

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

STR2 835 13 xx xx RD2SP RB2BD xx RA2HL

2" Adjustable Track Luminaire with spot optic, hex louver and snoot/deep
cutoff bezel

Test Number

SP-01582_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	917
Efficacy	63.65 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.34
Two luminaires, plane 90°	0.34
Four luminaires	0.33

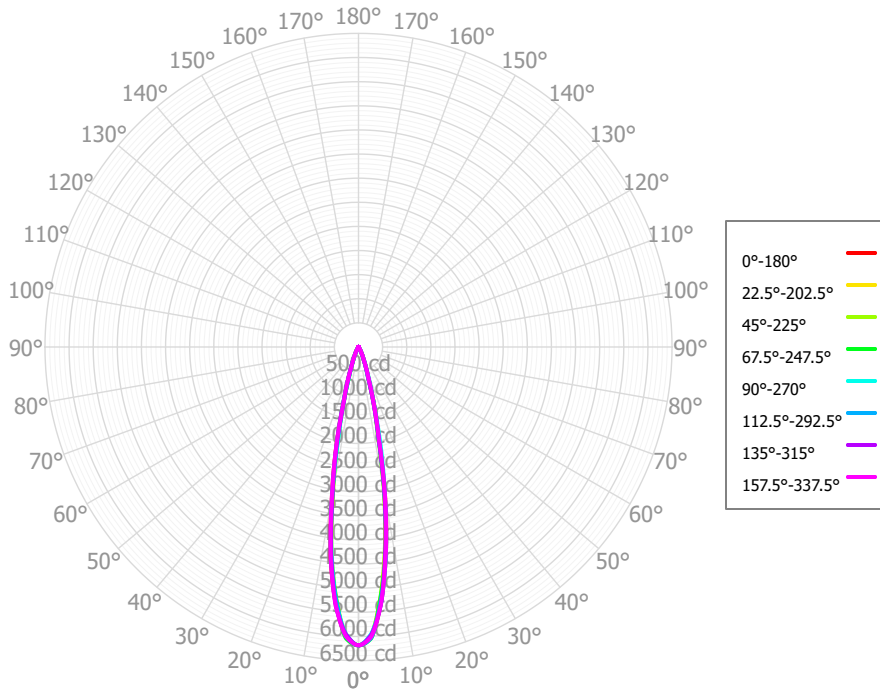
Full Beam Angle

0° - 180°	20°
90° - 270°	20°

IES File Header Contents

Keyword	Value
TEST	SP-01582_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/26/2023
ISSUEDATE	10/02/2023
LUMCAT	STR2 835 13 xx xx RD2SP RB2BD xx RA2HL
LUMINAIRE	2" Adjustable Track Luminaire with spot optic, hex louver and snoot/deep cutoff bezel
OTHER	Beam Angle: 20 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°	437.16	47.70%	90.00° - 100.00°	1.52	0.17%
10.00° - 20.00°	358.35	39.10%	100.00° - 110.00°	1.43	0.16%
20.00° - 30.00°	88.62	9.67%	100.00° - 120.00°	2.71	0.30%
30.00° - 40.00°	15.86	1.73%	120.00° - 130.00°	1.19	0.13%
40.00° - 50.00°	2.22	0.24%	130.00° - 140.00°	1.14	0.12%
50.00° - 60.00°	1.26	0.14%	140.00° - 150.00°	1.00	0.11%
60.00° - 70.00°	1.32	0.14%	150.00° - 160.00°	0.72	0.08%
70.00° - 80.00°	1.34	0.15%	160.00° - 170.00°	0.44	0.05%
80.00° - 90.00°	1.49	0.16%	170.00° - 180.00°	0.14	0.02%
0.00° - 90.00°	907.64	99.03%	0.00° - 180.00°	916.51	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°	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45	6184.45
2.50°	6020.76	5986.91	5989.86	6044.74	5959.89	6002.74	5964.49	6004.10	6000.33	5995.35	5991.16	6041.02	5960.96	6036.06	5977.85	6017.05	6020.76
5.00°	5328.68	5281.91	5211.58	5228.98	5343.33	5295.18	5394.34	5387.56	5363.23	5338.53	5256.89	5271.86	5314.80	5288.02	5348.93	5345.95	5328.68
7.50°	4346.20	4258.95	4193.66	4317.94	4349.40	4368.47	4341.77	4413.79	4415.20	4356.71	4288.19	4364.20	4294.62	4332.36	4248.82	4338.33	4346.20
