

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

TS - RA35 - 29L - 35HK - ND - xx - xx - MW

Track light for accent, display and general illumination.

#### Test Number

TSRA35-2

#### Test Date

2/18/25

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

## Summary of Results

### Power

Input Watts	27.71 W
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### Lumen Output

Output Lumens	2692
Efficacy	97.15 lm/W

### Luminous Dimensions

0° - 180° Size	0
90° - 270° Size	0.23
Height	0.71

### Spacing Criterion

Two luminaires, plane 0°	0.43
Two luminaires, plane 90°	0.42
Four luminaires	0.41

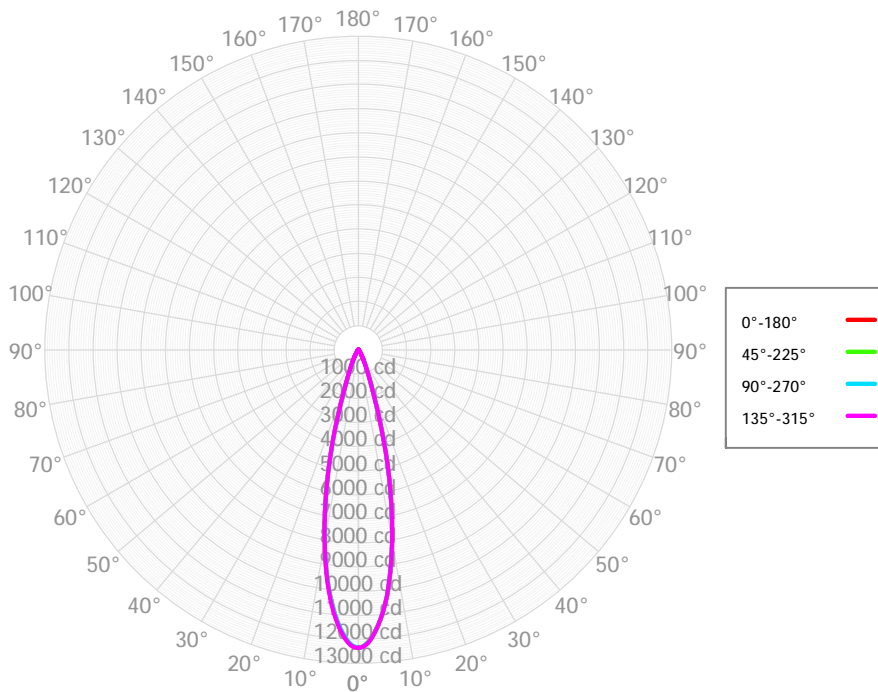
### Full Beam Angle

0° - 180°	25°
90° - 270°	25°

## IES File Header Contents

Keyword	Value
TEST	TSRA35-2
TESTLAB	Spectrum Lighting Photometric Lab.
MANUFAC	Spectrum Lighting
TESTDATE	2/18/25
ISSUEDATE	2/18/25
LUMCAT	TS - RA35 - 29L - 35HK - ND - xx - xx - MW
LUMINAIRE	Track light for accent, display and general illumination.

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	960.31	35.67%	90.00° - 100.00°	4.80	0.18%
10.00° - 20.00°	1167.58	43.37%	100.00° - 110.00°	4.56	0.17%
20.00° - 30.00°	323.36	12.01%	100.00° - 120.00°	9.05	0.34%
30.00° - 40.00°	101.18	3.76%	120.00° - 130.00°	4.50	0.17%
40.00° - 50.00°	51.61	1.92%	130.00° - 140.00°	4.46	0.17%
50.00° - 60.00°	31.43	1.17%	140.00° - 150.00°	3.79	0.14%
60.00° - 70.00°	13.19	0.49%	150.00° - 160.00°	3.13	0.12%
70.00° - 80.00°	5.32	0.20%	160.00° - 170.00°	2.33	0.09%
80.00° - 90.00°	4.94	0.18%	170.00° - 180.00°	0.96	0.04%
0.00° - 90.00°	2658.91	98.77%	0.00° - 180.00°	2691.94	100.00%

