
40.00°	39.23	45.86	73.67	185.55	459.76	227.07	76.18	46.10	35.84	43.27	68.17	181.65	440.58	218.13	79.22	48.51	39.23
42.50°	33.85	38.18	63.14	146.90	355.68	175.63	65.25	38.90	30.50	35.95	58.75	136.20	346.25	175.66	69.30	42.00	33.85
45.00°	28.97	32.42	52.80	115.52	273.99	136.15	55.40	32.28	25.88	29.76	50.07	112.00	259.76	134.91	60.45	35.74	28.97
47.50°	23.68	27.70	46.34	92.73	204.62	105.67	47.70	26.12	21.22	23.73	43.04	88.92	200.22	109.10	51.47	30.13	23.68
50.00°	18.31	22.72	39.91	74.30	155.20	82.41	40.60	20.84	16.54	20.69	37.11	72.30	148.36	84.66	42.46	24.57	18.31
52.50°	14.61	17.65	33.67	59.49	115.44	64.89	33.76	16.52	12.89	17.64	30.53	57.02	113.39	68.61	36.29	19.09	14.61
55.00°	11.05	14.15	27.63	48.20	86.62	50.57	26.95	13.54	9.44	12.60	23.66	46.06	84.18	53.91	30.38	14.39	11.05
57.50°	8.49	11.00	22.48	38.95	64.36	39.34	22.12	10.36	7.63	8.10	18.70	36.14	63.57	43.81	23.80	10.66	8.49
60.00°	6.07	8.25	17.25	29.61	47.31	29.30	17.39	7.00	5.97	7.09	14.28	28.40	46.65	33.98	17.40	7.94	6.07
62.50°	4.76	5.53	11.78	20.25	34.39	20.96	12.37	4.87	4.86	6.02	10.51	20.82	33.70	24.75	12.66	6.12	4.76
65.00°	3.58	4.29	7.45	14.33	23.82	13.02	7.67	3.57	3.77	4.73	6.85	13.48	22.76	17.28	8.35	4.66	3.58
67.50°	2.93	3.11	5.25	9.27	16.16	8.92	5.37	2.93	2.97	3.61	5.01	8.29	13.35	12.49	6.04	3.42	2.93
70.00°	2.38	2.44	3.59	6.30	9.60	5.29	3.38	2.60	2.25	2.89	3.31	5.31	8.08	8.55	4.06	2.75	2.38
72.50°	2.08	1.85	2.67	3.59	6.07	3.70	2.67	2.23	1.96	2.30	2.34	3.45	5.00	5.52	3.02	2.31	2.08
75.00°	1.90	1.65	2.14	2.60	3.26	2.25	2.06	1.85	1.75	1.94	1.49	2.44	3.41	3.60	2.20	2.04	1.90
77.50°	1.93	1.56	1.98	1.70	2.24	2.07	1.67	1.57	1.77	1.75	1.60	1.79	2.36	2.53	1.83	1.81	1.93
80.00°	1.89	1.83	1.84	1.58	1.42	1.87	1.41	1.32	1.73	1.74	1.69	1.33	1.92	1.99	1.67	1.65	1.89
82.50°	1.75	1.93	1.71	1.50	1.62	1.52	1.39	1.57	1.61	1.65	1.63	1.29	1.62	1.75	1.81	1.49	1.75
85.00°	1.67	1.70	1.70	1.73	1.81	1.31	1.41	1.86	1.58	1.48	1.59	1.39	1.47	1.72	1.73	1.75	1.67
87.50°	1.62	1.55	1.76	1.92	1.83	1.54	1.51	1.57	1.67	1.43	1.61	1.50	1.35	1.78	1.46	2.00	1.62
90.00°	1.56	1.53	1.65	2.00	1.85	1.68	1.61	1.31	1.73	1.43	1.68	1.61	1.70	1.77	1.53	1.81	1.56
92.50°	1.50	1.42	1.50	2.01	1.88	1.61	1.72	1.43	1.75	1.45	1.83	1.72	2.00	1.74	1.83	1.65	1.50
95.00°	1.47	1.24	1.65	1.87	1.87	1.61	1.58	1.57	1.87	1.48	1.86	1.82	1.63	1.53	1.83	1.62	1.47
97.50°	1.44	1.24	1.85	1.70	1.75	1.72	1.28	1.78	2.04	1.48	1.73	1.78	1.37	1.31	1.68	1.60	1.44
100.00°	1.54	1.37	1.79	1.51	1.66	1.81	1.27	1.82	1.92	1.47	1.65	1.74	1.69	1.63	1.68	1.60	1.54
102.50°	1.68	1.56	1.73	1.47	1.61	1.89	1.37	1.40	1.68	1.44	1.61	1.76	1.87	1.90	1.73	1.65	1.68
105.00°	1.55	1.78	1.73	1.62	1.61	1.94	1.45	1.18	1.49	1.42	1.56	1.74	1.66	1.69	1.74	1.83	1.55

