

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2XF RB2BS xx xx

2" Adjustable Track Luminaire with extra wide flood optic and standard bezel

Test Number

SP-01572_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	1416
Efficacy	98.3 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.01
Two luminaires, plane 90°	1.02
Four luminaires	0.88

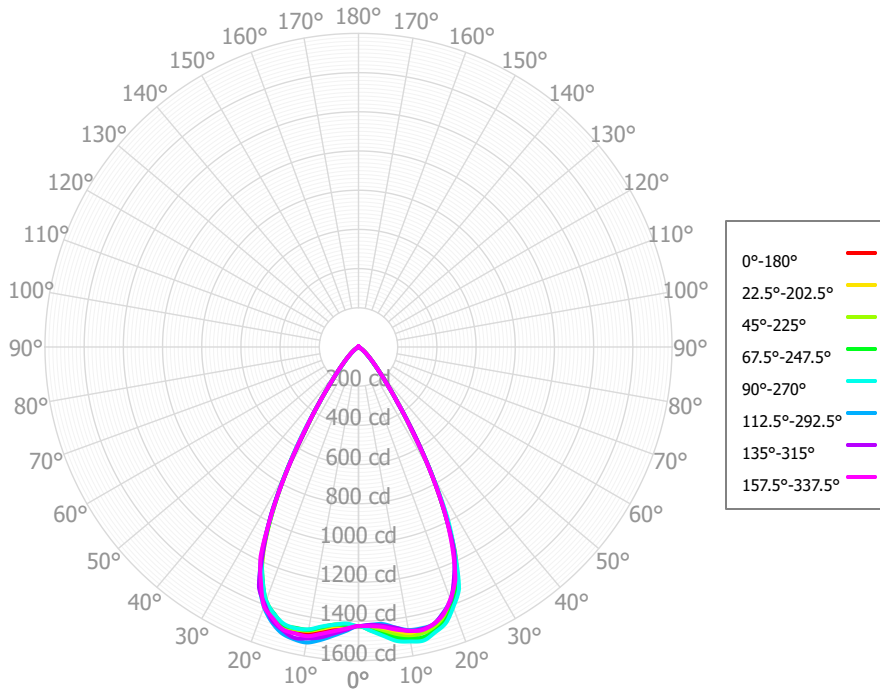
Full Beam Angle

0° - 180°	59°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-01572_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 RD2XF RB2BS xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra wide flood optic and standard bezel
OTHER	Beam Angle: 59 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°	141.73	10.01%	90.00° - 100.00°	1.55	0.11%
10.00° - 20.00°	413.37	29.20%	100.00° - 110.00°	1.55	0.11%
20.00° - 30.00°	507.98	35.89%	100.00° - 120.00°	2.99	0.21%
30.00° - 40.00°	237.81	16.80%	120.00° - 130.00°	1.41	0.10%
40.00° - 50.00°	72.25	5.10%	130.00° - 140.00°	1.28	0.09%
50.00° - 60.00°	23.08	1.63%	140.00° - 150.00°	1.13	0.08%
60.00° - 70.00°	6.01	0.42%	150.00° - 160.00°	0.85	0.06%
70.00° - 80.00°	1.85	0.13%	160.00° - 170.00°	0.52	0.04%
80.00° - 90.00°	1.56	0.11%	170.00° - 180.00°	0.17	0.01%
0.00° - 90.00°	1405.63	99.30%	0.00° - 180.00°	1415.54	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°	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48	1424.48
2.50°	1430.29	1435.18	1440.08	1448.19	1450.02	1450.27	1444.63	1438.46	1428.85	1426.37	1420.53	1420.20	1412.86	1419.62	1419.39	1426.19	1430.29
5.00°	1438.86	1448.97	1459.75	1472.37	1480.69	1478.86	1468.37	1456.09	1439.35	1431.26	1423.60	1422.51	1422.84	1419.52	1427.70	1434.38	1438.86
7.50°	1457.92	1470.87	1482.15	1498.34	1513.56	1508.68	1495.05	1476.76	1463.80	1450.59	1447.12	1442.13	1438.88	1444.38	1445.33	1454.36	1457.92
10.00°	1478.64	1485.61	1502.78	1514.32	1526.10	1531.09	1509.79	1498.43	1481.85	1470.62	1466.94	1465.92	1463.06	1466.91	1471.18	1469.97	1478.64
12.50°	1478.10	1484.60	1496.56	1517.94	1534.36	1527.08	1519.91	1497.48	1489.87	1475.25	1476.78	1469.02	1471.09	1471.43	1475.77	1481.23	1478.10
15.00°	1475.07	1470.92	1485.47	1501.77	1508.26	1512.03	1496.20	1491.98	1480.23	1475.81	1470.30	1469.47	1463.87	1467.06	1466.87	1466.67	1475.07
17.50°	1433.32	1438.22	1446.85	1468.31	1478.74	1471.93	1464.49	1452.49	1451.14	1442.50	1434.44	1428.47	1429.98	1427.55	1428.32	1434.04	1433.32
20.00°	1385.21	1380.92	1395.55	1404.90	1413.42	1411.36	1398.20	1409.61	1392.87	1397.04	1376.29	1383.06	1377.86	1373.05	1376.97	1370.10	1385.21
22.50°	1286.16	1297.67	1303.48	1323.20	1339.33	1319.09	1327.58	1301.26	1311.28	1298.86	1289.43	1279.45	1280.66	1280.27	1274.00	1290.60	1286.16
25.00°	1164.76	1150.76	1171.38	1161.78	1167.25	1171.67	1151.38	1182.90	1157.20	1168.96	1145.63	1161.07	1162.35	1149.05	1156.94	1135.61	1164.76
27.50°	952.85	955.14	953.03	966.31	983.52	962.60	968.89	958.07	962.81	955.08	950.08	951.93	964.24	951.93	952.42	956.12	952.85
30.00°	741.21	738.87	736.18	740.33	738.44	744.10	731.99	736.35	740.61	739.00	735.29	742.19	741.04	744.71	734.29	734.76	741.21
