Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

LT03IND48 05L 35K DW xx xx MW

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

Test Number

SP-01549

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

Lumen Output

Output Lumens	1273
Efficacy	60.63 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.24
Two luminaires, plane 90°	1.24
Four luminaires	1.35

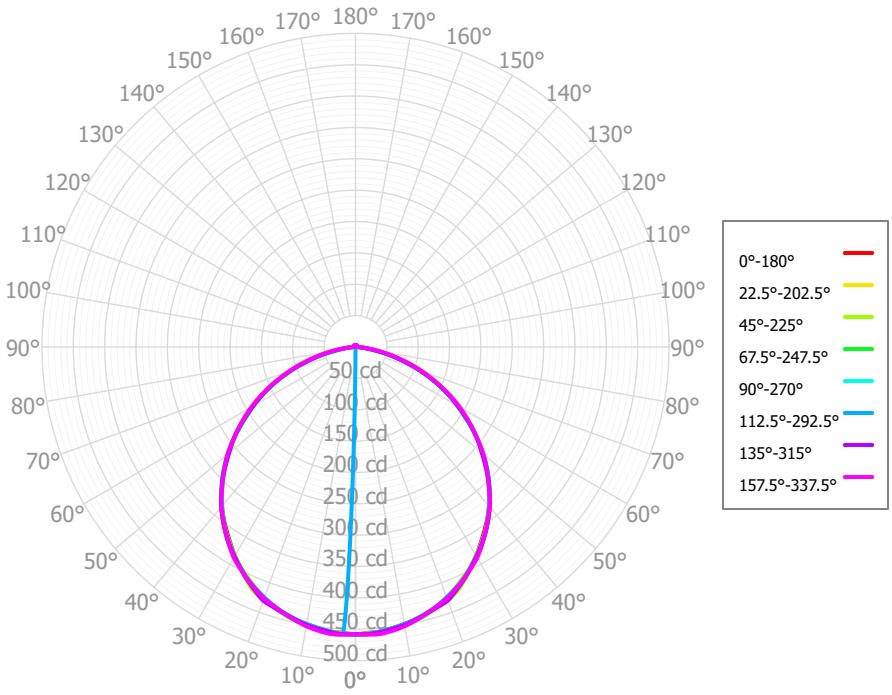
Full Beam Angle

0° - 180°	110°
90° - 270°	110°

IES File Header Contents

Keyword	Value
TEST	SP-01549
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	3/27/2023
LUMCAT	LT03IND48 05L 35K DW xx xx MW
LUMINAIRE	Specline Linear, 1.8" aperture x 4' Long, Matte White Refl
OTHER	Diffuse White Extruded Acrylic Lens, Symmetric Distribution
OTHER	Data for 4' IND fixture, Ceiling mount
OTHER	111 Degree Beam Angle
LAMP	N/A, Min. 80 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	05L designation for Spectrum linear product indicates 318 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°	43.99	3.45%	90.00° - 100.00°	3.24	0.25%
10.00° - 20.00°	124.17	9.75%	100.00° - 110.00°	3.07	0.24%
20.00° - 30.00°	187.87	14.76%	100.00° - 120.00°	6.00	0.47%
30.00° - 40.00°	225.39	17.70%	120.00° - 130.00°	2.64	0.21%
40.00° - 50.00°	230.82	18.13%	130.00° - 140.00°	2.28	0.18%
50.00° - 60.00°	203.63	15.99%	140.00° - 150.00°	1.89	0.15%
60.00° - 70.00°	148.55	11.67%	150.00° - 160.00°	1.39	0.11%
70.00° - 80.00°	74.75	5.87%	160.00° - 170.00°	0.86	0.07%
80.00° - 90.00°	15.41	1.21%	170.00° - 180.00°	0.29	0.02%
0.00° - 90.00°	1254.58	98.54%	0.00° - 180.00°	1273.17	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°	458.32	458.32	458.32	458.32	458.32	0.32	458.32	458.32	458.32	458.32	458.32	458.32	458.32	458.32	458.32	458.32	458.32
2.50°	456.35	458.15	456.93	458.38	458.02	457.77	458.22	459.23	456.35	458.15	456.93	458.38	458.02	457.77	458.22	459.23	456.35
5.00°	455.57	457.69	455.70	456.95	456.40	455.18	456.53	459.36	455.57	457.69	455.70	456.95	456.40	455.18	456.53	459.36	455.57
7.50°	452.21	454.71	453.71	454.42	453.79	452.23	453.49	456.32	452.21	454.71	453.71	454.42	453.79	452.23	453.49	456.32	452.21
10.00°	448.83	451.54	450.01	450.76	450.76	448.51	450.24	452.20	448.83	451.54	450.01	450.76	450.76	448.51	450.24	452.20	448.83