10.00°	3184.99	3115.67	3036.08	3105.54	3149.83	3135.38	3106.80	3183.40	3185.08	3114.23	3031.03	3105.77	3149.76	3135.53	3109.68	3183.32	3184.99
12.50°	1957.42	1919.63	1843.97	1911.44	2152.55	2099.00	2108.95	2151.46	2146.95	2090.47	2002.50	2015.63	1922.76	1890.38	1935.18	1956.28	1957.42
15.00°	1263.30	1231.09	1211.75	1269.61	1228.94	1257.19	1166.23	1219.88	1233.40	1189.40	1176.30	1213.53	1178.62	1229.71	1182.73	1242.71	1263.30
17.50°	693.10	684.98	650.51	684.74	789.43	742.76	756.18	747.53	740.90	722.08	688.15	662.40	652.94	621.11	699.93	696.79	693.10
20.00°	466.77	455.35	446.98	465.16	459.67	460.67	409.61	428.41	435.63	421.08	410.51	416.81	408.58	432.82	437.02	457.21	466.77
22.50°	281.35	275.95	259.60	273.61	309.17	292.33	284.91	283.27	286.06	277.87	259.66	255.09	247.93	254.00	271.81	277.70	281.35
25.00°	197.99	191.61	179.57	181.11	179.17	180.75	169.09	173.26	181.84	172.02	163.56	165.78	165.50	175.09	179.55	190.80	197.99
27.50°	119.21	114.03	105.51	104.82	119.09	115.40	116.96	118.61	120.68	113.19	107.04	104.81	96.19	103.49	108.52	112.06	119.21
30.00°	77.47	75.25	68.93	65.81	62.47	65.22	68.66	68.93	66.52	60.13	61.43	61.29	62.41	67.91	69.31	72.11	77.47
32.50°	39.66	39.04	37.01	36.04	38.29	40.04	42.50	45.09	41.49	38.26	38.03	36.67	31.43	37.48	35.27	34.66	39.66
35.00°	24.62	23.02	21.28	21.02	16.81	19.68	20.39	22.51	18.70	18.03	18.05	19.96	19.61	22.36	21.38	22.55	24.62
37.50°	11.96	9.48	9.36	10.65	10.56	13.04	11.91	13.96	11.74	11.84	11.08	12.06	8.75	10.84	9.00	11.75	11.96
40.00°	7.31	5.94	5.98	5.52	5.41	7.58	5.57	6.49	5.36	6.25	4.92	6.55	5.83	6.40	5.92	7.26	7.31
42.50°	3.71	3.18	3.53	2.93	3.88	4.72	3.88	4.41	3.62	4.11	3.48	4.18	3.29	3.36	3.11	3.65	3.71
45.00°	2.39	2.44	2.50	2.38	2.68	2.09	2.60	2.68	2.12	2.35	2.18	2.28	2.30	2.24	2.47	2.59	2.39
47.50°	1.56	1.85	1.88	1.90	2.20	1.86	1.96	1.96	1.58	1.86	1.97	1.84	1.57	1.71	1.88	1.81	1.56
50.00°	1.46	1.55	1.70	1.46	1.79	1.68	1.62	1.45	1.19	1.51	1.75	1.49	1.50	1.74	1.55	1.56	1.46
52.50°	1.42	1.40	1.57	1.28	1.49	1.70	1.61	1.37	1.20	1.50	1.52	1.36	1.38	1.68	1.28	1.40	1.42
