

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2FL RB2BS xx xx

2" Adjustable Track Luminaire with flood optic and standard bezel

Test Number

SP-01571_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	1356
Efficacy	94.15 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.56
Two luminaires, plane 90°	0.55
Four luminaires	0.5

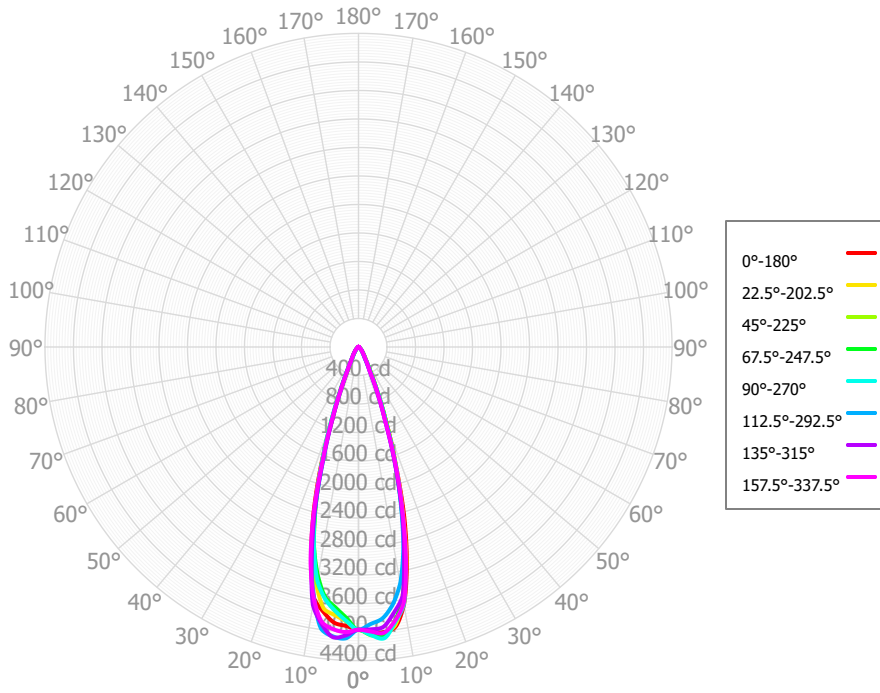
Full Beam Angle

0° - 180°	33°
90° - 270°	32°

IES File Header Contents

Keyword	Value
TEST	SP-01571_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 RD2FL RB2BS xx xx
LUMINAIRE	2" Adjustable Track Luminaire with flood optic and standard bezel
OTHER	Beam Angle: 33 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°	367.60	27.11%	90.00° - 100.00°	1.46	0.11%
10.00° - 20.00°	623.74	46.00%	100.00° - 110.00°	1.46	0.11%
20.00° - 30.00°	214.98	15.86%	100.00° - 120.00°	2.78	0.20%
30.00° - 40.00°	74.15	5.47%	120.00° - 130.00°	1.24	0.09%
40.00° - 50.00°	39.13	2.89%	130.00° - 140.00°	1.15	0.08%
50.00° - 60.00°	18.49	1.36%	140.00° - 150.00°	1.04	0.08%
60.00° - 70.00°	5.34	0.39%	150.00° - 160.00°	0.80	0.06%
70.00° - 80.00°	1.72	0.13%	160.00° - 170.00°	0.52	0.04%
80.00° - 90.00°	1.53	0.11%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1346.68	99.33%	0.00° - 180.00°	1355.82	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°	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40	3968.40
2.50°	4012.24	4032.26	4049.31	4041.63	4047.66	4092.39	4050.26	4004.64	3919.72	3856.53	3833.39	3808.77	3851.70	3891.80	3966.80	3997.14	4012.24
5.00°	4019.83	4045.21	4059.16	4070.15	4104.80	4078.33	4088.89	3978.44	3885.64	3779.41	3724.79	3672.83	3720.08	3826.71	3946.86	4028.81	4019.83
7.50°	3963.21	3939.73	3904.26	3889.70	3904.23	3993.94	3930.24	3900.51	3753.07	3707.48	3552.55	3548.75	3572.49	3653.07	3769.87	3884.27	3963.21
10.00°	3675.13	3593.08	3560.65	3575.59	3669.92	3591.75	3680.46	3599.58	3583.61	3401.33	3360.75	3269.55	3329.90	3370.56	3554.91	3652.08	3675.13
12.50°	3136.71	3101.82	2976.28	3010.97	3020.41	3056.63	3030.44	3105.98	3064.97	3061.71	2880.99	2884.50	2885.52	2906.31	2952.95	3079.75	3136.71
15.00°	2489.02	2393.47	2357.34	2328.67	2352.16	2360.64	2363.35	2444.40	2455.94	2386.40	2344.49	2329.90	2362.29	2304.80	2340.84	2386.83	2489.02
17.50°	1750.96	1746.75	1705.16	1722.58	1727.23	1618.08	1645.72	1672.42	1762.47	1693.88	1707.48	1689.83	1716.01	1701.21	1675.35	1725.61	1750.96
20.00°	1179.48	1170.46	1173.73	1142.26	1125.08	1097.73	1034.43	1101.82	1055.81	1135.31	1059.58	1148.02	1150.50	1096.44	1071.91	1071.89	1179.48
22.50°	711.05	743.54	730.91	763.39	747.55	618.93	646.22	628.69	682.14	606.05	688.98	642.23	680.81	692.22	680.11	699.87	711.05
25.00°	446.84	447.16	462.41	429.42	410.98	417.28	366.35	391.40	333.44	401.16	338.03	399.02	380.48	371.09	370.15	367.86	446.84
27.50°	276.67	284.83	288.92	298.13	291.07	243.26	256.13	236.64	249.63	220.63	249.23	220.53	233.77	239.36	257.06	269.92	276.67
30.00°	202.36	210.34	207.77	193.26	190.07	193.59	180.97	178.36	169.62	178.45	167.18	165.07	154.80	162.93	173.13	186.87	202.36