32.50°	530.24	511.65	521.57	506.11	515.29	518.16	507.72	529.61	508.10	519.05	508.23	530.37	541.79	525.04	535.58	505.52	530.24
35.00°	357.36	360.40	356.25	360.77	359.07	360.54	359.63	349.72	360.27	348.30	352.92	350.96	346.85	360.25	341.25	362.91	357.36
37.50°	250.81	236.78	243.58	229.00	233.68	240.34	231.45	249.29	232.39	239.94	229.73	244.81	248.99	243.12	249.28	228.35	250.81
40.00°	171.39	171.01	167.97	169.52	169.86	171.01	170.29	167.96	170.83	165.24	164.01	163.41	158.70	168.90	163.47	172.70	171.39
42.50°	124.92	117.92	120.27	114.71	119.40	120.88	118.93	123.81	116.94	120.62	114.73	120.15	120.63	120.74	123.16	119.49	124.92
45.00°	90.92	89.99	88.47	88.17	87.89	89.97	89.48	89.03	89.71	88.70	87.34	86.35	84.42	87.86	86.93	91.32	90.92
47.50°	67.62	64.63	64.96	62.97	63.84	63.47	65.46	66.88	63.69	64.98	63.59	63.08	64.62	61.48	66.45	65.31	67.62
50.00°	50.03	49.55	47.86	47.52	47.25	47.86	49.73	49.25	48.96	48.46	48.01	45.58	46.22	45.89	48.03	49.43	50.03
52.50°	35.98	35.01	33.04	33.36	34.34	33.55	35.80	36.05	35.08	35.10	33.09	32.62	34.15	33.20	34.79	34.78	35.98
55.00°	24.84	25.44	23.87	24.13	24.08	25.07	23.81	25.80	26.09	25.53	23.89	22.90	23.21	23.68	23.96	23.57	24.84
57.50°	14.91	16.55	15.91	16.34	16.93	17.00	15.98	17.58	17.85	17.02	15.27	14.94	15.37	14.61	17.18	14.67	14.91
60.00°	10.12	11.19	12.01	12.17	11.34	13.07	11.39	12.09	12.12	12.56	11.27	10.47	9.35	10.83	11.69	10.22	10.12
62.50°	6.73	6.75	8.54	8.64	8.51	9.32	8.22	7.93	7.71	8.76	7.61	7.30	6.65	7.35	7.68	6.99	6.73
65.00°	5.20	5.26	5.94	6.22	6.58	6.57	5.82	5.76	6.14	6.40	5.29	5.35	4.91	5.14	4.99	5.39	5.20
67.50°	3.94	3.87	3.49	4.21	4.69	4.19	4.03	4.23	4.54	4.14	3.38	3.66	4.40	3.09	3.42	3.86	3.94
70.00°	2.78	2.70	2.77	2.70	2.80	3.01	2.47	2.80	2.86	2.92	2.51	2.60	3.43	2.26	2.51	2.40	2.78
72.50°	1.66	1.87	2.06	1.86	2.07	2.09	1.89	1.39	1.94	1.82	1.90	1.60	2.04	1.59	1.99	1.53	1.66
75.00°	1.69	1.55	1.44	1.58	1.44	1.71	1.53	1.59	1.83	1.58	1.76	1.58	1.57	1.52	1.68	1.05	1.69
77.50°	1.67	1.47	1.01	1.45	1.47	1.44	1.53	1.91	1.72	1.45	1.60	1.59	1.68	1.47	1.46	1.08	1.67
80.00°	1.39	1.63	1.17	1.43	1.49	1.36	1.58	1.42	1.60	1.75	1.43	1.69	1.63	1.47	1.34	1.35	1.39
82.50°	1.20	1.52	1.36	1.48	1.50	1.38	1.41	0.98	1.42	1.93	1.46	1.74	1.50	1.41	1.25	1.31	1.20
85.00°	1.36	1.22	1.64	1.56	1.51	1.52	1.25	1.04	1.20	1.80	1.66	1.55	1.40	1.24	1.44	1.17	1.36
87.50°	1.43	1.15	1.71	1.52	1.56	1.54	1.28	1.12	1.40	1.59	1.65	1.43	1.31	1.19	1.67	1.26	1.43
90.00°	1.27	1.19	1.46	1.45	1.58	1.46	1.30	1.21	1.76	1.24	1.50	1.51	1.35	1.28	1.68	1.39	1.27
92.50°	1.15	1.29	1.34	1.71	1.52	1.51	1.31	1.30	1.55	1.13	1.39	1.58	1.42	1.39	1.68	1.43	1.15
95.00°	1.12	1.41	1.33	2.02	1.47	1.64	1.33	1.42	1.23	1.30	1.30	1.59	1.30	1.50	1.51	1.47	1.12
97.50°	1.25	1.49	1.38	1.57	1.41	1.62	1.38	1.52	1.37	1.36	1.24	1.52	1.17	1.53	1.38	1.54	1.25
100.00°	1.56	1.55	1.46	1.12	1.36	1.56	1.40	1.58	1.55	1.34	1.19	1.30	1.19	1.49	1.45	1.59	1.56
102.50°	1.75	1.55	1.60	1.31	1.32	1.55	1.36	1.59	1.46	1.38	1.27	1.24	1.22	1.45	1.54	1.45	1.75
105.00°	1.84	1.53	1.76	1.45	1.36	1.55	1.40	1.53	1.37	1.46	1.37	1.36	1.41	1.40	1.68	1.35	1.84

