

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

STR2 835 13 xx xx RD2XF RB2BD xx xx

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

#### Test Number

SP-01580\_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	1209
Efficacy	83.97 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.91
Two luminaires, plane 90°	0.91
Four luminaires	0.78

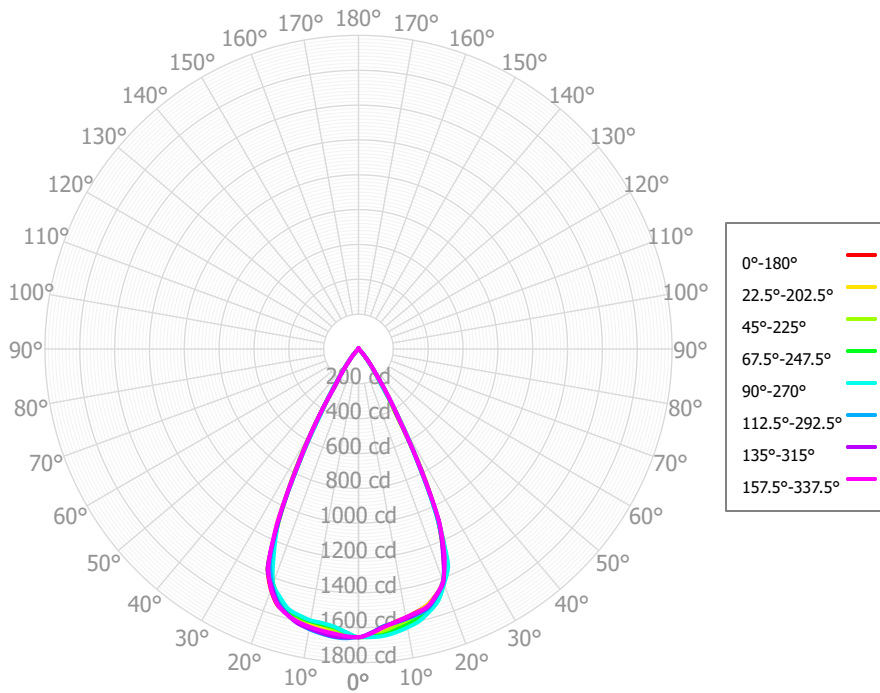
#### Full Beam Angle

0° - 180°	54°
90° - 270°	54°

### IES File Header Contents

Keyword	Value
TEST	SP-01580_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 RB2BD xx xx
LUMINAIRE	2" Adjustable Track Luminaire with extra wide flood optic and snoot/deep cutoff 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°	156.49	12.94%	90.00° - 100.00°	1.79	0.15%
10.00° - 20.00°	433.54	35.85%	100.00° - 110.00°	1.79	0.15%
20.00° - 30.00°	459.69	38.02%	100.00° - 120.00°	3.42	0.28%
30.00° - 40.00°	122.49	10.13%	120.00° - 130.00°	1.57	0.13%
40.00° - 50.00°	18.82	1.56%	130.00° - 140.00°	1.40	0.12%
50.00° - 60.00°	1.95	0.16%	140.00° - 150.00°	1.18	0.10%
60.00° - 70.00°	1.66	0.14%	150.00° - 160.00°	0.93	0.08%
70.00° - 80.00°	1.71	0.14%	160.00° - 170.00°	0.56	0.05%
80.00° - 90.00°	1.82	0.15%	170.00° - 180.00°	0.19	0.02%
0.00° - 90.00°	1198.17	99.09%	0.00° - 180.00°	1209.20	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°	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60	1654.60
2.50°	1643.60	1641.26	1652.95	1652.30	1656.22	1662.45	1658.36	1650.09	1650.75	1642.85	1635.59	1629.76	1627.45	1632.80	1631.65	1635.66	1643.60
5.00°	1609.97	1622.81	1633.83	1647.58	1653.68	1659.53	1655.66	1639.56	1634.95	1622.10	1615.93	1603.13	1600.40	1599.18	1602.20	1605.99	1609.97
7.50°	1582.19	1597.15	1612.06	1628.35	1641.19	1648.02	1643.81	1630.26	1615.96	1611.12	1594.41	1595.06	1587.02	1586.93	1584.24	1584.75	1582.19
10.00°	1565.45	1572.50	1587.61	1608.00	1623.24	1633.14	1629.53	1619.26	1606.57	1601.10	1588.77	1586.72	1581.88	1574.70	1572.20	1564.13	1565.45
12.50°	1545.92	1549.78	1560.97	1584.57	1602.12	1608.50	1613.54	1603.86	1598.11	1588.95	1588.16	1573.34	1566.37	1562.59	1554.53	1549.33	1545.92
15.00°	1522.78	1521.60	1532.78	1552.09	1563.67	1575.33	1579.10	1580.01	1572.67	1573.84	1561.40	1553.97	1546.52	1543.39	1534.96	1529.94	1522.78
17.50°	1480.83	1486.32	1485.50	1502.62	1518.54	1525.46	1535.91	1541.54	1543.30	1524.81	1529.93	1504.83	1495.51	1491.29	1483.78	1484.25	1480.83
20.00°	1421.24	1417.69	1428.73	1427.73	1436.61	1445.68	1456.00	1467.99	1470.44	1459.79	1450.92	1432.87	1436.38	1417.35	1426.42	1419.77	1421.24
22.50°	1275.38	1318.67	1274.03	1319.95	1346.07	1325.66	1364.92	1352.35	1361.87	1311.61	1364.70	1291.94	1267.60	1280.62	1265.99	1292.37	1275.38
25.00°	1073.04	1082.52	1087.74	1089.39	1066.60	1088.95	1083.16	1108.93	1077.01	1110.17	1070.11	1084.41	1083.05	1076.10	1095.35	1097.46	1073.04
27.50°	785.28	756.62	765.42	744.19	764.15	739.03	767.19	754.78	788.64	748.59	777.63	745.76	758.01	743.67	764.11	757.92	785.28
