

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2SP RB2BSA1 xx xx
2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel

Test Number

SP-01586_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	1271
Efficacy	88.25 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.36
Two luminaires, plane 90°	0.36
Four luminaires	0.35

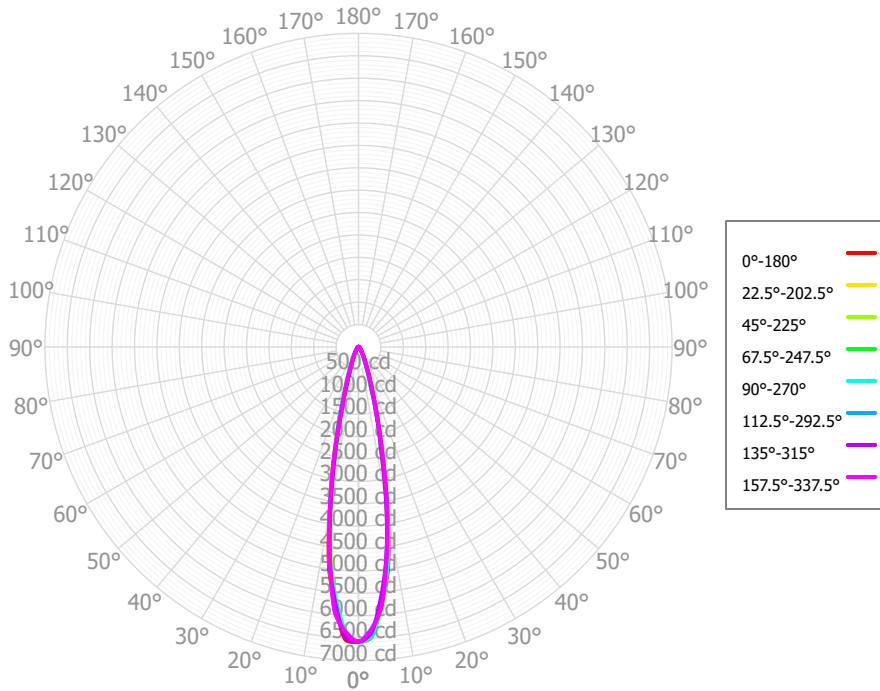
Full Beam Angle

0° - 180°	22°
90° - 270°	21°

IES File Header Contents

Keyword	Value
TEST	SP-01586_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 RD2SP RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, acrylic .5" bezel
OTHER	Beam Angle: 21 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°	486.72	38.30%	90.00° - 100.00°	2.63	0.21%
10.00° - 20.00°	448.14	35.26%	100.00° - 110.00°	2.62	0.21%
20.00° - 30.00°	151.28	11.90%	100.00° - 120.00°	4.88	0.38%
30.00° - 40.00°	67.48	5.31%	120.00° - 130.00°	1.64	0.13%
40.00° - 50.00°	44.14	3.47%	130.00° - 140.00°	1.20	0.09%
50.00° - 60.00°	30.10	2.37%	140.00° - 150.00°	1.01	0.08%
60.00° - 70.00°	17.98	1.42%	150.00° - 160.00°	0.76	0.06%
70.00° - 80.00°	8.53	0.67%	160.00° - 170.00°	0.48	0.04%
80.00° - 90.00°	3.74	0.29%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	1258.11	99.00%	0.00° - 180.00°	1270.84	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°	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68	6579.68
2.50°	6488.44	6366.25	6402.97	6493.18	6461.49	6371.45	6498.91	6386.18	6546.11	6385.23	6402.04	6428.98	6382.57	6317.78	6403.43	6333.82	6488.44
5.00°	5768.44	5812.62	5816.97	5777.82	5802.69	5970.03	5803.90	5972.23	5803.34	5898.07	5724.50	5768.69	5697.11	5836.49	5662.09	5842.59	5768.44
7.50°	5024.56	4811.69	4911.99	4897.23	4959.88	4856.52	4921.58	4878.54	5015.16	4917.56	4748.25	4934.13	4871.07	4759.05	4762.25	4774.85	5024.56
10.00°	3698.92	3689.99	3596.50	3643.72	3647.68	3661.40	3582.07	3676.62	3696.70	3682.14	3583.32	3636.69	3645.88	3662.49	3567.21	3679.89	3698.92
12.50°	2415.83	2425.94	2467.47	2319.80	2466.10	2508.04	2396.06	2528.73	2436.45	2585.27	2330.04	2477.84	2340.71	2497.13	2309.14	2504.17	2415.83
15.00°	1646.64	1518.24	1545.11	1548.22	1559.21	1357.46	1519.91	1386.61	1620.18	1547.78	1546.89	1621.53	1602.86	1512.38	1587.24	1529.49	1646.64
17.50°	937.40	972.65	936.53	850.65	876.45	929.90	865.19	944.28	890.85	1009.09	948.32	966.76	947.01	1046.65	949.23	1040.68	937.40
20.00°	680.15	620.72	623.54	594.80	593.32	525.30	590.24	546.34	643.03	648.39	646.18	678.50	683.45	665.59	679.56	654.73	680.15
22.50°	445.81	436.02	420.85	377.95	382.12	393.98	387.73	413.04	422.64	459.44	438.30	455.73	456.64	486.69	450.03	474.51	445.81
25.00°	333.77	309.73	306.40	285.95	278.81	266.56	289.91	286.01	316.50	320.63	322.00	334.64	344.02	339.13	339.24	330.16	333.77
27.50°	233.04	226.85	224.31	199.22	198.99	204.82	212.57	221.28	223.19	238.94	228.68	239.89	237.23	253.56	235.72	246.78	233.04
30.00°	179.12	169.14	164.47	157.12	148.99	146.35	160.33	158.59	171.81	170.23	174.90	179.71	181.14	184.01	183.45	181.01	179.12
