Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SL03IND4 11L 35K LA xx xx MW

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

Test Number

SP-01432_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	3426
Efficacy	100.78 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°	1.18
Four luminaires	1.18

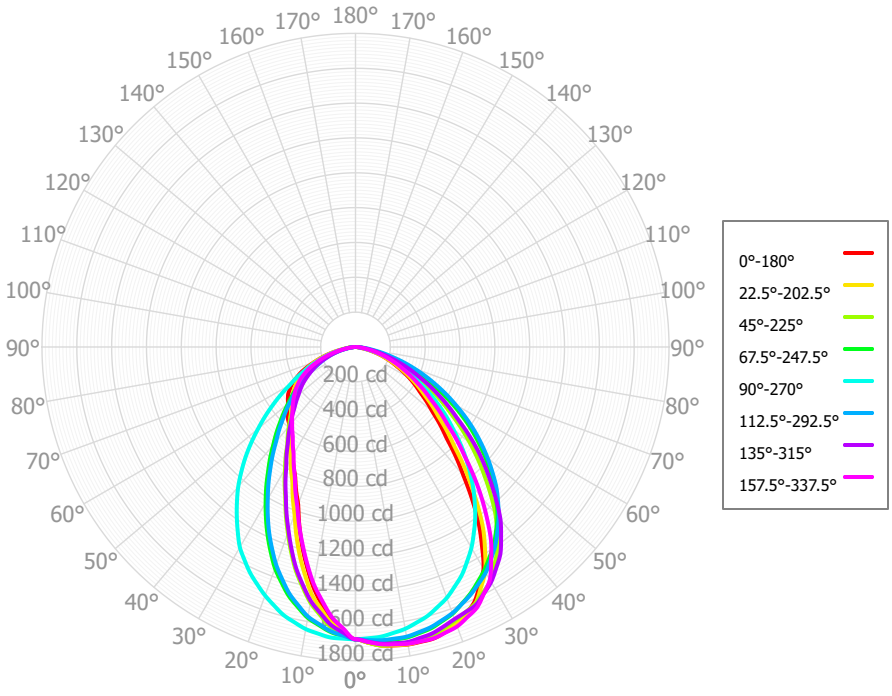
Full Beam Angle

0° - 180°	66°
90° - 270°	92°

IES File Header Contents

Keyword	Value
TEST	SP-01432_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	11/11/2022
LUMCAT	SL03IND4 11L 35K 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 deg x 96 deg Beam Angle
LAMP	N/A, Min. 80 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	11L designation for Spectrum linear product indicates 868 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°	158.62	4.63%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	425.96	12.43%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	600.55	17.53%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	658.96	19.23%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	600.46	17.52%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	477.80	13.94%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	321.74	9.39%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	151.67	4.43%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	30.60	0.89%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	3426.37	100.00%	0.00° - 180.00°	3426.37	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°	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20	1678.20
2.50°	1699.55	1699.58	1698.96	1686.36	1673.95	1657.98	1640.66	1617.48	1630.71	1633.97	1646.57	1660.35	1675.98	1684.18	1694.10	1695.77	1699.55
5.00°	1720.90	1720.96	1719.71	1694.51	1669.69	1637.75	1603.12	1556.75	1583.22	1589.73	1614.94	1642.49	1673.76	1690.15	1709.99	1713.34	1720.90
7.50°	1727.71	1727.18	1720.93	1694.23	1656.34	1604.65	1541.71	1469.13	1490.30	1516.62	1552.80	1610.71	1659.16	1689.47	1715.13	1721.82	1727.71
10.00°	1734.52	1733.39	1722.14	1693.94	1643.00	1571.55	1480.30	1381.51	1397.38	1443.49	1490.66	1578.93	1644.56	1688.79	1720.26	1730.29	1734.52
12.50°	1733.62	1728.86	1716.60	1683.24	1620.77	1518.88	1398.02	1277.58	1290.15	1340.54	1408.51	1529.41	1619.17	1677.44	1711.43	1731.01	1733.62
15.00°	1732.73	1724.31	1711.05	1672.54	1598.54	1466.21	1315.74	1173.66	1182.91	1237.59	1326.36	1479.90	1593.79	1666.08	1702.59	1731.71	1732.73
17.50°	1716.28	1708.61	1691.39	1651.00	1565.57	1398.70	1219.65	1074.97	1072.74	1130.22	1230.86	1415.87	1555.99	1646.08	1682.61	1719.35	1716.28
20.00°	1699.83	1692.89	1671.73	1629.45	1532.60	1331.19	1123.56	976.28	962.57	1022.84	1135.36	1351.84	1518.19	1626.07	1662.63	1706.99	1699.83
22.50°	1657.63	1660.34	1648.68	1595.58	1488.51	1252.42	1034.88	900.18	891.35	939.98	1044.39	1272.72	1474.73	1596.57	1648.37	1678.76	1657.63
25.00°	1615.44	1627.79	1625.63	1561.71	1444.42	1173.64	946.19	824.09	820.12	857.11	953.41	1193.60	1431.27	1567.07	1634.10	1650.54	1615.44
27.50°	1542.84	1558.69	1587.69	1520.50	1387.83	1090.61	870.87	767.48	770.98	800.40	881.16	1112.74	1379.62	1531.26	1595.85	1596.68	1542.84
