

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

EV04IND8GL 20L 35K xx DW xx FS xx

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

Test Number

SP-01622_3

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	114.4 W
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Lumen Output

Output Lumens	12771
Efficacy	111.63 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

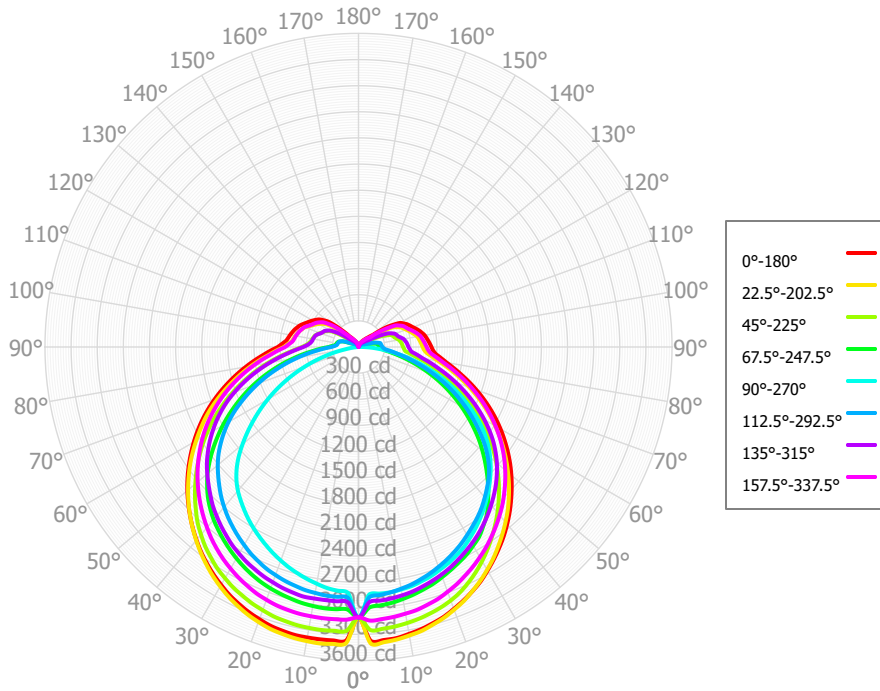
Full Beam Angle

0° - 180°	135°
90° - 270°	107°

IES File Header Contents

Keyword	Value
TEST	SP-01622_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	EV04IND8GL 20L 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	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting, Scaled from the EV04IND4GL 20L 35K
_CRI	80+
_CCTMULT	30K x 0.98, 40K x 1.0
_LAMPMULT	5L x 0.54, 11L x 1.18, 15L x 1.62

