Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

LT03IND48 20L 35HK xx LA xx xx MW

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

Test Number

SP-01380_2

Test Date

6/3/2022

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

Summary of Results

Power

Input Watts	62 W

Lumen Output

Output Lumens	5060
Efficacy	81.61 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.12
Two luminaires, plane 90°	1.1
Four luminaires	1.19

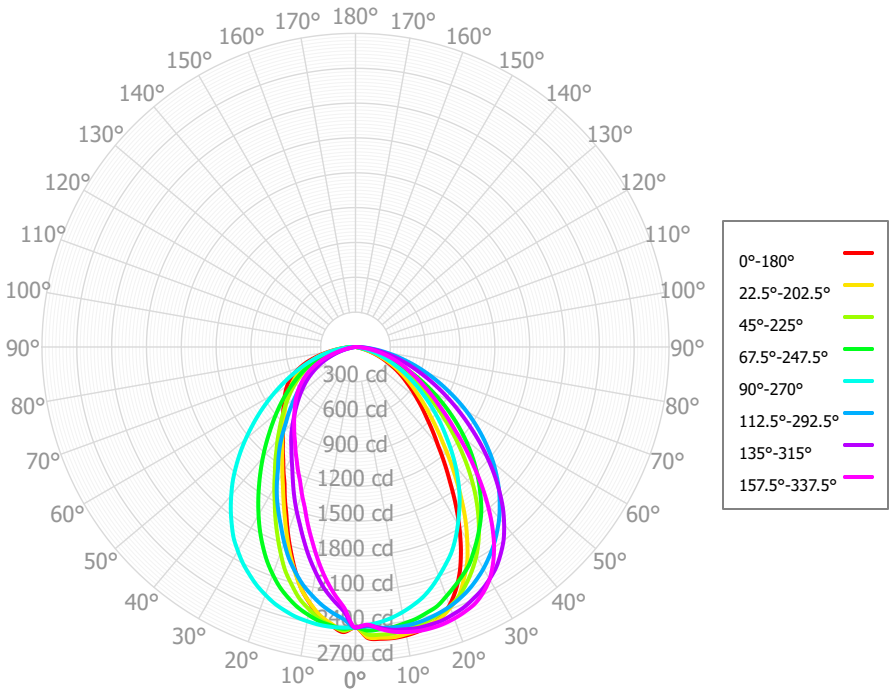
Full Beam Angle

0° - 180°	67°
90° - 270°	91°

IES File Header Contents

Keyword	Value
TEST	SP-01380_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/3/2022
ISSUEDATE	3/27/2023
LUMCAT	LT03IND48 20L 35HK xx 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, Ceiling mount
OTHER	67 Degree x 85 Degree Beam Angle
LAMP	N/A, Min. 90 CRI
LAMPCAT	N/A
OTHER	Reference project SL473
OTHER	20L designation for Spectrum linear product indicates 1265 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°	229.58	4.54%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	621.54	12.28%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	873.56	17.26%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	950.19	18.78%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	874.16	17.28%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	708.16	14.00%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	491.57	9.71%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	249.09	4.92%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	62.09	1.23%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	5059.95	100.00%	0.00° - 180.00°	5059.95	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°	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32	2415.32
2.50°	2510.66	2503.02	2479.64	2444.95	2396.65	2346.24	2279.78	2246.68	2457.44	2444.46	2443.84	2429.06	2419.42	2409.34	2400.27	2394.18	2510.66
5.00°	2522.76	2512.99	2486.37	2440.61	2379.56	2296.39	2187.90	2130.47	2404.61	2391.95	2406.15	2407.84	2419.10	2426.30	2429.51	2437.31	2522.76
7.50°	2527.61	2521.05	2487.63	2434.58	2354.09	2238.90	2091.84	2002.66	2341.03	2332.15	2364.53	2382.13	2412.33	2436.91	2457.18	2472.56	2527.61
10.00°	2522.31	2510.83	2474.96	2417.38	2320.09	2169.75	1971.52	1861.43	2246.15	2242.61	2295.37	2342.14	2397.92	2439.38	2468.24	2492.45	2522.31
12.50°	2508.20	2499.72	2459.39	2399.10	2279.45	2095.91	1849.57	1717.10	2139.94	2142.32	2222.19	2296.41	2379.51	2433.91	2478.52	2505.48	2508.20
15.00°	2484.14	2474.01	2437.90	2370.00	2233.17	2004.53	1721.12	1583.57	1999.19	2009.69	2120.51	2236.28	2350.22	2420.21	2475.84	2507.86	2484.14
17.50°	2436.49	2446.56	2411.41	2340.07	2171.86	1907.77	1597.60	1451.72	1849.08	1873.16	2016.42	2168.11	2316.46	2401.26	2471.32	2502.87	2436.49
20.00°	2366.65	2387.79	2376.78	2285.29	2100.26	1793.51	1489.26	1348.73	1702.50	1727.64	1886.61	2084.15	2270.84	2377.76	2451.80	2488.38	2366.65
22.50°	2260.80	2323.01	2325.78	2230.44	2027.37	1675.26	1381.55	1248.34	1556.63	1589.40	1756.25	1992.69	2221.51	2345.19	2429.89	2466.55	2260.80
25.00°	2127.56	2207.11	2253.36	2174.74	1953.79	1569.09	1275.30	1172.06	1438.35	1464.81	1630.54	1889.50	2161.87	2306.28	2394.99	2437.07	2127.56