55.00°	1.45	1.47	1.48	1.20	1.40	1.66	1.62	1.41	1.18	1.44	1.33	1.24	1.19	1.56	1.15	1.35	1.45
57.50°	1.34	1.45	1.35	1.33	1.53	1.46	1.64	1.60	1.13	1.28	1.20	1.11	1.10	1.54	1.08	1.36	1.34
60.00°	1.13	1.36	1.20	1.52	1.42	1.35	1.46	1.67	1.20	1.14	1.28	1.05	1.14	1.59	1.12	1.42	1.13
62.50°	1.19	1.32	1.11	1.54	1.11	1.46	1.18	1.61	1.42	0.99	1.69	1.31	1.16	1.55	1.22	1.59	1.19
65.00°	1.41	1.31	1.05	1.55	1.04	1.44	1.11	1.47	1.45	1.05	1.79	1.48	1.15	1.48	1.41	1.84	1.41
67.50°	1.44	1.32	1.12	1.30	1.08	1.24	1.13	1.28	1.30	1.27	1.52	1.41	1.06	1.44	1.36	1.87	1.44
70.00°	1.41	1.33	1.21	1.04	1.15	1.13	1.28	1.34	1.46	1.23	1.40	1.35	0.92	1.41	1.10	1.78	1.41
72.50°	1.35	1.07	1.30	0.98	1.22	1.11	1.46	1.51	1.82	1.05	1.41	1.28	0.95	1.23	1.16	1.61	1.35
75.00°	1.29	0.73	1.39	0.95	1.27	1.09	1.23	1.69	1.58	1.20	1.45	1.27	1.05	1.03	1.42	1.41	1.29
77.50°	1.22	0.78	1.23	1.11	1.31	1.08	0.95	1.86	1.09	1.49	1.49	1.34	1.31	1.30	1.33	1.26	1.22
80.00°	1.14	0.89	1.08	1.26	1.22	1.16	1.00	1.70	1.22	1.45	1.61	1.33	1.61	1.52	1.08	1.12	1.14
82.50°	1.48	1.27	1.12	1.34	1.12	1.30	1.05	1.48	1.54	1.33	1.75	1.26	1.45	1.28	1.24	1.39	1.48
85.00°	1.78	1.64	1.15	1.43	1.31	1.37	1.14	1.48	1.50	1.40	1.65	1.09	1.21	1.12	1.50	1.70	1.78
87.50°	1.57	1.45	1.09	1.51	1.48	1.43	1.22	1.49	1.41	1.49	1.49	0.85	1.52	1.28	1.51	1.44	1.57
90.00°	1.38	1.28	1.10	1.59	1.51	1.32	1.28	1.43	1.33	1.55	1.43	1.02	1.85	1.39	1.47	1.21	1.38
92.50°	1.30	1.23	1.32	1.67	1.51	1.19	1.35	1.35	1.25	1.61	1.39	1.36	1.53	1.35	1.51	1.27	1.30
95.00°	1.20	1.23	1.53	1.60	1.38	1.16	1.42	1.19	1.41	1.53	1.39	1.36	1.24	1.51	1.54	1.38	1.20
97.50°	1.02	1.46	1.73	1.38	1.26	1.15	1.47	1.08	1.53	1.43	1.39	1.29	1.18	2.05	1.57	1.71	1.02
100.00°	0.93	1.57	1.75	1.29	1.10	1.40	1.48	1.21	1.42	1.17	1.44	1.22	1.13	2.15	1.56	1.94	0.93
102.50°	1.00	1.39	1.49	1.32	1.03	1.62	1.51	1.30	1.37	1.02	1.46	1.15	1.15	1.66	1.33	1.89	1.00
105.00°	1.07	1.36	1.23	1.28	1.13	1.54	1.60	1.27	1.54	1.23	1.24	1.32	1.22	1.38	1.20	1.75	1.07

