

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 9DW 10 xx xx RD2XS RB2BS xx xx

2" Adjustable Track Luminaire with extra narrow spot optic and standard
bezel

Test Number

SP-01594

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	942
Efficacy	65.85 lm/W

Luminous Dimensions

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

Spacing Criterion

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

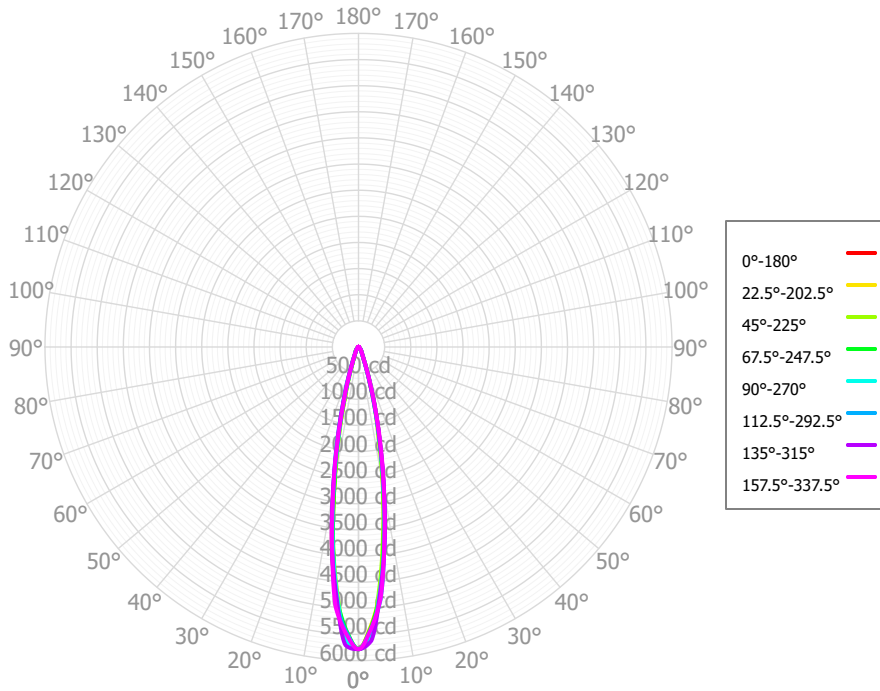
Full Beam Angle

0° - 180°	19°
90° - 270°	19°

IES File Header Contents

Keyword	Value
TEST	SP-01594
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 xx
LUMINAIRE	2" Adjustable Track Luminaire with extra narrow spot optic and standard bezel
OTHER	Beam Angle: 19 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°	389.21	41.33%	90.00° - 100.00°	1.55	0.16%
10.00° - 20.00°	334.48	35.52%	100.00° - 110.00°	1.45	0.15%
20.00° - 30.00°	95.03	10.09%	100.00° - 120.00°	2.90	0.31%
30.00° - 40.00°	55.49	5.89%	120.00° - 130.00°	1.33	0.14%
40.00° - 50.00°	34.30	3.64%	130.00° - 140.00°	1.22	0.13%
50.00° - 60.00°	15.70	1.67%	140.00° - 150.00°	1.05	0.11%
60.00° - 70.00°	4.66	0.49%	150.00° - 160.00°	0.83	0.09%
70.00° - 80.00°	1.76	0.19%	160.00° - 170.00°	0.49	0.05%
80.00° - 90.00°	1.50	0.16%	170.00° - 180.00°	0.15	0.02%
0.00° - 90.00°	932.14	98.99%	0.00° - 180.00°	941.66	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°	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45	5783.45
2.50°	5490.98	5352.85	5503.03	5383.49	5554.27	5452.94	5710.43	5491.51	5572.88	5437.37	5581.55	5424.47	5598.10	5420.38	5626.61	5410.72	5490.98
5.00°	4714.01	4737.65	4611.53	4757.14	4697.67	4930.92	4813.73	4998.87	4831.72	4895.98	4700.95	4816.03	4747.89	4847.04	4731.67	4838.29	4714.01
7.50°	3715.00	3685.90	3604.00	3690.07	3786.38	3848.23	3892.01	3868.65	3893.66	3750.55	3740.79	3747.94	3784.86	3789.70	3821.42	3791.63	3715.00
10.00°	2785.37	2696.90	2668.42	2718.98	2764.35	2767.43	2821.85	2774.04	2748.39	2645.34	2623.35	2635.58	2764.30	2788.36	2825.62	2798.30	2785.37