32.50°	132.13	127.22	124.73	116.05	112.13	119.84	123.54	128.49	128.03	135.06	128.86	134.59	126.60	141.42	132.86	140.85	132.13
35.00°	107.69	101.30	96.83	97.49	89.65	95.13	103.05	100.05	104.66	105.57	105.53	106.49	103.88	108.50	111.40	110.54	107.69
37.50°	87.53	83.81	79.97	79.55	74.95	82.56	87.52	87.37	85.21	89.91	85.49	86.89	82.20	89.29	90.52	92.38	87.53
40.00°	78.81	73.19	68.56	69.30	67.59	71.03	76.48	75.31	74.44	75.92	75.68	75.46	74.33	74.71	78.56	78.40	78.81
42.50°	69.80	65.62	59.69	59.31	60.25	64.54	66.84	67.11	64.66	66.16	66.84	65.87	66.47	65.70	66.95	68.77	69.80
45.00°	60.17	57.59	51.84	51.39	52.92	57.88	58.28	58.67	56.73	56.71	57.89	57.81	58.79	57.58	58.51	59.30	60.17
47.50°	51.39	49.39	45.32	44.04	46.11	50.60	51.56	49.15	49.91	49.69	48.94	50.49	51.12	50.38	50.40	49.98	51.39
50.00°	44.19	42.33	39.25	39.82	39.64	44.11	46.06	41.06	44.84	42.77	43.48	43.70	43.57	43.85	44.39	42.57	44.19
52.50°	38.26	35.61	34.65	35.98	35.81	40.04	40.37	38.24	39.74	38.34	38.03	38.39	36.74	37.92	38.58	36.64	38.26
55.00°	34.32	31.81	30.46	33.70	33.51	35.81	34.58	34.82	34.62	33.95	32.08	33.96	33.13	34.19	33.72	32.06	34.32
57.50°	29.63	28.69	26.93	30.72	30.67	31.23	29.79	29.60	29.74	30.52	26.34	29.98	29.58	32.14	29.09	28.37	29.63
60.00°	23.95	24.56	23.55	25.37	27.56	26.58	25.45	24.92	25.15	26.89	23.26	26.22	26.22	28.60	25.31	24.82	23.95
62.50°	19.68	20.25	21.55	20.48	22.22	21.81	21.10	21.57	20.98	21.27	20.11	22.34	22.70	24.11	21.66	21.35	19.68
65.00°	16.99	17.65	19.75	16.86	15.96	17.60	16.74	18.65	17.24	16.13	16.31	18.41	18.73	20.05	18.37	18.29	16.99
67.50°	14.96	15.28	15.68	13.56	13.42	14.35	13.96	16.59	14.52	14.21	12.82	15.87	15.15	16.24	15.06	15.43	14.96
70.00°	13.55	11.88	11.36	10.97	12.12	11.70	11.69	13.94	12.65	12.25	11.13	13.80	12.45	12.94	11.67	12.13	13.55
72.50°	10.98	8.40	9.99	8.89	9.82	9.94	10.02	10.29	10.32	10.10	9.44	11.67	10.06	9.87	8.88	8.67	10.98
75.00°	7.44	6.53	8.79	7.80	7.27	8.06	8.51	7.79	7.66	8.08	7.75	9.51	8.27	7.64	7.31	7.17	7.44
77.50°	5.62	4.72	6.54	6.59	5.51	6.04	6.36	6.96	6.08	6.54	6.01	7.10	6.53	5.73	5.94	6.27	5.62
80.00°	5.01	4.22	4.30	5.18	3.93	4.48	4.08	5.76	5.15	5.08	4.13	4.63	4.89	5.30	4.91	5.79	5.01
82.50°	4.29	3.73	3.62	4.04	3.73	3.41	3.44	4.10	4.20	3.84	2.69	3.82	3.74	5.32	4.05	5.41	4.29
85.00°	3.52	3.35	2.97	3.26	3.75	2.95	3.04	3.06	3.24	2.88	2.50	3.29	3.29	4.13	3.44	4.30	3.52
87.50°	2.78	2.95	2.66	2.58	2.88	3.04	2.90	2.66	2.76	2.62	2.43	3.08	2.97	2.65	2.90	3.05	2.78
90.00°	2.05	2.43	2.39	2.02	1.92	2.96	2.79	2.73	2.48	2.41	2.65	2.90	2.78	2.42	2.45	3.09	2.05
92.50°	1.79	2.00	2.53	1.80	1.96	2.73	2.43	3.21	2.63	2.32	2.71	2.70	2.55	2.43	2.11	3.33	1.79
95.00°	1.73	2.26	2.64	1.92	2.05	2.57	2.06	2.96	2.93	2.20	2.48	2.50	2.25	2.18	1.90	3.26	1.73
97.50°	2.21	2.45	2.50	2.04	2.53	2.46	2.34	2.14	2.65	2.05	2.33	2.52	2.21	1.89	1.93	3.16	2.21
100.00°	2.89	2.26	2.43	2.17	3.00	2.36	2.61	1.86	2.20	2.12	2.32	2.56	2.38	2.31	2.20	2.87	2.89
102.50°	2.42	2.14	2.68	2.10	2.84	2.28	2.58	1.94	2.40	2.50	2.43	2.85	2.64	2.79	2.47	2.57	2.42
105.00°	1.62	2.32	2.87	1.87	2.70	2.28	2.55	2.30	2.74	2.62	2.72	3.11	2.95	2.32	2.76	2.24	1.62