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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1089	1089	1089	1089	1063	1063	1063	1063	1013	1013	1013	968	968	968	927	927	908
	1	1055	1036	1020	1005	1032	1016	1001	988	978	967	957	943	935	927	911	905	886
	2	1024	993	968	946	1004	977	954	935	947	929	914	920	906	893	895	884	866
	3	995	956	926	902	979	944	916	894	920	898	879	898	880	865	878	864	847
	4	969	924	892	867	955	914	885	861	896	871	851	878	857	841	862	845	829
	5	945	897	863	838	932	888	857	834	873	847	826	859	836	819	846	827	812
	6	923	872	837	813	912	865	833	810	852	825	804	841	817	799	830	809	796
	7	902	849	815	791	892	844	812	789	833	805	785	823	799	781	814	793	780
	8	882	829	795	772	873	824	792	770	815	787	767	807	782	764	799	777	765
	9	863	810	777	755	856	806	775	753	798	770	751	791	766	748	785	762	751
	10	846	792	760	739	839	789	758	738	783	755	736	777	751	734	771	748	738

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	204.4 fc	2.0 ft
6.5 ft	146.4 fc	2.3 ft
7.5 ft	109.9 fc	2.7 ft
8.0 ft	96.6 fc	2.9 ft
10.0 ft	61.8 fc	3.6 ft
12.0 ft	42.9 fc	4.3 ft
14.0 ft	31.6 fc	5.0 ft
16.0 ft	24.2 fc	5.8 ft
20.0 ft	15.5 fc	7.2 ft
24.0 ft	10.7 fc	8.6 ft
28.0 ft	7.9 fc	10.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1921953	1921953	1921953
45.00°	1050	1101	1177
55.00°	785	802	758
65.00°	1033	775	762
75.00°	1546	1673	1519
85.00°	6361	4083	4660

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	-4.8	-3.9	-4.4	-3.6	-3.2	-5.3	-4.4	-4.9	-4.1	-3.7
	3H	-0.9	-0.1	-0.5	0.2	0.6	-2.2	-1.4	-1.8	-1.1	-0.7
	4H	0.5	1.3	1.0	1.6	2.1	-0.5	0.2	-0.1	0.6	1.0
	6H	2.1	2.7	2.5	3.1	3.5	2.0	2.6	2.4	3.0	3.4
	8H	3.4	4.0	3.8	4.4	4.8	3.2	3.8	3.7	4.2	4.7
	12H	5.3	5.9	5.8	6.3	6.8	4.5	5.1	4.9	5.5	5.9
4H	2H	-4.0	-3.3	-3.6	-2.9	-2.5	-3.9	-3.2	-3.5	-2.8	-2.4
	3H	0.1	0.7	0.5	1.1	1.5	-0.7	-0.1	-0.3	0.3	0.7
	4H	1.6	2.1	2.1	2.6	3.1	1.1	1.6	1.5	2.0	2.5
	6H	3.3	3.7	3.8	4.2	4.7	3.5	4.0	4.0	4.4	4.9
	8H	4.8	5.2	5.3	5.6	6.1	4.8	5.2	5.3	5.7	6.2
	12H	6.9	7.3	7.4	7.8	8.3	6.2	6.6	6.7	7.1	7.6
8H	4H	2.3	2.7	2.8	3.1	3.6	2.0	2.4	2.4	2.8	3.3
	6H	4.2	4.5	4.7	5.0	5.6	4.6	4.9	5.1	5.5	6.0
	8H	5.9	6.2	6.5	6.7	7.2	6.1	6.3	6.6	6.9	7.4
	12H	8.4	8.6	8.9	9.1	9.7	7.7	7.9	8.2	8.4	9.0
12H	4H	2.5	2.8	3.0	3.3	3.8	2.3	2.6	2.8	3.1	3.6
	6H	4.5	4.8	5.1	5.3	5.9	5.0	5.3	5.6	5.8	6.4
	8H	6.4	6.6	6.9	7.1	7.7	6.6	6.8	7.1	7.4	8.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0