12.50°	1872.16	1904.28	1758.81	1897.67	1898.15	1938.74	1851.25	1878.50	1834.87	1760.03	1697.33	1814.54	1768.97	1902.89	1914.81	1969.26	1872.16
15.00°	1270.89	1225.56	1203.30	1243.65	1240.17	1179.09	1187.34	1101.77	1083.58	1002.49	1018.03	1039.22	1155.35	1189.01	1255.36	1258.81	1270.89
17.50°	703.01	768.28	697.81	765.13	763.49	752.02	667.90	682.94	650.66	617.11	578.92	658.77	609.69	705.53	729.23	776.02	703.01
20.00°	471.55	444.21	458.16	463.88	450.50	406.27	421.43	371.34	363.69	334.73	349.13	337.36	402.50	403.77	450.55	440.13	471.55
22.50°	258.75	289.25	262.99	286.34	279.60	281.08	253.76	258.72	245.99	241.11	229.41	245.25	236.68	266.85	266.20	288.58	258.75
25.00°	200.13	195.09	197.24	196.67	193.41	186.06	184.96	179.03	174.20	174.68	172.87	172.31	183.75	188.92	198.28	195.58	200.13
27.50°	149.09	153.13	146.79	147.13	148.17	143.11	138.51	139.40	142.83	140.98	141.62	142.92	142.48	146.87	151.74	152.27	149.09
30.00°	127.37	126.41	123.93	122.30	118.26	112.84	111.03	112.88	116.77	117.84	119.60	119.32	121.41	122.35	122.80	125.73	127.37
32.50°	107.59	108.31	105.27	104.13	101.03	96.99	91.89	97.15	101.74	103.28	104.69	104.29	104.16	104.56	103.07	108.54	107.59
35.00°	92.17	92.86	91.57	90.19	86.50	82.68	77.39	83.49	86.95	89.56	91.21	91.01	91.33	90.23	88.30	92.97	92.17
37.50°	77.98	78.37	78.46	76.80	74.01	69.52	64.78	70.97	72.98	76.28	77.72	79.47	78.86	76.65	75.10	77.97	77.98
40.00°	65.62	66.08	65.81	67.17	61.76	58.02	52.84	59.66	59.92	64.63	64.35	67.66	66.66	66.30	62.43	65.61	65.62
42.50°	55.02	54.21	55.20	57.49	51.96	47.34	44.74	48.76	50.98	53.52	54.40	55.67	55.22	56.22	53.53	53.76	55.02
45.00°	46.15	45.98	45.67	46.79	42.54	39.84	37.38	41.05	42.39	45.03	44.82	44.98	44.18	46.38	45.32	44.64	46.15
47.50°	38.18	38.06	37.13	36.90	35.76	33.33	31.31	33.91	34.71	37.01	37.72	34.85	37.16	36.93	39.05	35.81	38.18
50.00°	30.80	31.61	28.92	30.57	29.13	26.72	25.38	26.82	28.24	28.43	30.71	28.33	31.40	30.39	32.86	29.58	30.80
52.50°	24.21	25.14	23.50	24.11	23.00	20.10	20.80	19.86	23.72	20.00	23.98	22.71	24.05	23.92	25.98	23.37	24.21
