

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 RD2FL RB2BS xx RA2HL

2" Adjustable Track Luminaire with flood optic, hex louver and standard
bezel

Test Number

SP-01575_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	991
Efficacy	68.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.51
Two luminaires, plane 90°	0.5
Four luminaires	0.47

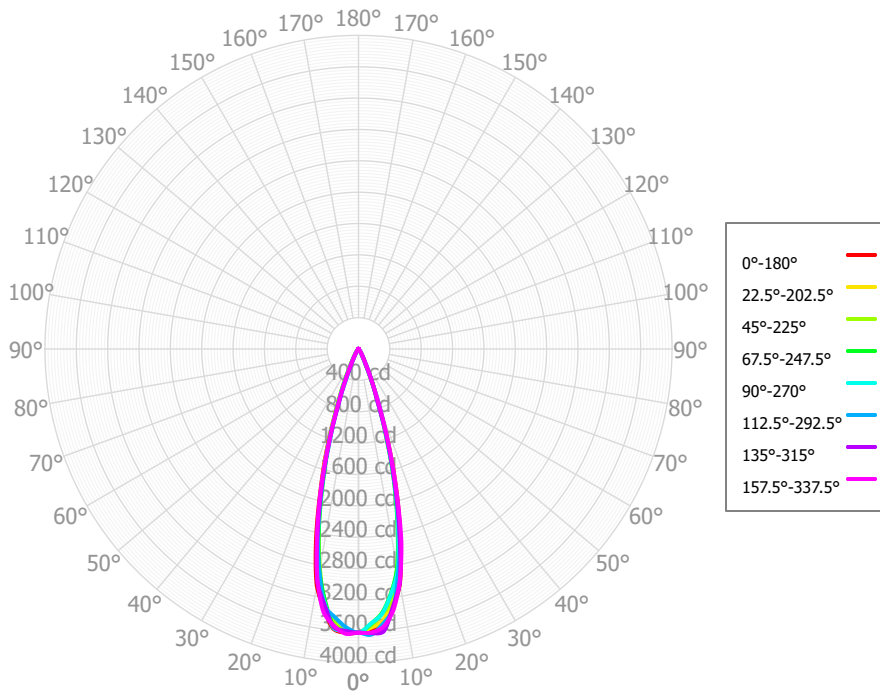
Full Beam Angle

0° - 180°	30°
90° - 270°	30°

IES File Header Contents

Keyword	Value
TEST	SP-01575_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 RB2BS xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with flood optic, hex louver and standard bezel
OTHER	Beam Angle: 30 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°	320.34	32.32%	90.00° - 100.00°	1.71	0.17%
10.00° - 20.00°	479.61	48.38%	100.00° - 110.00°	1.64	0.17%
20.00° - 30.00°	137.72	13.89%	100.00° - 120.00°	3.29	0.33%
30.00° - 40.00°	29.86	3.01%	120.00° - 130.00°	1.49	0.15%
40.00° - 50.00°	6.27	0.63%	130.00° - 140.00°	1.32	0.13%
50.00° - 60.00°	1.86	0.19%	140.00° - 150.00°	1.13	0.11%
60.00° - 70.00°	1.66	0.17%	150.00° - 160.00°	0.89	0.09%
70.00° - 80.00°	1.65	0.17%	160.00° - 170.00°	0.52	0.05%
80.00° - 90.00°	1.75	0.18%	170.00° - 180.00°	0.17	0.02%
0.00° - 90.00°	980.72	98.94%	0.00° - 180.00°	991.23	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°	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32	3619.32
2.50°	3600.73	3560.74	3534.49	3514.03	3511.55	3556.51	3602.43	3637.84	3620.98	3607.63	3628.63	3596.91	3599.85	3648.51	3628.90	3622.71	3600.73
5.00°	3527.88	3489.80	3400.01	3388.27	3398.74	3437.82	3567.51	3547.19	3590.82	3548.28	3496.60	3558.26	3580.68	3525.82	3622.33	3564.29	3527.88
7.50°	3332.09	3252.29	3251.83	3151.40	3162.14	3310.71	3299.75	3395.36	3355.32	3296.90	3304.26	3250.27	3281.51	3357.89	3330.50	3375.32	3332.09
10.00°	3044.32	2976.07	2829.59	2841.92	2878.42	2874.31	3023.44	3006.36	3065.38	2973.21	2837.00	2870.77	2943.23	2911.75	3035.02	3021.84	3044.32
