

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

EV04IND8GL 11L 35K xx DW xx FS xx

4" Wide x 96" linear pendant or surface mount for semi-direct illumination

Test Number

SP-01622_1

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	67.2 W
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Lumen Output

Output Lumens	7535
Efficacy	112.12 lm/W

Luminous Dimensions

0° - 180° Size	0.33
90° - 270° Size	8
Height	0.19

Spacing Criterion

Two luminaires, plane 0°	1.39
Two luminaires, plane 90°	1.23
Four luminaires	1.46

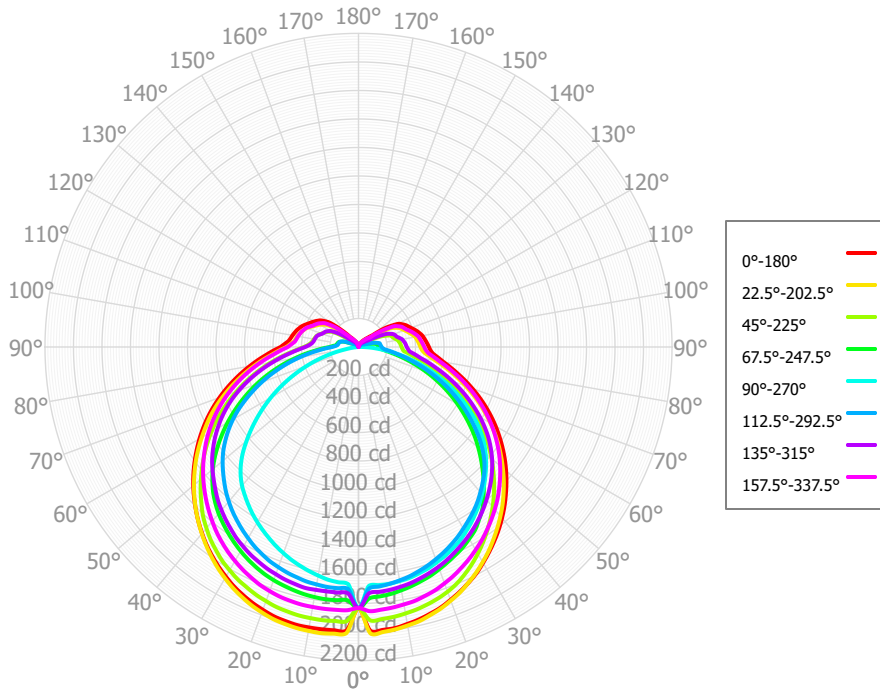
Full Beam Angle

0° - 180°	135°
90° - 270°	107°

IES File Header Contents

Keyword	Value
TEST	SP-01622_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	EV04IND8GL 11L 35K xx DW xx FS xx
LUMINAIRE	4" Wide x 96" linear pendant or surface mount for semi-direct illumination
OTHER	Diffuse White Acrylic Lens
OTHER	Matte White interior finish
OTHER	Beam Angle 135 deg x 107 deg
OTHER	2000 Source Lms/Ft
OTHER	80+ CRI
OTHER	CCT Output Multipliers: 30K x 0.98, 40K x 1.0
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting, Scaled from the EV04IND4GL 20L 35K