12.50°	445.43	446.62	445.41	446.36	446.04	444.20	445.16	446.26	445.43	446.62	445.41	446.36	446.04	444.20	445.16	446.26	445.43
15.00°	440.81	441.62	440.27	440.52	440.74	438.83	439.90	439.82	440.81	441.62	440.27	440.52	440.74	438.83	439.90	439.82	440.81
17.50°	433.48	434.07	434.89	433.88	433.39	432.58	435.14	433.13	433.48	434.07	434.89	433.88	433.39	432.58	435.14	433.13	433.48
20.00°	425.59	426.39	428.81	426.06	425.47	424.94	430.41	426.39	425.59	426.39	428.81	426.06	425.47	424.94	430.41	426.39	425.59
22.50°	416.66	415.95	422.49	417.71	416.79	416.57	419.96	417.58	416.66	415.95	422.49	417.71	416.79	416.57	419.96	417.58	416.66
25.00°	407.04	405.65	410.72	407.70	407.96	407.26	409.40	408.44	407.04	405.65	410.72	407.70	407.96	407.26	409.40	408.44	407.04
27.50°	396.34	396.76	397.36	397.06	397.08	397.28	397.66	398.39	396.34	396.76	397.36	397.06	397.08	397.28	397.66	398.39	396.34
30.00°	384.54	387.32	384.79	386.06	385.87	386.55	385.88	388.24	384.54	387.32	384.79	386.06	385.87	386.55	385.88	388.24	384.54
32.50°	371.28	374.13	372.40	374.96	373.18	374.57	373.65	374.83	371.28	374.13	372.40	374.96	373.18	374.57	373.65	374.83	371.28
35.00°	358.17	360.85	360.51	361.40	360.33	361.39	361.25	361.23	358.17	360.85	360.51	361.40	360.33	361.39	361.25	361.23	358.17
37.50°	345.24	347.12	348.71	347.25	346.01	347.19	347.36	347.10	345.24	347.12	348.71	347.25	346.01	347.19	347.36	347.10	345.24
40.00°	331.06	332.58	333.03	331.92	331.61	332.16	333.09	332.88	331.06	332.58	333.03	331.92	331.61	332.16	333.09	332.88	331.06
42.50°	315.68	314.91	316.89	316.37	315.31	316.76	316.59	316.01	315.68	314.91	316.89	316.37	315.31	316.76	316.59	316.01	315.68
45.00°	299.26	297.84	299.83	300.21	298.95	301.12	299.74	299.17	299.26	297.84	299.83	300.21	298.95	301.12	299.74	299.17	299.26
47.50°	281.99	282.56	282.71	283.98	281.23	283.92	281.35	283.01	281.99	282.56	282.71	283.98	281.23	283.92	281.35	283.01	281.99
50.00°	264.30	266.40	265.08	265.68	263.54	265.80	263.29	266.53	264.30	266.40	265.08	265.68	263.54	265.80	263.29	266.53	264.30
52.50°	246.34	248.07	247.41	247.21	246.31	246.73	246.40	247.40	246.34	248.07	247.41	247.21	246.31	246.73	246.40	247.40	246.34