12.50°	2462.68	2428.20	2358.55	2296.02	2330.41	2397.81	2410.44	2450.06	2504.86	2389.04	2349.72	2328.24	2375.98	2437.20	2416.13	2527.55	2462.68
15.00°	1874.05	1820.13	1772.80	1749.06	1780.78	1803.74	1799.73	1858.08	1875.67	1818.54	1775.49	1745.21	1778.87	1802.47	1798.27	1860.86	1874.05
17.50°	1263.92	1266.93	1167.77	1198.88	1222.55	1196.04	1258.69	1241.66	1339.14	1295.30	1238.26	1258.69	1271.50	1202.52	1235.40	1274.31	1263.92
20.00°	736.49	725.30	752.93	714.34	711.16	778.29	729.54	792.99	825.09	827.02	854.59	795.09	774.60	788.13	681.87	783.09	736.49
22.50°	448.99	444.14	367.31	423.72	429.64	380.91	467.17	454.16	525.63	537.41	511.48	518.30	502.80	418.72	439.62	435.98	448.99
25.00°	218.72	213.85	225.24	192.58	186.75	238.60	214.75	259.57	274.72	294.83	325.61	282.81	255.30	270.95	204.72	252.99	218.72
27.50°	145.47	136.24	118.27	127.54	124.16	120.29	152.05	155.24	178.49	196.33	169.67	181.70	171.24	142.60	146.18	137.23	145.47
30.00°	86.39	86.14	79.66	74.22	69.81	84.66	91.63	96.67	114.76	115.28	122.47	108.88	102.67	105.23	89.30	95.86	86.39
32.50°	64.83	61.45	49.95	52.47	51.24	56.10	66.43	65.86	80.76	85.70	80.26	76.04	73.86	70.39	66.24	64.52	64.83
35.00°	44.94	41.09	34.12	33.63	34.11	40.03	42.15	44.98	52.70	59.04	55.44	50.99	48.48	46.58	43.70	43.83	44.94
37.50°	29.31	27.81	19.97	22.18	23.00	24.92	30.44	29.96	36.43	40.68	33.53	34.54	32.93	25.90	30.21	28.05	29.31
40.00°	16.41	15.68	14.02	12.71	13.33	17.08	19.18	20.19	22.40	25.24	21.40	19.69	18.15	18.21	17.26	17.32	16.41
42.50°	10.10	10.17	8.96	8.15	9.24	9.71	13.09	13.38	15.74	17.64	11.22	13.31	11.79	11.24	12.25	10.09	10.10
45.00°	5.25	5.63	5.98	4.62	5.61	6.32	7.28	8.58	10.37	11.04	7.21	8.38	5.99	7.09	7.41	6.30	5.25
47.50°	3.73	4.01	3.21	3.50	3.69	3.14	4.43	4.86	6.45	7.08	3.96	5.37	4.23	3.65	4.62	3.81	3.73
50.00°	2.54	2.78	2.59	2.54	2.13	2.57	1.87	3.12	2.75	4.03	2.97	2.66	2.68	2.87	2.02	2.57	2.54
52.50°	2.12	1.98	2.15	1.93	1.83	2.12	1.93	2.41	2.08	3.25	2.23	2.65	2.47	2.28	1.66	1.97	2.12