32.50°	159.12	162.23	163.57	154.84	152.60	147.48	146.95	142.54	141.00	139.64	139.67	128.13	121.97	128.36	140.13	151.60	159.12
35.00°	126.77	127.06	130.90	119.84	119.12	120.25	118.21	115.99	113.28	112.76	113.12	106.09	98.79	101.51	112.96	117.44	126.77
37.50°	96.77	101.79	101.39	97.84	95.11	94.26	94.22	90.72	91.13	89.28	91.02	85.04	80.47	85.61	93.38	95.40	96.77
40.00°	81.60	79.98	82.84	76.71	75.20	77.68	76.47	76.11	71.60	74.10	71.47	69.36	65.96	70.77	77.07	75.11	81.60
42.50°	68.21	66.16	66.21	64.50	62.33	62.34	62.91	62.12	62.15	59.96	59.87	54.13	52.86	56.97	64.00	64.67	68.21
45.00°	54.23	54.25	54.02	52.54	50.57	52.52	51.29	50.98	51.83	47.71	48.46	44.36	42.40	43.56	50.70	54.00	54.23
47.50°	40.41	44.14	42.21	41.90	40.25	43.22	40.67	40.20	39.19	37.79	37.43	35.17	32.61	37.18	37.22	42.48	40.41
50.00°	32.98	34.29	34.24	32.55	32.32	35.44	32.99	33.27	29.65	31.02	28.99	29.49	27.49	30.92	30.71	32.44	32.98
52.50°	25.78	28.21	26.48	27.49	26.80	28.13	26.38	26.53	26.01	25.37	24.67	24.13	23.07	25.45	28.12	26.04	25.78
55.00°	20.67	22.33	21.29	21.99	21.30	21.81	20.58	20.92	21.31	20.85	19.67	20.01	18.14	19.99	22.22	20.14	20.67
57.50°	15.68	15.66	16.11	15.44	15.84	16.09	14.98	15.60	15.09	15.81	13.87	15.82	13.19	14.59	14.94	15.12	15.68
60.00°	11.33	9.38	10.96	10.12	11.54	11.33	10.68	11.25	10.39	10.36	9.76	11.45	9.72	9.84	10.48	10.78	11.33
62.50°	7.48	7.46	6.44	6.97	7.90	7.65	6.58	7.45	7.31	6.86	7.24	7.86	6.36	7.03	6.83	7.37	7.48
65.00°	5.23	5.61	4.43	4.56	5.30	5.25	4.78	4.99	5.13	4.49	5.16	5.69	4.40	4.59	4.84	4.80	5.23
67.50°	3.25	4.07	2.80	3.13	3.14	3.53	3.14	3.04	3.70	2.99	3.41	3.89	2.67	2.95	3.17	3.12	3.25
70.00°	1.90	2.71	2.22	2.32	2.10	2.43	2.17	2.00	2.59	1.86	2.41	2.62	2.26	1.78	2.41	2.21	1.90
72.50°	1.12	1.94	1.79	2.12	1.38	1.75	1.27	1.45	1.68	1.52	1.80	1.79	1.89	1.32	1.73	1.91	1.12
75.00°	1.32	1.39	1.67	1.84	1.41	1.35	1.38	1.58	1.61	1.41	1.67	1.40	1.68	1.21	1.48	1.95	1.32
77.50°	1.33	1.41	1.65	1.50	1.57	1.19	1.43	1.47	1.91	1.37	1.72	1.27	1.49	1.50	1.24	2.20	1.33
80.00°	1.07	1.46	1.79	1.43	1.47	1.16	1.11	1.14	1.70	1.34	1.59	1.36	1.35	1.67	1.20	1.99	1.07
82.50°	1.03	1.56	1.76	1.50	1.36	1.17	0.94	1.09	1.33	1.49	1.42	1.33	1.34	1.74	1.18	1.56	1.03
85.00°	1.19	1.72	1.55	1.50	1.37	1.20	1.28	1.27	1.29	1.65	1.27	1.25	1.56	1.62	1.29	1.57	1.19
87.50°	1.22	1.97	1.47	1.47	1.38	1.19	1.45	1.34	1.33	1.30	1.13	1.53	1.51	1.37	1.38	1.72	1.22
90.00°	1.15	1.86	1.49	1.52	1.26	1.17	1.21	1.33	1.38	0.97	1.35	1.96	1.08	1.20	1.40	1.49	1.15
92.50°	1.12	1.40	1.37	1.59	1.19	1.48	1.13	1.21	1.44	1.20	1.59	1.65	0.89	1.07	1.37	1.19	1.12
95.00°	1.10	1.20	1.16	1.55	1.49	1.84	1.33	1.04	1.50	1.41	1.47	1.10	0.97	1.16	1.19	1.55	1.10
97.50°	1.24	1.21	1.25	1.49	1.71	1.54	1.32	0.96	1.55	1.36	1.35	1.37	1.14	1.34	1.11	1.99	1.24
100.00°	1.43	1.20	1.49	1.41	1.55	1.21	1.01	0.90	1.35	1.31	1.24	1.81	1.37	1.55	1.22	1.53	1.43
102.50°	1.56	1.19	1.52	1.32	1.43	1.33	1.09	1.12	1.18	1.18	1.16	2.02	1.41	1.76	1.35	1.08	1.56
105.00°	1.67	1.10	1.47	1.52	1.43	1.43	1.57	1.39	1.27	1.11	1.21	2.21	1.34	1.69	1.49	1.36	1.67

