

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

#### Luminaire

LT03IND48 05L 35K LW xx xx MW

Specline Linear, 1.8" aperture x 4' Long, Matte White Refl

#### Test Number

SP-01550

#### Test Date

6/3/2022

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

### Summary of Results

#### Power

Input Watts	21 W
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#### Lumen Output

Output Lumens	1506
Efficacy	71.73 lm/W

#### Luminous Dimensions

0° - 180° Size	0.15
90° - 270° Size	4
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.9
Two luminaires, plane 90°	1.2
Four luminaires	1.72

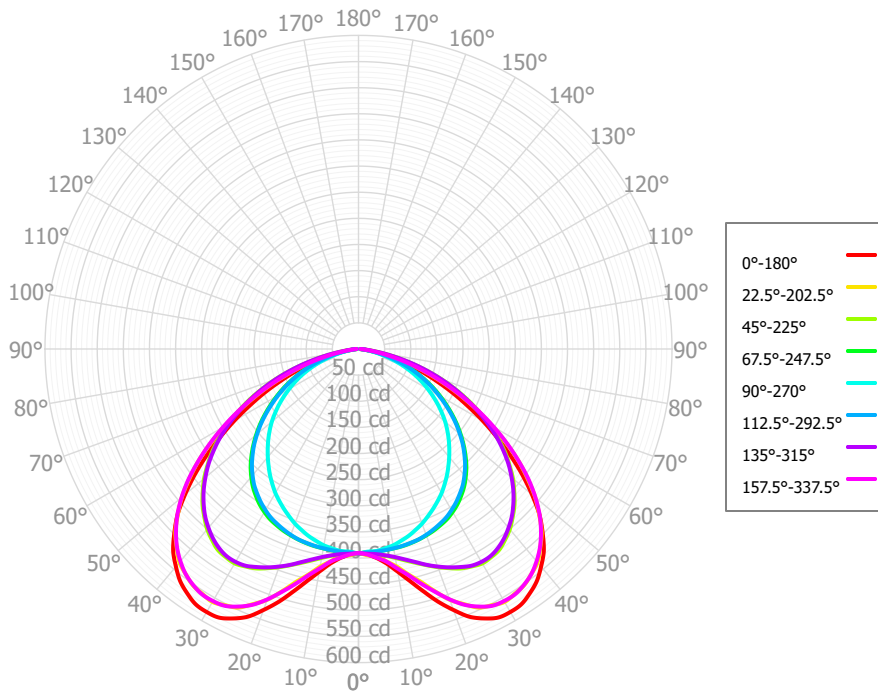
#### Full Beam Angle

0° - 180°	118°
90° - 270°	72°

### IES File Header Contents

Keyword	Value
TEST	SP-01550
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	3/27/2023
LUMCAT	LT03IND48 05L 35K LW xx xx MW
LUMINAIRE	Specline Linear, 1.8" aperture x 4' Long, Matte White Refl
OTHER	Wide Extruded Acrylic Lens, Batwing Distribution
OTHER	Data for 4' IND fixture, Ceiling mount
OTHER	118 deg x 73 deg Beam Angle
LAMP	N/A, Min. 80 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	05L designation for Spectrum linear product indicates 377 Source Lm/Ft.
OTHER	CCT Output Multipliers: 40K x 1.02, 30K x 0.97
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	38.64	2.56%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	120.98	8.03%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	211.01	14.01%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	279.71	18.57%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	302.45	20.08%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	267.49	17.76%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	185.93	12.34%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	85.31	5.66%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	14.87	0.99%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1506.39	100.00%	0.00° - 180.00°	1506.39	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°	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89	390.89
2.50°	394.08	395.08	390.31	389.37	388.31	389.78	392.24	393.93	394.08	395.08	390.31	389.37	388.31	389.78	392.24	393.93	394.08
5.00°	401.69	397.44	393.39	389.01	388.16	389.25	394.18	400.96	401.69	397.44	393.39	389.01	388.16	389.25	394.18	400.96	401.69
7.50°	414.32	409.97	399.06	388.34	384.96	388.35	398.39	410.32	414.32	409.97	399.06	388.34	384.96	388.35	398.39	410.32	414.32
10.00°	432.81	422.95	405.97	387.51	381.60	387.27	404.51	426.13	432.81	422.95	405.97	387.51	381.60	387.27	404.51	426.13	432.81
12.50°	454.82	442.08	414.49	386.55	376.02	386.07	412.68	443.60	454.82	442.08	414.49	386.55	376.02	386.07	412.68	443.60	454.82
15.00°	480.10	461.35	423.72	384.82	370.30	384.27	422.22	465.20	480.10	461.35	423.72	384.82	370.30	384.27	422.22	465.20	480.10
17.50°	507.16	486.08	433.86	382.53	363.08	382.13	433.09	487.16	507.16	486.08	433.86	382.53	363.08	382.13	433.09	487.16	507.16
20.00°	531.57	510.64	444.35	379.55	355.66	378.50	443.11	509.95	531.57	510.64	444.35	379.55	355.66	378.50	443.11	509.95	531.57
22.50°	554.68	528.59	454.00	376.12	346.67	374.11	452.36	529.86	554.68	528.59	454.00	376.12	346.67	374.11	452.36	529.86	554.68