30.00°	1470.24	1489.60	1549.74	1479.28	1331.23	1007.57	795.54	710.87	721.85	743.68	808.90	1031.87	1327.98	1495.46	1557.59	1542.82	1470.24
32.50°	1351.15	1384.34	1484.64	1431.76	1264.72	930.15	736.76	669.33	679.58	699.06	745.73	953.69	1258.01	1446.39	1503.94	1449.67	1351.15
35.00°	1232.06	1279.08	1419.53	1384.23	1198.20	852.72	677.97	627.78	637.30	654.42	682.56	875.51	1188.03	1397.32	1450.29	1356.53	1232.06
37.50°	1098.47	1154.95	1334.47	1326.36	1124.35	781.16	628.99	596.87	613.05	620.18	638.46	805.23	1117.83	1338.28	1372.80	1240.28	1098.47
40.00°	964.88	1030.81	1249.40	1268.49	1050.50	709.59	580.01	565.95	588.80	585.94	594.35	734.94	1047.63	1279.24	1295.31	1124.04	964.88
42.50°	852.42	915.25	1149.06	1197.72	971.77	650.72	538.15	538.73	571.21	553.97	553.02	673.69	969.82	1211.95	1196.95	1005.52	852.42
45.00°	739.96	799.69	1048.73	1126.95	893.05	591.85	496.30	511.51	553.62	522.00	511.68	612.43	892.00	1144.65	1098.58	886.99	739.96
47.50°	658.24	711.37	953.38	1046.37	812.32	540.67	461.80	487.80	530.03	498.31	478.82	558.49	810.89	1066.96	1004.65	787.29	658.24
50.00°	576.53	623.05	858.04	965.78	731.58	489.49	427.31	464.09	506.42	474.60	445.95	504.55	729.78	989.27	910.72	687.59	576.53
52.50°	515.20	555.35	765.11	883.72	658.03	444.12	398.71	440.40	489.03	454.27	409.83	459.45	653.80	909.69	811.64	610.06	515.20
55.00°	453.88	487.65	672.18	801.67	584.47	398.74	370.12	416.71	471.63	433.94	373.69	414.35	577.82	830.11	712.56	532.53	453.88
57.50°	406.74	432.71	591.53	715.76	513.08	356.28	337.30	389.44	445.04	408.12	346.72	371.71	506.53	747.20	631.12	470.74	406.74
60.00°	359.61	377.78	510.87	629.86	441.69	313.83	304.49	362.17	418.46	382.28	319.75	329.08	435.24	664.30	549.68	408.95	359.61
62.50°	311.29	326.49	442.70	546.69	382.57	274.29	273.92	328.63	381.33	352.31	285.43	291.68	380.43	585.02	475.38	356.67	311.29
65.00°	262.98	275.20	374.53	463.52	323.46	234.76	243.34	295.08	344.20	322.34	251.10	254.27	325.62	505.74	401.08	304.40	262.98
67.50°	223.66	230.96	312.33	390.69	272.83	203.96	208.05	256.71	296.65	283.63	222.29	220.92	276.30	431.07	338.41	259.20	223.66
70.00°	184.34	186.72	250.12	317.86	222.20	173.15	172.77	218.35	249.11	244.91	193.47	187.57	226.98	356.40	275.74	214.00	184.34
72.50°	145.92	149.54	196.96	250.98	175.82	140.69	141.63	178.00	205.75	203.36	157.46	154.83	187.07	286.50	220.10	172.43	145.92
75.00°	107.50	112.36	143.80	184.11	129.43	108.22	110.49	137.66	162.38	161.81	121.46	122.08	147.16	216.59	164.45	130.86	107.50
77.50°	72.95	80.83	101.96	129.82	94.09	77.30	83.37	100.41	116.14	121.52	91.11	92.74	102.59	162.17	122.15	96.02	72.95
80.00°	38.40	49.30	60.12	75.52	58.75	46.38	56.24	63.15	69.89	81.24	60.76	63.40	58.02	107.75	79.85	61.18	38.40
82.50°	25.70	32.05	38.61	48.24	40.75	30.96	35.96	41.13	44.98	54.49	39.43	43.29	39.11	72.67	51.14	40.90	25.70
85.00°	13.00	14.79	17.10	20.96	22.75	15.54	15.68	19.11	20.07	27.74	18.10	23.18	20.20	37.60	22.42	20.61	13.00
87.50°	9.38	10.47	11.40	13.95	14.63	11.47	11.50	12.81	12.41	18.47	12.77	15.71	12.90	23.98	14.95	14.21	9.38
90.00°	5.76	6.14	5.69	6.94	6.51	7.41	7.33	6.51	4.75	9.20	7.45	8.23	5.60	10.36	7.48	7.81	5.76