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	1510	1510	1510	1510	1473	1473	1473	1473	1405	1405	1405	1342	1342	1342	1285	1285	1258
	1	1451	1420	1393	1369	1419	1392	1368	1346	1339	1320	1302	1290	1275	1262	1245	1234	1208
	2	1395	1344	1301	1266	1367	1321	1283	1250	1279	1248	1221	1241	1216	1194	1205	1185	1161
	3	1345	1278	1227	1187	1320	1261	1214	1176	1227	1188	1156	1196	1164	1137	1167	1141	1119
	4	1298	1222	1166	1124	1276	1208	1156	1117	1180	1137	1103	1155	1118	1089	1131	1101	1080
	5	1255	1173	1115	1073	1236	1161	1107	1067	1139	1092	1057	1118	1078	1047	1098	1065	1046
	6	1216	1129	1071	1029	1199	1120	1065	1026	1101	1054	1018	1084	1042	1011	1067	1032	1014
	7	1180	1091	1033	992	1165	1082	1028	990	1067	1019	984	1052	1010	978	1039	1001	985
	8	1146	1056	999	960	1133	1049	995	958	1036	988	953	1024	981	949	1012	974	959
	9	1115	1024	969	931	1103	1019	966	930	1007	960	926	997	954	923	987	948	934
	10	1086	996	942	906	1076	991	939	904	981	934	902	972	929	899	963	924	911