55.00°	1.84	1.23	2.01	1.68	1.59	2.14	1.97	1.87	1.86	2.60	2.24	3.04	2.31	2.30	1.33	1.96	1.84
57.50°	1.88	1.45	1.90	2.27	1.54	2.18	1.76	1.42	1.67	2.30	2.26	2.27	1.94	2.29	1.37	1.95	1.88
60.00°	1.90	1.78	1.76	2.53	1.52	2.19	1.55	1.29	1.49	2.09	2.33	1.34	1.56	2.15	1.41	1.93	1.90
62.50°	1.89	1.76	1.62	2.13	1.58	2.20	1.36	1.33	1.48	2.08	2.27	1.39	1.52	2.02	1.44	1.75	1.89
65.00°	1.77	1.71	1.55	1.80	1.69	2.05	1.22	1.36	1.49	2.02	1.88	1.56	1.49	1.90	1.48	1.43	1.77
67.50°	1.45	1.55	1.49	1.61	1.95	1.90	1.42	1.38	1.78	1.86	1.62	1.57	1.45	1.83	1.61	1.29	1.45
70.00°	1.21	1.38	1.56	1.49	2.05	1.78	1.58	1.61	2.11	1.67	1.69	1.56	1.41	1.92	1.73	1.31	1.21
72.50°	1.08	1.58	1.64	1.53	1.71	1.65	1.45	1.93	2.05	1.44	1.67	1.67	1.47	1.94	1.74	1.29	1.08
75.00°	1.03	1.80	1.42	1.49	1.49	1.66	1.38	1.88	1.96	1.33	1.42	1.78	1.53	1.77	1.73	1.23	1.03
77.50°	1.12	1.73	1.18	1.31	1.63	1.67	1.70	1.66	1.79	1.44	1.36	1.43	1.40	1.65	1.55	1.28	1.12
80.00°	1.21	1.64	1.27	1.23	1.70	1.85	1.95	1.68	1.62	1.48	1.74	1.03	1.26	1.65	1.40	1.42	1.21
82.50°	1.27	1.67	1.37	1.31	1.62	2.02	1.74	1.78	1.78	1.36	1.95	1.29	1.58	1.67	1.43	1.50	1.27
85.00°	1.41	1.71	1.46	1.40	1.49	1.95	1.59	1.72	1.97	1.31	1.77	1.60	1.89	1.78	1.52	1.53	1.41
87.50°	1.68	1.73	1.56	1.48	1.26	1.89	1.74	1.59	1.75	1.41	1.64	1.43	1.76	1.84	1.92	1.55	1.68
90.00°	1.87	1.76	1.42	1.55	1.10	1.85	1.77	1.58	1.50	1.44	1.62	1.23	1.62	1.77	2.19	1.55	1.87
92.50°	1.95	1.86	1.29	1.59	1.11	1.82	1.26	1.60	1.36	1.39	1.54	1.63	1.51	1.70	1.83	1.53	1.95
95.00°	1.91	1.97	1.26	1.60	1.19	1.81	0.92	1.57	1.24	1.52	1.38	2.07	1.40	1.63	1.53	1.52	1.91
97.50°	1.70	1.85	1.23	1.55	1.39	1.79	1.40	1.52	1.59	1.96	1.36	1.84	1.25	1.57	1.56	1.47	1.70
100.00°	1.52	1.73	1.32	1.53	1.57	1.73	1.80	1.55	1.97	2.10	1.64	1.57	1.12	1.54	1.58	1.41	1.52
102.50°	1.36	1.61	1.41	1.52	1.69	1.69	1.79	1.61	1.56	1.72	1.78	1.53	1.26	1.55	1.58	1.28	1.36
105.00°	1.32	1.49	1.45	1.60	1.73	1.85	1.75	1.38	1.11	1.56	1.68	1.50	1.41	1.61	1.62	1.09	1.32

