

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2XF RB2BSA1 xx xx

2" Adjustable Track Luminaire with extra wide flood optic, acrylic .5" bezel

Test Number

SP-01588_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
-------------	--------

Lumen Output

Output Lumens	1354
Efficacy	94.02 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.93
Two luminaires, plane 90°	0.93
Four luminaires	0.79

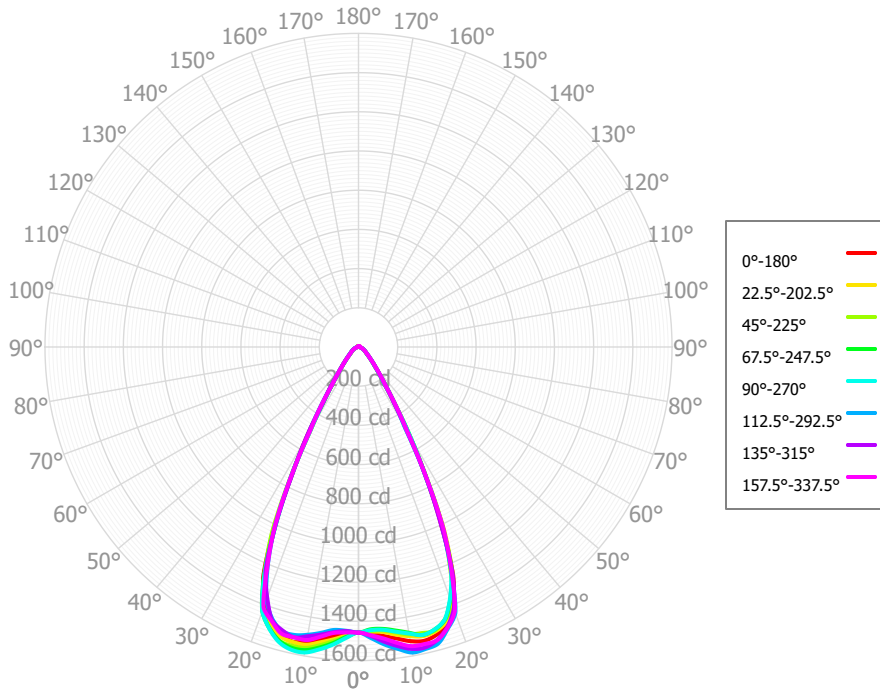
Full Beam Angle

0° - 180°	54°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-01588_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 RD2XF RB2BSA1 xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra wide flood optic, acrylic .5" bezel
OTHER	Beam Angle: 54 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°	145.43	10.74%	90.00° - 100.00°	4.24	0.31%
10.00° - 20.00°	424.28	31.34%	100.00° - 110.00°	4.60	0.34%
20.00° - 30.00°	442.16	32.66%	100.00° - 120.00°	8.66	0.64%
30.00° - 40.00°	164.19	12.13%	120.00° - 130.00°	2.67	0.20%
40.00° - 50.00°	69.37	5.12%	130.00° - 140.00°	1.43	0.11%
50.00° - 60.00°	40.76	3.01%	140.00° - 150.00°	1.04	0.08%
60.00° - 70.00°	27.18	2.01%	150.00° - 160.00°	0.79	0.06%
70.00° - 80.00°	14.75	1.09%	160.00° - 170.00°	0.48	0.04%
80.00° - 90.00°	6.35	0.47%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1334.48	98.56%	0.00° - 180.00°	1353.96	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°	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75	1457.75
2.50°	1462.69	1454.29	1451.26	1441.96	1446.27	1449.73	1451.53	1458.26	1463.05	1475.40	1481.02	1481.95	1487.17	1487.28	1476.69	1473.18	1462.69
5.00°	1480.71	1460.18	1452.00	1444.37	1448.66	1449.76	1461.63	1464.88	1482.49	1498.49	1508.05	1517.82	1525.67	1524.16	1509.76	1493.97	1480.71
7.50°	1500.50	1481.02	1469.70	1459.78	1465.64	1471.69	1480.53	1491.50	1507.44	1520.92	1536.25	1547.64	1557.52	1554.53	1539.72	1523.59	1500.50
10.00°	1524.38	1498.43	1489.53	1480.81	1484.74	1491.45	1499.20	1518.78	1525.24	1542.97	1559.50	1570.70	1582.99	1583.32	1564.50	1550.21	1524.38
12.50°	1536.35	1511.56	1495.32	1505.44	1505.47	1505.47	1517.78	1517.56	1541.01	1542.77	1561.88	1572.79	1582.88	1578.74	1570.72	1553.06	1536.35
15.00°	1523.50	1504.48	1499.86	1494.34	1493.65	1502.21	1497.81	1515.20	1520.11	1530.88	1553.75	1553.98	1561.03	1567.52	1548.64	1549.32	1523.50
17.50°	1488.53	1475.07	1460.06	1462.29	1459.94	1458.00	1463.93	1468.79	1490.44	1484.69	1506.89	1507.58	1509.65	1510.40	1501.98	1505.53	1488.53
20.00°	1413.08	1391.37	1417.40	1371.34	1366.02	1374.83	1362.49	1416.18	1388.31	1422.71	1428.73	1435.98	1435.29	1445.54	1422.11	1436.95	1413.08
22.50°	1263.42	1254.31	1223.52	1249.96	1235.13	1211.11	1239.33	1216.03	1271.18	1237.90	1252.90	1260.23	1252.85	1236.09	1257.52	1241.48	1263.42
25.00°	994.00	1036.09	1024.69	1019.10	1010.95	1010.05	1001.03	1011.36	1013.74	1002.10	1045.57	999.85	995.81	1007.86	991.22	1028.77	994.00
27.50°	739.82	744.78	753.11	738.71	736.23	741.16	731.33	746.14	733.01	747.99	750.66	743.89	740.96	740.81	738.02	743.79	739.82
30.00°	508.10	520.92	484.07	527.47	526.36	514.62	526.21	493.63	527.87	487.29	498.54	491.22	487.47	470.12	499.22	491.69	508.10