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	1612	1612	1612	1612	1573	1573	1573	1573	1501	1501	1501	1436	1436	1436	1375	1375	1347
	1	1551	1519	1491	1465	1517	1489	1464	1441	1433	1414	1395	1382	1367	1352	1335	1323	1296
	2	1492	1438	1393	1356	1463	1415	1374	1340	1370	1338	1310	1330	1304	1281	1292	1271	1246
	3	1437	1367	1313	1270	1411	1348	1299	1259	1313	1272	1238	1280	1247	1218	1250	1223	1199
	4	1386	1304	1245	1200	1363	1289	1235	1192	1261	1214	1178	1234	1195	1163	1209	1177	1155
	5	1337	1248	1186	1140	1317	1236	1178	1135	1213	1163	1125	1191	1148	1115	1170	1134	1114
	6	1292	1198	1135	1089	1274	1188	1129	1086	1168	1117	1078	1150	1105	1070	1133	1094	1075
	7	1250	1152	1089	1045	1234	1144	1084	1042	1127	1075	1036	1112	1065	1031	1098	1056	1039
	8	1210	1110	1048	1005	1195	1103	1044	1003	1089	1036	998	1076	1029	994	1064	1022	1006
	9	1172	1072	1010	969	1160	1066	1007	967	1054	1001	964	1043	995	960	1032	989	974
	10	1137	1037	976	936	1126	1031	974	935	1021	968	932	1011	963	929	1002	959	945

