Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SL03IND4 11L 35HK DW xx xx MW

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

Test Number

SP-01369_1

Test Date

6/3/2022

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

Summary of Results

Power

Input Watts	34 W

Lumen Output

Output Lumens	2403
Efficacy	70.68 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°	1.25
Four luminaires	1.37

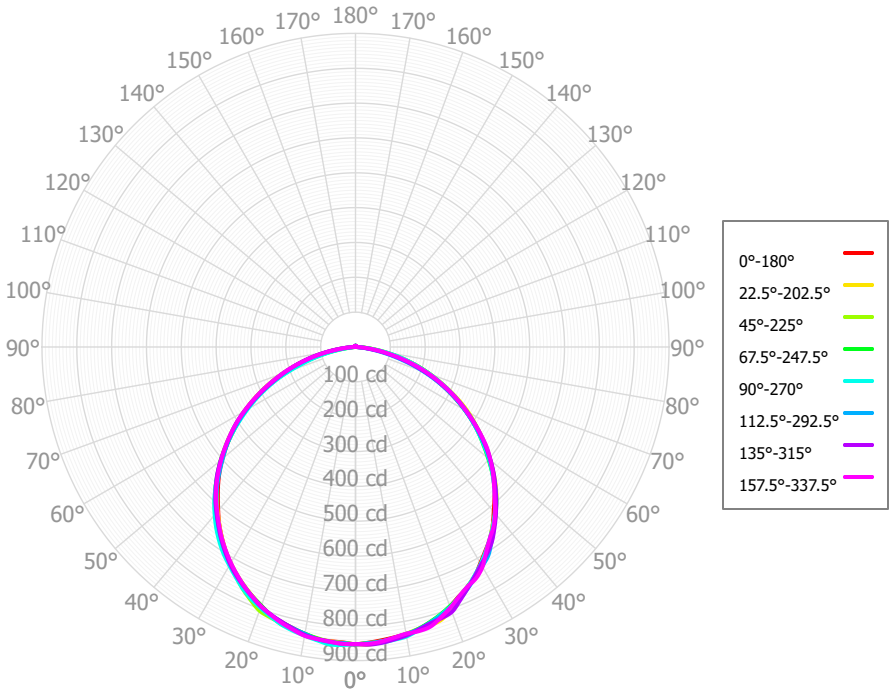
Full Beam Angle

0° - 180°	111°
90° - 270°	111°

IES File Header Contents

Keyword	Value
TEST	SP-01369_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	11/2/2022
LUMCAT	SL03IND4 11L 35HK DW xx xx MW
LUMINAIRE	Specline Linear Pendant, 1.8" aperture x 4' Long, Matte White Refl
OTHER	Diffuse White Extruded Acrylic Lens, Symmetric Distribution
OTHER	Data for 4' IND fixture, or 4' module for continuous ROW
OTHER	111 Degree Beam Angle
LAMP	N/A, Min. 90 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	11L designation for Spectrum linear product indicates 600 Source Lm/Ft.
OTHER	CCT Output Multipliers: 40HK x 1.01, 30HK x 0.98, 27HK x 0.95
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°	81.96	3.41%	90.00° - 100.00°	3.14	0.13%
10.00° - 20.00°	231.64	9.64%	100.00° - 110.00°	2.91	0.12%
20.00° - 30.00°	350.24	14.58%	100.00° - 120.00°	5.72	0.24%
30.00° - 40.00°	421.41	17.54%	120.00° - 130.00°	2.53	0.11%
40.00° - 50.00°	435.21	18.11%	130.00° - 140.00°	2.12	0.09%
50.00° - 60.00°	388.95	16.19%	140.00° - 150.00°	1.79	0.07%
60.00° - 70.00°	289.50	12.05%	150.00° - 160.00°	1.30	0.05%
70.00° - 80.00°	154.18	6.42%	160.00° - 170.00°	0.81	0.03%
80.00° - 90.00°	32.19	1.34%	170.00° - 180.00°	0.28	0.01%
0.00° - 90.00°	2385.28	99.26%	0.00° - 180.00°	2402.96	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°	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11	853.11
2.50°	849.75	855.20	850.52	852.11	852.43	850.38	852.82	853.06	848.88	849.92	850.94	852.30	856.34	851.02	855.32	852.94	849.75
5.00°	845.46	849.64	848.43	849.47	851.69	850.32	848.78	849.35	847.62	848.21	849.20	850.17	856.78	848.10	852.85	849.07	845.46
7.50°	841.12	843.87	844.88	845.23	847.91	845.37	845.15	845.79	846.32	845.80	843.02	844.27	849.07	842.79	847.08	841.83	841.12
10.00°	836.60	836.33	839.81	838.45	843.78	836.31	839.59	841.88	836.83	838.92	836.57	835.97	841.42	836.79	841.09	835.99	836.60
12.50°	831.76	829.31	830.15	829.81	832.64	827.21	828.34	831.18	827.14	831.14	828.36	829.38	833.94	830.43	831.69	835.76	831.76
15.00°	826.09	826.62	819.79	818.76	821.18	818.10	817.11	820.13	817.62	819.86	820.26	823.60	824.38	820.93	822.52	831.17	826.09
17.50°	815.00	820.73	807.88	806.34	807.89	806.34	805.91	806.47	807.45	807.20	813.78	808.53	810.95	810.12	816.96	814.27	815.00
20.00°	793.65	799.79	794.03	791.99	794.32	793.29	792.57	792.16	791.35	790.81	805.61	790.23	797.19	796.56	809.20	796.25	793.65
22.50°	775.26	779.28	776.99	776.81	777.71	775.93	775.69	774.91	774.92	773.84	786.22	774.77	782.98	782.18	786.08	775.92	775.26
25.00°	761.25	760.11	759.77	760.06	760.50	756.97	758.28	756.92	756.83	755.67	765.96	760.01	765.51	763.96	763.24	759.48	761.25
27.50°	742.01	741.55	742.35	742.83	739.99	738.17	740.21	736.61	737.95	736.88	742.02	740.86	744.55	744.99	741.61	749.06	742.01
30.00°	716.85	724.39	721.65	720.43	718.89	719.40	719.57	715.59	716.36	717.13	719.21	721.02	724.22	727.21	720.97	729.15	716.85
