

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2FL RB2BSA1 xx xx
2" Adjustable Track Luminaire with flood optic, acrylic .5" bezel

Test Number

SP-01587_2

Test Date

9/27/2023

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	1357
Efficacy	94.23 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	0.51

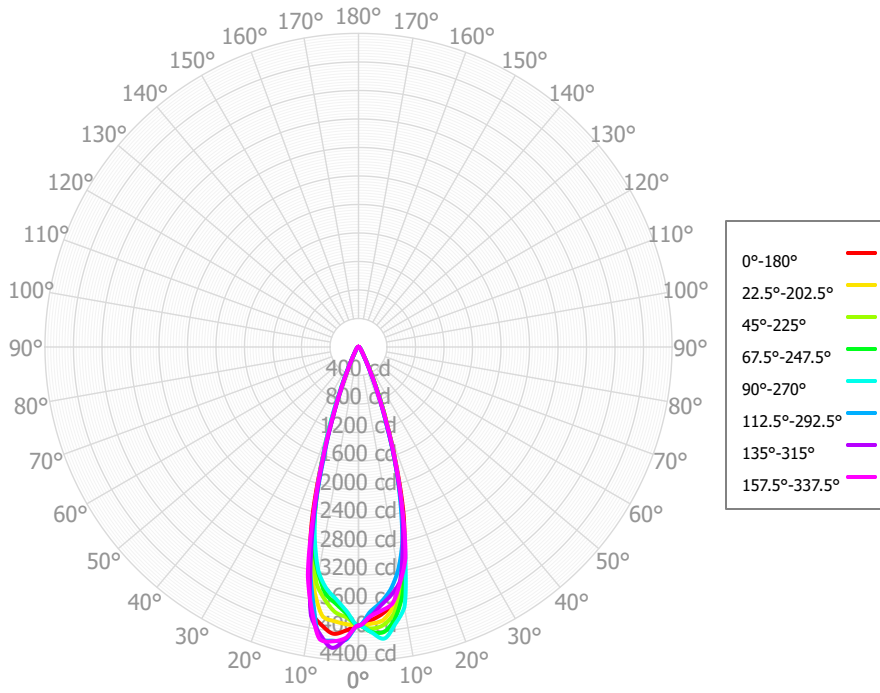
Full Beam Angle

0° - 180°	33°
90° - 270°	32°

IES File Header Contents

Keyword	Value
TEST	SP-01587_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/27/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 13 xx xx RD2FL RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, acrylic .5" 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°	362.47	26.71%	90.00° - 100.00°	2.60	0.19%
10.00° - 20.00°	625.65	46.11%	100.00° - 110.00°	2.68	0.20%
20.00° - 30.00°	216.01	15.92%	100.00° - 120.00°	5.07	0.37%
30.00° - 40.00°	57.62	4.25%	120.00° - 130.00°	1.79	0.13%
40.00° - 50.00°	33.74	2.49%	130.00° - 140.00°	1.32	0.10%
50.00° - 60.00°	22.94	1.69%	140.00° - 150.00°	1.07	0.08%
60.00° - 70.00°	14.25	1.05%	150.00° - 160.00°	0.88	0.06%
70.00° - 80.00°	7.23	0.53%	160.00° - 170.00°	0.50	0.04%
80.00° - 90.00°	3.55	0.26%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1343.47	99.01%	0.00° - 180.00°	1356.85	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°	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09	3909.09
2.50°	3843.46	3888.74	3954.75	3998.88	4003.24	4115.08	4102.10	4086.53	3982.73	3893.87	3800.87	3750.61	3716.88	3721.11	3788.24	3783.76	3843.46
5.00°	3763.73	3854.70	3922.63	4017.78	4108.41	4138.04	4238.17	4146.83	4039.66	3863.67	3737.17	3618.70	3556.59	3596.85	3637.64	3713.86	3763.73
7.50°	3644.64	3691.68	3780.93	3862.50	3926.46	4126.06	4077.79	4140.49	3940.35	3817.69	3584.17	3500.82	3424.76	3436.17	3511.75	3633.66	3644.64
10.00°	3465.42	3420.61	3433.14	3544.26	3708.93	3650.72	3833.74	3759.17	3784.69	3515.63	3377.77	3231.88	3211.89	3188.87	3342.91	3359.77	3465.42
12.50°	2976.72	2943.15	2933.94	3021.14	3039.86	3129.46	3112.92	3283.78	3170.53	3082.67	2912.20	2894.82	2820.79	2831.87	2867.18	3040.62	2976.72
15.00°	2450.28	2333.93	2346.54	2351.41	2353.37	2364.98	2391.48	2469.26	2528.91	2429.13	2333.21	2343.62	2346.01	2281.77	2360.12	2393.27	2450.28
17.50°	1799.30	1751.91	1710.86	1746.66	1727.75	1605.60	1667.77	1713.81	1758.47	1693.15	1710.60	1723.11	1736.08	1721.40	1721.72	1762.12	1799.30
20.00°	1215.01	1182.66	1206.19	1176.48	1124.64	1096.42	1039.12	1107.74	1074.84	1129.64	1074.35	1180.26	1187.89	1147.53	1142.03	1199.56	1215.01
22.50°	784.68	784.84	753.46	777.57	743.60	620.96	652.73	629.00	663.24	610.81	679.30	654.27	715.56	710.88	727.38	714.04	784.68
25.00°	451.84	444.15	486.54	444.45	402.87	412.43	359.97	383.47	343.40	381.52	334.31	408.78	401.47	410.42	401.80	446.84	451.84
27.50°	286.02	288.91	271.33	283.84	270.87	230.25	239.83	215.77	226.16	197.80	220.24	197.42	234.36	235.03	258.15	244.17	286.02
30.00°	172.38	175.40	186.95	169.44	159.59	166.61	153.88	154.21	140.45	146.02	132.42	143.96	141.89	154.70	155.99	174.26	172.38
