

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 9DW 10 xx xx RD2SP RB2BS xx xx
2" Adjustable Track Luminaire with spot optic and standard bezel

Test Number

SP-01596

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	927
Efficacy	64.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.49
Two luminaires, plane 90°	0.49
Four luminaires	0.45

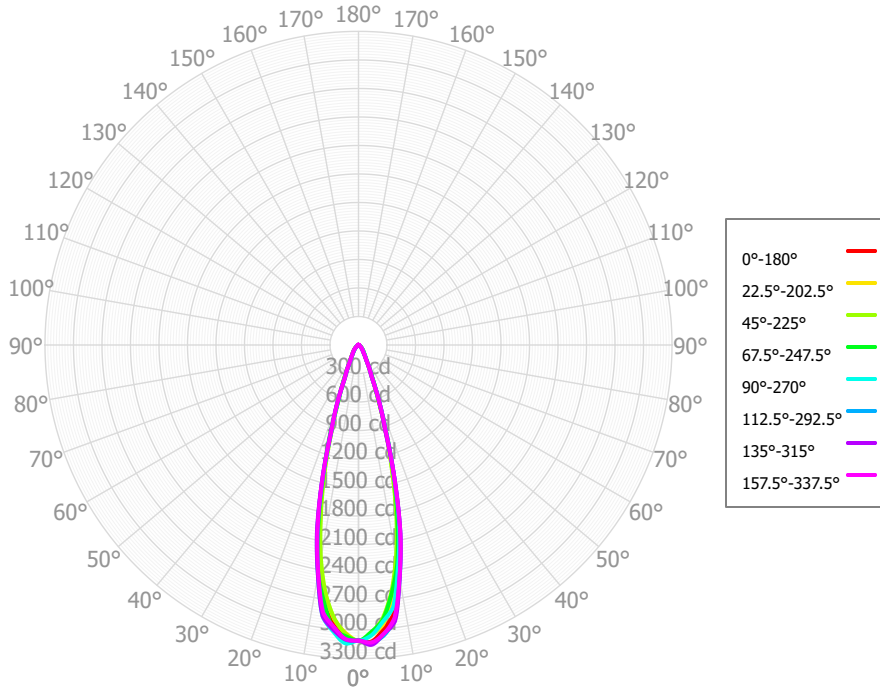
Full Beam Angle

0° - 180°	29°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-01596
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 xx
LUMINAIRE	2" Adjustable Track Luminaire with spot optic and standard bezel
OTHER	Beam Angle: 29 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°	269.74	29.09%	90.00° - 100.00°	1.49	0.16%
10.00° - 20.00°	384.10	41.43%	100.00° - 110.00°	1.51	0.16%
20.00° - 30.00°	135.84	14.65%	100.00° - 120.00°	2.93	0.32%
30.00° - 40.00°	62.95	6.79%	120.00° - 130.00°	1.31	0.14%
40.00° - 50.00°	39.09	4.22%	130.00° - 140.00°	1.24	0.13%
50.00° - 60.00°	17.77	1.92%	140.00° - 150.00°	1.02	0.11%
60.00° - 70.00°	4.78	0.52%	150.00° - 160.00°	0.76	0.08%
70.00° - 80.00°	1.91	0.21%	160.00° - 170.00°	0.46	0.05%
80.00° - 90.00°	1.66	0.18%	170.00° - 180.00°	0.16	0.02%
0.00° - 90.00°	917.82	98.99%	0.00° - 180.00°	927.20	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°	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13	3112.13
2.50°	3123.98	3057.41	3038.47	3025.90	3060.84	3104.06	3103.02	3098.55	3070.71	3037.10	3046.53	3069.03	3143.56	3136.59	3158.84	3134.49	3123.98
5.00°	3006.80	2954.23	2892.52	2908.26	2926.02	2986.11	3011.11	2979.90	2928.87	2901.38	2894.03	3006.68	3029.83	3068.71	3051.68	3051.51	3006.80
7.50°	2850.86	2696.46	2633.78	2650.01	2785.79	2842.05	2882.04	2844.22	2777.04	2656.02	2643.59	2745.95	2884.08	2907.61	2935.26	2900.58	2850.86
10.00°	2432.90	2351.72	2272.10	2345.66	2389.54	2446.87	2460.43	2439.85	2379.03	2318.27	2280.70	2443.09	2456.84	2497.32	2492.09	2486.53	2432.90
12.50°	1994.54	1894.22	1843.46	1898.54	1984.50	1987.59	2022.52	1994.38	1965.30	1857.51	1825.70	1954.44	2013.14	2038.90	2035.25	2037.71	1994.54
15.00°	1444.37	1379.08	1358.84	1447.86	1464.35	1476.45	1479.74	1478.24	1451.71	1403.31	1371.27	1433.06	1456.75	1466.93	1476.41	1470.47	1444.37
17.50°	937.78	960.49	954.41	987.52	946.43	954.07	973.87	953.28	934.16	957.00	917.27	1010.69	940.14	971.92	916.60	964.29	937.78
20.00°	630.17	585.86	611.38	605.01	650.62	649.24	661.96	656.84	653.78	627.66	611.73	602.86	643.92	640.93	636.71	639.00	630.17
22.50°	364.56	384.57	395.89	408.62	362.06	383.56	387.73	382.77	378.14	425.17	406.48	422.80	381.37	383.78	362.06	372.96	364.56
25.00°	265.47	254.47	268.38	254.40	269.57	274.34	283.28	281.30	286.09	286.18	280.06	269.83	277.92	269.25	264.32	263.83	265.47
27.50°	179.95	186.47	192.14	191.18	180.69	188.65	192.22	191.58	195.99	210.30	201.50	204.60	186.99	181.28	169.85	176.03	179.95
30.00°	141.64	140.95	147.72	141.75	147.22	152.42	152.41	155.54	160.73	159.05	153.75	147.09	147.28	139.21	132.57	138.13	141.64
