

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2SP RB2BS xx xx
2" Adjustable Track Luminaire with spot optic and standard bezel

Test Number

SP-01570_2

Test Date

9/26/2023

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

Summary of Results

Power

Input Watts	14.4 W
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Lumen Output

Output Lumens	1276
Efficacy	88.64 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.37
Two luminaires, plane 90°	0.37
Four luminaires	0.36

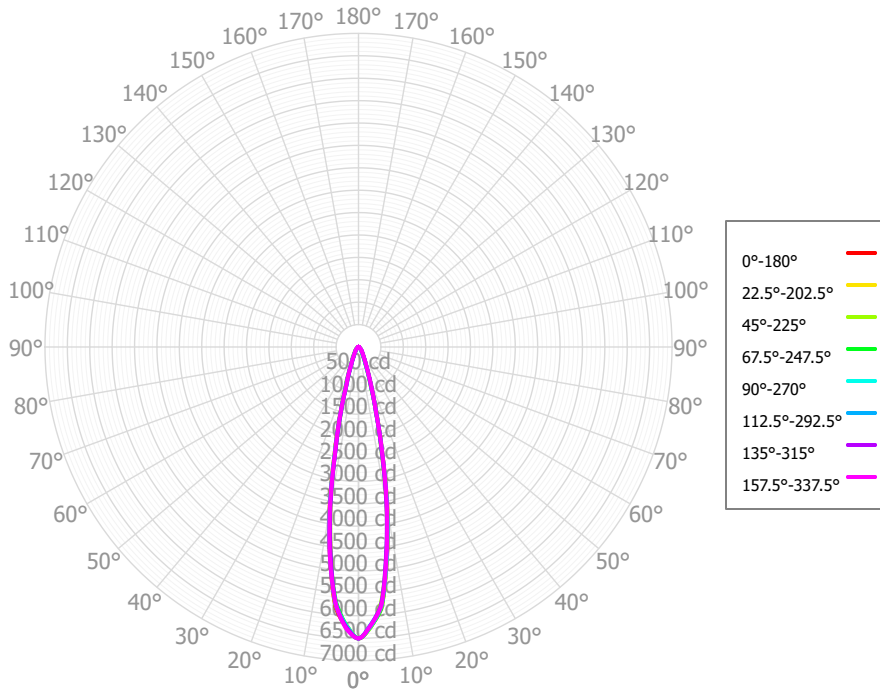
Full Beam Angle

0° - 180°	22°
90° - 270°	22°

IES File Header Contents

Keyword	Value
TEST	SP-01570_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 13 xx xx RD2SP RB2BS xx xx
LUMINAIRE	2" Adjustable Track Luminaire with spot optic and standard bezel
OTHER	Beam Angle: 22 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
_CRI	80+
_CCTMULT	822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
_CCTMULTA	927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87
_LAMPMULT	07L x .55, 10L x .75