32.50°	126.58	130.62	125.91	122.99	117.04	112.61	114.87	110.73	105.85	103.60	105.00	97.64	102.45	108.19	117.41	120.44	126.58
35.00°	93.78	94.98	96.60	88.07	82.90	87.85	87.53	86.11	79.94	82.82	79.99	79.22	78.23	81.18	88.62	91.46	93.78
37.50°	73.73	76.18	70.10	70.93	68.58	68.11	72.46	69.14	64.76	62.92	66.33	61.72	62.04	66.03	71.12	71.05	73.73
40.00°	59.90	58.49	61.55	55.24	57.19	59.31	61.04	58.28	54.52	55.36	53.41	53.14	52.65	55.86	58.18	60.58	59.90
42.50°	50.67	52.05	53.31	49.60	50.93	52.02	52.58	50.24	48.93	48.11	47.14	45.32	45.89	48.49	49.22	52.02	50.67
45.00°	43.45	45.68	46.89	43.98	44.90	47.11	45.64	43.89	42.84	42.87	40.89	41.37	39.52	41.94	42.53	45.13	43.45
47.50°	37.36	40.00	40.40	37.87	39.19	41.24	39.62	37.40	36.39	37.53	34.74	37.10	33.24	35.65	37.34	38.86	37.36
50.00°	33.34	34.38	33.29	32.16	34.43	34.21	34.72	30.86	31.82	31.81	29.50	31.76	30.19	29.41	32.51	33.00	33.34
52.50°	30.17	29.05	27.18	29.25	30.62	29.47	30.32	28.26	28.25	26.85	27.24	27.32	27.68	26.24	27.85	28.51	30.17
55.00°	26.48	24.54	25.28	26.52	27.10	26.84	26.85	26.91	25.54	23.92	24.99	24.94	24.62	23.38	24.51	24.70	26.48
57.50°	22.64	22.88	23.19	24.55	23.81	23.83	23.67	23.51	23.15	21.54	22.81	22.39	21.52	21.96	21.64	21.64	22.64
60.00°	19.93	20.65	20.53	22.02	20.20	20.54	21.05	19.68	19.78	20.24	19.89	19.52	18.52	20.49	19.56	18.85	19.93
62.50°	17.43	17.06	17.67	17.93	16.40	17.60	18.54	16.85	16.15	17.73	15.76	16.80	15.56	17.44	17.68	16.23	17.43
65.00°	14.95	14.41	14.41	14.35	13.85	14.84	15.11	14.14	14.09	13.46	12.61	14.28	13.06	14.41	14.44	13.66	14.95
67.50°	12.48	13.42	11.84	11.78	11.82	12.03	11.57	11.77	12.29	10.36	10.73	11.64	10.71	11.55	11.01	11.81	12.48
70.00°	10.17	11.85	10.34	9.77	9.68	9.21	10.29	9.45	10.37	8.52	9.16	8.89	9.34	8.92	9.87	10.08	10.17
72.50°	7.90	9.50	8.62	8.59	7.50	7.32	9.08	8.09	8.43	7.03	7.89	7.11	8.11	7.36	8.86	8.20	7.90
75.00°	6.51	7.38	6.66	7.19	6.72	5.67	7.20	6.75	7.93	5.84	6.31	6.06	7.42	6.06	7.11	6.32	6.51
77.50°	5.17	5.48	5.34	5.53	6.19	5.02	5.39	5.64	7.37	4.83	4.51	5.41	6.34	5.50	5.41	5.19	5.17
80.00°	4.25	4.25	4.58	4.60	5.34	4.53	4.12	4.58	5.79	3.95	3.86	5.00	4.14	4.77	4.38	4.11	4.25
82.50°	3.48	3.54	3.74	4.29	4.45	4.01	3.09	3.72	4.32	3.24	3.86	3.89	2.60	3.65	3.49	3.71	3.48
85.00°	3.35	3.27	2.83	3.47	3.50	3.49	3.31	3.04	3.55	2.61	3.25	2.49	2.39	2.80	3.34	3.31	3.35
87.50°	3.18	3.26	2.45	2.33	2.60	3.15	3.27	2.89	2.87	2.39	2.40	2.26	2.20	2.38	3.13	2.92	3.18
90.00°	2.89	2.89	2.34	2.11	2.70	2.85	2.42	2.81	2.48	2.31	2.12	2.37	2.03	2.16	2.63	2.57	2.89
92.50°	2.55	2.37	2.30	2.34	2.75	3.08	1.97	2.91	2.18	2.28	2.01	2.29	2.08	2.21	2.30	2.31	2.55
95.00°	2.12	2.35	2.28	2.56	2.40	3.19	2.45	2.94	2.13	2.26	1.92	2.19	2.38	2.17	2.37	2.12	2.12
97.50°	2.06	2.48	2.18	2.77	2.13	2.59	2.73	2.89	2.20	2.26	1.83	2.47	2.57	2.07	2.35	2.10	2.06
100.00°	2.59	2.59	2.06	2.65	2.26	2.06	2.66	2.74	2.50	2.26	2.32	2.79	2.68	2.23	2.17	2.13	2.59
102.50°	2.68	2.69	2.71	2.45	2.35	1.83	2.65	2.48	2.65	2.51	2.87	2.58	2.85	2.56	2.22	2.28	2.68
105.00°	2.25	2.64	3.48	2.24	2.29	1.81	2.71	2.32	2.60	2.76	2.76	2.37	3.05	2.59	2.61	2.40	2.25

