Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SL03IND4 11L 35HK LA xx xx MW

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

Test Number

SP-01370_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	2886
Efficacy	84.89 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.2
Two luminaires, plane 90°	1.18
Four luminaires	1.19

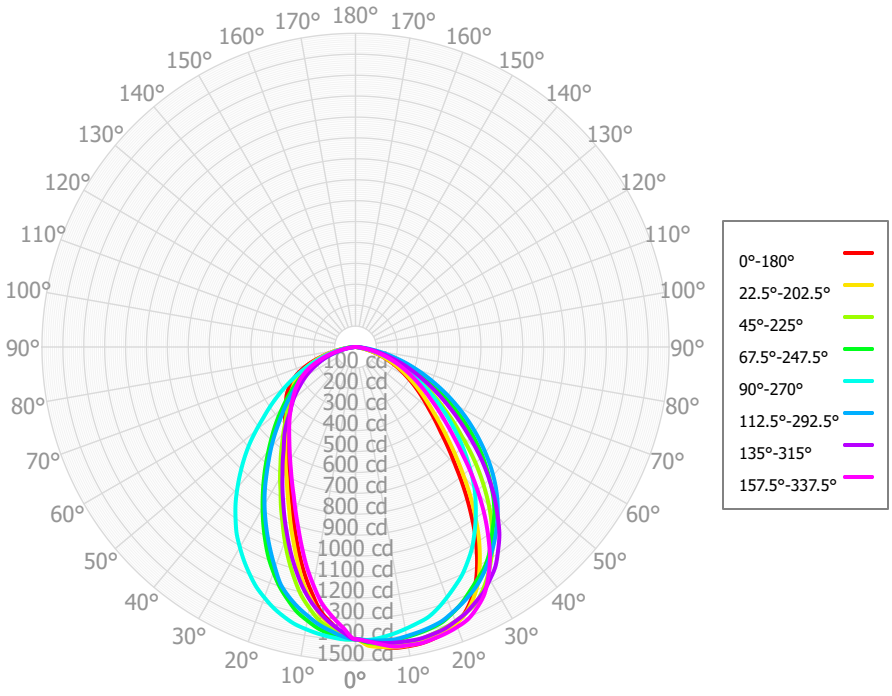
Full Beam Angle

0° - 180°	66°
90° - 270°	92°

IES File Header Contents

Keyword	Value
TEST	SP-01370_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	11/2/2022
LUMCAT	SL03IND4 11L 35HK LA xx xx MW
LUMINAIRE	Specline Linear Pendant, 1.8" aperture x 4' Long, Matte White Refl
OTHER	Extruded Acrylic Lens, Asymmetric Distribution
OTHER	Data for 4' IND fixture, or 4' module for continuous ROW
OTHER	66 Degree x 88 Degree Beam Angle
LAMP	N/A, Min. 90 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	11L designation for Spectrum linear product indicates 721 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°	132.87	4.60%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	358.83	12.43%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	506.02	17.53%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	551.05	19.09%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	502.21	17.40%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	402.58	13.95%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	276.17	9.57%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	132.58	4.59%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	23.84	0.83%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	2886.16	100.00%	0.00° - 180.00°	2886.16	100.00%

SPECTRUM LIGHTING INC.

