

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 10 xx xx RD2XF RB2BS xx xx

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

Test Number

SP-01572_1

Test Date

9/26/2023

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	11.8 W
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Lumen Output

Output Lumens	1062
Efficacy	89.97 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

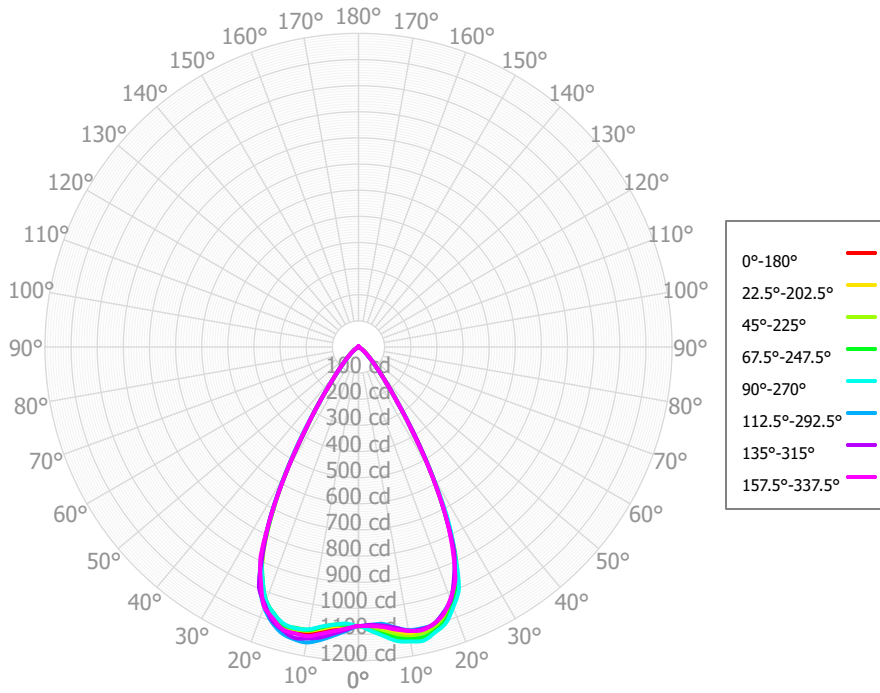
Full Beam Angle

0° - 180°	59°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-01572_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	9/29/2023
LUMCAT	STR2 835 10 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	106.29	10.01%	90.00° - 100.00°	1.16	0.11%
10.00° - 20.00°	310.03	29.20%	100.00° - 110.00°	1.16	0.11%
20.00° - 30.00°	380.99	35.89%	100.00° - 120.00°	2.24	0.21%
30.00° - 40.00°	178.36	16.80%	120.00° - 130.00°	1.05	0.10%
40.00° - 50.00°	54.18	5.10%	130.00° - 140.00°	0.96	0.09%
50.00° - 60.00°	17.31	1.63%	140.00° - 150.00°	0.85	0.08%
60.00° - 70.00°	4.51	0.42%	150.00° - 160.00°	0.64	0.06%
70.00° - 80.00°	1.38	0.13%	160.00° - 170.00°	0.39	0.04%
80.00° - 90.00°	1.17	0.11%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1054.22	99.30%	0.00° - 180.00°	1061.65	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°	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36	1068.36
2.50°	1072.72	1076.38	1080.06	1086.14	1087.52	1087.70	1083.48	1078.84	1071.63	1069.78	1065.39	1065.15	1059.65	1064.71	1064.54	1069.64	1072.72
5.00°	1079.14	1086.72	1094.81	1104.28	1110.52	1109.15	1101.28	1092.07	1079.51	1073.45	1067.70	1066.88	1067.13	1064.64	1070.77	1075.79	1079.14
7.50°	1093.44	1103.15	1111.61	1123.75	1135.17	1131.51	1121.29	1107.57	1097.85	1087.94	1085.34	1081.60	1079.16	1083.29	1084.00	1090.77	1093.44
10.00°	1108.98	1114.20	1127.08	1135.74	1144.57	1148.32	1132.34	1123.82	1111.39	1102.96	1100.21	1099.44	1097.29	1100.18	1103.39	1102.48	1108.98
12.50°	1108.58	1113.45	1122.42	1138.46	1150.77	1145.31	1139.94	1123.11	1117.41	1106.44	1107.59	1101.77	1103.32	1103.57	1106.83	1110.92	1108.58
15.00°	1106.30	1103.19	1114.10	1126.33	1131.19	1134.03	1122.15	1118.98	1110.17	1106.86	1102.73	1102.10	1097.91	1100.29	1100.15	1100.00	1106.30
17.50°	1074.99	1078.67	1085.14	1101.24	1109.06	1103.95	1098.36	1089.37	1088.35	1081.88	1075.83	1071.35	1072.49	1070.66	1071.24	1075.53	1074.99
20.00°	1038.90	1035.69	1046.67	1053.68	1060.06	1058.52	1048.65	1057.21	1044.65	1047.78	1032.22	1037.30	1033.39	1029.78	1032.73	1027.58	1038.90
22.50°	964.62	973.25	977.61	992.40	1004.49	989.32	995.68	975.94	983.46	974.15	967.07	959.59	960.50	960.20	955.50	967.95	964.62
25.00°	873.57	863.07	878.54	871.33	875.44	878.75	863.53	887.18	867.90	876.72	859.22	870.80	871.76	861.78	867.70	851.71	873.57
27.50°	714.64	716.35	714.77	724.74	737.64	721.95	726.67	718.55	722.11	716.31	712.56	713.95	723.18	713.95	714.31	717.09	714.64
30.00°	555.91	554.15	552.13	555.25	553.83	558.07	549.00	552.26	555.46	554.25	551.46	556.64	555.78	558.53	550.71	551.07	555.91