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	4079	4079	4079	4079	3984	3984	3984	3984	3807	3807	3807	3645	3645	3645	3496	3496	3496	3426
	1	3771	3626	3497	3380	3680	3550	3432	3325	3406	3309	3220	3273	3195	3122	3152	3089	3030	3024
	2	3464	3209	2999	2822	3377	3145	2952	2788	3026	2864	2724	2916	2781	2663	2815	2703	2604	2646
	3	3184	2855	2599	2396	3103	2802	2565	2375	2702	2500	2334	2610	2438	2294	2524	2380	2256	2329
	4	2936	2557	2279	2067	2861	2513	2254	2053	2429	2204	2026	2351	2157	1999	2279	2112	1973	2067
RCR	5	2716	2306	2020	1808	2647	2269	2000	1799	2198	1961	1780	2132	1924	1761	2071	1889	1743	1850
	6	2521	2093	1806	1600	2458	2062	1790	1593	2002	1760	1580	1946	1731	1567	1893	1703	1554	1669
	7	2348	1911	1628	1430	2291	1885	1616	1425	1833	1591	1415	1785	1568	1406	1740	1545	1396	1515
	8	2194	1755	1479	1289	2142	1732	1469	1286	1688	1449	1278	1647	1430	1271	1608	1411	1264	1385
	9	2057	1620	1352	1171	2010	1600	1344	1168	1562	1327	1163	1526	1311	1157	1492	1296	1152	1273
	10	1934	1502	1243	1071	1891	1484	1236	1069	1451	1222	1064	1420	1209	1060	1391	1196	1056	1176

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	55.5 fc	7.4 ft
6.5 ft	39.7 fc	8.7 ft
7.5 ft	29.8 fc	10.0 ft
8.0 ft	26.2 fc	10.7 ft
10.0 ft	16.8 fc	13.4 ft
12.0 ft	11.7 fc	16.0 ft
14.0 ft	8.6 fc	18.7 ft
16.0 ft	6.6 fc	21.4 ft
20.0 ft	4.2 fc	26.7 ft
24.0 ft	2.9 fc	32.1 ft
28.0 ft	2.1 fc	37.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	30107	30107	30107
45.00°	18773	26607	22657
55.00°	14196	21024	18281
65.00°	11163	15899	13731
75.00°	7451	9968	8971
85.00°	2675	3519	4683

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	20.8	22.3	21.2	22.7	23.0	19.9	21.5	20.3	21.8	22.1
	3H	22.0	23.4	22.4	23.7	24.1	21.5	22.9	21.9	23.2	23.6
	4H	22.4	23.6	22.8	24.0	24.4	22.1	23.3	22.5	23.7	24.1
	6H	22.5	23.7	22.9	24.0	24.4	22.3	23.5	22.7	23.9	24.3
	8H	22.5	23.6	22.9	24.0	24.4	22.4	23.5	22.8	23.9	24.3
	12H	22.5	23.6	22.9	23.9	24.4	22.4	23.5	22.8	23.9	24.3
4H	2H	21.7	23.0	22.1	23.4	23.7	20.4	21.6	20.8	22.0	22.4
	3H	23.1	24.1	23.5	24.5	24.9	22.1	23.2	22.5	23.6	24.0
	4H	23.5	24.4	23.9	24.8	25.3	22.7	23.7	23.2	24.1	24.5
	6H	23.7	24.5	24.1	24.9	25.4	23.1	23.9	23.5	24.4	24.8
	8H	23.7	24.4	24.1	24.9	25.4	23.2	23.9	23.6	24.4	24.8
	12H	23.7	24.4	24.1	24.8	25.3	23.2	23.9	23.7	24.4	24.8
8H	4H	23.8	24.6	24.3	25.0	25.5	22.9	23.7	23.4	24.2	24.6
	6H	24.0	24.7	24.5	25.2	25.6	23.3	24.0	23.8	24.5	24.9
	8H	24.1	24.6	24.6	25.2	25.6	23.4	24.0	24.0	24.5	25.0
	12H	24.1	24.6	24.6	25.1	25.7	23.5	24.0	24.0	24.5	25.1
12H	4H	23.8	24.5	24.3	25.0	25.4	22.9	23.6	23.4	24.1	24.6
	6H	24.1	24.6	24.6	25.1	25.6	23.4	23.9	23.9	24.4	24.9
	8H	24.1	24.6	24.6	25.1	25.7	23.5	24.0	24.0	24.5	25.1

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0