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	177.01	2.35%	90.00° - 100.00°	317.94	4.22%
10.00° - 20.00°	507.37	6.73%	100.00° - 110.00°	269.03	3.57%
20.00° - 30.00°	788.89	10.47%	100.00° - 120.00°	468.52	6.22%
30.00° - 40.00°	986.98	13.10%	120.00° - 130.00°	115.86	1.54%
40.00° - 50.00°	1078.03	14.31%	130.00° - 140.00°	47.30	0.63%
50.00° - 60.00°	1045.59	13.88%	140.00° - 150.00°	19.49	0.26%
60.00° - 70.00°	892.97	11.85%	150.00° - 160.00°	7.56	0.10%
70.00° - 80.00°	654.90	8.69%	160.00° - 170.00°	2.00	0.03%
80.00° - 90.00°	423.86	5.63%	170.00° - 180.00°	0.34	0.00%
0.00° - 90.00°	6555.60	87.01%	0.00° - 180.00°	7534.62	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°	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99	1831.99
2.50°	1995.95	2014.82	1920.75	1765.09	1678.03	1699.25	1729.18	1849.00	1993.39	2011.81	1926.35	1779.16	1665.90	1696.38	1728.87	1855.79	1995.95
5.00°	1992.51	2006.95	1915.89	1756.42	1677.17	1698.73	1729.27	1851.27	1995.68	2019.27	1929.89	1783.31	1656.99	1686.52	1724.00	1849.93	1992.51
7.50°	1988.68	1998.43	1909.41	1747.39	1675.63	1698.13	1729.44	1853.21	1997.83	2025.31	1933.68	1785.13	1646.52	1676.22	1717.93	1843.72	1988.68
10.00°	1973.74	1984.58	1898.76	1733.42	1667.60	1691.87	1730.42	1852.61	1998.56	2022.85	1932.31	1781.76	1628.56	1662.95	1708.17	1834.43	1973.74
12.50°	1958.41	1970.47	1886.23	1718.32	1659.25	1685.36	1731.50	1851.14	1998.17	2019.28	1929.93	1775.96	1609.87	1648.68	1696.40	1824.69	1958.41
15.00°	1938.42	1947.37	1869.78	1700.46	1643.84	1673.15	1722.02	1844.70	1990.25	2010.92	1922.04	1765.74	1588.57	1629.31	1679.50	1807.52	1938.42
17.50°	1917.34	1923.84	1850.82	1682.13	1628.22	1660.60	1711.69	1836.78	1980.59	2000.38	1913.42	1754.32	1565.99	1609.00	1661.55	1789.65	1917.34
20.00°	1888.40	1893.96	1827.55	1658.70	1607.19	1644.16	1696.67	1822.74	1962.64	1982.25	1897.55	1741.01	1539.62	1585.14	1641.44	1764.91	1888.40
22.50°	1858.81	1863.18	1798.59	1634.68	1585.86	1626.86	1681.43	1806.72	1943.44	1961.94	1881.10	1724.41	1512.14	1560.38	1618.97	1739.40	1858.81
25.00°	1825.78	1824.99	1761.30	1610.05	1561.07	1603.33	1661.85	1784.43	1919.47	1935.66	1859.34	1703.56	1482.05	1532.96	1592.34	1709.15	1825.78
27.50°	1790.88	1786.08	1720.30	1585.39	1535.21	1578.82	1642.00	1760.77	1893.36	1907.17	1837.33	1680.03	1451.38	1504.05	1564.99	1678.18	1790.88
30.00°	1748.64	1742.90	1674.76	1554.12	1501.20	1549.11	1617.19	1733.49	1860.97	1873.61	1808.61	1653.59	1419.56	1471.48	1536.62	1644.00	1748.64
32.50°	1705.90	1698.65	1626.04	1522.36	1466.63	1518.87	1591.81	1704.41	1827.18	1837.79	1779.51	1624.83	1385.79	1438.87	1505.82	1608.72	1705.90
35.00°	1661.57	1649.77	1574.07	1476.05	1429.18	1486.51	1560.65	1671.53	1790.11	1797.76	1742.37	1593.87	1348.81	1406.20	1472.08	1569.51	1661.57
37.50°	1615.83	1600.38	1520.23	1428.73	1390.81	1452.93	1529.12	1636.23	1750.89	1755.64	1704.56	1561.02	1310.78	1370.73	1436.18	1529.62	1615.83
40.00°	1566.56	1549.30	1464.75	1365.38	1348.83	1415.66	1495.18	1596.57	1707.42	1710.30	1659.81	1526.68	1271.30	1330.67	1398.00	1487.84	1566.56
42.50°	1515.85	1496.76	1406.21	1301.55	1306.09	1376.67	1460.07	1555.65	1662.21	1663.19	1613.66	1486.50	1223.96	1289.79	1358.05	1444.27	1515.85
45.00°	1462.22	1440.28	1345.42	1233.58	1260.95	1333.36	1419.20	1512.85	1614.18	1613.74	1558.39	1442.38	1167.38	1247.74	1316.52	1396.53	1462.22
47.50°	1407.73	1382.59	1282.66	1165.52	1214.42	1289.49	1378.33	1468.53	1564.77	1561.81	1502.43	1390.78	1101.19	1198.29	1271.42	1347.86	1407.73
50.00°	1351.77	1322.28	1218.66	1096.94	1164.40	1244.49	1337.48	1422.32	1513.45	1507.14	1443.07	1334.99	1025.52	1140.17	1223.69	1297.39	1351.77
52.50°	1294.10	1261.46	1152.42	1027.29	1110.55	1195.57	1294.62	1373.96	1459.92	1450.86	1383.13	1270.92	948.21	1074.94	1170.58	1245.02	1294.10
55.00°	1233.99	1199.71	1085.01	952.87	1048.70	1139.88	1245.98	1323.28	1403.80	1393.07	1321.07	1203.04	869.49	1002.53	1114.08	1189.63	1233.99
57.50°	1173.02	1136.04	1016.24	878.39	981.44	1081.02	1195.66	1271.19	1346.62	1332.72	1258.03	1132.54	790.07	928.72	1050.98	1132.46	1173.02
60.00°	1110.98	1069.42	946.91	803.64	904.86	1017.59	1141.33	1217.81	1288.40	1270.33	1192.04	1061.03	710.14	853.72	984.44	1072.87	1110.98
62.50°	1047.32	1002.61	876.61	728.60	827.79	948.95	1085.10	1161.45	1228.42	1208.17	1124.61	986.66	628.76	778.02	915.02	1011.56	1047.32
65.00°	981.98	935.53	805.97	652.77	750.03	874.06	1025.19	1102.77	1166.96	1146.16	1053.76	911.41	546.52	701.82	844.34	948.31	981.98
67.50°	916.07	868.05	733.00	576.99	670.04	798.83	961.84	1041.78	1103.24	1079.81	982.44	835.83	465.04	624.51	772.64	884.28	916.07
70.00°	849.65	800.13	659.39	501.32	587.29	723.26	892.89	979.32	1037.93	1010.99	910.23	760.16	383.94	546.54	700.58	819.49	849.65
72.50°	784.49	733.75	590.09	427.43	506.40	646.63	822.85	915.37	971.87	941.81	837.97	682.46	305.41	471.20	630.70	755.39	784.49
75.00°	720.27	668.80	521.74	356.79	427.42	569.10	751.31	850.63	905.35	872.47	765.66	604.38	227.92	397.19	561.42	691.85	720.27
77.50°	661.36	607.58	460.16	291.06	349.00	493.52	680.03	785.92	840.11	804.64	694.00	527.82	158.51	332.21	500.52	632.86	661.36
80.00°	605.74	549.30	399.65	232.99	271.08	419.41	609.05	721.21	775.52	737.40	623.26	451.44	91.84	271.02	441.46	576.97	605.74
82.50°	561.75	502.96	358.12	187.13	198.96	350.39	541.43	658.90	713.57	673.08	554.71	380.61	49.22	225.07	399.57	531.61	561.75
85.00°	523.93	464.49	318.53	157.13	131.15	284.55	477.15	597.47	652.69	609.68	488.76	310.19	12.93	184.24	360.39	492.39	523.93
87.50°	505.02	444.72	309.41	140.16	76.87	231.55	421.67	545.79	598.70	556.52	431.64	255.65	5.29	169.98	348.20	472.50	505.02
90.00°	494.32	435.16	302.08	137.54	30.95	185.13	373.52	497.01	547.03	505.81	383.28	201.85	3.29	162.68	338.98	461.86	494.32
92.50°	484.33	427.23	297.58	136.03	10.45	162.08	343.56	469.96	516.65	477.60	351.84	177.32	2.56	158.61	333.06	452.45	484.33
95.00°	474.60	420.04	293.03	135.57	3.34	149.14	326.29	447.87	491.84	453.55	334.48	154.03	2.02	155.21	327.33	443.53	474.60
97.50°	464.92	412.35	285.84	131.05	1.30	144.34	317.06	438.39	479.66	443.63	323.63	152.04	2.11	152.65	318.95	434.58	464.92
100.00°	455.26	404.47	278.22	123.36	1.42	142.37	312.64	431.00	470.07	435.49	317.44	149.81	2.26	150.21	310.34	425.63	455.26
102.50°	441.21	390.16	264.79	104.81	1.50	139.28	307.02	422.36	459.75	424.91	310.45	145.46	2.35	133.18	294.30	410.68	441.21
105.00°	426.21	373.87	252.15	78.95	1.55	135.88	300.83	413.57	449.32	414.15	302.97	139.84	2.44	114.71	278.83	394.24	426.21