### Candela Distribution

	0.00°	45.00°	90.00°	135.00°	180.00°	225.00°	270.00°	315.00°	360.00°
0.00°	12351.48	12351.48	12351.48	12351.48	12351.48	12351.48	12351.48	12351.48	12351.48
1.00°	12286.23	12279.31	12290.01	12316.00	12299.28	12280.48	12283.96	12300.56	12286.23
2.00°	12118.63	12097.13	12116.89	12148.62	12119.93	12109.05	12096.54	12132.58	12118.63
3.00°	11835.16	11825.25	11848.20	11874.61	11847.45	11824.17	11808.42	11846.95	11835.16
4.00°	11488.38	11481.52	11495.86	11527.78	11478.16	11461.53	11447.13	11494.85	11488.38
5.00°	11086.33	11075.71	11075.34	11104.01	11052.70	11022.86	11024.21	11074.92	11086.33
6.00°	10628.64	10606.95	10609.78	10621.63	10557.80	10529.83	10548.05	10607.89	10628.64
7.00°	10067.72	10055.46	10039.22	10059.74	10015.43	9996.53	10008.77	10049.24	10067.72
8.00°	9438.52	9427.11	9412.87	9436.81	9407.54	9404.50	9400.73	9418.92	9438.52
9.00°	8775.94	8751.32	8728.78	8753.32	8743.76	8750.42	8717.34	8752.81	8775.94
10.00°	8082.54	8050.11	8036.32	8043.38	8046.77	8043.53	8011.82	8055.45	8082.54
11.00°	7343.27	7322.73	7307.19	7317.51	7331.79	7323.12	7299.83	7329.59	7343.27
12.00°	6600.38	6569.99	6553.76	6581.68	6601.42	6583.37	6545.38	6582.29	6600.38
13.00°	5865.21	5835.43	5807.00	5838.91	5856.09	5825.28	5799.74	5847.19	5865.21
14.00°	5144.04	5122.55	5102.11	5096.55	5124.22	5083.31	5058.38	5118.47	5144.04
15.00°	4404.23	4401.40	4378.36	4382.80	4404.32	4357.14	4316.32	4376.20	4404.23
16.00°	3668.25	3693.23	3673.28	3690.10	3710.66	3635.68	3578.19	3643.01	3668.25
17.00°	2958.21	2996.85	2992.74	2993.26	3019.31	2934.28	2880.94	2940.57	2958.21
18.00°	2403.13	2422.90	2418.99	2408.42	2388.75	2338.72	2312.23	2364.07	2403.13
19.00°	1954.31	1970.19	1956.44	1933.55	1903.54	1863.33	1846.19	1908.81	1954.31
20.00°	1605.18	1628.05	1603.11	1567.57	1532.82	1497.73	1500.80	1556.79	1605.18
21.00°	1343.15	1361.89	1330.46	1294.75	1253.14	1220.43	1231.73	1291.31	1343.15
22.00°	1131.91	1147.65	1119.41	1077.82	1032.82	1007.93	1025.37	1083.47	1131.91
23.00°	951.43	973.78	945.62	904.44	863.13	840.01	854.56	904.02	951.43
24.00°	803.00	824.26	797.97	766.58	719.41	698.61	716.62	762.96	803.00
25.00°	677.40	695.57	673.08	643.58	603.99	586.28	604.49	647.19	677.40
26.00°	583.35	596.78	575.07	545.38	511.08	499.62	511.86	550.97	583.35
27.00°	499.73	512.75	492.67	467.41	434.51	422.08	432.62	475.10	499.73
28.00°	424.88	435.86	419.71	402.20	375.38	364.56	374.28	404.70	424.88
29.00°	366.27	372.78	364.30	344.43	319.29	312.24	326.41	347.45	366.27
30.00°	315.47	325.11	315.30	297.62	280.12	270.85	283.86	297.68	315.47
31.00°	275.96	277.09	274.24	256.55	238.20	234.40	241.25	263.04	275.96
32.00°	238.51	241.52	234.56	221.28	209.79	202.55	214.56	234.03	238.51
33.00°	206.46	208.43	205.84	194.81	184.10	172.51	184.73	200.77	206.46
34.00°	181.06	185.65	178.55	167.43	158.60	149.74	165.99	172.81	181.06
35.00°	157.06	159.94	158.48	149.72	142.69	134.26	137.30	155.00	157.06
36.00°	138.32	144.36	138.29	131.30	124.81	123.13	125.46	136.81	138.32
37.00°	124.48	128.16	126.51	123.73	112.86	110.63	115.07	122.38	124.48
38.00°	111.50	116.66	115.04	110.76	106.37	99.83	99.52	111.81	111.50
39.00°	104.26	104.25	104.32	97.85	96.83	90.67	95.54	101.32	104.26
40.00°	91.76	98.55	99.54	91.27	88.00	84.98	88.50	91.37	91.76
41.00°	87.05	90.61	92.09	81.42	82.73	78.79	84.40	85.34	87.05
42.00°	82.71	84.17	83.27	80.97	78.78	73.93	81.60	79.31	82.71
43.00°	73.78	80.74	75.72	74.26	71.58	72.60	74.07	78.58	73.78

