

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2FL RB2BD xx xx

2" Adjustable Track Luminaire with flood optic and snoot/deep cutoff bezel

Test Number

SP-01579_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	1255
Efficacy	87.13 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.54
Two luminaires, plane 90°	0.53
Four luminaires	0.49

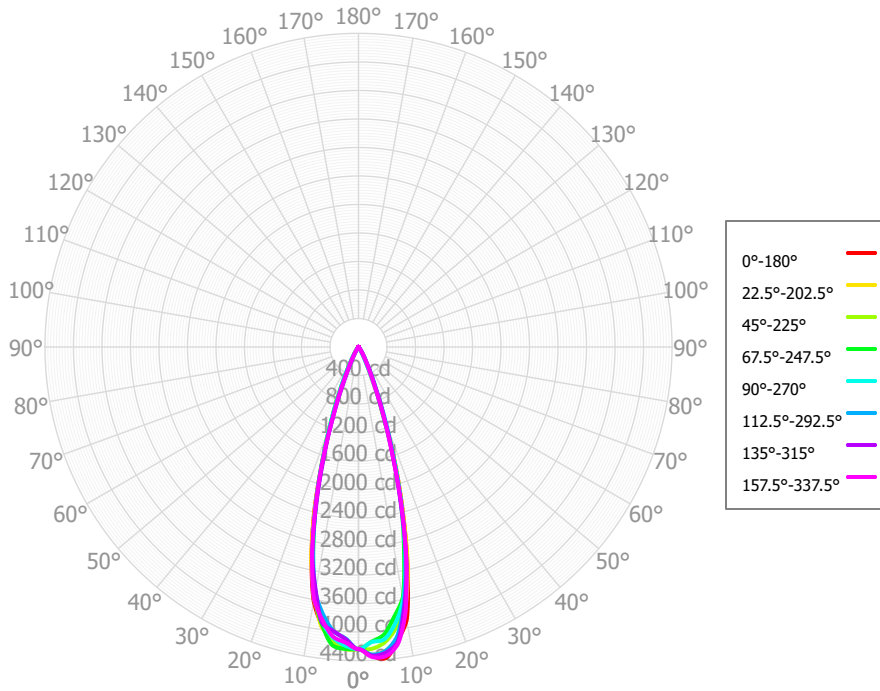
Full Beam Angle

0° - 180°	31°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-01579_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 RB2BD xx xx
LUMINAIRE	2" Adjustable Track Luminaire with flood optic and snoot/deep cutoff bezel
OTHER	Beam Angle: 31 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°	385.33	30.71%	90.00° - 100.00°	1.70	0.14%
10.00° - 20.00°	619.23	49.36%	100.00° - 110.00°	1.71	0.14%
20.00° - 30.00°	195.07	15.55%	100.00° - 120.00°	3.28	0.26%
30.00° - 40.00°	32.59	2.60%	120.00° - 130.00°	1.38	0.11%
40.00° - 50.00°	5.09	0.41%	130.00° - 140.00°	1.34	0.11%
50.00° - 60.00°	1.70	0.14%	140.00° - 150.00°	1.27	0.10%
60.00° - 70.00°	1.64	0.13%	150.00° - 160.00°	0.91	0.07%
70.00° - 80.00°	1.66	0.13%	160.00° - 170.00°	0.56	0.04%
80.00° - 90.00°	1.71	0.14%	170.00° - 180.00°	0.18	0.01%
0.00° - 90.00°	1244.02	99.15%	0.00° - 180.00°	1254.64	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°	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93	4240.93
2.50°	4340.58	4321.34	4240.68	4141.93	4147.04	4095.76	4105.37	4153.27	4199.04	4241.98	4233.16	4242.13	4197.43	4319.80	4335.00	4354.00	4340.58
5.00°	4383.04	4285.98	4164.47	4056.12	4119.79	4006.33	4005.84	4081.95	4090.15	4114.01	4163.38	4201.88	4096.45	4285.03	4309.55	4356.57	4383.04
7.50°	4165.05	4126.79	3985.90	3823.19	3924.23	3791.19	3908.86	3868.18	3933.33	3962.93	3891.95	3930.84	3892.25	4111.92	4183.67	4211.61	4165.05
10.00°	3893.27	3756.20	3664.67	3576.17	3609.14	3493.93	3462.09	3594.26	3621.24	3540.80	3593.55	3560.12	3480.72	3669.75	3702.66	3793.97	3893.27
12.50°	3173.90	3201.84	3034.99	2956.79	3039.50	2971.11	2995.89	3011.06	3044.21	3064.12	2964.77	2940.31	2940.55	3045.94	3125.58	3098.34	3173.90
15.00°	2403.31	2408.10	2359.66	2327.49	2332.60	2337.10	2292.75	2334.47	2402.67	2381.42	2319.39	2314.53	2318.94	2357.59	2312.10	2354.47	2403.31