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	217.5 fc	2.1 ft
6.5 ft	155.7 fc	2.5 ft
7.5 ft	117.0 fc	2.9 ft
8.0 ft	102.8 fc	3.1 ft
10.0 ft	65.8 fc	3.8 ft
12.0 ft	45.7 fc	4.6 ft
14.0 ft	33.6 fc	5.3 ft
16.0 ft	25.7 fc	6.1 ft
20.0 ft	16.4 fc	7.6 ft
24.0 ft	11.4 fc	9.2 ft
28.0 ft	8.4 fc	10.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2044780	2044780	2044780
45.00°	26445	22784	23259
55.00°	18596	16501	18156
65.00°	12495	14523	11737
75.00°	8933	10558	8726
85.00°	12534	10577	13354

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	14.9	15.9	15.3	16.2	16.6	15.3	16.3	15.7	16.7	17.0
	3H	16.1	16.9	16.5	17.3	17.7	16.3	17.2	16.7	17.5	17.9
	4H	16.4	17.2	16.8	17.5	18.0	16.6	17.5	17.1	17.8	18.2
	6H	16.6	17.3	17.0	17.7	18.1	16.8	17.6	17.3	18.0	18.4
	8H	16.7	17.4	17.2	17.8	18.2	16.9	17.6	17.4	18.0	18.5
	12H	16.9	17.5	17.3	17.9	18.4	17.0	17.7	17.5	18.1	18.6
4H	2H	15.3	16.1	15.7	16.5	16.9	15.5	16.3	15.9	16.7	17.1
	3H	16.5	17.2	17.0	17.6	18.1	16.7	17.4	17.1	17.8	18.2
	4H	16.9	17.5	17.4	17.9	18.4	17.2	17.8	17.6	18.2	18.7
	6H	17.2	17.7	17.7	18.2	18.7	17.5	18.0	18.0	18.5	19.0
	8H	17.4	17.9	17.9	18.4	18.9	17.6	18.1	18.1	18.5	19.0
	12H	17.7	18.1	18.2	18.6	19.1	17.8	18.2	18.3	18.7	19.2
8H	4H	17.0	17.5	17.5	17.9	18.4	17.3	17.7	17.8	18.2	18.7
	6H	17.4	17.8	18.0	18.3	18.9	17.7	18.0	18.2	18.6	19.1
	8H	17.8	18.1	18.3	18.6	19.2	17.9	18.2	18.4	18.7	19.2
	12H	18.2	18.5	18.7	19.0	19.6	18.2	18.4	18.7	19.0	19.6
12H	4H	17.0	17.4	17.5	17.9	18.4	17.2	17.7	17.8	18.2	18.7
	6H	17.5	17.8	18.0	18.3	18.9	17.7	18.0	18.2	18.5	19.1
	8H	17.9	18.1	18.4	18.7	19.3	17.9	18.2	18.4	18.7	19.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0