25.00°	569.00	546.03	463.36	371.82	337.60	368.99	460.48	543.94	569.00	546.03	463.36	371.82	337.60	368.99	460.48	543.94	569.00
27.50°	579.38	552.83	469.17	366.98	328.03	363.52	467.67	554.09	579.38	552.83	469.17	366.98	328.03	363.52	467.67	554.09	579.38
30.00°	581.21	558.98	473.85	360.20	318.18	356.03	470.48	557.04	581.21	558.98	473.85	360.20	318.18	356.03	470.48	557.04	581.21
32.50°	579.58	555.90	472.44	352.34	306.74	347.68	470.01	556.88	579.58	555.90	472.44	352.34	306.74	347.68	470.01	556.88	579.58
35.00°	571.20	552.29	469.36	342.64	295.10	338.08	465.15	551.53	571.20	552.29	469.36	342.64	295.10	338.08	465.15	551.53	571.20
37.50°	560.37	543.19	460.59	332.02	282.59	328.00	457.25	543.18	560.37	543.19	460.59	332.02	282.59	328.00	457.25	543.18	560.37
40.00°	543.63	533.09	450.44	319.26	269.99	315.41	446.69	530.25	543.63	533.09	450.44	319.26	269.99	315.41	446.69	530.25	543.63
42.50°	524.98	514.93	436.67	305.52	257.08	301.99	434.44	514.25	524.98	514.93	436.67	305.52	257.08	301.99	434.44	514.25	524.98
45.00°	498.55	495.65	422.13	289.74	244.04	286.69	419.12	493.98	498.55	495.65	422.13	289.74	244.04	286.69	419.12	493.98	498.55
47.50°	469.89	469.06	404.27	273.12	230.50	270.83	402.04	470.21	469.89	469.06	404.27	273.12	230.50	270.83	402.04	470.21	469.89
50.00°	433.43	441.44	385.81	255.60	216.54	253.26	382.56	441.99	433.43	441.44	385.81	255.60	216.54	253.26	382.56	441.99	433.43
52.50°	395.02	408.16	363.96	237.75	201.22	235.25	361.85	410.24	395.02	408.16	363.96	237.75	201.22	235.25	361.85	410.24	395.02
55.00°	354.53	373.96	341.61	218.87	185.67	216.15	338.28	374.35	354.53	373.96	341.61	218.87	185.67	216.15	338.28	374.35	354.53
57.50°	313.58	335.48	315.76	199.65	169.44	196.81	313.35	337.48	313.58	335.48	315.76	199.65	169.44	196.81	313.35	337.48	313.58
60.00°	274.09	297.13	289.47	180.53	153.26	177.67	285.93	299.53	274.09	297.13	289.47	180.53	153.26	177.67	285.93	299.53	274.09
62.50°	234.87	259.31	260.32	161.45	137.20	158.58	257.44	261.51	234.87	259.31	260.32	161.45	137.20	158.58	257.44	261.51	234.87
65.00°	198.94	221.79	230.89	141.32	120.83	139.60	228.12	223.41	198.94	221.79	230.89	141.32	120.83	139.60	228.12	223.41	198.94
67.50°	163.53	185.29	199.93	120.92	103.80	120.64	198.49	186.86	163.53	185.29	199.93	120.92	103.80	120.64	198.49	186.86	163.53
70.00°	132.33	149.70	168.86	101.05	86.63	100.62	167.58	151.72	132.33	149.70	168.86	101.05	86.63	100.62	167.58	151.72	132.33
72.50°	101.66	116.93	136.46	81.29	69.17	80.45	136.23	118.78	101.66	116.93	136.46	81.29	69.17	80.45	136.23	118.78	101.66
75.00°	75.42	85.71	103.99	62.97	52.57	62.29	105.49	87.66	75.42	85.71	103.99	62.97	52.57	62.29	105.49	87.66	75.42
77.50°	49.63	58.77	75.26	44.92	37.57	44.34	74.94	60.58	49.63	58.77	75.26	44.92	37.57	44.34	74.94	60.58	49.63
80.00°	32.18	35.17	46.62	30.46	24.55	30.08	49.70	36.54	32.18	35.17	46.62	30.46	24.55	30.08	49.70	36.54	32.18
82.50°	15.38	19.92	28.35	16.59	14.87	16.13	25.89	20.75	15.38	19.92	28.35	16.59	14.87	16.13	25.89	20.75	15.38
85.00°	9.57	8.37	10.39	10.17	7.85	10.12	14.50	10.63	9.57	8.37	10.39	10.17	7.85	10.12	14.50	10.63	9.57
87.50°	4.32	5.14	6.59	4.73	4.93	4.58	6.03	5.65	4.32	5.14	6.59	4.73	4.93	4.58	6.03	5.65	4.32
90.00°	3.56	2.95	2.95	3.52	3.10	3.59	3.71	3.90	3.56	2.95	2.95	3.52	3.10	3.59	3.71	3.90	3.56