55.00°	17.95	18.53	18.57	17.34	17.16	14.71	16.26	16.09	18.31	15.27	17.39	16.98	16.45	17.68	19.23	17.29	17.95
57.50°	13.58	12.58	13.09	11.90	11.95	9.59	11.93	12.34	11.94	10.78	11.09	11.25	11.95	12.17	13.25	11.98	13.58
60.00°	9.68	8.79	7.76	8.62	7.96	7.84	8.11	8.80	8.01	7.68	6.98	8.21	7.72	8.21	8.29	9.13	9.68
62.50°	7.16	5.95	5.91	6.16	5.66	6.15	5.95	5.67	5.86	5.10	5.79	5.35	5.92	5.47	6.55	6.59	7.16
65.00°	4.79	5.01	4.19	4.60	4.14	4.73	4.28	3.83	4.35	4.17	4.66	4.11	4.22	4.46	4.78	4.67	4.79
67.50°	3.45	3.89	3.29	3.34	3.36	3.51	3.59	2.44	3.15	3.20	3.61	2.94	3.05	3.41	2.93	3.18	3.45
70.00°	2.21	2.53	2.56	2.29	2.47	2.84	2.84	1.93	2.30	2.16	2.63	2.08	2.14	2.34	1.81	2.26	2.21
72.50°	1.83	1.78	2.34	1.80	1.51	2.21	2.02	1.60	1.55	1.63	1.68	1.48	1.96	1.76	1.62	1.64	1.83
75.00°	1.50	1.56	2.10	1.57	1.31	1.62	1.49	1.51	1.42	1.72	1.55	1.47	1.77	1.48	1.48	1.31	1.50
77.50°	1.38	1.53	1.81	1.43	1.41	1.32	1.19	1.51	1.37	1.59	1.72	1.45	1.54	1.51	1.41	1.28	1.38
80.00°	1.30	1.61	1.54	1.33	1.56	1.36	1.10	1.58	1.41	1.28	1.46	1.41	1.46	1.66	1.35	1.43	1.30
82.50°	1.31	1.48	1.28	1.44	1.73	1.34	1.12	1.52	1.43	1.27	1.12	1.34	1.56	1.59	1.29	1.35	1.31
85.00°	1.37	1.26	1.20	1.59	1.49	1.28	1.29	1.37	1.15	1.43	1.10	1.24	1.60	1.48	1.33	1.18	1.37
87.50°	1.48	1.24	1.26	1.56	1.21	1.37	1.53	1.37	0.95	1.44	1.11	1.25	1.60	1.54	1.42	1.26	1.48
90.00°	1.54	1.27	1.24	1.54	1.28	1.55	1.68	1.41	1.18	1.41	1.36	1.34	1.71	1.63	1.51	1.39	1.54
92.50°	1.56	1.27	1.19	1.65	1.36	1.40	1.81	1.36	1.38	1.35	1.57	1.34	1.89	1.51	1.62	1.32	1.56
95.00°	1.57	1.27	1.13	1.78	1.57	1.15	1.54	1.29	1.48	1.28	1.42	1.30	1.61	1.39	1.41	1.26	1.57
97.50°	1.57	1.39	1.08	1.99	1.73	1.31	1.24	1.36	1.48	1.19	1.31	1.35	1.17	1.27	1.20	1.50	1.57
100.00°	1.45	1.49	1.13	2.05	1.71	1.54	1.12	1.42	1.29	1.12	1.35	1.43	1.25	1.24	1.20	1.67	1.45
102.50°	1.28	1.39	1.20	1.71	1.61	1.44	1.06	1.05	1.25	1.28	1.34	1.48	1.41	1.55	1.25	1.41	1.28
105.00°	1.41	1.33	1.25	1.49	1.33	1.34	1.35	0.76	1.37	1.38	1.23	1.53	1.51	1.65	1.52	1.29	1.41