17.50°	1681.51	1684.93	1611.33	1646.05	1654.44	1694.69	1608.82	1679.49	1678.34	1675.16	1711.49	1677.90	1659.37	1636.28	1590.40	1573.24	1681.51
20.00°	973.27	1031.57	1008.68	999.22	987.56	1049.31	1073.08	1028.73	1099.99	1161.06	1123.30	1138.79	1163.03	1108.11	1036.31	1012.22	973.27
22.50°	632.54	599.82	584.32	620.33	590.72	647.39	592.57	661.46	665.94	662.90	750.28	734.83	721.98	651.23	616.60	581.32	632.54
25.00°	314.80	334.42	314.07	290.57	267.14	305.13	364.06	323.93	384.26	429.78	411.32	441.72	471.03	415.16	383.41	354.25	314.80
27.50°	214.52	191.24	187.13	185.63	152.62	182.04	175.89	214.45	218.57	212.83	267.11	266.75	263.09	235.91	225.53	215.77	214.52
30.00°	123.75	117.95	108.05	97.80	74.54	91.22	112.23	114.26	124.33	142.54	143.20	154.93	174.94	153.83	146.91	138.59	123.75
32.50°	81.44	72.63	63.20	61.93	47.18	58.28	61.57	76.10	70.94	79.14	92.37	94.26	103.07	87.06	90.68	80.56	81.44
35.00°	45.10	39.24	37.61	33.45	24.45	29.36	39.41	40.43	42.16	50.82	50.71	56.31	66.94	55.40	52.34	50.95	45.10
37.50°	28.89	24.47	22.31	20.97	16.02	19.71	22.17	26.40	23.68	26.83	32.36	32.43	33.07	26.44	30.32	27.14	28.89
40.00°	15.60	15.27	13.33	11.54	8.10	10.46	12.91	13.94	14.53	17.40	18.03	19.49	22.90	19.41	18.28	18.05	15.60
42.50°	9.22	9.40	6.85	7.07	5.40	6.57	6.69	9.01	8.17	9.68	11.15	11.55	13.24	12.55	11.46	10.67	9.22
45.00°	4.70	4.19	4.57	3.90	2.98	3.13	4.22	4.86	5.38	5.98	6.20	7.22	9.28	7.24	7.04	6.58	4.70
47.50°	3.43	3.18	3.43	2.35	2.61	2.63	2.59	3.22	3.29	3.35	3.97	4.07	5.61	2.56	4.60	2.73	3.43
50.00°	2.55	2.63	2.49	1.66	2.26	2.17	1.75	2.08	2.31	2.57	2.56	3.01	3.58	2.12	2.80	2.42	2.55
52.50°	2.19	2.19	1.58	1.78	2.04	1.90	1.39	2.12	1.45	2.01	2.02	2.41	1.95	1.76	2.06	2.09	2.19
55.00°	1.95	1.77	1.75	1.74	1.81	1.74	1.38	2.24	1.92	1.76	1.81	2.12	1.80	1.72	1.55	1.62	1.95
57.50°	1.85	1.66	2.03	1.58	1.52	1.88	1.45	2.49	2.39	1.58	1.86	1.87	1.68	1.70	1.71	1.22	1.85
60.00°	1.74	1.57	1.74	1.54	1.43	1.93	1.55	2.32	2.19	1.49	1.88	1.81	1.63	1.75	1.96	1.13	1.74
62.50°	1.63	1.63	1.48	1.58	1.74	1.82	1.58	1.61	2.01	1.38	1.88	1.75	1.69	1.78	1.89	1.09	1.63
65.00°	1.63	1.63	1.74	1.63	1.94	1.79	1.56	1.29	1.92	1.26	1.72	1.58	1.92	1.76	1.80	1.24	1.63
67.50°	1.70	1.29	1.95	1.69	1.96	1.88	1.54	1.37	1.80	1.42	1.48	1.44	1.90	1.69	1.78	1.40	1.70
70.00°	1.75	1.10	1.79	1.75	1.91	1.87	1.52	1.39	1.58	1.74	1.40	1.50	1.55	1.54	1.76	1.58	1.75