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	131.2 fc	3.3 ft
6.5 ft	93.9 fc	3.8 ft
7.5 ft	70.5 fc	4.4 ft
8.0 ft	62.0 fc	4.7 ft
10.0 ft	39.7 fc	5.9 ft
12.0 ft	27.6 fc	7.1 ft
14.0 ft	20.2 fc	8.3 ft
16.0 ft	15.5 fc	9.5 ft
20.0 ft	9.9 fc	11.8 ft
24.0 ft	6.9 fc	14.2 ft
28.0 ft	5.1 fc	16.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1233265	1233265	1233265
45.00°	23836	23743	22225
55.00°	11198	11535	11543
65.00°	3847	3260	3897
75.00°	1591	2003	1691
85.00°	4248	5540	4880

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	10.3	11.3	10.7	11.6	11.9	10.5	11.4	10.9	11.8	12.1
	3H	10.4	11.2	10.8	11.6	11.9	10.5	11.3	10.9	11.7	12.1
	4H	10.3	11.1	10.8	11.5	11.9	10.5	11.2	10.9	11.6	12.0
	6H	10.3	11.0	10.8	11.4	11.8	10.5	11.2	10.9	11.6	12.0
	8H	10.4	11.0	10.8	11.4	11.8	10.5	11.2	11.0	11.6	12.0
	12H	10.4	11.0	10.9	11.4	11.9	10.6	11.2	11.1	11.6	12.1
4H	2H	10.2	11.0	10.6	11.3	11.7	10.4	11.1	10.8	11.5	11.9
	3H	10.3	10.9	10.7	11.3	11.8	10.4	11.0	10.9	11.5	11.9
	4H	10.3	10.8	10.7	11.3	11.7	10.4	11.0	10.9	11.4	11.9
	6H	10.4	10.9	10.9	11.3	11.8	10.5	11.0	11.0	11.4	11.9
	8H	10.5	10.9	11.0	11.4	11.9	10.6	11.0	11.0	11.5	12.0
	12H	10.6	11.0	11.1	11.5	12.0	10.8	11.1	11.3	11.6	12.1
8H	4H	10.2	10.6	10.7	11.1	11.6	10.3	10.7	10.8	11.2	11.7
	6H	10.4	10.8	10.9	11.3	11.8	10.4	10.8	11.0	11.3	11.8
	8H	10.6	10.9	11.1	11.4	12.0	10.6	10.9	11.1	11.4	12.0
	12H	11.0	11.2	11.5	11.8	12.4	10.9	11.2	11.5	11.7	12.3
12H	4H	10.1	10.5	10.7	11.0	11.5	10.2	10.6	10.8	11.1	11.6
	6H	10.4	10.7	11.0	11.2	11.8	10.4	10.7	11.0	11.2	11.8
	8H	10.7	10.9	11.2	11.5	12.1	10.6	10.9	11.2	11.4	12.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0