### 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	3197	3197	3197	3197	3119	3119	3119	3119	2973	2973	2973	2839	2839	2839	2717	2717	2659
	1	3082	3022	2968	2919	3014	2961	2913	2870	2848	2811	2777	2744	2715	2689	2648	2626	2572
	2	2975	2873	2789	2718	2916	2825	2750	2686	2736	2675	2623	2653	2605	2563	2577	2539	2488
	3	2875	2744	2643	2563	2823	2706	2614	2540	2635	2559	2497	2569	2507	2455	2507	2457	2410
	4	2782	2632	2522	2438	2737	2601	2500	2422	2543	2458	2391	2490	2419	2361	2440	2381	2336
	5	2696	2532	2418	2333	2657	2507	2401	2322	2460	2369	2300	2416	2339	2278	2375	2309	2268
	6	2616	2443	2327	2244	2581	2423	2314	2236	2384	2289	2219	2347	2265	2203	2313	2242	2204
	7	2541	2363	2247	2166	2510	2346	2237	2160	2313	2217	2147	2282	2198	2135	2254	2180	2144
	8	2472	2290	2176	2097	2444	2275	2167	2092	2248	2151	2083	2222	2136	2073	2197	2121	2088
	9	2406	2223	2111	2035	2381	2210	2104	2031	2187	2091	2024	2165	2078	2016	2144	2066	2035
	10	2344	2161	2051	1978	2322	2150	2046	1975	2130	2035	1969	2111	2024	1963	2093	2014	1986

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	408.3 fc	2.5 ft
6.5 ft	292.3 fc	2.9 ft
7.5 ft	219.6 fc	3.3 ft
8.0 ft	193.0 fc	3.6 ft
10.0 ft	123.5 fc	4.5 ft
12.0 ft	85.8 fc	5.4 ft
14.0 ft	63.0 fc	6.2 ft
16.0 ft	48.2 fc	7.1 ft
20.0 ft	30.9 fc	8.9 ft
24.0 ft	21.4 fc	10.7 ft
28.0 ft	15.8 fc	12.5 ft

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

	0.00°	45.00°	90.00°
0.00°	0	0	0
45.00°	6510	9242	107829827078499188736
55.00°	2676	4132	45712478972150841344
65.00°	864	1289	15798575698467983360
75.00°	545	562	6079267220422700032
85.00°	318	427	5680323661800483840

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		Viewing C0-180					Viewing C90-270				
2H	2H	6.4	7.4	6.8	7.7	8.1	10.4	11.4	10.8	11.7	12.0
	3H	6.6	7.4	7.0	7.7	8.1	10.7	11.5	11.1	11.8	12.2
	4H	6.6	7.3	7.0	7.7	8.1	10.7	11.5	11.2	11.9	12.3
	6H	6.6	7.2	7.0	7.6	8.1	10.9	11.6	11.4	12.0	12.4
	8H	6.6	7.2	7.0	7.6	8.1	11.1	11.7	11.5	12.1	12.6
	12H	6.6	7.2	7.1	7.6	8.1	11.4	12.0	11.9	12.5	12.9
4H	2H	6.5	7.2	6.9	7.6	8.0	10.2	11.0	10.7	11.4	11.8
	3H	6.6	7.2	7.1	7.7	8.1	10.5	11.1	10.9	11.5	12.0
	4H	6.7	7.2	7.1	7.7	8.1	10.5	11.1	11.0	11.5	12.0
	6H	6.7	7.2	7.2	7.6	8.1	10.8	11.3	11.3	11.7	12.2
	8H	6.8	7.2	7.3	7.7	8.2	11.0	11.4	11.5	11.9	12.4
	12H	6.9	7.2	7.4	7.8	8.3	11.4	11.8	11.9	12.3	12.8
8H	4H	6.6	7.0	7.1	7.5	8.0	10.4	10.8	10.9	11.3	11.8
	6H	6.7	7.0	7.2	7.6	8.1	10.7	11.0	11.2	11.5	12.1
	8H	6.9	7.2	7.4	7.7	8.2	10.9	11.2	11.5	11.8	12.3
	12H	7.1	7.3	7.6	7.8	8.4	11.4	11.7	11.9	12.2	12.8
12H	4H	6.5	6.9	7.1	7.4	7.9	10.3	10.7	10.8	11.2	11.7
	6H	6.7	7.0	7.3	7.5	8.1	10.6	10.9	11.2	11.4	12.0
	8H	6.9	7.2	7.5	7.7	8.3	10.9	11.1	11.4	11.7	12.3

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0