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	ptc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	8737	8737	8737	8737	8420	8420	8420	8420	7828	7828	7828	7286	7286	7286	6789	6789	6556
	1	7810	7387	7007	6665	7497	7117	6774	6464	6612	6334	6079	6148	5925	5718	5720	5544	5338
	2	7036	6347	5777	5299	6738	6117	5598	5158	5686	5257	4888	5288	4937	4630	4920	4636	4457
	3	6375	5519	4857	4329	6098	5323	4715	4226	4954	4444	4025	4612	4187	3831	4295	3944	3790
	4	5811	4854	4153	3618	5555	4686	4039	3538	4369	3819	3383	4074	3609	3232	3800	3409	3276
	5	5325	4311	3602	3079	5091	4166	3508	3016	3893	3327	2892	3638	3153	2772	3401	2986	2872
	6	4903	3861	3162	2660	4691	3736	3084	2609	3500	2932	2508	3278	2786	2410	3071	2645	2546
	7	4535	3485	2805	2328	4342	3377	2739	2285	3170	2610	2202	2977	2486	2119	2796	2366	2280
	8	4213	3168	2510	2059	4038	3073	2454	2023	2892	2344	1953	2722	2238	1883	2562	2135	2059
	9	3928	2897	2265	1838	3769	2813	2216	1808	2654	2121	1748	2504	2029	1688	2362	1940	1874
	10	3677	2664	2058	1655	3531	2590	2016	1629	2449	1933	1577	2315	1853	1526	2189	1774	1716