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	1119	1119	1119	1119	1092	1092	1092	1092	1041	1041	1041	995	995	995	952	952	932
	1	1078	1057	1039	1022	1055	1036	1020	1005	997	984	972	961	951	942	928	920	901
	2	1040	1005	975	950	1020	988	962	939	957	936	917	929	912	897	902	889	877
	3	1005	959	924	895	987	946	914	888	921	895	873	898	877	858	877	859	844
	4	973	920	881	851	957	909	873	846	889	859	835	870	845	825	853	832	815
	5	942	885	844	815	929	876	839	811	860	828	803	845	817	796	830	807	788
	6	915	854	813	784	902	847	809	781	833	800	775	821	792	770	809	784	771
	7	889	826	786	757	878	820	782	755	809	775	751	798	769	747	789	762	743
	8	865	801	761	734	855	796	759	732	787	753	729	778	748	726	769	743	723
	9	843	779	740	713	834	775	737	712	766	733	709	759	729	707	752	724	704
	10	822	758	720	695	814	755	718	694	748	714	692	741	711	690	735	707	688

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	191.2 fc	1.9 ft
6.5 ft	136.9 fc	2.2 ft
7.5 ft	102.8 fc	2.6 ft
8.0 ft	90.4 fc	2.7 ft
10.0 ft	57.8 fc	3.4 ft
12.0 ft	40.2 fc	4.1 ft
14.0 ft	29.5 fc	4.8 ft
16.0 ft	22.6 fc	5.5 ft
20.0 ft	14.5 fc	6.8 ft
24.0 ft	10.0 fc	8.2 ft
28.0 ft	7.4 fc	9.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1797332	1797332	1797332
45.00°	20282	20074	18697
55.00°	9725	10061	9297
65.00°	3520	3084	3047
75.00°	1801	2520	1570
85.00°	4868	4283	5300

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	10.1	11.1	10.5	11.4	11.8	9.1	10.0	9.5	10.4	10.7
	3H	10.3	11.2	10.7	11.5	11.9	9.3	10.2	9.7	10.5	10.9
	4H	10.3	11.1	10.8	11.5	11.9	9.4	10.2	9.8	10.5	11.0
	6H	10.4	11.1	10.8	11.5	11.9	9.5	10.2	10.0	10.6	11.1
	8H	10.5	11.1	10.9	11.5	12.0	9.7	10.4	10.2	10.8	11.2
	12H	10.6	11.2	11.1	11.7	12.1	10.0	10.6	10.4	11.0	11.5
4H	2H	10.1	10.8	10.5	11.2	11.6	9.1	9.8	9.5	10.2	10.6
	3H	10.3	10.9	10.7	11.4	11.8	9.4	10.1	9.9	10.5	10.9
	4H	10.3	10.9	10.8	11.4	11.8	9.5	10.1	10.0	10.5	11.0
	6H	10.5	11.0	11.0	11.5	12.0	9.8	10.3	10.3	10.8	11.3
	8H	10.7	11.1	11.2	11.6	12.1	10.1	10.5	10.6	11.0	11.5
	12H	10.9	11.3	11.5	11.8	12.3	10.5	10.9	11.0	11.4	11.9
8H	4H	10.3	10.7	10.8	11.2	11.7	9.5	9.9	10.0	10.4	10.9
	6H	10.6	10.9	11.1	11.5	12.0	9.9	10.2	10.4	10.8	11.3
	8H	10.9	11.2	11.4	11.7	12.2	10.3	10.6	10.8	11.1	11.7
	12H	11.3	11.6	11.9	12.1	12.7	10.9	11.2	11.5	11.7	12.3
12H	4H	10.3	10.7	10.8	11.2	11.7	9.5	9.9	10.0	10.4	10.9
	6H	10.6	10.9	11.2	11.4	12.0	9.9	10.2	10.5	10.7	11.3
	8H	11.0	11.2	11.5	11.7	12.4	10.4	10.6	10.9	11.2	11.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0