30.00°	459.60	501.17	416.65	479.61	499.12	473.89	500.75	486.39	489.68	450.91	504.64	472.37	436.95	475.63	448.80	482.61	459.60
32.50°	292.13	276.99	273.63	267.58	246.23	266.28	242.29	269.70	260.36	278.55	265.89	289.88	293.63	293.83	300.25	301.09	292.13
35.00°	170.94	174.09	148.30	161.24	168.52	159.88	167.72	161.83	167.55	154.96	176.89	168.10	162.18	173.17	168.38	176.63	170.94
37.50°	113.24	106.65	104.01	101.59	97.84	100.23	97.73	99.47	98.38	99.06	102.74	105.56	108.99	109.92	114.94	112.13	113.24
40.00°	65.70	69.81	61.81	66.64	67.21	64.77	66.51	63.58	61.97	59.31	67.85	63.65	62.14	67.71	68.42	69.06	65.70
42.50°	40.33	37.87	39.54	38.86	39.58	36.74	38.10	34.58	35.33	35.27	38.35	35.81	37.74	39.29	41.26	41.78	40.33
45.00°	16.83	21.85	19.69	22.13	21.59	20.74	21.39	20.01	18.17	19.06	18.63	19.01	18.11	21.47	19.89	23.17	16.83
47.50°	9.77	7.07	10.64	7.15	8.14	6.82	8.36	7.39	8.48	8.18	6.47	7.51	9.37	8.51	9.53	9.09	9.77
50.00°	3.45	4.54	3.76	4.22	4.42	4.11	5.00	4.35	3.87	3.68	3.79	3.82	3.58	4.18	3.17	4.09	3.45
52.50°	2.59	2.26	2.74	1.99	2.13	2.13	2.69	1.81	2.10	2.25	2.26	2.55	2.44	2.38	2.04	2.19	2.59
55.00°	1.90	1.85	1.99	2.06	1.92	2.00	2.22	1.73	1.69	2.05	1.73	2.03	1.73	1.83	1.49	1.87	1.90
57.50°	1.85	1.54	1.75	2.09	1.69	1.85	2.08	1.69	1.55	2.24	1.69	1.64	1.50	1.50	1.47	1.87	1.85
60.00°	1.77	1.60	1.66	1.83	1.46	1.62	2.33	1.88	1.49	2.02	1.95	1.68	1.52	1.57	1.52	1.93	1.77
62.50°	1.60	1.63	1.73	1.62	1.47	1.43	2.18	1.97	1.57	1.73	1.81	1.75	1.73	1.66	1.61	1.98	1.60
65.00°	1.56	1.57	1.71	1.60	1.66	1.44	1.67	1.70	1.68	1.74	1.49	1.65	1.73	1.65	1.56	1.97	1.56
67.50°	1.74	1.61	1.59	1.58	1.59	1.48	1.56	1.59	1.86	1.77	1.62	1.57	1.62	1.63	1.44	1.95	1.74
70.00°	1.74	1.82	1.57	1.57	1.40	1.60	1.70	1.87	2.04	1.69	1.87	1.57	1.58	1.43	1.44	1.72	1.74
72.50°	1.52	1.84	1.62	1.56	1.41	1.64	1.73	1.97	1.69	1.64	1.92	1.59	1.57	1.26	1.47	1.56	1.52
75.00°	1.47	1.65	1.61	1.56	1.49	1.57	1.71	1.79	1.37	1.79	1.94	1.63	1.52	1.18	1.42	1.67	1.47
77.50°	1.57	1.60	1.56	1.62	1.66	1.56	1.73	1.79	1.43	1.88	1.70	1.63	1.46	1.20	1.36	1.75	1.57
80.00°	1.76	1.68	1.40	1.75	1.85	1.63	1.77	2.01	1.47	1.69	1.46	1.53	1.53	1.46	1.60	1.75	1.76
82.50°	2.00	1.76	1.22	1.81	1.57	1.62	1.81	2.02	1.50	1.57	1.58	1.52	1.60	1.58	1.85	1.69	2.00
85.00°	1.93	1.86	1.37	1.80	1.26	1.53	1.85	1.87	1.56	1.64	1.69	1.66	1.71	1.46	1.87	1.53	1.93
87.50°	1.73	1.80	1.59	1.77	1.37	1.56	1.85	1.72	1.70	1.68	1.79	1.70	1.80	1.44	1.88	1.52	1.73
90.00°	1.52	1.68	1.74	1.72	1.45	1.66	1.85	1.57	1.76	1.66	1.83	1.59	1.71	1.56	1.78	1.71	1.52
92.50°	1.32	1.75	1.88	1.65	1.41	1.63	1.72	1.49	1.67	1.60	1.61	1.47	1.63	1.71	1.72	1.66	1.32
95.00°	1.62	1.87	1.75	1.57	1.43	1.55	1.64	1.45	1.61	1.49	1.46	1.35	1.58	1.89	1.80	1.40	1.62
97.50°	1.98	1.55	1.64	1.60	1.76	1.73	1.81	1.45	1.58	1.52	1.44	1.51	1.55	1.96	1.90	1.41	1.98
100.00°	1.95	1.18	1.62	1.66	1.98	1.98	1.87	1.45	1.62	1.68	1.47	1.84	1.56	1.94	2.04	1.61	1.95
102.50°	1.91	1.41	1.61	1.70	1.85	1.84	1.53	1.72	1.74	1.52	1.54	1.68	1.57	1.92	1.96	1.86	1.91
105.00°	1.78	1.65	1.64	1.73	1.78	1.64	1.49	2.01	1.73	1.14	1.58	1.32	1.61	1.89	1.51	2.14	1.78