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	1683	1683	1683	1683	1643	1643	1643	1643	1567	1567	1567	1499	1499	1499	1435	1435	1406
	1	1604	1565	1530	1499	1569	1534	1502	1474	1475	1450	1427	1420	1401	1382	1370	1355	1327
	2	1526	1457	1401	1353	1494	1432	1381	1337	1385	1343	1306	1341	1307	1277	1301	1273	1248
	3	1450	1360	1290	1235	1421	1339	1275	1224	1301	1247	1203	1265	1221	1183	1232	1195	1172
	4	1378	1272	1194	1135	1351	1255	1183	1128	1223	1162	1114	1194	1142	1100	1167	1123	1101
	5	1309	1192	1111	1050	1285	1178	1102	1045	1152	1086	1035	1127	1070	1025	1105	1055	1035
	6	1245	1120	1036	976	1223	1108	1030	972	1086	1017	965	1065	1004	958	1046	992	975
	7	1184	1054	970	911	1165	1044	965	908	1025	954	903	1008	945	897	991	935	919
	8	1127	994	911	853	1110	986	906	851	970	898	847	955	890	843	940	882	868
	9	1075	940	857	801	1059	932	853	800	918	847	796	905	840	793	893	834	820
	10	1025	890	808	754	1011	883	805	753	871	800	751	860	794	748	849	789	777