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	481.23	37.70%	90.00° - 100.00°	1.47	0.12%
10.00° - 20.00°	450.90	35.33%	100.00° - 110.00°	1.49	0.12%
20.00° - 30.00°	157.06	12.30%	100.00° - 120.00°	2.91	0.23%
30.00° - 40.00°	84.81	6.64%	120.00° - 130.00°	1.25	0.10%
40.00° - 50.00°	55.39	4.34%	130.00° - 140.00°	1.18	0.09%
50.00° - 60.00°	27.25	2.14%	140.00° - 150.00°	1.06	0.08%
60.00° - 70.00°	6.88	0.54%	150.00° - 160.00°	0.82	0.06%
70.00° - 80.00°	1.94	0.15%	160.00° - 170.00°	0.50	0.04%
80.00° - 90.00°	1.56	0.12%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1267.02	99.27%	0.00° - 180.00°	1276.37	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°	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88	6505.88
2.50°	6250.84	6241.13	6265.62	6243.57	6244.83	6272.58	6256.02	6296.19	6258.11	6257.81	6214.63	6223.59	6224.18	6207.88	6221.16	6225.07	6250.84
5.00°	5823.82	5860.55	5743.20	5857.93	5813.95	5767.07	5793.42	5771.23	5839.40	5778.00	5816.56	5726.04	5788.75	5801.43	5781.31	5812.38	5823.82
7.50°	4829.24	4792.28	4756.53	4777.06	4809.13	4827.65	4735.99	4848.56	4824.30	4813.72	4706.59	4774.19	4783.90	4740.12	4707.16	4768.90	4829.24
10.00°	3731.81	3687.80	3611.92	3662.57	3700.50	3681.20	3606.30	3692.17	3725.27	3700.32	3580.89	3671.72	3691.73	3644.41	3596.05	3655.11	3731.81
12.50°	2471.11	2469.56	2353.16	2444.18	2430.12	2392.63	2380.92	2413.93	2482.46	2445.71	2435.01	2424.87	2447.10	2469.32	2408.14	2486.79	2471.11
15.00°	1583.56	1534.28	1556.68	1511.67	1544.30	1573.35	1534.72	1610.05	1590.85	1608.08	1512.80	1594.05	1562.97	1521.00	1538.10	1509.31	1583.56
17.50°	973.38	976.27	897.57	955.63	935.42	883.87	923.54	909.83	980.03	945.68	985.26	943.48	972.25	995.13	971.10	1003.11	973.38
20.00°	660.74	634.83	632.83	616.09	624.75	628.82	629.03	659.58	663.43	666.26	640.78	663.83	660.32	648.38	655.34	648.39	660.74
22.50°	439.98	428.58	407.29	408.09	403.93	409.43	409.86	440.56	446.93	442.57	444.77	440.83	445.45	454.36	446.03	460.89	439.98
25.00°	336.56	318.60	307.47	297.89	302.00	307.07	315.25	330.98	339.73	337.91	332.27	339.98	337.84	336.81	342.44	339.73	336.56
27.50°	246.46	231.78	225.64	210.26	213.10	223.20	230.64	245.76	246.76	248.79	249.23	252.97	245.03	248.00	255.14	252.39	246.46
30.00°	200.58	190.44	179.40	171.06	168.08	173.98	187.23	195.27	202.20	201.97	204.91	204.17	200.87	203.68	209.30	204.37	200.58
32.50°	162.39	152.69	144.52	135.26	130.95	138.97	150.61	159.49	163.78	166.05	165.88	165.55	162.72	165.54	169.48	163.95	162.39
35.00°	139.91	129.53	119.86	114.16	109.62	116.13	125.44	133.55	138.96	142.95	143.61	139.24	138.15	144.56	146.20	143.18	139.91
37.50°	120.16	109.78	102.24	96.41	92.59	99.72	106.31	115.03	118.62	124.03	123.36	119.79	118.12	124.48	126.23	123.71	120.16
40.00°	102.92	95.80	87.43	84.23	79.45	85.73	91.86	98.47	102.74	107.39	107.67	104.15	102.69	106.52	110.20	108.54	102.92
42.50°	87.83	81.69	75.03	72.18	67.99	74.34	79.44	85.92	88.62	92.68	92.49	90.42	88.43	90.38	94.40	93.53	87.83
45.00°	73.62	67.46	63.12	60.24	57.21	63.44	67.70	73.36	75.30	78.35	77.84	77.07	74.71	76.18	78.73	78.74	73.62
47.50°	61.59	55.83	53.44	50.55	48.84	54.66	57.44	60.23	62.85	63.87	63.66	63.35	63.32	64.24	65.78	65.89	61.59
50.00°	50.00	45.07	44.17	41.60	40.84	46.06	47.49	48.44	50.74	50.56	49.69	50.54	52.32	53.43	53.42	54.27	50.00
52.50°	40.37	37.47	35.90	34.54	33.95	37.89	38.99	39.08	41.79	41.52	40.63	41.21	41.91	42.32	43.68	42.71	40.37
55.00°	30.66	29.83	27.95	27.45	27.16	29.45	30.42	30.49	32.42	32.52	32.20	31.84	31.64	31.28	33.57	31.16	30.66
57.50°	20.73	20.48	20.39	19.41	20.58	20.73	21.74	22.54	21.87	23.58	22.37	22.41	21.80	22.33	22.10	21.28	20.73
60.00°	13.25	12.86	14.45	12.59	14.58	14.28	14.61	15.92	13.98	15.56	13.84	14.89	14.18	14.37	13.37	12.44	13.25
62.50°	8.64	9.02	9.37	8.37	9.22	8.96	8.99	9.79	9.44	8.19	9.26	8.72	9.39	9.65	8.74	8.49	8.64
65.00°	5.73	5.97	6.98	5.68	6.13	6.15	6.28	6.75	6.66	5.78	5.86	5.85	6.51	6.14	5.76	5.64	5.73
67.50°	3.73	3.67	5.09	4.45	4.23	3.82	4.84	4.18	4.89	4.76	3.98	3.92	4.76	4.27	3.92	4.73	3.73
70.00°	3.01	2.38	3.35	3.36	3.02	2.78	3.68	3.19	3.43	3.54	2.79	2.80	3.14	2.97	2.72	3.65	3.01
72.50°	2.53	1.53	1.93	2.32	1.97	1.96	2.58	2.24	2.04	2.39	2.00	1.85	1.55	2.02	1.70	2.41	2.53
75.00°	2.00	1.48	1.65	1.82	1.52	1.88	1.81	1.38	1.60	1.68	1.52	1.68	1.52	1.50	1.71	1.80	2.00
77.50°	1.54	1.51	1.38	1.45	1.18	1.96	1.23	1.08	1.28	1.20	1.12	1.52	1.50	1.09	1.68	1.41	1.54
80.00°	1.35	1.26	1.15	1.84	1.20	2.23	1.21	1.39	1.46	1.16	0.94	1.39	1.51	1.31	1.23	1.53	1.35
82.50°	1.37	1.18	1.17	2.07	1.35	2.19	1.17	1.43	1.53	1.20	0.85	1.40	1.58	1.46	0.97	1.63	1.37
85.00°	1.71	1.62	1.37	1.85	1.69	1.94	1.09	1.35	1.43	1.32	1.15	1.53	1.74	1.28	1.05	1.28	1.71
87.50°	1.64	1.65	1.48	1.73	1.75	1.55	1.23	1.12	1.32	1.31	1.60	1.55	1.74	1.32	1.13	1.06	1.64
90.00°	1.29	1.16	1.57	1.75	1.62	1.14	1.47	0.90	1.21	1.27	2.28	1.53	1.62	1.75	1.20	1.12	1.29
92.50°	1.17	1.00	1.50	1.57	1.43	1.17	1.24	1.16	1.06	1.34	2.18	1.47	1.44	1.81	1.25	1.20	1.17
95.00°	1.10	1.04	1.43	1.26	1.22	1.22	0.91	1.36	0.91	1.41	1.49	1.44	1.24	1.57	1.29	1.31	1.10
97.50°	1.51	1.05	1.41	1.42	1.17	1.36	0.97	1.38	0.85	1.43	1.30	1.69	1.53	1.51	1.15	1.56	1.51
100.00°	1.80	1.07	1.35	1.66	1.16	1.49	1.02	1.53	0.86	1.41	1.26	1.77	1.79	1.50	1.02	1.88	1.80
102.50°	1.41	1.40	1.20	1.45	1.39	1.57	1.07	1.83	1.21	1.32	1.32	1.47	1.62	1.47	1.18	1.69	1.41
105.00°	1.22	1.63	1.24	1.30	1.45	1.49	1.21	1.71	1.40	1.24	1.37	1.48	1.52	1.42	1.38	1.45	1.22