55.00°	228.27	229.40	228.78	226.47	228.81	227.18	228.56	228.40	228.27	229.40	228.78	226.47	228.81	227.18	228.56	228.40	228.27
57.50°	210.14	210.07	210.08	205.67	208.91	208.32	208.14	210.21	210.14	210.07	210.08	205.67	208.91	208.32	208.14	210.21	210.14
60.00°	191.11	191.02	189.98	187.33	188.94	189.73	188.20	191.73	191.11	191.02	189.98	187.33	188.94	189.73	188.20	191.73	191.11
62.50°	171.64	172.48	169.96	168.91	168.51	169.92	169.37	171.98	171.64	172.48	169.96	168.91	168.51	169.92	169.37	171.98	171.64
65.00°	151.79	153.25	150.57	148.67	148.16	149.69	150.01	152.13	151.79	153.25	150.57	148.67	148.16	149.69	150.01	152.13	151.79
67.50°	131.78	133.03	131.00	128.41	128.14	129.28	129.64	131.89	131.78	133.03	131.00	128.41	128.14	129.28	129.64	131.89	131.78
70.00°	111.61	112.69	110.29	107.86	108.22	108.81	109.26	111.84	111.61	112.69	110.29	107.86	108.22	108.81	109.26	111.84	111.61
72.50°	91.37	92.21	89.89	87.40	88.66	87.81	88.87	92.34	91.37	92.21	89.89	87.40	88.66	87.81	88.87	92.34	91.37
75.00°	72.11	72.79	70.97	67.64	69.13	66.71	69.46	73.24	72.11	72.79	70.97	67.64	69.13	66.71	69.46	73.24	72.11
77.50°	53.12	54.51	52.47	48.46	49.67	48.07	51.37	55.04	53.12	54.51	52.47	48.46	49.67	48.07	51.37	55.04	53.12
80.00°	36.95	37.93	35.50	32.24	32.15	29.80	34.88	38.09	36.95	37.93	35.50	32.24	32.15	29.80	34.88	38.09	36.95
82.50°	21.36	22.88	20.59	17.82	19.16	18.94	20.22	23.52	21.36	22.88	20.59	17.82	19.16	18.94	20.22	23.52	21.36
85.00°	13.25	12.84	11.82	10.39	9.35	8.81	10.52	12.37	13.25	12.84	11.82	10.39	9.35	8.81	10.52	12.37	13.25
87.50°	6.26	6.66	5.12	4.53	5.71	5.91	5.73	6.78	6.26	6.66	5.12	4.53	5.71	5.91	5.73	6.78	6.26
90.00°	4.43	3.72	3.36	3.56	3.33	3.41	3.33	3.40	4.43	3.72	3.36	3.56	3.33	3.41	3.33	3.40	4.43
92.50°	3.11	2.88	2.27	2.84	3.02	3.35	2.94	3.05	3.11	2.88	2.27	2.84	3.02	3.35	2.94	3.05	3.11
95.00°	2.73	2.69	2.52	2.74	2.90	3.32	2.81	2.91	2.73	2.69	2.52	2.74	2.90	3.32	2.81	2.91	2.73
97.50°	2.41	2.85	2.66	2.71	3.05	3.39	2.88	3.02	2.41	2.85	2.66	2.71	3.05	3.39	2.88	3.02	2.41
100.00°	2.61	2.72	2.62	2.78	3.13	3.44	2.78	3.09	2.61	2.72	2.62	2.78	3.13	3.44	2.78	3.09	2.61
102.50°	2.81	2.46	2.61	2.87	3.15	3.32	2.59	3.14	2.81	2.46	2.61	2.87	3.15	3.32	2.59	3.14	2.81
105.00°	2.80	2.55	2.66	3.01	3.15	3.20	2.75	3.06	2.80	2.55	2.66	3.01	3.15	3.20	2.75	3.06	2.80