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	47.1 fc	6.3 ft
6.5 ft	33.7 fc	7.4 ft
7.5 ft	25.3 fc	8.6 ft
8.0 ft	22.3 fc	9.1 ft
10.0 ft	14.2 fc	11.4 ft
12.0 ft	9.9 fc	13.7 ft
14.0 ft	7.3 fc	16.0 ft
16.0 ft	5.6 fc	18.3 ft
20.0 ft	3.6 fc	22.8 ft
24.0 ft	2.5 fc	27.4 ft
28.0 ft	1.8 fc	31.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	442687	442687	442687
45.00°	39961	38882	38627
55.00°	13457	12934	13045
65.00°	3824	4367	4842
75.00°	2027	1728	1735
85.00°	4862	5855	5399

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	10.2	11.2	10.6	11.5	11.8	10.4	11.4	10.8	11.7	12.1
	3H	10.3	11.2	10.7	11.5	11.9	10.6	11.5	11.0	11.8	12.2
	4H	10.3	11.1	10.7	11.4	11.9	10.6	11.4	11.0	11.7	12.1
	6H	10.3	11.0	10.7	11.4	11.8	10.6	11.3	11.0	11.7	12.1
	8H	10.3	11.0	10.8	11.4	11.8	10.7	11.3	11.1	11.7	12.2
	12H	10.4	11.1	10.9	11.5	11.9	10.8	11.4	11.2	11.8	12.2
4H	2H	10.1	10.9	10.5	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	10.6	11.2	11.0	11.6	12.0
	4H	10.3	10.8	10.7	11.3	11.7	10.6	11.1	11.0	11.6	12.0
	6H	10.4	10.9	10.9	11.3	11.8	10.7	11.2	11.1	11.6	12.1
	8H	10.4	10.9	10.9	11.4	11.9	10.8	11.2	11.3	11.7	12.2
	12H	10.6	11.0	11.1	11.5	12.0	11.0	11.4	11.5	11.9	12.4
8H	4H	10.2	10.6	10.6	11.1	11.6	10.5	10.9	10.9	11.4	11.9
	6H	10.3	10.7	10.9	11.2	11.7	10.6	11.0	11.2	11.5	12.0
	8H	10.5	10.8	11.1	11.4	11.9	10.9	11.2	11.4	11.7	12.2
	12H	10.8	11.1	11.4	11.6	12.2	11.3	11.5	11.8	12.1	12.6
12H	4H	10.1	10.5	10.6	11.0	11.5	10.4	10.8	10.9	11.3	11.8
	6H	10.3	10.6	10.9	11.1	11.7	10.6	11.0	11.2	11.4	12.0
	8H	10.6	10.8	11.1	11.3	11.9	10.9	11.2	11.5	11.7	12.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0