32.50°	337.20	351.08	353.45	344.44	348.38	358.08	336.49	357.43	332.38	341.77	349.30	331.55	333.48	344.23	334.99	355.06	337.20
35.00°	245.80	242.68	226.73	244.50	246.15	240.70	244.97	231.49	247.33	231.63	230.64	233.21	234.85	228.25	243.76	238.53	245.80
37.50°	178.10	179.31	176.61	173.85	176.48	180.62	172.63	180.49	173.38	174.67	176.13	173.00	175.94	180.19	179.99	184.45	178.10
40.00°	138.76	136.68	128.65	135.26	136.30	134.79	136.91	133.44	139.04	132.13	131.82	135.00	136.47	134.59	140.15	137.67	138.76
42.50°	108.78	107.52	106.35	106.32	107.11	108.04	106.86	108.89	107.33	106.19	106.88	107.04	109.10	110.39	110.24	110.37	108.78
45.00°	88.77	87.03	84.79	87.31	87.99	87.19	88.04	86.06	88.25	83.99	85.58	84.40	87.08	86.47	88.25	87.09	88.77
47.50°	72.40	71.54	70.02	70.93	72.21	73.36	70.66	71.18	69.71	69.67	70.37	69.10	71.76	72.37	71.98	73.11	72.40
50.00°	59.47	59.93	56.27	59.86	61.17	62.17	60.48	57.86	59.54	56.89	58.14	57.20	59.02	58.60	59.78	60.67	59.47
52.50°	50.49	50.35	49.48	49.96	51.48	53.77	50.95	50.80	49.57	49.13	50.32	49.27	51.18	51.55	51.31	51.45	50.49
55.00°	44.94	44.23	43.09	44.54	45.65	47.19	45.99	44.32	45.15	42.16	43.69	42.95	45.04	44.69	45.27	44.13	44.94
57.50°	40.01	39.70	38.87	39.97	40.73	42.36	41.29	39.82	40.72	38.07	38.66	39.20	41.05	40.28	39.93	40.30	40.01
60.00°	35.57	35.64	34.65	35.61	36.68	37.69	36.42	35.46	35.99	34.32	34.24	36.39	37.71	35.84	35.00	35.96	35.57
62.50°	31.60	31.78	30.47	31.29	32.81	33.16	31.55	31.52	31.32	30.06	30.56	31.99	32.86	31.12	30.55	30.78	31.60
65.00°	27.96	27.99	26.51	26.89	28.76	29.21	27.04	27.52	27.41	25.76	26.57	27.11	27.64	26.55	26.35	26.51	27.96
67.50°	23.96	24.24	23.41	22.47	24.69	25.73	22.57	23.36	23.59	22.02	22.23	23.36	23.90	22.97	22.92	23.59	23.96
70.00°	19.75	20.17	20.24	19.33	21.06	22.21	19.93	19.54	20.56	18.31	18.50	19.91	20.49	19.58	19.85	20.66	19.75
72.50°	16.79	16.01	16.82	16.31	17.48	18.68	17.27	16.47	17.48	15.54	15.36	16.39	17.98	17.22	16.43	17.70	16.79
75.00°	14.53	13.04	13.59	12.97	14.29	15.12	14.10	13.65	14.03	12.79	12.67	12.84	15.62	14.80	12.86	14.44	14.53
77.50°	11.76	10.40	10.88	9.61	11.14	11.56	10.99	11.33	10.83	10.32	10.36	10.80	11.99	12.11	10.31	10.83	11.76
80.00°	8.75	8.63	8.51	8.46	8.70	8.88	8.54	9.07	9.04	7.90	8.50	9.04	8.19	9.54	8.12	8.43	8.75
82.50°	6.67	7.05	6.99	7.35	6.31	6.70	6.28	6.95	7.24	6.91	7.00	7.23	7.04	7.45	6.45	7.32	6.67
85.00°	5.01	5.81	5.60	5.86	5.52	5.33	5.74	5.37	5.42	5.91	5.58	5.40	6.16	5.59	4.94	5.97	5.01
87.50°	4.02	4.63	4.50	4.40	4.80	4.35	5.19	4.69	3.94	4.80	4.21	4.41	4.91	4.50	4.68	4.39	4.02
90.00°	3.28	4.36	3.75	3.83	4.61	4.05	4.60	4.06	3.83	3.78	3.49	3.52	3.64	3.76	4.74	3.80	3.28
92.50°	3.55	4.24	3.64	3.30	4.43	4.04	4.02	3.50	3.81	3.92	3.18	3.60	4.09	4.07	4.29	4.08	3.55
95.00°	4.15	3.99	3.87	3.57	3.86	3.50	3.57	3.40	4.04	4.03	3.21	3.77	4.62	4.22	3.73	4.22	4.15
97.50°	4.39	3.74	4.69	3.85	3.33	2.75	3.19	3.87	4.20	3.86	3.43	3.91	4.60	3.94	3.62	4.26	4.39
100.00°	4.52	3.96	4.98	4.21	3.78	3.18	3.16	4.14	4.09	3.71	3.49	4.06	4.57	3.88	3.59	4.45	4.52
102.50°	4.58	4.22	4.44	4.54	4.20	4.01	3.22	4.17	4.02	3.68	3.48	4.51	4.54	4.30	4.15	4.73	4.58
105.00°	4.64	4.46	4.31	4.64	4.14	4.50	3.64	4.30	4.01	3.67	3.94	4.97	4.53	4.64	4.79	4.74	4.64