27.50°	1966.36	2084.50	2171.89	2116.11	1862.63	1464.83	1178.66	1096.88	1323.65	1352.58	1506.11	1782.23	2099.76	2257.86	2357.20	2383.55	1966.36
30.00°	1788.07	1924.15	2080.55	2034.94	1763.65	1354.10	1099.81	1032.78	1239.65	1258.83	1398.02	1669.66	2026.83	2204.13	2308.40	2309.76	1788.07
32.50°	1604.82	1760.97	1973.06	1953.20	1663.34	1242.77	1027.51	969.56	1157.69	1174.76	1292.39	1557.93	1952.13	2142.50	2252.93	2205.73	1604.82
35.00°	1419.07	1586.71	1851.33	1868.62	1562.56	1154.94	965.18	918.21	1091.02	1102.36	1203.81	1447.08	1859.11	2077.28	2178.51	2080.52	1419.07
37.50°	1257.43	1416.50	1721.67	1779.78	1452.98	1067.81	901.29	867.58	1025.11	1036.39	1117.79	1341.41	1764.32	2002.81	2095.09	1931.88	1257.43
40.00°	1105.22	1258.00	1586.36	1675.89	1341.15	977.61	835.47	822.45	972.65	976.77	1043.57	1240.13	1664.34	1925.10	1991.26	1770.09	1105.22
42.50°	983.88	1109.94	1447.55	1570.60	1227.31	888.69	774.79	778.34	921.50	922.16	971.61	1143.87	1564.04	1838.24	1878.73	1602.68	983.88
45.00°	871.67	986.00	1306.70	1461.49	1113.10	817.34	719.23	739.37	883.83	871.62	907.51	1051.14	1455.18	1749.00	1750.64	1432.78	871.67
47.50°	779.73	871.74	1171.77	1349.80	1008.97	746.93	666.14	700.89	846.16	826.86	845.63	967.61	1346.21	1650.09	1619.32	1276.32	779.73
50.00°	692.31	775.08	1039.61	1232.63	906.02	683.40	615.10	664.15	808.41	785.90	789.55	889.26	1235.57	1549.32	1483.36	1124.61	692.31
52.50°	617.79	685.04	919.30	1114.91	808.38	620.36	566.21	625.87	772.35	746.23	734.88	816.29	1125.69	1439.48	1347.85	999.28	617.79
55.00°	545.18	604.63	803.27	996.26	711.03	559.84	518.76	583.34	743.67	707.23	683.08	745.71	1021.96	1328.53	1212.87	880.88	545.18
57.50°	481.72	529.67	699.05	878.89	626.27	500.48	469.21	540.24	714.14	669.22	631.75	680.45	919.26	1215.00	1084.03	783.58	481.72
60.00°	419.03	461.30	598.15	763.29	541.82	445.30	418.54	495.91	681.95	631.63	581.22	617.09	821.90	1101.30	961.09	690.17	419.03
62.50°	356.21	394.32	504.34	651.77	463.66	390.72	369.52	448.01	646.30	591.75	531.75	558.23	726.86	984.12	845.19	610.06	356.21
65.00°	293.53	328.69	411.95	544.85	386.44	337.72	321.21	394.03	601.99	551.12	483.73	500.57	640.31	867.21	734.75	531.60	293.53
67.50°	238.05	265.17	334.78	443.71	317.76	284.13	269.47	336.94	554.70	503.12	435.65	445.06	556.53	757.31	632.29	465.51	238.05
70.00°	182.94	203.30	259.57	347.85	250.72	229.27	216.59	275.45	501.54	453.37	387.52	389.96	480.62	647.98	534.97	400.18	182.94
72.50°	132.59	148.05	190.79	260.22	192.86	176.98	169.55	213.97	441.73	397.65	338.53	337.52	407.24	544.10	447.38	336.07	132.59
75.00°	83.74	97.14	122.48	178.83	136.78	129.08	123.95	152.49	371.54	340.89	288.77	285.42	339.45	442.00	364.80	272.11	83.74
77.50°	45.29	56.81	71.65	111.42	87.94	84.60	81.49	98.51	301.38	279.01	238.78	234.56	274.04	350.73	289.20	211.46	45.29
80.00°	12.65	22.00	22.58	52.55	45.53	44.79	39.59	51.41	231.26	216.59	188.63	183.78	212.76	262.49	216.41	151.83	12.65
82.50°	7.96	9.00	12.14	22.98	22.43	18.68	21.03	22.99	166.02	155.65	140.59	136.48	155.24	186.89	152.59	102.14	7.96
85.00°	4.16	4.93	2.58	7.60	5.70	8.15	5.01	8.83	105.88	94.87	93.77	89.68	103.13	116.78	91.61	55.70	4.16
87.50°	3.46	3.49	2.84	2.87	3.67	3.08	3.54	3.49	59.70	55.54	56.17	54.62	60.11	63.51	50.35	28.21	3.46
90.00°	2.96	2.86	3.05	2.29	2.62	3.03	2.77	3.56	25.32	18.01	22.97	21.89	27.62	22.41	13.66	5.64	2.96