### 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>	1793	1793	1793	1793	1752	1752	1752	1752	1674	1674	1674	1603	1603	1603	1537	1537	1506
	<b>1</b>	1644	1574	1511	1455	1603	1540	1483	1431	1476	1429	1386	1417	1379	1343	1363	1332	1304
	<b>2</b>	1493	1370	1269	1183	1454	1342	1248	1169	1288	1210	1142	1239	1173	1116	1193	1139	1091
	<b>3</b>	1359	1200	1077	979	1321	1176	1062	970	1131	1033	952	1089	1006	936	1050	980	919
	<b>4</b>	1240	1058	925	823	1205	1038	913	817	1000	892	806	965	871	795	932	851	784
	<b>5</b>	1137	941	804	703	1105	924	795	699	892	778	691	861	762	683	833	746	676
	<b>6</b>	1046	843	706	608	1017	828	699	605	801	685	599	775	672	594	751	660	589
	<b>7</b>	967	760	626	532	941	748	620	530	724	609	526	702	599	522	682	589	518
	<b>8</b>	898	690	560	470	874	680	555	469	660	546	466	641	538	463	623	529	460
	<b>9</b>	836	630	504	419	815	621	501	418	604	493	416	588	486	413	572	479	411
	<b>10</b>	782	579	458	377	762	571	455	376	556	448	374	542	442	372	528	437	371

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	12.9 fc	18.3 ft
6.5 ft	9.3 fc	21.6 ft
7.5 ft	6.9 fc	24.9 ft
8.0 ft	6.1 fc	26.6 ft
10.0 ft	3.9 fc	33.2 ft
12.0 ft	2.7 fc	39.9 ft
14.0 ft	2.0 fc	46.5 ft
16.0 ft	1.5 fc	53.2 ft
20.0 ft	1.0 fc	66.5 ft
24.0 ft	0.7 fc	79.7 ft
28.0 ft	0.5 fc	93.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	7013	7013	7013
<b>45.00°</b>	12649	10710	6191
<b>55.00°</b>	11089	10685	5807
<b>65.00°</b>	8445	9801	5129
<b>75.00°</b>	5228	7208	3644
<b>85.00°</b>	1969	2138	1615

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	21.5	23.2	21.9	23.5	23.8	17.7	19.4	18.1	19.7	20.0
	<b>3H</b>	22.7	24.2	23.1	24.5	24.9	19.2	20.7	19.6	21.0	21.4
	<b>4H</b>	23.0	24.4	23.4	24.7	25.1	19.6	21.0	20.0	21.4	21.7
	<b>6H</b>	23.1	24.4	23.5	24.8	25.2	19.8	21.1	20.2	21.5	21.9
	<b>8H</b>	23.1	24.3	23.5	24.7	25.1	19.8	21.1	20.3	21.5	21.9
	<b>12H</b>	23.1	24.3	23.5	24.7	25.1	19.9	21.0	20.3	21.4	21.8
<b>4H</b>	<b>2H</b>	22.1	23.5	22.5	23.8	24.2	19.4	20.8	19.8	21.1	21.5
	<b>3H</b>	23.5	24.6	23.9	25.0	25.4	20.9	22.1	21.3	22.5	22.9
	<b>4H</b>	23.9	24.9	24.3	25.3	25.8	21.3	22.4	21.7	22.8	23.2
	<b>6H</b>	24.0	25.0	24.5	25.4	25.9	21.6	22.5	22.0	22.9	23.4
	<b>8H</b>	24.1	24.9	24.5	25.4	25.8	21.6	22.4	22.0	22.9	23.3
	<b>12H</b>	24.1	24.8	24.5	25.3	25.8	21.6	22.4	22.1	22.8	23.3
<b>8H</b>	<b>4H</b>	24.1	24.9	24.5	25.4	25.8	21.8	22.7	22.3	23.1	23.6
	<b>6H</b>	24.3	25.0	24.8	25.5	26.0	22.1	22.8	22.6	23.3	23.8
	<b>8H</b>	24.3	25.0	24.8	25.5	25.9	22.2	22.8	22.7	23.3	23.8
	<b>12H</b>	24.3	24.9	24.8	25.4	26.0	22.2	22.8	22.7	23.3	23.8
<b>12H</b>	<b>4H</b>	24.1	24.8	24.5	25.3	25.8	21.8	22.6	22.3	23.1	23.6
	<b>6H</b>	24.3	24.9	24.8	25.4	25.9	22.2	22.8	22.7	23.3	23.8
	<b>8H</b>	24.4	24.9	24.9	25.4	26.0	22.3	22.8	22.8	23.3	23.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0