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	1607	1607	1607	1607	1568	1568	1568	1568	1494	1494	1494	1426	1426	1426	1364	1364	1334
	1	1526	1486	1450	1418	1490	1455	1422	1393	1396	1370	1347	1342	1322	1303	1293	1277	1249
	2	1447	1378	1320	1272	1415	1352	1300	1256	1305	1263	1226	1262	1227	1196	1221	1193	1168
	3	1373	1282	1213	1157	1344	1262	1198	1146	1223	1170	1125	1188	1143	1105	1155	1118	1095
	4	1303	1198	1122	1063	1277	1181	1110	1055	1150	1089	1041	1120	1068	1027	1093	1049	1028
	5	1238	1123	1043	984	1215	1109	1035	979	1083	1018	968	1058	1002	958	1035	987	968
	6	1178	1056	975	916	1157	1045	968	912	1022	955	904	1001	942	897	982	930	913
	7	1122	996	914	857	1103	986	909	854	967	898	848	949	888	842	932	878	863
	8	1070	941	860	805	1052	933	856	802	916	847	798	901	839	793	887	831	817
	9	1021	892	812	758	1005	884	808	756	870	801	753	857	794	749	844	787	775
	10	976	846	768	716	962	840	765	715	827	759	712	816	753	709	805	748	736