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	1517	1517	1517	1517	1481	1481	1481	1481	1413	1413	1413	1351	1351	1351	1294	1294	1267
	1	1461	1431	1405	1381	1429	1403	1380	1359	1351	1332	1315	1302	1288	1275	1257	1247	1221
	2	1407	1356	1315	1280	1379	1334	1297	1265	1293	1262	1236	1254	1230	1209	1219	1200	1176
	3	1356	1291	1241	1201	1332	1274	1228	1191	1240	1202	1171	1210	1178	1152	1181	1156	1134
	4	1309	1234	1179	1137	1288	1220	1169	1130	1193	1150	1117	1168	1132	1103	1145	1115	1094
	5	1266	1184	1127	1085	1247	1172	1119	1080	1150	1105	1070	1130	1091	1060	1111	1077	1058
	6	1225	1139	1081	1040	1209	1130	1076	1036	1111	1064	1029	1094	1053	1022	1078	1043	1025
	7	1188	1099	1042	1001	1173	1091	1037	998	1076	1028	993	1062	1019	988	1048	1011	995
	8	1154	1063	1006	967	1140	1056	1003	965	1044	995	961	1032	988	957	1020	982	967
	9	1122	1031	975	937	1110	1025	972	936	1014	966	932	1004	960	929	994	955	941
	10	1092	1001	946	910	1081	996	944	909	986	939	906	978	934	904	969	930	917