32.50°	108.66	114.76	119.20	119.25	115.31	122.24	117.96	121.63	126.50	130.24	123.03	121.47	112.47	106.29	97.00	106.72	108.66
35.00°	91.80	94.81	99.66	100.25	99.93	104.25	101.57	106.00	109.86	109.01	103.05	97.72	94.87	87.75	82.13	89.01	91.80
37.50°	76.91	82.23	85.40	87.36	85.02	87.38	86.39	90.69	93.58	94.02	88.47	84.98	78.75	72.50	67.73	73.98	76.91
40.00°	67.25	71.71	73.87	74.94	74.01	74.15	74.76	78.19	81.45	80.74	75.40	72.62	67.13	61.89	57.52	64.02	67.25
42.50°	58.01	60.43	62.67	63.26	62.93	61.15	62.94	65.73	69.29	68.73	63.02	61.48	55.94	52.37	47.74	54.59	58.01
45.00°	49.79	48.96	51.62	52.37	51.31	50.91	50.61	54.37	56.97	57.13	52.89	50.38	45.90	44.26	41.02	46.08	49.79
47.50°	41.69	41.10	42.74	42.60	40.42	40.77	39.83	43.24	45.17	45.81	43.67	41.49	37.17	36.88	34.49	37.94	41.69
50.00°	33.84	34.00	34.74	33.88	33.52	33.66	32.62	36.00	36.87	36.19	34.97	32.71	31.64	30.34	29.06	30.37	33.84
52.50°	26.63	26.53	26.37	26.52	26.26	26.59	25.45	28.70	28.52	27.64	26.44	26.42	26.14	24.91	23.67	24.31	26.63
55.00°	20.64	19.01	17.87	19.23	17.30	18.99	18.36	20.71	19.95	20.44	19.76	20.13	20.70	20.65	18.43	20.36	20.64
57.50°	15.27	12.99	12.73	12.01	9.70	11.53	12.15	13.16	12.19	13.99	13.67	13.66	15.44	16.09	13.45	15.77	15.27
60.00°	10.98	7.19	8.69	7.18	7.44	8.05	7.58	9.60	8.27	9.82	9.30	7.56	10.52	11.23	9.60	10.36	10.98
62.50°	7.44	5.79	6.63	4.94	5.40	4.72	4.39	6.28	4.99	6.78	5.40	5.47	6.74	7.73	6.29	6.50	7.44
65.00°	5.08	4.89	5.13	3.45	4.14	3.83	3.58	4.60	4.32	4.76	4.06	3.55	4.97	5.43	4.98	4.44	5.08
67.50°	3.38	3.65	3.70	2.70	2.95	2.95	2.94	3.08	3.61	3.21	3.32	2.95	3.36	3.86	3.86	3.17	3.38
70.00°	2.63	2.39	2.29	2.35	1.97	2.13	2.54	2.41	2.74	2.31	2.77	2.39	2.00	2.85	3.31	2.73	2.63
72.50°	2.08	2.19	1.69	2.37	1.28	1.42	2.06	1.86	1.97	1.67	2.25	2.06	1.27	2.13	2.73	2.23	2.08
75.00°	1.80	2.05	1.25	2.02	1.33	1.60	1.44	1.96	1.53	1.65	1.78	1.76	1.42	1.63	2.04	1.67	1.80
77.50°	1.63	2.00	1.42	1.37	1.31	1.75	1.27	2.02	1.27	1.86	1.32	1.59	1.59	1.34	1.58	1.45	1.63
80.00°	1.58	1.96	1.71	1.24	1.10	1.75	1.67	1.97	1.52	1.73	1.55	1.46	1.79	1.20	1.69	1.52	1.58
82.50°	1.48	1.64	1.58	1.49	0.98	1.73	1.76	1.96	1.65	1.48	1.88	1.48	1.81	1.24	1.73	1.51	1.48
85.00°	1.34	1.32	1.39	1.52	1.06	1.58	1.49	2.09	1.47	1.55	1.73	1.46	1.60	1.38	1.62	1.42	1.34
87.50°	1.30	1.39	1.31	1.41	1.20	1.44	1.37	2.07	1.37	1.71	1.53	1.28	1.49	1.47	1.51	1.61	1.30
90.00°	1.36	1.45	1.23	1.31	1.49	1.35	1.41	1.58	1.42	1.49	1.32	1.20	1.49	1.54	1.42	2.00	1.36
92.50°	1.32	1.15	1.08	1.23	1.58	1.29	1.34	1.19	1.41	1.18	1.11	1.46	1.52	1.65	1.42	2.11	1.32
95.00°	1.21	0.89	0.93	1.32	1.34	1.31	1.17	1.12	1.29	1.17	1.21	1.61	1.58	1.77	1.56	2.04	1.21
97.50°	1.21	1.15	0.90	1.52	1.18	1.35	1.21	1.07	1.32	1.23	1.33	1.40	1.46	1.68	1.56	1.87	1.21
100.00°	1.30	1.40	0.88	1.44	1.15	1.41	1.45	1.10	1.61	1.22	1.40	1.26	1.18	1.51	1.33	1.65	1.30
102.50°	1.41	1.45	1.19	1.23	1.23	1.45	1.62	1.16	1.70	1.20	1.48	1.26	1.21	1.39	1.36	1.81	1.41
105.00°	1.54	1.47	1.51	1.16	1.45	1.41	1.74	1.25	1.47	1.29	1.44	1.32	1.50	1.28	1.76	2.17	1.54