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	300.02	2.35%	90.00° - 100.00°	538.88	4.22%
10.00° - 20.00°	859.95	6.73%	100.00° - 110.00°	455.99	3.57%
20.00° - 30.00°	1337.11	10.47%	100.00° - 120.00°	794.10	6.22%
30.00° - 40.00°	1672.84	13.10%	120.00° - 130.00°	196.38	1.54%
40.00° - 50.00°	1827.16	14.31%	130.00° - 140.00°	80.17	0.63%
50.00° - 60.00°	1772.18	13.88%	140.00° - 150.00°	33.04	0.26%
60.00° - 70.00°	1513.51	11.85%	150.00° - 160.00°	12.81	0.10%
70.00° - 80.00°	1109.99	8.69%	160.00° - 170.00°	3.39	0.03%
80.00° - 90.00°	718.41	5.63%	170.00° - 180.00°	0.57	0.00%
0.00° - 90.00°	11111.19	87.01%	0.00° - 180.00°	12770.54	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°	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07	3105.07
2.50°	3382.97	3414.96	3255.50	2991.67	2844.12	2880.08	2930.82	3133.90	3378.63	3409.86	3265.00	3015.53	2823.56	2875.21	2930.29	3145.41	3382.97
5.00°	3377.14	3401.60	3247.27	2976.98	2842.65	2879.20	2930.97	3137.74	3382.50	3422.49	3271.00	3022.56	2808.45	2858.50	2922.03	3135.48	3377.14
7.50°	3370.64	3387.16	3236.28	2961.68	2840.05	2878.19	2931.26	3141.03	3386.15	3432.73	3277.42	3025.64	2790.71	2841.05	2911.75	3124.95	3370.64
10.00°	3345.32	3363.70	3218.24	2937.99	2826.43	2867.58	2932.91	3140.03	3387.39	3428.55	3275.09	3019.93	2760.27	2818.56	2895.21	3109.20	3345.32
12.50°	3319.34	3339.77	3197.01	2912.41	2812.28	2856.54	2934.75	3137.53	3386.74	3422.51	3271.06	3010.10	2728.60	2794.37	2875.26	3092.69	3319.34
15.00°	3285.46	3300.63	3169.12	2882.14	2786.17	2835.84	2918.69	3126.61	3373.30	3408.35	3257.70	2992.78	2692.50	2761.54	2846.60	3063.60	3285.46
17.50°	3249.74	3260.75	3136.98	2851.07	2759.70	2814.58	2901.18	3113.19	3356.92	3390.48	3243.08	2973.42	2654.22	2727.11	2816.18	3033.31	3249.74
20.00°	3200.69	3210.11	3097.54	2811.35	2724.06	2786.72	2875.71	3089.39	3326.52	3359.74	3216.18	2950.86	2609.53	2686.68	2782.10	2991.37	3200.69
22.50°	3150.53	3157.94	3048.46	2770.65	2687.91	2757.38	2849.88	3062.24	3293.96	3325.31	3188.30	2922.74	2562.96	2644.72	2744.02	2948.14	3150.53
25.00°	3094.55	3093.21	2985.26	2728.91	2645.88	2717.51	2816.70	3024.46	3253.34	3280.78	3151.43	2887.39	2511.95	2598.25	2698.87	2896.86	3094.55
27.50°	3035.39	3027.25	2915.76	2687.10	2602.05	2675.96	2783.06	2984.35	3209.09	3232.49	3114.12	2847.51	2459.96	2549.24	2652.53	2844.37	3035.39
30.00°	2963.80	2954.07	2838.57	2634.09	2544.40	2625.62	2740.99	2938.11	3154.19	3175.61	3065.44	2802.70	2406.04	2494.03	2604.44	2786.44	2963.80
32.50°	2891.36	2879.06	2756.00	2580.28	2485.82	2574.35	2697.98	2888.84	3096.92	3114.90	3016.12	2753.94	2348.80	2438.77	2552.24	2726.65	2891.36
35.00°	2816.22	2796.22	2667.92	2501.78	2422.35	2519.50	2645.17	2833.11	3034.08	3047.05	2953.17	2701.48	2286.13	2383.39	2495.05	2660.19	2816.22
37.50°	2738.70	2712.51	2576.67	2421.57	2357.30	2462.59	2591.73	2773.27	2967.60	2975.66	2889.08	2645.80	2221.66	2323.27	2434.20	2592.58	2738.70
40.00°	2655.19	2625.93	2482.62	2314.20	2286.15	2399.42	2534.21	2706.06	2893.93	2898.82	2813.23	2587.60	2154.74	2255.37	2369.50	2521.76	2655.19
42.50°	2569.24	2536.87	2383.40	2206.02	2213.71	2333.34	2474.70	2636.70	2817.31	2818.97	2735.01	2519.49	2074.51	2186.08	2301.77	2447.91	2569.24
45.00°	2478.33	2441.14	2280.37	2090.81	2137.20	2259.93	2405.43	2564.15	2735.90	2735.15	2641.34	2444.72	1978.62	2114.81	2231.39	2367.01	2478.33
47.50°	2385.98	2343.37	2174.00	1975.45	2058.33	2185.58	2336.16	2489.03	2652.16	2647.13	2546.50	2357.25	1866.43	2031.00	2154.94	2284.51	2385.98
50.00°	2291.13	2241.15	2065.53	1859.22	1973.55	2109.30	2266.92	2410.71	2565.17	2554.47	2445.89	2262.70	1738.18	1932.49	2074.04	2198.97	2291.13
52.50°	2193.39	2138.07	1953.25	1741.16	1882.30	2026.39	2194.28	2328.74	2474.44	2459.09	2344.29	2154.09	1607.13	1821.93	1984.03	2110.20	2193.39
55.00°	2091.51	2033.41	1839.00	1615.04	1777.45	1932.00	2111.83	2242.85	2379.33	2361.14	2239.11	2039.06	1473.72	1699.20	1888.27	2016.33	2091.51
57.50°	1988.17	1925.49	1722.45	1488.79	1663.45	1832.23	2026.55	2154.55	2282.41	2258.85	2132.25	1919.56	1339.10	1574.10	1781.32	1919.43	1988.17
60.00°	1883.02	1812.58	1604.92	1362.10	1533.66	1724.73	1934.46	2064.09	2183.73	2153.10	2020.40	1798.36	1203.63	1446.99	1668.55	1818.43	1883.02
62.50°	1775.12	1699.33	1485.77	1234.92	1403.04	1608.40	1839.16	1968.55	2082.07	2047.74	1906.12	1672.30	1065.70	1318.68	1550.89	1714.51	1775.12
65.00°	1664.37	1585.65	1366.04	1106.39	1271.24	1481.46	1737.60	1869.10	1977.90	1942.65	1786.03	1544.76	926.31	1189.52	1431.08	1607.31	1664.37
67.50°	1552.65	1471.27	1242.37	977.94	1135.66	1353.96	1630.24	1765.74	1869.90	1830.19	1665.15	1416.65	788.21	1058.49	1309.56	1498.79	1552.65
70.00°	1440.09	1356.15	1117.61	849.70	995.41	1225.86	1513.38	1659.86	1759.21	1713.54	1542.76	1288.41	650.75	926.33	1187.43	1388.97	1440.09
72.50°	1329.65	1243.65	1000.15	724.46	858.30	1095.99	1394.67	1551.48	1647.24	1596.29	1420.29	1156.70	517.64	798.65	1068.99	1280.32	1329.65
75.00°	1220.80	1133.56	884.30	604.73	724.44	964.57	1273.41	1441.75	1534.49	1478.76	1297.72	1024.38	386.30	673.21	951.56	1172.63	1220.80
77.50°	1120.94	1029.79	779.93	493.33	591.53	836.47	1152.59	1332.06	1423.92	1363.79	1176.28	894.61	268.66	563.06	848.34	1072.65	1120.94
80.00°	1026.69	931.01	677.37	394.89	459.46	710.86	1032.29	1222.38	1314.44	1249.82	1056.37	765.16	155.67	459.36	748.24	977.91	1026.69
82.50°	952.13	852.47	606.99	317.18	337.22	593.89	917.67	1116.78	1209.44	1140.82	940.19	645.10	83.42	381.47	677.24	901.03	952.13
85.00°	888.02	787.27	539.88	266.32	222.30	482.28	808.73	1012.67	1106.25	1033.36	828.41	525.75	21.91	312.28	610.83	834.56	888.02
87.50°	855.97	753.77	524.43	237.56	130.29	392.45	714.69	925.07	1014.75	943.25	731.59	433.30	8.97	288.11	590.18	800.84	855.97
90.00°	837.83	737.56	511.99	233.11	52.45	313.78	633.08	842.39	927.17	857.31	649.62	342.11	5.57	275.73	574.55	782.82	837.83
92.50°	820.90	724.11	504.38	230.56	17.71	274.72	582.31	796.55	875.68	809.49	596.34	300.54	4.34	268.83	564.51	766.87	820.90
95.00°	804.40	711.94	496.67	229.77	5.67	252.78	553.03	759.10	833.62	768.73	566.91	261.07	3.42	263.06	554.79	751.74	804.40
97.50°	788.00	698.90	484.48	222.12	2.20	244.65	537.39	743.04	812.98	751.91	548.52	257.69	3.58	258.72	540.59	736.58	788.00
100.00°	771.63	685.54	471.55	209.09	2.41	241.31	529.89	730.51	796.72	738.11	538.04	253.92	3.82	254.59	526.01	721.40	771.63
102.50°	747.81	661.28	448.80	177.64	2.53	236.07	520.38	715.86	779.23	720.18	526.18	246.53	3.98	225.72	498.81	696.06	747.81
105.00°	722.38	633.68	427.37	133.81	2.62	230.30	509.88	700.97	761.57	701.94	513.50	237.01	4.13	194.43	472.59	668.21	722.38