72.50°	1.81	1.36	1.61	1.81	1.77	1.75	1.61	1.37	1.42	1.71	1.38	1.58	1.44	1.50	1.75	1.62	1.81
75.00°	1.58	1.59	1.33	1.66	1.62	1.71	1.72	1.35	1.49	1.54	1.44	1.69	1.59	1.58	1.75	1.42	1.58
77.50°	1.27	1.74	1.24	1.47	1.48	1.75	1.55	1.32	1.52	1.55	1.52	1.77	1.53	1.63	1.74	1.42	1.27
80.00°	1.35	1.74	1.72	1.54	1.62	1.61	1.35	1.38	1.48	1.63	1.67	1.75	1.32	1.66	1.69	1.68	1.35
82.50°	1.51	1.51	2.00	1.64	1.97	1.35	1.36	1.49	1.55	1.70	1.83	1.71	1.34	1.64	1.47	1.74	1.51
85.00°	1.51	1.40	1.85	1.80	1.88	1.40	1.35	1.44	1.81	1.77	1.79	1.67	1.51	1.60	1.25	1.60	1.51
87.50°	1.49	1.43	1.75	1.94	1.57	1.59	1.20	1.34	1.83	1.68	1.73	1.62	1.53	1.56	1.05	1.40	1.49
90.00°	1.64	1.54	1.72	1.62	1.63	1.59	1.09	1.34	1.55	1.57	1.68	1.57	1.46	1.52	0.93	1.17	1.64
92.50°	1.80	1.74	1.69	1.41	1.83	1.52	1.25	1.36	1.49	1.62	1.62	1.51	1.72	1.56	0.97	1.10	1.80
95.00°	1.80	1.71	1.65	2.03	1.88	1.44	1.38	1.18	1.65	1.66	1.40	1.44	2.09	1.62	1.11	1.12	1.80
97.50°	1.77	1.51	1.54	2.51	1.89	1.34	1.41	0.97	1.87	1.37	1.26	1.55	1.97	1.70	1.39	1.35	1.77
100.00°	1.60	1.57	1.35	2.34	1.77	1.48	1.45	1.42	2.12	1.14	1.59	1.85	1.74	1.79	1.49	1.67	1.60
102.50°	1.42	1.80	1.45	2.20	1.62	1.65	1.55	1.86	2.05	1.42	1.81	1.84	1.40	1.63	1.42	1.84	1.42
105.00°	1.22	1.69	1.74	2.11	2.00	1.37	1.57	1.62	1.78	1.68	1.63	1.57	1.04	1.43	1.40	1.96	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%	10%
	0	1491	1491	1491	1491	1455	1455	1455	1455	1388	1388	1388	1327	1327	1327	1270	1270	1244
	1	1439	1411	1387	1365	1408	1384	1362	1342	1332	1315	1299	1284	1271	1259	1240	1230	1221
	2	1390	1344	1306	1274	1363	1322	1288	1259	1281	1254	1230	1244	1222	1203	1209	1192	1176
	3	1345	1285	1239	1203	1322	1268	1226	1193	1236	1201	1173	1206	1177	1154	1178	1155	1135
	4	1302	1234	1183	1145	1282	1220	1174	1138	1194	1155	1124	1169	1137	1110	1147	1119	1097
	5	1263	1187	1135	1096	1244	1176	1127	1091	1155	1113	1081	1135	1099	1071	1116	1086	1062
	6	1225	1145	1092	1054	1209	1136	1086	1050	1118	1075	1043	1102	1064	1035	1086	1054	1028
	7	1189	1107	1054	1016	1175	1099	1049	1013	1084	1040	1008	1071	1032	1002	1058	1023	997
	8	1156	1072	1019	982	1143	1065	1015	980	1053	1008	976	1041	1001	972	1030	994	968
	9	1124	1039	987	951	1112	1033	984	950	1023	978	946	1012	972	943	1003	967	940
	10	1094	1008	957	923	1083	1003	955	922	994	950	919	986	945	917	977	941	914