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	1500	1500	1500	1433	1433	1433	1372	1372	1343
	1	1548	1515	1486	1459	1514	1485	1459	1435	1428	1407	1388	1376	1360	1345	1328	1315	1288
	2	1488	1432	1385	1347	1458	1408	1366	1331	1363	1329	1300	1321	1294	1270	1283	1261	1236
	3	1431	1359	1304	1259	1405	1340	1289	1248	1304	1262	1227	1271	1236	1207	1240	1211	1187
	4	1379	1296	1235	1189	1356	1281	1224	1181	1251	1204	1166	1224	1184	1152	1199	1165	1143
	5	1331	1240	1177	1130	1310	1227	1168	1124	1203	1152	1114	1181	1137	1103	1160	1123	1093
	6	1286	1190	1125	1079	1267	1179	1119	1075	1159	1107	1067	1141	1095	1060	1123	1083	1065
	7	1243	1144	1080	1035	1227	1136	1075	1032	1119	1065	1026	1103	1056	1020	1088	1047	1029
	8	1204	1103	1040	996	1189	1095	1035	994	1081	1027	989	1068	1020	985	1055	1012	996
	9	1167	1065	1003	961	1153	1059	999	959	1046	993	955	1035	987	952	1024	980	966
	10	1132	1030	969	928	1120	1025	966	927	1014	961	924	1004	956	921	995	951	937