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>ptc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	<b>0</b>	1010	1010	1010	1010	986	986	986	986	940	940	940	897	897	897	859	859	859
	<b>1</b>	962	938	916	896	940	918	899	881	882	866	852	848	836	825	817	808	799
	<b>2</b>	913	871	836	806	893	855	823	796	826	800	777	799	778	759	774	757	742
	<b>3</b>	867	811	768	734	849	798	759	727	775	742	714	752	725	702	732	709	690
	<b>4</b>	823	758	711	674	807	748	704	670	728	690	661	710	678	652	693	666	643
	<b>5</b>	782	711	661	624	768	702	656	621	686	645	615	670	636	608	656	626	602
	<b>6</b>	744	669	618	582	731	661	614	579	648	606	574	635	598	570	623	590	565
	<b>7</b>	709	631	580	545	697	625	577	543	613	570	539	602	564	536	592	558	532
	<b>8</b>	677	597	547	512	666	592	544	511	582	539	508	572	534	506	563	529	503
	<b>9</b>	647	567	517	484	637	562	515	483	553	511	481	545	506	479	537	502	476
	<b>10</b>	620	539	491	459	611	535	489	458	528	485	456	520	482	454	514	478	453

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	54.8 fc	2.0 ft
6.5 ft	39.2 fc	2.3 ft
7.5 ft	29.5 fc	2.7 ft
8.0 ft	25.9 fc	2.8 ft
10.0 ft	16.6 fc	3.6 ft
12.0 ft	11.5 fc	4.3 ft
14.0 ft	8.5 fc	5.0 ft
16.0 ft	6.5 fc	5.7 ft
20.0 ft	4.1 fc	7.1 ft
24.0 ft	2.9 fc	8.5 ft
28.0 ft	2.1 fc	10.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	515070	515070	515070
<b>45.00°</b>	12734	23206	120418
<b>55.00°</b>	5987	14972	46932
<b>65.00°</b>	2630	5478	17514
<b>75.00°</b>	2281	2571	3918
<b>85.00°</b>	5942	6072	6469

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	9.1	10.1	9.5	10.5	10.8	18.9	19.9	19.3	20.3	20.6
	<b>3H</b>	9.4	10.3	9.8	10.7	11.1	19.0	20.0	19.4	20.3	20.7
	<b>4H</b>	9.5	10.4	9.9	10.8	11.2	19.0	19.8	19.4	20.2	20.6
	<b>6H</b>	9.8	10.6	10.3	11.0	11.4	18.9	19.7	19.3	20.1	20.5
	<b>8H</b>	10.1	10.8	10.5	11.2	11.7	18.9	19.6	19.3	20.0	20.5
	<b>12H</b>	10.4	11.1	10.9	11.5	12.0	18.8	19.6	19.3	20.0	20.4
<b>4H</b>	<b>2H</b>	9.7	10.6	10.2	11.0	11.4	18.6	19.5	19.1	19.9	20.3
	<b>3H</b>	10.1	10.8	10.6	11.3	11.7	18.8	19.5	19.3	20.0	20.4
	<b>4H</b>	10.3	10.9	10.8	11.4	11.9	18.8	19.4	19.2	19.8	20.3
	<b>6H</b>	10.7	11.2	11.2	11.7	12.2	18.7	19.2	19.2	19.7	20.2
	<b>8H</b>	11.0	11.5	11.5	12.0	12.5	18.7	19.2	19.2	19.6	20.2
	<b>12H</b>	11.5	11.9	12.0	12.4	12.9	18.7	19.1	19.2	19.6	20.1
<b>8H</b>	<b>4H</b>	10.4	10.9	10.9	11.4	11.9	18.6	19.1	19.1	19.6	20.1
	<b>6H</b>	11.0	11.4	11.5	11.9	12.4	18.6	19.0	19.1	19.5	20.0
	<b>8H</b>	11.5	11.8	12.0	12.4	12.9	18.5	18.9	19.1	19.4	20.0
	<b>12H</b>	12.2	12.5	12.7	13.0	13.6	18.6	18.9	19.1	19.4	20.0
<b>12H</b>	<b>4H</b>	10.4	10.9	11.0	11.4	11.9	18.6	19.0	19.1	19.5	20.0
	<b>6H</b>	11.1	11.4	11.6	11.9	12.5	18.5	18.9	19.1	19.4	19.9
	<b>8H</b>	11.6	11.9	12.2	12.5	13.1	18.5	18.8	19.0	19.3	19.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0