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	48.2 fc	5.6 ft
6.5 ft	34.5 fc	6.6 ft
7.5 ft	25.9 fc	7.6 ft
8.0 ft	22.8 fc	8.1 ft
10.0 ft	14.6 fc	10.2 ft
12.0 ft	10.1 fc	12.2 ft
14.0 ft	7.4 fc	14.3 ft
16.0 ft	5.7 fc	16.3 ft
20.0 ft	3.6 fc	20.4 ft
24.0 ft	2.5 fc	24.4 ft
28.0 ft	1.9 fc	28.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	453027	453027	453027
45.00°	39014	37265	38671
55.00°	24348	23345	24731
65.00°	20558	19496	21151
75.00°	17446	16318	17161
85.00°	17880	19960	19687

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	16.9	18.0	17.3	18.3	18.7	17.1	18.1	17.5	18.4	18.8
	3H	18.4	19.3	18.8	19.7	20.1	18.5	19.5	18.9	19.8	20.2
	4H	18.9	19.8	19.3	20.1	20.6	19.1	19.9	19.5	20.3	20.7
	6H	19.3	20.1	19.8	20.5	20.9	19.5	20.2	19.9	20.7	21.1
	8H	19.5	20.2	19.9	20.6	21.1	19.6	20.3	20.1	20.8	21.2
	12H	19.6	20.3	20.1	20.7	21.2	19.8	20.5	20.2	20.9	21.3
4H	2H	17.3	18.2	17.7	18.5	19.0	17.4	18.3	17.9	18.7	19.1
	3H	19.0	19.7	19.4	20.1	20.6	19.1	19.8	19.6	20.3	20.7
	4H	19.6	20.2	20.1	20.7	21.2	19.8	20.4	20.2	20.9	21.3
	6H	20.1	20.7	20.6	21.2	21.7	20.3	20.8	20.8	21.3	21.8
	8H	20.4	20.9	20.9	21.3	21.8	20.5	21.0	21.0	21.5	22.0
	12H	20.6	21.0	21.1	21.5	22.0	20.7	21.1	21.2	21.7	22.2
8H	4H	19.8	20.3	20.3	20.8	21.3	19.9	20.4	20.4	20.9	21.4
	6H	20.4	20.8	21.0	21.4	21.9	20.6	21.0	21.1	21.5	22.0
	8H	20.8	21.1	21.3	21.7	22.2	20.9	21.2	21.4	21.8	22.3
	12H	21.1	21.4	21.7	22.0	22.6	21.2	21.5	21.8	22.1	22.7
12H	4H	19.8	20.2	20.3	20.7	21.2	19.9	20.4	20.4	20.9	21.4
	6H	20.5	20.8	21.0	21.3	21.9	20.6	21.0	21.2	21.5	22.1
	8H	20.9	21.2	21.4	21.7	22.3	21.0	21.3	21.5	21.8	22.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0