32.50°	693.86	702.70	697.68	696.93	695.66	696.51	696.43	692.96	693.81	694.44	699.72	699.21	704.45	709.57	703.30	697.68	693.86
35.00°	672.77	673.08	674.65	673.69	672.15	672.95	671.91	669.15	668.93	668.26	677.98	677.26	681.49	680.63	682.56	671.63	672.77
37.50°	646.77	646.72	652.35	650.48	647.92	646.45	646.31	643.37	642.52	642.05	651.51	652.17	656.44	651.29	655.16	650.66	646.77
40.00°	617.42	624.68	625.98	623.25	621.99	619.69	620.87	617.79	613.35	615.80	623.88	626.83	628.84	625.19	627.00	623.33	617.42
42.50°	590.55	599.19	597.18	595.77	592.81	590.67	595.52	592.48	584.95	589.45	594.33	597.58	599.99	598.65	597.59	591.43	590.55
45.00°	564.98	570.07	567.31	563.84	563.04	561.46	567.20	564.76	557.68	563.02	564.95	568.07	568.28	567.23	568.04	562.26	564.98
47.50°	534.66	537.76	536.97	531.73	532.40	529.20	537.60	534.57	529.04	531.99	535.79	536.65	535.50	535.77	538.33	534.62	534.66
50.00°	502.53	502.88	505.27	497.51	500.06	497.12	504.44	503.31	498.89	498.44	504.71	504.33	502.36	504.06	506.45	505.58	502.53
52.50°	469.59	469.47	473.12	463.64	465.78	466.50	470.12	471.22	467.67	467.10	471.78	467.88	469.12	471.37	472.42	475.96	469.59
55.00°	436.43	436.96	438.58	431.81	431.93	434.98	437.31	438.29	435.53	436.69	438.22	432.10	432.24	435.10	437.93	439.72	436.43
57.50°	400.39	404.98	403.50	399.32	398.44	399.19	404.83	404.86	402.11	401.96	404.17	398.42	394.77	398.86	403.10	401.53	400.39
60.00°	363.83	373.25	367.74	364.28	364.70	363.49	367.09	369.18	367.83	365.94	367.33	364.00	358.03	362.67	367.63	366.17	363.83
62.50°	327.15	337.22	331.90	328.97	330.79	328.12	328.67	332.46	331.40	331.12	328.88	327.96	321.35	326.07	331.77	331.39	327.15
65.00°	290.46	299.71	296.12	292.96	296.27	292.55	290.99	295.73	293.88	296.53	292.37	290.16	283.11	288.64	294.09	295.41	290.46
67.50°	254.46	262.89	260.36	257.91	261.43	256.53	253.39	258.99	257.06	259.60	256.69	249.34	244.64	250.33	255.59	259.29	254.46
70.00°	218.48	226.24	226.45	224.77	226.14	220.38	219.75	223.11	220.49	222.39	216.76	209.03	202.19	210.70	216.69	222.26	218.48
72.50°	182.53	189.86	192.28	190.33	190.68	184.01	186.19	187.44	185.17	185.34	175.46	169.41	160.38	170.77	177.66	185.17	182.53
75.00°	146.79	153.52	154.83	153.91	157.19	148.33	153.51	151.47	150.17	148.35	137.91	131.20	123.98	130.49	140.72	147.17	146.79
77.50°	112.85	117.46	118.38	117.70	124.24	113.57	120.60	115.47	116.57	113.15	101.16	94.40	87.89	94.66	104.22	109.77	112.85
80.00°	79.67	81.42	88.38	81.73	89.16	81.33	86.20	82.42	83.20	78.41	66.67	60.57	53.29	62.82	70.91	79.06	79.67
82.50°	50.51	53.86	58.83	51.76	53.67	51.72	53.71	49.56	53.98	48.81	32.46	29.09	24.02	36.23	38.02	49.46	50.51
85.00°	25.01	27.17	31.16	27.25	29.94	28.84	28.86	29.49	25.11	21.99	17.50	12.34	11.84	13.26	20.15	26.20	25.01
87.50°	12.03	14.99	9.56	12.86	7.38	11.39	9.63	10.46	13.83	11.08	3.79	4.51	3.14	4.32	3.33	7.19	12.03
90.00°	2.83	4.21	5.38	5.73	4.94	4.01	6.01	6.55	3.27	2.55	3.18	2.27	2.69	2.91	3.12	4.41	2.83
92.50°	2.85	3.58	2.58	2.89	3.11	2.82	3.34	3.12	2.59	2.75	2.61	2.55	2.47	2.51	2.91	2.36	2.85
95.00°	2.80	3.04	2.67	2.37	3.20	2.58	2.69	3.00	2.02	2.77	2.46	2.64	2.66	2.52	2.73	2.25	2.80
97.50°	2.62	2.94	2.60	2.78	3.27	2.79	2.41	2.95	2.27	2.34	2.35	2.66	2.96	2.61	2.56	2.27	2.62
100.00°	2.66	2.89	2.28	3.55	3.08	2.97	2.73	3.24	2.51	2.15	2.48	2.54	3.38	2.71	2.44	2.55	2.66