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>ptc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	1437	1437	1437	1437	1402	1402	1402	1402	1337	1337	1337	1278	1278	1278	1224	1224	1198
	<b>1</b>	1375	1344	1317	1291	1345	1317	1292	1270	1267	1247	1229	1220	1205	1190	1177	1165	1141
	<b>2</b>	1316	1262	1218	1180	1289	1240	1200	1166	1200	1167	1139	1163	1136	1113	1128	1107	1089
	<b>3</b>	1258	1188	1134	1090	1234	1171	1121	1081	1138	1097	1062	1108	1074	1045	1080	1052	1031
	<b>4</b>	1203	1121	1061	1015	1182	1107	1051	1009	1080	1033	996	1056	1015	983	1032	999	971
	<b>5</b>	1151	1060	997	950	1131	1049	990	946	1026	975	936	1006	962	927	987	949	931
	<b>6</b>	1101	1005	940	893	1084	995	934	890	976	923	883	959	912	876	943	902	886
	<b>7</b>	1054	953	888	842	1038	945	884	840	930	875	835	915	866	830	901	858	843
	<b>8</b>	1010	906	841	797	996	899	838	795	886	830	791	873	823	787	861	817	804
	<b>9</b>	968	863	798	755	955	857	795	754	845	790	751	834	784	748	824	778	766
	<b>10</b>	929	823	759	717	917	817	757	716	807	752	714	798	747	711	789	742	731