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	129.2 fc	3.2 ft
6.5 ft	92.5 fc	3.8 ft
7.5 ft	69.5 fc	4.4 ft
8.0 ft	61.1 fc	4.7 ft
10.0 ft	39.1 fc	5.8 ft
12.0 ft	27.1 fc	7.0 ft
14.0 ft	19.9 fc	8.2 ft
16.0 ft	15.3 fc	9.4 ft
20.0 ft	9.8 fc	11.7 ft
24.0 ft	6.8 fc	14.0 ft
28.0 ft	5.0 fc	16.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1214836	1214836	1214836
45.00°	19094	20610	19735
55.00°	14348	13700	14683
65.00°	10994	10597	10184
75.00°	7818	7995	8066
85.00°	11948	10095	12489

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	13.0	13.9	13.4	14.3	14.6	13.2	14.1	13.6	14.5	14.8
	3H	14.3	15.1	14.7	15.5	15.9	14.2	15.0	14.6	15.4	15.8
	4H	14.7	15.4	15.1	15.8	16.2	14.6	15.3	15.0	15.7	16.1
	6H	14.9	15.7	15.4	16.1	16.5	15.0	15.7	15.4	16.1	16.5
	8H	15.1	15.7	15.5	16.2	16.6	15.1	15.8	15.6	16.2	16.6
	12H	15.3	15.9	15.7	16.3	16.8	15.3	15.9	15.7	16.3	16.8
4H	2H	13.3	14.1	13.8	14.5	14.9	13.5	14.2	13.9	14.6	15.0
	3H	14.8	15.5	15.3	15.9	16.3	14.6	15.3	15.1	15.7	16.1
	4H	15.3	15.9	15.8	16.3	16.8	15.1	15.7	15.5	16.1	16.6
	6H	15.7	16.2	16.2	16.7	17.2	15.6	16.1	16.1	16.6	17.1
	8H	15.9	16.4	16.4	16.8	17.3	15.9	16.3	16.4	16.8	17.3
	12H	16.2	16.6	16.7	17.1	17.6	16.1	16.5	16.6	17.0	17.5
8H	4H	15.5	15.9	15.9	16.4	16.9	15.2	15.7	15.7	16.1	16.6
	6H	16.0	16.3	16.5	16.9	17.4	15.9	16.3	16.4	16.8	17.3
	8H	16.3	16.6	16.8	17.1	17.7	16.3	16.6	16.8	17.1	17.6
	12H	16.7	17.0	17.3	17.5	18.1	16.7	16.9	17.2	17.5	18.1
12H	4H	15.4	15.8	16.0	16.3	16.8	15.2	15.6	15.7	16.1	16.6
	6H	16.0	16.3	16.6	16.8	17.4	15.9	16.2	16.5	16.7	17.3
	8H	16.4	16.7	16.9	17.2	17.8	16.4	16.6	16.9	17.2	17.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0