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	2856	2856	2856	2856	2788	2788	2788	2788	2660	2660	2660	2543	2543	2543	2436	2436	2436	2385
	1	2616	2503	2403	2312	2549	2447	2356	2273	2342	2267	2198	2245	2184	2128	2156	2107	2061	2061
	2	2380	2184	2023	1887	2315	2137	1989	1863	2049	1924	1817	1968	1864	1772	1893	1807	1730	1766
	3	2170	1919	1724	1570	2109	1879	1699	1554	1805	1651	1524	1737	1606	1495	1673	1562	1467	1527
	4	1987	1700	1490	1330	1930	1667	1471	1320	1604	1434	1299	1546	1399	1280	1492	1365	1261	1334
RCR	5	1827	1519	1304	1145	1775	1491	1289	1138	1438	1260	1124	1388	1232	1110	1342	1206	1096	1179
	6	1687	1368	1153	999	1640	1344	1141	994	1299	1118	984	1256	1096	974	1217	1075	964	1052
	7	1564	1240	1030	882	1521	1220	1020	878	1181	1001	871	1145	983	863	1111	966	855	946
	8	1456	1131	927	787	1417	1114	919	784	1081	904	778	1049	889	772	1020	875	766	857
	9	1360	1038	841	708	1325	1023	834	705	994	822	701	967	809	696	942	797	691	782
	10	1275	958	768	641	1243	945	762	640	920	752	636	896	741	632	874	731	629	718