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°	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31	1398.31
2.50°	1424.92	1430.65	1417.36	1414.76	1402.93	1386.23	1366.31	1344.89	1374.07	1381.70	1383.76	1398.01	1399.52	1405.29	1411.42	1410.68	1424.92
5.00°	1439.88	1440.33	1429.80	1415.90	1395.54	1363.39	1329.54	1292.81	1326.11	1338.85	1354.64	1378.83	1392.21	1409.24	1421.25	1428.70	1439.88
7.50°	1451.90	1449.06	1436.55	1416.00	1384.35	1339.61	1286.31	1236.33	1275.87	1293.85	1320.72	1358.93	1382.97	1412.13	1426.80	1445.75	1451.90
10.00°	1453.66	1450.02	1435.67	1409.14	1370.12	1307.57	1235.14	1157.59	1197.35	1226.23	1268.83	1328.96	1370.49	1404.83	1428.91	1449.20	1453.66
12.50°	1452.62	1449.07	1430.99	1401.90	1354.94	1274.40	1174.05	1077.14	1117.80	1155.56	1211.50	1297.05	1356.20	1397.16	1429.85	1451.70	1452.62
15.00°	1444.73	1439.26	1422.45	1393.17	1339.17	1235.65	1103.39	991.08	1032.83	1068.17	1139.63	1251.64	1333.64	1387.48	1423.01	1444.71	1444.73
17.50°	1431.44	1427.11	1410.70	1380.17	1310.71	1190.55	1030.67	909.31	948.53	982.92	1064.88	1204.05	1307.68	1375.02	1414.40	1436.99	1431.44
20.00°	1408.16	1407.40	1396.36	1355.29	1276.34	1124.89	956.45	837.53	870.17	905.53	988.37	1147.37	1275.44	1352.79	1396.94	1425.35	1408.16
22.50°	1372.67	1379.08	1377.50	1326.96	1240.79	1059.86	886.32	772.04	795.67	832.23	911.67	1088.13	1241.38	1329.45	1378.30	1408.97	1372.67
25.00°	1320.16	1331.04	1355.88	1291.46	1204.85	996.30	818.47	717.71	740.36	769.36	843.66	1021.61	1198.64	1303.37	1351.53	1376.27	1320.16
27.50°	1250.68	1270.60	1314.96	1257.76	1160.29	933.07	757.15	668.24	688.61	712.56	776.39	955.18	1154.20	1273.47	1324.16	1334.63	1250.68
30.00°	1163.21	1189.14	1265.35	1226.83	1113.70	870.45	698.56	625.28	648.44	667.06	721.86	888.94	1106.47	1236.44	1285.62	1270.64	1163.21
32.50°	1065.10	1100.79	1206.90	1185.34	1058.61	806.75	647.74	586.44	609.87	623.82	668.09	824.54	1058.39	1196.53	1245.71	1197.54	1065.10
35.00°	958.15	1003.37	1145.49	1131.46	1002.34	741.66	599.24	551.80	575.11	583.81	621.32	763.05	1000.61	1152.59	1189.39	1107.76	958.15
37.50°	852.48	904.57	1071.27	1081.01	944.47	681.76	561.21	521.05	543.92	548.30	575.75	703.74	942.36	1106.56	1130.92	1014.59	852.48
40.00°	747.62	804.36	994.20	1033.73	886.47	627.23	525.21	493.42	519.00	517.73	536.57	647.05	878.62	1058.29	1058.96	916.76	747.62
42.50°	659.17	713.04	912.93	976.42	820.33	574.05	484.54	466.99	496.34	490.51	498.96	595.50	814.96	1005.65	986.03	819.48	659.17
45.00°	578.43	628.53	831.12	912.08	754.23	521.92	443.34	441.31	476.66	466.10	466.70	548.69	752.07	949.34	909.40	722.79	578.43
47.50°	514.64	555.44	747.53	847.87	688.55	476.71	414.86	416.97	456.65	443.02	434.76	502.88	688.36	888.19	831.64	639.34	514.64
50.00°	456.77	489.16	663.99	783.74	623.24	435.62	386.72	393.25	436.29	420.82	403.60	457.80	620.54	823.96	750.87	566.78	456.77
52.50°	409.98	434.99	592.49	715.39	560.19	396.25	356.09	371.11	418.36	398.28	374.11	417.94	555.52	758.21	672.56	502.76	409.98
55.00°	365.82	386.16	521.67	645.37	497.79	357.67	325.72	349.50	402.35	375.57	347.69	380.87	500.07	691.75	599.22	444.08	365.82
57.50°	324.46	340.94	458.60	576.16	438.00	321.74	297.80	326.56	382.25	355.25	320.25	345.99	445.90	625.12	529.24	394.20	324.46
60.00°	283.50	296.84	396.60	507.17	381.11	286.69	269.63	303.32	359.69	335.77	291.42	311.97	394.80	558.43	464.33	348.53	283.50
62.50°	247.16	258.09	341.18	440.27	332.16	251.11	240.21	276.46	334.72	311.60	262.43	278.95	345.38	492.67	402.52	306.03	247.16
65.00°	211.14	220.46	287.27	373.73	283.82	215.41	211.00	249.13	308.66	286.25	233.28	246.20	298.91	427.12	344.26	264.61	211.14
67.50°	176.46	183.21	239.13	311.94	236.69	187.44	182.50	216.09	274.52	254.45	204.83	214.58	254.53	366.12	290.52	226.30	176.46
70.00°	141.99	146.00	192.10	250.61	191.90	160.52	153.99	182.78	237.74	221.67	176.95	183.17	213.01	305.77	240.82	188.71	141.99
72.50°	110.15	112.92	147.98	197.02	150.69	127.66	125.45	150.48	196.82	187.27	149.58	152.65	173.63	249.34	193.18	152.27	110.15
75.00°	78.81	80.15	107.20	144.04	113.87	94.64	97.55	117.91	155.00	152.76	122.54	122.22	136.49	193.19	146.94	115.99	78.81
77.50°	50.85	52.49	73.04	99.96	82.14	69.86	70.79	82.37	116.92	118.93	93.50	95.03	102.93	144.61	107.10	83.70	50.85
80.00°	26.07	26.16	43.76	57.69	53.76	45.52	46.43	48.76	79.35	85.28	63.54	68.09	72.23	96.94	70.52	51.74	26.07
82.50°	14.10	14.31	21.73	30.66	28.35	26.40	25.33	26.28	48.20	54.27	41.00	45.20	45.78	61.40	41.98	31.12	14.10
85.00°	4.91	4.11	8.12	7.76	13.17	9.51	11.59	8.02	17.77	25.69	21.01	23.57	21.99	28.65	16.48	11.54	4.91
87.50°	3.39	3.13	3.97	4.57	4.99	5.75	5.66	5.82	10.14	13.38	11.17	12.27	10.56	14.53	7.27	6.51	3.39
90.00°	2.36	2.34	2.11	2.11	2.14	2.63	2.91	4.02	3.05	3.32	3.69	2.85	4.83	3.22	2.40	2.17	2.36