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	140.2 fc	3.1 ft
6.5 ft	100.4 fc	3.7 ft
7.5 ft	75.4 fc	4.2 ft
8.0 ft	66.3 fc	4.5 ft
10.0 ft	42.4 fc	5.6 ft
12.0 ft	29.5 fc	6.8 ft
14.0 ft	21.6 fc	7.9 ft
16.0 ft	16.6 fc	9.0 ft
20.0 ft	10.6 fc	11.3 ft
24.0 ft	7.4 fc	13.5 ft
28.0 ft	5.4 fc	15.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1317962	1317962	1317962
45.00°	2064	2006	1312
55.00°	1059	951	980
65.00°	1199	1278	1427
75.00°	1898	1602	1950
85.00°	5384	6613	6718

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	-5.3	-4.4	-4.9	-4.1	-3.7	-4.0	-3.1	-3.6	-2.8	-2.4
	3H	-1.7	-0.9	-1.3	-0.6	-0.2	-0.6	0.1	-0.2	0.5	0.9
	4H	0.3	1.0	0.7	1.4	1.8	1.0	1.7	1.4	2.1	2.5
	6H	2.0	2.7	2.5	3.1	3.5	2.8	3.4	3.2	3.8	4.2
	8H	3.2	3.8	3.7	4.2	4.7	3.9	4.5	4.3	4.9	5.3
	12H	4.5	5.1	5.0	5.5	6.0	5.2	5.8	5.7	6.2	6.6
4H	2H	-3.9	-3.2	-3.5	-2.8	-2.4	-3.2	-2.5	-2.8	-2.1	-1.7
	3H	-0.4	0.2	0.1	0.6	1.1	0.4	0.9	0.8	1.4	1.8
	4H	1.7	2.2	2.1	2.6	3.1	2.3	2.8	2.7	3.2	3.7
	6H	3.7	4.2	4.2	4.6	5.1	4.3	4.7	4.8	5.2	5.7
	8H	5.0	5.4	5.5	5.9	6.4	5.5	5.9	6.0	6.3	6.8
	12H	6.4	6.7	6.9	7.2	7.7	6.9	7.2	7.4	7.8	8.3
8H	4H	2.4	2.9	2.9	3.3	3.8	2.9	3.3	3.4	3.8	4.3
	6H	4.9	5.2	5.4	5.8	6.3	5.3	5.6	5.8	6.1	6.6
	8H	6.4	6.6	6.9	7.2	7.7	6.6	6.9	7.1	7.4	7.9
	12H	7.9	8.2	8.5	8.7	9.3	8.2	8.5	8.8	9.0	9.6
12H	4H	2.7	3.0	3.2	3.5	4.0	3.1	3.4	3.6	3.9	4.4
	6H	5.3	5.6	5.9	6.1	6.7	5.6	5.8	6.1	6.3	6.9
	8H	6.9	7.1	7.4	7.6	8.2	7.0	7.3	7.6	7.8	8.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0