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	54.7 fc	5.6 ft
6.5 ft	39.2 fc	6.7 ft
7.5 ft	29.4 fc	7.7 ft
8.0 ft	25.9 fc	8.2 ft
10.0 ft	16.5 fc	10.2 ft
12.0 ft	11.5 fc	12.3 ft
14.0 ft	8.4 fc	14.3 ft
16.0 ft	6.5 fc	16.4 ft
20.0 ft	4.1 fc	20.5 ft
24.0 ft	2.9 fc	24.6 ft
28.0 ft	2.1 fc	28.7 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	514202	514202	514202
<b>45.00°</b>	7396	8652	9489
<b>55.00°</b>	1027	1077	1040
<b>65.00°</b>	1149	1257	1220
<b>75.00°</b>	1763	1929	1794
<b>85.00°</b>	6866	4900	4506

### 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	-4.2	-3.3	-3.8	-3.0	-2.6	-4.3	-3.4	-3.9	-3.1	-2.7
	3H	-0.6	0.1	-0.2	0.5	0.9	-1.2	-0.5	-0.8	-0.1	0.3
	4H	0.9	1.6	1.3	2.0	2.4	0.5	1.2	0.9	1.6	2.0
	6H	3.0	3.6	3.4	4.0	4.4	2.7	3.3	3.1	3.7	4.1
	8H	4.4	5.0	4.8	5.4	5.9	3.8	4.4	4.3	4.8	5.3
	12H	5.9	6.5	6.4	6.9	7.4	5.0	5.6	5.5	6.0	6.5
4H	2H	-3.3	-2.6	-2.9	-2.2	-1.8	-3.4	-2.7	-3.0	-2.3	-1.9
	3H	0.4	1.0	0.9	1.5	1.9	0.1	0.7	0.5	1.1	1.5
	4H	2.2	2.8	2.7	3.2	3.7	2.0	2.5	2.4	2.9	3.4
	6H	4.5	5.0	5.0	5.4	5.9	4.2	4.7	4.7	5.2	5.6
	8H	6.0	6.4	6.5	6.9	7.4	5.4	5.9	5.9	6.3	6.8
	12H	7.6	8.0	8.1	8.5	9.0	6.8	7.1	7.3	7.6	8.1
8H	4H	2.8	3.3	3.3	3.7	4.2	2.9	3.3	3.4	3.8	4.3
	6H	5.4	5.8	6.0	6.3	6.8	5.3	5.6	5.8	6.2	6.7
	8H	7.1	7.4	7.6	7.9	8.4	6.7	7.0	7.2	7.5	8.0
	12H	8.9	9.2	9.5	9.7	10.3	8.2	8.5	8.8	9.0	9.6
12H	4H	3.0	3.4	3.6	3.9	4.4	3.1	3.5	3.6	4.0	4.5
	6H	5.7	6.0	6.3	6.5	7.1	5.7	6.0	6.2	6.5	7.0
	8H	7.5	7.7	8.0	8.3	8.9	7.2	7.4	7.7	7.9	8.6

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0