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	3436	3436	3436	3436	3356	3356	3356	3356	3207	3207	3207	3070	3070	3070	2945	2945	2945	2886
	1	3176	3054	2944	2846	3099	2989	2890	2799	2868	2786	2711	2756	2690	2629	2654	2601	2551	2546
	2	2916	2701	2523	2374	2843	2647	2484	2346	2547	2410	2292	2454	2340	2240	2368	2275	2191	2226
	3	2680	2402	2186	2015	2611	2357	2158	1997	2273	2103	1962	2196	2050	1929	2123	2001	1896	1958
	4	2471	2151	1917	1738	2407	2113	1895	1726	2043	1853	1703	1977	1813	1680	1917	1775	1658	1738
RCR	5	2285	1940	1698	1519	2227	1908	1681	1511	1849	1649	1495	1793	1618	1480	1741	1588	1465	1555
	6	2121	1760	1518	1344	2068	1734	1505	1339	1683	1479	1327	1636	1455	1316	1592	1431	1305	1402
	7	1976	1608	1369	1202	1928	1585	1358	1197	1542	1338	1189	1501	1318	1181	1463	1299	1173	1274
	8	1846	1476	1243	1083	1803	1457	1235	1080	1420	1218	1074	1385	1202	1068	1352	1186	1062	1164
	9	1731	1362	1137	984	1691	1345	1129	982	1313	1116	977	1283	1102	972	1255	1089	968	1070
	10	1627	1263	1045	900	1591	1248	1039	898	1221	1028	894	1194	1016	891	1170	1006	887	989

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	46.2 fc	7.4 ft
6.5 ft	33.1 fc	8.7 ft
7.5 ft	24.9 fc	10.0 ft
8.0 ft	21.8 fc	10.7 ft
10.0 ft	14.0 fc	13.4 ft
12.0 ft	9.7 fc	16.0 ft
14.0 ft	7.1 fc	18.7 ft
16.0 ft	5.5 fc	21.4 ft
20.0 ft	3.5 fc	26.7 ft
24.0 ft	2.4 fc	32.1 ft
28.0 ft	1.8 fc	37.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	25086	25086	25086
45.00°	14675	21086	19135
55.00°	11442	16316	15569
65.00°	8963	12194	12048
75.00°	5463	7431	7893
85.00°	1011	1671	2711

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	20.0	21.5	20.3	21.8	22.1	19.8	21.4	20.2	21.7	22.0
	3H	21.2	22.5	21.5	22.9	23.2	21.5	22.9	21.9	23.2	23.6
	4H	21.5	22.7	21.9	23.1	23.5	22.0	23.3	22.4	23.7	24.0
	6H	21.5	22.7	22.0	23.1	23.5	22.3	23.5	22.8	23.9	24.3
	8H	21.5	22.7	22.0	23.1	23.5	22.4	23.5	22.8	23.9	24.3
	12H	21.5	22.6	21.9	23.0	23.4	22.4	23.5	22.9	23.9	24.3
4H	2H	20.9	22.2	21.3	22.5	22.9	20.3	21.5	20.7	21.9	22.3
	3H	22.2	23.3	22.7	23.7	24.1	22.1	23.2	22.5	23.6	24.0
	4H	22.6	23.6	23.0	24.0	24.4	22.7	23.7	23.2	24.1	24.5
	6H	22.8	23.6	23.2	24.0	24.5	23.1	24.0	23.6	24.4	24.9
	8H	22.7	23.5	23.2	24.0	24.4	23.2	24.0	23.7	24.4	24.9
	12H	22.7	23.4	23.2	23.9	24.4	23.3	24.0	23.8	24.4	24.9
8H	4H	22.9	23.7	23.4	24.2	24.6	22.9	23.7	23.4	24.2	24.6
	6H	23.1	23.8	23.6	24.3	24.7	23.4	24.0	23.9	24.5	25.0
	8H	23.1	23.7	23.7	24.2	24.7	23.5	24.1	24.1	24.6	25.1
	12H	23.1	23.6	23.7	24.1	24.7	23.6	24.1	24.1	24.6	25.2
12H	4H	23.0	23.7	23.5	24.1	24.6	22.9	23.6	23.4	24.1	24.6
	6H	23.2	23.8	23.7	24.2	24.8	23.4	24.0	24.0	24.5	25.0
	8H	23.2	23.7	23.7	24.2	24.8	23.6	24.1	24.1	24.6	25.2

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0