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1178	1178	1178	1178	1149	1149	1149	1149	1096	1096	1096	1047	1047	1047	1002	1002	1002	981
	1	1136	1114	1095	1078	1111	1092	1075	1060	1051	1038	1025	1013	1003	993	978	970	963	950
	2	1098	1061	1031	1006	1076	1044	1017	994	1011	990	971	981	964	949	954	940	928	921
	3	1062	1015	979	950	1044	1002	969	942	976	948	926	952	929	911	929	911	896	894
	4	1029	975	935	905	1013	964	927	899	943	912	888	923	898	877	905	884	866	868
	5	998	939	897	867	983	930	891	863	912	880	855	896	869	847	882	858	839	843
	6	968	906	864	834	956	898	859	831	884	850	825	871	842	819	859	833	813	819
	7	941	876	834	805	929	870	830	802	858	823	798	847	816	793	836	810	789	797
	8	915	849	807	779	905	843	804	777	833	798	773	824	793	770	815	787	767	775
	9	890	823	782	755	881	819	780	753	810	775	751	802	771	748	795	766	745	755
	10	867	800	760	733	858	796	758	732	788	754	730	781	750	728	775	746	725	736

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	119.6 fc	3.0 ft
6.5 ft	85.7 fc	3.5 ft
7.5 ft	64.3 fc	4.1 ft
8.0 ft	56.6 fc	4.4 ft
10.0 ft	36.2 fc	5.4 ft
12.0 ft	25.1 fc	6.5 ft
14.0 ft	18.5 fc	7.6 ft
16.0 ft	14.1 fc	8.7 ft
20.0 ft	9.0 fc	10.9 ft
24.0 ft	6.3 fc	13.1 ft
28.0 ft	4.6 fc	15.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1124782	1124782	1124782
45.00°	2305	2629	2465
55.00°	997	1092	860
65.00°	1300	1141	1245
75.00°	1236	1700	1795
85.00°	5026	5220	5326

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	-3.5	-2.6	-3.1	-2.2	-1.9	-2.2	-1.3	-1.8	-1.0	-0.6
	3H	-1.0	-0.2	-0.6	0.2	0.6	0.5	1.2	0.9	1.6	2.0
	4H	0.3	1.0	0.7	1.4	1.8	1.9	2.6	2.3	3.0	3.4
	6H	2.1	2.7	2.5	3.1	3.5	3.6	4.2	4.0	4.6	5.0
	8H	3.2	3.8	3.6	4.2	4.6	4.6	5.2	5.1	5.6	6.1
	12H	4.6	5.2	5.1	5.6	6.1	6.0	6.6	6.4	7.0	7.4
4H	2H	-2.7	-2.0	-2.3	-1.6	-1.2	-1.7	-1.0	-1.2	-0.6	-0.2
	3H	0.2	0.8	0.6	1.2	1.7	1.4	2.0	1.8	2.4	2.8
	4H	1.9	2.4	2.4	2.9	3.4	3.1	3.7	3.6	4.1	4.6
	6H	3.9	4.4	4.4	4.8	5.4	5.0	5.4	5.5	5.9	6.4
	8H	5.1	5.5	5.6	6.0	6.5	6.2	6.6	6.7	7.1	7.6
	12H	6.6	7.0	7.1	7.5	8.0	7.7	8.0	8.2	8.5	9.1
8H	4H	2.8	3.2	3.3	3.6	4.1	3.8	4.2	4.3	4.6	5.1
	6H	5.1	5.4	5.6	5.9	6.5	6.0	6.3	6.5	6.8	7.3
	8H	6.5	6.8	7.1	7.4	7.9	7.4	7.7	8.0	8.2	8.8
	12H	8.3	8.5	8.8	9.0	9.7	9.2	9.4	9.7	10.0	10.6
12H	4H	3.0	3.3	3.5	3.8	4.3	4.0	4.3	4.5	4.8	5.3
	6H	5.4	5.7	6.0	6.2	6.8	6.4	6.7	6.9	7.2	7.7
	8H	7.0	7.3	7.6	7.8	8.4	8.0	8.2	8.5	8.7	9.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0