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	28.2 fc	16.0 ft
6.5 ft	20.2 fc	18.9 ft
7.5 ft	15.2 fc	21.9 ft
8.0 ft	13.3 fc	23.3 ft
10.0 ft	8.5 fc	29.2 ft
12.0 ft	5.9 fc	35.0 ft
14.0 ft	4.4 fc	40.8 ft
16.0 ft	3.3 fc	46.6 ft
20.0 ft	2.1 fc	58.3 ft
24.0 ft	1.5 fc	70.0 ft
28.0 ft	1.1 fc	81.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	15305	15305	15305
45.00°	14334	14393	14285
55.00°	13650	13718	13509
65.00°	12330	12570	12576
75.00°	10175	10732	10895
85.00°	5148	6415	6162

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	21.2	22.8	21.6	23.2	23.5	21.2	22.8	21.5	23.1	23.4
	3H	23.0	24.4	23.3	24.8	25.1	22.8	24.3	23.2	24.6	25.0
	4H	23.6	24.9	24.0	25.3	25.7	23.4	24.8	23.8	25.1	25.5
	6H	23.9	25.2	24.4	25.6	26.0	23.8	25.0	24.2	25.4	25.8
	8H	24.0	25.2	24.5	25.6	26.1	23.8	25.0	24.3	25.4	25.8
	12H	24.1	25.2	24.5	25.6	26.1	23.8	25.0	24.3	25.4	25.8
4H	2H	21.9	23.2	22.3	23.6	24.0	21.8	23.1	22.2	23.5	23.9
	3H	23.8	24.9	24.2	25.4	25.8	23.7	24.8	24.1	25.2	25.6
	4H	24.5	25.5	25.0	26.0	26.4	24.3	25.4	24.8	25.8	26.2
	6H	25.0	25.9	25.5	26.4	26.8	24.8	25.7	25.2	26.1	26.6
	8H	25.1	26.0	25.6	26.4	26.9	24.9	25.7	25.3	26.2	26.6
	12H	25.2	25.9	25.7	26.4	26.9	24.9	25.7	25.4	26.2	26.6
8H	4H	24.8	25.6	25.2	26.1	26.6	24.6	25.4	25.1	25.9	26.4
	6H	25.4	26.1	25.9	26.6	27.0	25.1	25.8	25.6	26.3	26.8
	8H	25.5	26.2	26.1	26.7	27.2	25.2	25.9	25.8	26.4	26.9
	12H	25.6	26.2	26.2	26.7	27.3	25.3	25.9	25.8	26.4	27.0
12H	4H	24.8	25.5	25.3	26.0	26.5	24.6	25.4	25.1	25.9	26.4
	6H	25.4	26.0	25.9	26.5	27.0	25.2	25.8	25.7	26.3	26.8
	8H	25.6	26.2	26.1	26.7	27.2	25.3	25.9	25.8	26.4	26.9

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0