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1511	1511	1511	1511	1474	1474	1474	1474	1404	1404	1404	1341	1341	1341	1282	1282	1282	1255
	1	1386	1328	1275	1228	1350	1297	1249	1206	1240	1201	1165	1187	1155	1126	1138	1113	1089	1088
	2	1263	1160	1076	1005	1228	1135	1057	992	1087	1022	966	1043	988	941	1002	957	917	935
	3	1152	1021	919	838	1119	999	905	829	959	878	812	921	853	796	887	829	780	810
	4	1056	905	795	711	1025	887	785	705	853	764	694	821	744	682	792	726	671	709
RCR	5	971	809	696	613	943	794	688	609	765	672	600	738	656	592	713	641	584	627
	6	897	729	616	535	871	716	610	532	691	597	526	668	584	520	646	572	514	559
	7	832	661	551	473	809	650	545	471	629	535	466	609	524	461	590	515	457	504
	8	774	603	496	422	753	594	491	420	576	483	416	558	474	413	542	466	409	457
	9	723	554	450	380	705	546	446	378	530	439	375	515	432	372	501	425	370	417
	10	678	511	411	344	661	504	408	343	490	402	341	477	396	338	465	390	336	383

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	15.2 fc	15.6 ft
6.5 ft	10.8 fc	18.4 ft
7.5 ft	8.1 fc	21.3 ft
8.0 ft	7.2 fc	22.7 ft
10.0 ft	4.6 fc	28.4 ft
12.0 ft	3.2 fc	34.0 ft
14.0 ft	2.3 fc	39.7 ft
16.0 ft	1.8 fc	45.4 ft
20.0 ft	1.1 fc	56.7 ft
24.0 ft	0.8 fc	68.1 ft
28.0 ft	0.6 fc	79.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	8222	8222	8222
45.00°	7592	7607	7585
55.00°	7140	7156	7157
65.00°	6443	6391	6289
75.00°	4999	4920	4792
85.00°	2728	2434	1925

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	18.9	20.5	19.3	20.8	21.2	18.8	20.4	19.2	20.7	21.1
	3H	20.6	22.0	21.0	22.4	22.7	20.4	21.9	20.8	22.2	22.6
	4H	21.1	22.4	21.5	22.8	23.2	20.9	22.3	21.4	22.7	23.1
	6H	21.4	22.7	21.9	23.1	23.5	21.2	22.4	21.6	22.8	23.3
	8H	21.5	22.7	21.9	23.1	23.5	21.2	22.4	21.7	22.8	23.3
	12H	21.5	22.6	22.0	23.1	23.5	21.3	22.4	21.7	22.8	23.3
4H	2H	19.5	20.8	19.9	21.2	21.6	19.4	20.8	19.8	21.1	21.5
	3H	21.3	22.5	21.8	22.9	23.3	21.2	22.3	21.7	22.8	23.2
	4H	22.0	23.0	22.5	23.5	23.9	21.8	22.8	22.3	23.3	23.7
	6H	22.4	23.3	22.9	23.8	24.3	22.2	23.0	22.6	23.5	24.0
	8H	22.5	23.3	23.0	23.8	24.3	22.2	23.0	22.7	23.5	24.0
	12H	22.6	23.3	23.1	23.8	24.3	22.2	23.0	22.8	23.5	24.0
8H	4H	22.2	23.0	22.7	23.5	24.0	22.1	22.9	22.5	23.3	23.8
	6H	22.7	23.4	23.2	23.9	24.4	22.5	23.1	23.0	23.7	24.2
	8H	22.9	23.5	23.4	24.0	24.5	22.5	23.2	23.1	23.7	24.2
	12H	22.9	23.5	23.5	24.0	24.6	22.6	23.1	23.1	23.7	24.3
12H	4H	22.2	23.0	22.7	23.5	24.0	22.1	22.8	22.6	23.3	23.8
	6H	22.7	23.3	23.3	23.8	24.4	22.5	23.1	23.0	23.6	24.2
	8H	22.9	23.4	23.4	23.9	24.5	22.6	23.1	23.1	23.7	24.2

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0