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	6024	6024	6024	6024	5884	5884	5884	5884	5622	5622	5622	5383	5383	5383	5163	5163	5163	5060
	1	5556	5337	5140	4963	5421	5223	5044	4882	5010	4863	4729	4814	4695	4585	4634	4538	4449	4443
	2	5096	4713	4397	4131	4967	4619	4328	4082	4442	4198	3988	4279	4076	3898	4128	3961	3812	3876
	3	4681	4187	3805	3500	4560	4109	3755	3469	3961	3658	3409	3824	3567	3350	3698	3480	3294	3405
	4	4314	3747	3333	3016	4202	3682	3295	2995	3558	3221	2955	3442	3151	2916	3335	3085	2878	3019
RCR	5	3989	3378	2951	2635	3886	3322	2921	2621	3218	2864	2593	3120	2810	2566	3029	2758	2540	2700
	6	3702	3065	2637	2331	3609	3018	2614	2321	2929	2569	2301	2846	2526	2281	2768	2484	2262	2434
	7	3447	2798	2377	2082	3363	2758	2359	2075	2682	2322	2060	2611	2288	2046	2544	2254	2032	2210
	8	3221	2569	2158	1877	3144	2535	2143	1871	2469	2114	1860	2408	2086	1850	2351	2058	1839	2020
	9	3019	2370	1973	1704	2950	2341	1960	1700	2285	1936	1692	2232	1913	1684	2182	1890	1676	1856
	10	2839	2197	1814	1558	2776	2172	1803	1555	2123	1783	1549	2077	1764	1542	2033	1744	1536	1715

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	79.8 fc	7.3 ft
6.5 ft	57.2 fc	8.6 ft
7.5 ft	42.9 fc	9.9 ft
8.0 ft	37.7 fc	10.6 ft
10.0 ft	24.2 fc	13.3 ft
12.0 ft	16.8 fc	15.9 ft
14.0 ft	12.3 fc	18.6 ft
16.0 ft	9.4 fc	21.2 ft
20.0 ft	6.0 fc	26.5 ft
24.0 ft	4.2 fc	31.8 ft
28.0 ft	3.1 fc	37.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	43330	43330	43330
45.00°	22115	33152	28240
55.00°	17052	25124	22239
65.00°	12460	17487	16404
75.00°	5804	8490	9481
85.00°	857	530	1174

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	21.9	23.5	22.3	23.8	24.1	21.9	23.4	22.3	23.8	24.1
	3H	22.9	24.3	23.3	24.6	25.0	23.7	25.1	24.1	25.4	25.8
	4H	23.1	24.4	23.5	24.8	25.1	24.3	25.6	24.7	26.0	26.4
	6H	23.1	24.3	23.6	24.7	25.1	24.8	26.0	25.2	26.4	26.8
	8H	23.1	24.3	23.5	24.6	25.0	25.0	26.1	25.4	26.5	26.9
	12H	23.1	24.2	23.5	24.6	25.0	25.1	26.2	25.5	26.6	27.0
4H	2H	23.0	24.3	23.4	24.6	25.0	22.4	23.7	22.8	24.0	24.4
	3H	24.2	25.3	24.7	25.7	26.1	24.3	25.4	24.7	25.8	26.2
	4H	24.6	25.6	25.0	26.0	26.4	25.1	26.0	25.5	26.5	26.9
	6H	24.7	25.6	25.2	26.0	26.5	25.7	26.5	26.1	27.0	27.4
	8H	24.7	25.5	25.2	26.0	26.4	25.9	26.7	26.4	27.1	27.6
	12H	24.7	25.4	25.2	25.9	26.4	26.1	26.8	26.6	27.3	27.7
8H	4H	25.1	25.9	25.6	26.3	26.8	25.3	26.1	25.8	26.6	27.0
	6H	25.4	26.0	25.9	26.5	27.0	26.0	26.7	26.5	27.2	27.7
	8H	25.4	26.0	25.9	26.5	27.0	26.3	26.9	26.8	27.4	27.9
	12H	25.4	26.0	25.9	26.4	27.0	26.6	27.1	27.1	27.6	28.2
12H	4H	25.2	25.9	25.6	26.3	26.8	25.4	26.1	25.9	26.6	27.0
	6H	25.5	26.1	26.0	26.5	27.1	26.1	26.7	26.6	27.2	27.7
	8H	25.6	26.1	26.1	26.6	27.2	26.4	27.0	26.9	27.4	28.0

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0