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	14808	14808	14808	14808	14271	14271	14271	14271	13268	13268	13268	12350	12350	12350	11507	11507	11507
	1	13238	12520	11877	11297	12707	12063	11482	10955	11206	10735	10304	10420	10042	9692	9694	9396	9117
	2	11925	10757	9792	8981	11420	10368	9489	8743	9636	8911	8284	8962	8368	7847	8338	7857	7429
	3	10806	9354	8231	7337	10335	9022	7992	7162	8396	7532	6821	7817	7097	6493	7280	6685	6176
	4	9849	8227	7039	6131	9416	7942	6845	5997	7405	6472	5734	6906	6117	5478	6441	5778	5229
	5	9025	7306	6105	5219	8630	7061	5946	5112	6598	5638	4902	6166	5344	4698	5764	5061	4497
	6	8311	6545	5359	4509	7951	6333	5227	4422	5931	4969	4252	5556	4722	4084	5205	4484	3920
	7	7687	5908	4754	3945	7360	5724	4642	3873	5374	4424	3732	5046	4214	3592	4738	4011	3455
	8	7140	5369	4255	3489	6843	5208	4159	3429	4902	3973	3310	4614	3792	3192	4343	3618	3076
	9	6658	4910	3839	3116	6388	4769	3757	3064	4498	3595	2962	4244	3439	2862	4004	3288	2762
	10	6232	4516	3489	2805	5986	4390	3417	2761	4151	3276	2673	3924	3140	2586	3710	3007	2500