32.50°	397.68	383.74	391.17	379.58	386.47	388.62	380.79	397.21	381.08	389.29	381.18	397.78	406.34	393.78	401.69	379.14	397.68
35.00°	268.02	270.30	267.19	270.58	269.30	270.41	269.72	262.29	270.21	261.23	264.69	263.22	260.14	270.19	255.94	272.18	268.02
37.50°	188.10	177.59	182.68	171.75	175.26	180.25	173.58	186.97	174.29	179.96	172.30	183.61	186.75	182.34	186.96	171.26	188.10
40.00°	128.55	128.26	125.98	127.14	127.40	128.26	127.72	125.97	128.12	123.93	123.01	122.56	119.02	126.68	122.60	129.53	128.55
42.50°	93.69	88.44	90.20	86.03	89.55	90.66	89.19	92.85	87.70	90.47	86.04	90.11	90.48	90.55	92.37	89.62	93.69
45.00°	68.19	67.49	66.35	66.12	65.92	67.47	67.11	66.77	67.28	66.53	65.50	64.76	63.31	65.90	65.20	68.49	68.19
47.50°	50.71	48.47	48.72	47.23	47.88	47.61	49.09	50.16	47.77	48.74	47.69	47.31	48.46	46.11	49.84	48.98	50.71
50.00°	37.53	37.16	35.89	35.64	35.44	35.89	37.30	36.94	36.72	36.34	36.01	34.19	34.67	34.42	36.03	37.07	37.53
52.50°	26.98	26.25	24.78	25.02	25.75	25.16	26.85	27.04	26.31	26.33	24.82	24.47	25.61	24.90	26.09	26.08	26.98
55.00°	18.63	19.08	17.90	18.09	18.06	18.80	17.86	19.35	19.57	19.15	17.92	17.18	17.41	17.76	17.97	17.68	18.63
57.50°	11.18	12.41	11.94	12.26	12.70	12.75	11.99	13.19	13.39	12.76	11.46	11.20	11.53	10.96	12.89	11.01	11.18
60.00°	7.59	8.39	9.01	9.12	8.51	9.80	8.54	9.07	9.09	9.42	8.45	7.85	7.01	8.12	8.76	7.67	7.59
62.50°	5.05	5.07	6.41	6.48	6.39	6.99	6.17	5.95	5.78	6.57	5.70	5.48	4.99	5.51	5.76	5.24	5.05
65.00°	3.90	3.95	4.45	4.66	4.94	4.93	4.37	4.32	4.61	4.80	3.97	4.01	3.68	3.85	3.74	4.04	3.90
67.50°	2.96	2.90	2.62	3.16	3.52	3.14	3.03	3.17	3.40	3.11	2.54	2.75	3.30	2.32	2.56	2.89	2.96
70.00°	2.08	2.02	2.07	2.03	2.10	2.26	1.85	2.10	2.15	2.19	1.88	1.95	2.58	1.70	1.88	1.80	2.08
72.50°	1.25	1.40	1.54	1.39	1.55	1.56	1.42	1.04	1.46	1.36	1.43	1.20	1.53	1.19	1.49	1.14	1.25
75.00°	1.27	1.17	1.08	1.18	1.08	1.28	1.15	1.19	1.37	1.19	1.32	1.18	1.18	1.14	1.26	0.78	1.27
77.50°	1.26	1.10	0.76	1.09	1.10	1.08	1.15	1.44	1.29	1.09	1.20	1.19	1.26	1.10	1.10	0.81	1.26
80.00°	1.04	1.22	0.87	1.07	1.12	1.02	1.18	1.06	1.20	1.32	1.07	1.26	1.22	1.10	1.01	1.01	1.04
82.50°	0.90	1.14	1.02	1.11	1.12	1.04	1.06	0.73	1.06	1.45	1.10	1.31	1.12	1.06	0.94	0.98	0.90
85.00°	1.02	0.92	1.23	1.17	1.14	1.14	0.94	0.78	0.90	1.35	1.25	1.16	1.05	0.93	1.08	0.88	1.02
87.50°	1.07	0.86	1.28	1.14	1.17	1.15	0.96	0.84	1.05	1.19	1.24	1.07	0.98	0.89	1.25	0.94	1.07
90.00°	0.95	0.89	1.09	1.09	1.18	1.09	0.98	0.90	1.32	0.93	1.13	1.13	1.02	0.96	1.26	1.04	0.95
92.50°	0.87	0.97	1.00	1.29	1.14	1.14	0.98	0.98	1.17	0.85	1.04	1.18	1.07	1.04	1.26	1.08	0.87
95.00°	0.84	1.06	1.00	1.52	1.10	1.23	1.00	1.07	0.92	0.97	0.98	1.20	0.98	1.13	1.13	1.11	0.84
97.50°	0.94	1.12	1.04	1.18	1.06	1.22	1.03	1.14	1.02	1.02	0.93	1.14	0.88	1.14	1.03	1.16	0.94
100.00°	1.17	1.17	1.10	0.84	1.02	1.17	1.05	1.19	1.16	1.00	0.89	0.97	0.89	1.12	1.09	1.19	1.17
102.50°	1.31	1.16	1.20	0.98	0.99	1.16	1.02	1.19	1.10	1.04	0.95	0.93	0.92	1.09	1.16	1.09	1.31
105.00°	1.38	1.15	1.32	1.09	1.02	1.16	1.05	1.15	1.03	1.10	1.03	1.02	1.06	1.05	1.26	1.01	1.38