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	60.6 fc	27.1 ft
6.5 ft	43.4 fc	32.1 ft
7.5 ft	32.6 fc	37.0 ft
8.0 ft	28.6 fc	39.5 ft
10.0 ft	18.3 fc	49.3 ft
12.0 ft	12.7 fc	59.2 ft
14.0 ft	9.3 fc	69.0 ft
16.0 ft	7.2 fc	78.9 ft
20.0 ft	4.6 fc	98.6 ft
24.0 ft	3.2 fc	118.4 ft
28.0 ft	2.3 fc	138.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	7469	7469	7469
45.00°	5351	5448	7102
55.00°	4814	4804	7210
65.00°	4239	4073	6885
75.00°	3604	3183	6185
85.00°	3233	2549	4826

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	17.9	19.3	18.4	19.9	20.5	16.2	17.6	16.7	18.2	18.8
	3H	20.3	21.6	20.9	22.2	22.8	17.6	18.9	18.2	19.5	20.1
	4H	21.5	22.7	22.0	23.3	24.0	18.0	19.3	18.6	19.9	20.5
	6H	22.6	23.8	23.2	24.4	25.1	18.3	19.5	18.9	20.1	20.7
	8H	23.3	24.4	23.9	25.0	25.7	18.3	19.5	19.0	20.1	20.8
	12H	24.0	25.1	24.6	25.7	26.4	18.4	19.4	19.0	20.0	20.8
4H	2H	18.2	19.5	18.8	20.0	20.7	17.3	18.5	17.8	19.1	19.8
	3H	20.8	21.9	21.4	22.5	23.2	19.0	20.1	19.6	20.7	21.4
	4H	22.2	23.1	22.8	23.8	24.5	19.6	20.6	20.2	21.2	21.9
	6H	23.5	24.4	24.1	25.0	25.8	20.0	20.9	20.7	21.5	22.3
	8H	24.2	25.1	24.9	25.7	26.5	20.1	20.9	20.8	21.6	22.3
	12H	25.1	25.8	25.7	26.5	27.2	20.2	20.9	20.8	21.6	22.3
8H	4H	22.3	23.1	22.9	23.8	24.5	20.4	21.2	21.1	21.9	22.6
	6H	23.8	24.5	24.5	25.2	25.9	21.0	21.7	21.7	22.4	23.2
	8H	24.7	25.3	25.3	26.0	26.7	21.3	21.9	21.9	22.6	23.3
	12H	25.7	26.2	26.3	26.9	27.7	21.4	21.9	22.1	22.6	23.5
12H	4H	22.3	23.0	22.9	23.7	24.4	20.6	21.4	21.3	22.0	22.8
	6H	23.8	24.4	24.5	25.1	25.9	21.4	22.0	22.1	22.7	23.5
	8H	24.7	25.3	25.4	26.0	26.8	21.7	22.2	22.4	22.9	23.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0