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	215.1 fc	2.1 ft
6.5 ft	154.0 fc	2.5 ft
7.5 ft	115.7 fc	2.9 ft
8.0 ft	101.7 fc	3.1 ft
10.0 ft	65.1 fc	3.9 ft
12.0 ft	45.2 fc	4.6 ft
14.0 ft	33.2 fc	5.4 ft
16.0 ft	25.4 fc	6.2 ft
20.0 ft	16.3 fc	7.7 ft
24.0 ft	11.3 fc	9.3 ft
28.0 ft	8.3 fc	10.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2021843	2021843	2021843
45.00°	32356	27740	25146
55.00°	16614	15146	14714
65.00°	4215	5135	4510
75.00°	2399	1978	1828
85.00°	6109	4876	6039

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	12.6	13.5	13.0	13.9	14.2	12.8	13.8	13.2	14.1	14.5
	3H	12.6	13.4	13.0	13.8	14.2	12.8	13.7	13.2	14.0	14.4
	4H	12.5	13.3	13.0	13.7	14.1	12.8	13.6	13.2	13.9	14.3
	6H	12.5	13.2	12.9	13.6	14.0	12.7	13.4	13.2	13.8	14.3
	8H	12.5	13.2	13.0	13.6	14.0	12.7	13.4	13.2	13.8	14.2
	12H	12.6	13.2	13.0	13.6	14.1	12.8	13.4	13.2	13.8	14.3
4H	2H	12.4	13.2	12.9	13.6	14.0	12.7	13.5	13.1	13.8	14.2
	3H	12.5	13.1	12.9	13.5	14.0	12.7	13.3	13.1	13.8	14.2
	4H	12.5	13.0	12.9	13.5	13.9	12.7	13.2	13.1	13.7	14.1
	6H	12.5	13.0	13.0	13.4	13.9	12.7	13.2	13.2	13.6	14.1
	8H	12.5	12.9	13.0	13.4	13.9	12.7	13.2	13.2	13.7	14.1
	12H	12.6	13.0	13.1	13.5	14.0	12.9	13.3	13.4	13.8	14.3
8H	4H	12.3	12.8	12.8	13.2	13.7	12.5	13.0	13.0	13.4	13.9
	6H	12.4	12.7	12.9	13.3	13.8	12.6	13.0	13.1	13.5	14.0
	8H	12.5	12.8	13.0	13.3	13.8	12.7	13.1	13.3	13.6	14.1
	12H	12.7	13.0	13.3	13.5	14.1	13.1	13.3	13.6	13.9	14.5
12H	4H	12.3	12.7	12.8	13.2	13.7	12.5	12.9	13.0	13.4	13.9
	6H	12.3	12.7	12.9	13.1	13.7	12.6	12.9	13.1	13.4	13.9
	8H	12.5	12.7	13.0	13.3	13.9	12.7	13.0	13.3	13.5	14.1

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0