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	1262	1262	1262	1262	1232	1232	1232	1232	1175	1175	1175	1124	1124	1124	1076	1076	1054
	1	1203	1174	1148	1124	1176	1150	1127	1105	1106	1087	1070	1065	1051	1037	1028	1016	995
	2	1144	1093	1051	1015	1120	1074	1036	1003	1039	1007	980	1006	980	958	976	955	937
	3	1087	1020	968	926	1066	1005	957	918	976	935	902	949	916	887	924	897	873
	4	1033	954	896	851	1014	941	888	846	918	872	835	896	856	825	875	842	814
	5	982	894	833	788	964	884	827	784	864	814	776	846	802	769	828	791	761
	6	933	840	777	732	917	831	772	729	815	763	724	799	753	718	785	744	713
	7	888	791	728	683	873	783	724	681	769	716	677	756	708	673	743	701	669
	8	846	746	683	640	832	739	680	638	727	673	635	716	667	632	705	662	629
	9	806	705	643	601	794	699	640	600	689	635	597	679	630	595	670	625	592
	10	769	667	606	566	758	662	604	565	653	600	563	645	596	561	637	592	559

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	35.3 fc	6.3 ft
6.5 ft	25.3 fc	7.4 ft
7.5 ft	19.0 fc	8.6 ft
8.0 ft	16.7 fc	9.1 ft
10.0 ft	10.7 fc	11.4 ft
12.0 ft	7.4 fc	13.7 ft
14.0 ft	5.5 fc	16.0 ft
16.0 ft	4.2 fc	18.3 ft
20.0 ft	2.7 fc	22.8 ft
24.0 ft	1.9 fc	27.4 ft
28.0 ft	1.4 fc	31.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	332015	332015	332015
45.00°	29971	29162	28970
55.00°	10093	9700	9784
65.00°	2868	3275	3632
75.00°	1520	1296	1301
85.00°	3646	4391	4050

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	9.2	10.2	9.6	10.5	10.8	9.4	10.4	9.8	10.7	11.1
	3H	9.3	10.2	9.7	10.5	10.9	9.6	10.5	10.0	10.8	11.2
	4H	9.3	10.1	9.7	10.4	10.9	9.6	10.4	10.0	10.7	11.1
	6H	9.3	10.0	9.7	10.4	10.8	9.6	10.3	10.0	10.7	11.1
	8H	9.3	10.0	9.8	10.4	10.9	9.7	10.3	10.1	10.7	11.2
	12H	9.4	10.1	9.9	10.5	10.9	9.8	10.4	10.2	10.8	11.2
4H	2H	9.1	9.9	9.5	10.3	10.7	9.4	10.1	9.8	10.5	10.9
	3H	9.3	9.9	9.7	10.3	10.8	9.6	10.2	10.0	10.6	11.0
	4H	9.3	9.8	9.7	10.3	10.7	9.6	10.1	10.0	10.6	11.0
	6H	9.4	9.9	9.9	10.3	10.8	9.7	10.2	10.1	10.6	11.1
	8H	9.4	9.9	9.9	10.4	10.9	9.8	10.2	10.3	10.7	11.2
	12H	9.6	10.0	10.1	10.5	11.0	10.0	10.4	10.5	10.9	11.4
8H	4H	9.2	9.6	9.6	10.1	10.6	9.5	9.9	9.9	10.4	10.9
	6H	9.3	9.7	9.9	10.2	10.7	9.6	10.0	10.2	10.5	11.0
	8H	9.5	9.8	10.1	10.4	10.9	9.9	10.2	10.4	10.7	11.2
	12H	9.8	10.1	10.4	10.6	11.2	10.3	10.5	10.8	11.1	11.6
12H	4H	9.1	9.5	9.6	10.0	10.5	9.4	9.8	9.9	10.3	10.8
	6H	9.3	9.6	9.9	10.1	10.7	9.6	10.0	10.2	10.4	11.0
	8H	9.6	9.8	10.1	10.3	10.9	9.9	10.2	10.5	10.7	11.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0