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	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	1102	1102	1102	1102	1075	1075	1075	1075	1025	1025	1025	979	979	979	938	938	918
	1	1058	1036	1016	998	1035	1015	998	982	977	963	950	941	930	920	908	900	881
	2	1017	979	948	921	997	963	934	910	932	909	889	903	885	869	877	863	850
	3	978	929	891	861	960	916	881	853	891	862	839	868	845	825	847	828	811
	4	942	885	843	811	926	874	836	806	854	822	796	836	808	786	818	795	776
	5	908	846	802	770	894	837	797	766	821	786	759	805	775	752	791	765	745
	6	877	811	766	735	864	803	762	732	790	754	727	777	745	721	765	737	716
	7	847	779	735	704	836	773	731	702	762	725	698	751	718	694	741	712	690
	8	820	750	707	677	810	745	704	675	736	699	672	726	693	669	718	688	666
	9	794	724	681	652	785	720	679	651	712	675	649	704	670	646	696	666	644
	10	771	700	658	630	762	697	657	630	689	653	628	683	649	626	676	646	624

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	102.9 fc	2.8 ft
6.5 ft	73.7 fc	3.3 ft
7.5 ft	55.3 fc	3.8 ft
8.0 ft	48.6 fc	4.1 ft
10.0 ft	31.1 fc	5.1 ft
12.0 ft	21.6 fc	6.2 ft
14.0 ft	15.9 fc	7.2 ft
16.0 ft	12.2 fc	8.2 ft
20.0 ft	7.8 fc	10.3 ft
24.0 ft	5.4 fc	12.3 ft
28.0 ft	4.0 fc	14.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	967163	967163	967163
45.00°	21883	22685	22548
55.00°	11182	9681	9374
65.00°	3736	3773	3045
75.00°	2163	1498	1602
85.00°	4788	4960	3768

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	11.2	12.2	11.6	12.5	12.8	10.2	11.2	10.6	11.5	11.9
	3H	11.3	12.1	11.7	12.5	12.9	10.3	11.2	10.7	11.5	11.9
	4H	11.3	12.1	11.7	12.5	12.9	10.3	11.1	10.7	11.5	11.9
	6H	11.4	12.1	11.8	12.5	12.9	10.4	11.1	10.8	11.5	11.9
	8H	11.5	12.1	11.9	12.6	13.0	10.5	11.2	11.0	11.6	12.0
	12H	11.6	12.2	12.0	12.6	13.1	10.7	11.3	11.1	11.7	12.2
4H	2H	11.1	11.9	11.5	12.3	12.7	10.1	10.9	10.5	11.2	11.7
	3H	11.3	11.9	11.7	12.4	12.8	10.3	10.9	10.7	11.3	11.8
	4H	11.4	11.9	11.8	12.4	12.8	10.3	10.9	10.8	11.3	11.8
	6H	11.5	12.0	12.0	12.5	13.0	10.6	11.0	11.0	11.5	12.0
	8H	11.7	12.1	12.2	12.6	13.1	10.8	11.2	11.2	11.7	12.2
	12H	11.9	12.3	12.4	12.8	13.3	11.1	11.5	11.6	12.0	12.5
8H	4H	11.3	11.7	11.8	12.2	12.7	10.3	10.7	10.8	11.2	11.7
	6H	11.6	12.0	12.1	12.5	13.0	10.7	11.0	11.2	11.5	12.0
	8H	11.9	12.2	12.4	12.7	13.3	11.0	11.3	11.6	11.9	12.4
	12H	12.3	12.5	12.8	13.1	13.7	11.6	11.8	12.1	12.4	13.0
12H	4H	11.2	11.6	11.8	12.1	12.6	10.3	10.6	10.8	11.2	11.7
	6H	11.6	11.9	12.2	12.4	13.0	10.7	11.0	11.3	11.5	12.1
	8H	12.0	12.2	12.5	12.8	13.4	11.2	11.5	11.7	12.0	12.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0