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	102.6 fc	27.1 ft
6.5 ft	73.5 fc	32.1 ft
7.5 ft	55.2 fc	37.0 ft
8.0 ft	48.5 fc	39.5 ft
10.0 ft	31.1 fc	49.3 ft
12.0 ft	21.6 fc	59.2 ft
14.0 ft	15.8 fc	69.0 ft
16.0 ft	12.1 fc	78.9 ft
20.0 ft	7.8 fc	98.6 ft
24.0 ft	5.4 fc	118.4 ft
28.0 ft	4.0 fc	138.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	12660	12660	12660
45.00°	9069	9234	12037
55.00°	8159	8143	12220
65.00°	7185	6903	11670
75.00°	6108	5395	10483
85.00°	5480	4321	8179

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	19.7	21.2	20.3	21.7	22.3	18.0	19.5	18.6	20.0	20.6
	3H	22.1	23.5	22.7	24.0	24.7	19.4	20.8	20.0	21.3	22.0
	4H	23.3	24.5	23.9	25.1	25.8	19.9	21.1	20.5	21.7	22.4
	6H	24.5	25.6	25.1	26.2	26.9	20.1	21.3	20.7	21.9	22.6
	8H	25.1	26.2	25.7	26.8	27.5	20.2	21.3	20.8	21.9	22.6
	12H	25.8	26.9	26.4	27.5	28.2	20.2	21.3	20.8	21.9	22.6
4H	2H	20.0	21.3	20.6	21.9	22.5	19.1	20.3	19.7	20.9	21.6
	3H	22.7	23.7	23.3	24.4	25.1	20.8	21.9	21.4	22.5	23.2
	4H	24.0	25.0	24.6	25.6	26.3	21.5	22.4	22.1	23.1	23.8
	6H	25.3	26.2	26.0	26.9	27.6	21.9	22.7	22.5	23.4	24.1
	8H	26.1	26.9	26.7	27.5	28.3	21.9	22.8	22.6	23.4	24.2
	12H	26.9	27.7	27.6	28.3	29.1	22.0	22.7	22.7	23.4	24.2
8H	4H	24.1	24.9	24.8	25.6	26.3	22.3	23.1	22.9	23.7	24.5
	6H	25.6	26.3	26.3	27.0	27.8	22.9	23.6	23.5	24.3	25.0
	8H	26.5	27.1	27.2	27.8	28.6	23.1	23.7	23.8	24.4	25.2
	12H	27.5	28.0	28.2	28.7	29.6	23.2	23.8	23.9	24.5	25.3
12H	4H	24.1	24.9	24.8	25.5	26.3	22.5	23.2	23.1	23.9	24.6
	6H	25.7	26.3	26.3	26.9	27.8	23.2	23.8	23.9	24.5	25.3
	8H	26.6	27.1	27.2	27.8	28.6	23.5	24.1	24.2	24.8	25.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0