

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

EV04IND2GL 11L 35K xx DW xx FS xx

4" Wide x 24" linear pendant or surface mount for semi-direct illumination

Test Number

SP-01620_1

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	16.8 W
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Lumen Output

Output Lumens	1916
Efficacy	114.02 lm/W

Luminous Dimensions

0° - 180° Size	0.33
90° - 270° Size	2
Height	0.19

Spacing Criterion

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

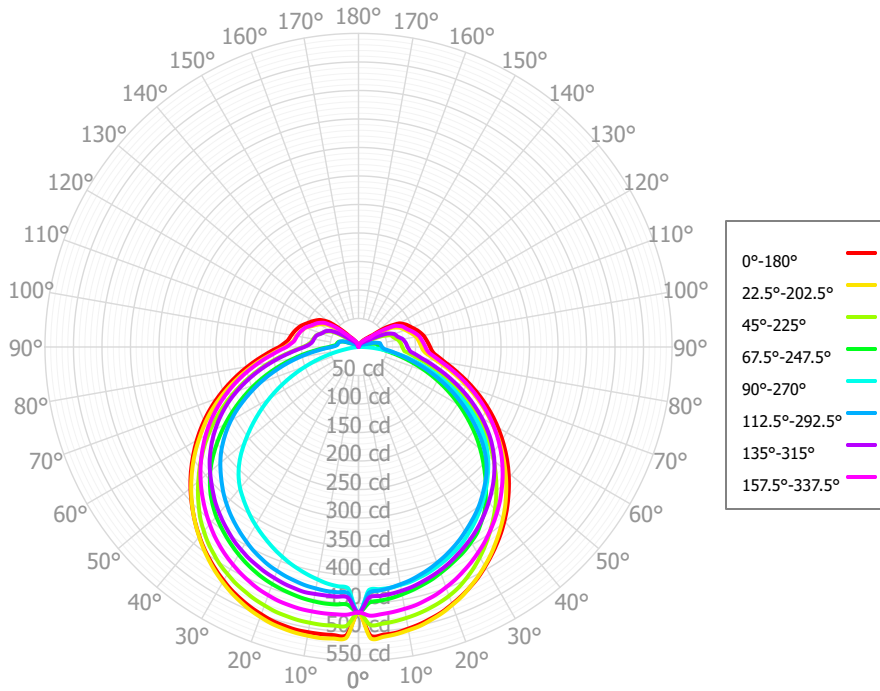
Full Beam Angle

0° - 180°	135°
90° - 270°	107°

IES File Header Contents

Keyword	Value
TEST	SP-01620_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	EV04IND2GL 11L 35K xx DW xx FS xx
LUMINAIRE	4" Wide x 24" 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°	45.00	2.35%	90.00° - 100.00°	80.83	4.22%
10.00° - 20.00°	128.99	6.73%	100.00° - 110.00°	68.40	3.57%
20.00° - 30.00°	200.57	10.47%	100.00° - 120.00°	119.12	6.22%
30.00° - 40.00°	250.93	13.10%	120.00° - 130.00°	29.46	1.54%
40.00° - 50.00°	274.07	14.31%	130.00° - 140.00°	12.03	0.63%
50.00° - 60.00°	265.83	13.88%	140.00° - 150.00°	4.96	0.26%
60.00° - 70.00°	227.03	11.85%	150.00° - 160.00°	1.92	0.10%
70.00° - 80.00°	166.50	8.69%	160.00° - 170.00°	0.51	0.03%
80.00° - 90.00°	107.76	5.63%	170.00° - 180.00°	0.09	0.00%
0.00° - 90.00°	1666.68	87.01%	0.00° - 180.00°	1915.58	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°	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76	465.76
2.50°	507.44	512.24	488.33	448.75	426.62	432.01	439.62	470.08	506.80	511.48	489.75	452.33	423.53	431.28	439.54	471.81	507.44
5.00°	506.57	510.24	487.09	446.55	426.40	431.88	439.65	470.66	507.38	513.37	490.65	453.38	421.27	428.78	438.30	470.32	506.57
7.50°	505.60	508.07	485.44	444.25	426.01	431.73	439.69	471.16	507.92	514.91	491.61	453.85	418.61	426.16	436.76	468.74	505.60
10.00°	501.80	504.56	482.74	440.70	423.96	430.14	439.94	471.00	508.11	514.28	491.26	452.99	414.04	422.78	434.28	466.38	501.80
12.50°	497.90	500.97	479.55	436.86	421.84	428.48	440.21	470.63	508.01	513.38	490.66	451.52	409.29	419.16	431.29	463.90	497.90
15.00°	492.82	495.09	475.37	432.32	417.93	425.38	437.80	468.99	505.99	511.25	488.65	448.92	403.87	414.23	426.99	459.54	492.82
17.50°	487.46	489.11	470.55	427.66	413.95	422.19	435.18	466.98	503.54	508.57	486.46	446.01	398.13	409.07	422.43	455.00	487.46
20.00°	480.10	481.52	464.63	421.70	408.61	418.01	431.36	463.41	498.98	503.96	482.43	442.63	391.43	403.00	417.32	448.70	480.10
22.50°	472.58	473.69	457.27	415.60	403.19	413.61	427.48	459.34	494.09	498.80	478.25	438.41	384.44	396.71	411.60	442.22	472.58
25.00°	464.18	463.98	447.79	409.34	396.88	407.63	422.50	453.67	488.00	492.12	472.71	433.11	376.79	389.74	404.83	434.53	464.18
27.50°	455.31	454.09	437.36	403.06	390.31	401.39	417.46	447.65	481.36	484.87	467.12	427.13	368.99	382.39	397.88	426.66	455.31
30.00°	444.57	443.11	425.79	395.11	381.66	393.84	411.15	440.72	473.13	476.34	459.82	420.41	360.91	374.10	390.67	417.97	444.57
32.50°	433.70	431.86	413.40	387.04	372.87	386.15	404.70	433.33	464.54	467.24	452.42	413.09	352.32	365.82	382.84	409.00	433.70
35.00°	422.43	419.43	400.19	375.27	363.35	377.93	396.78	424.97	455.11	457.06	442.98	405.22	342.92	357.51	374.26	399.03	422.43
37.50°	410.80	406.88	386.50	363.24	353.60	369.39	388.76	415.99	445.14	446.35	433.36	396.87	333.25	348.49	365.13	388.89	410.80
40.00°	398.28	393.89	372.39	347.13	342.92	359.91	380.13	405.91	434.09	434.82	421.98	388.14	323.21	338.31	355.42	378.26	398.28
42.50°	385.39	380.53	357.51	330.90	332.06	350.00	371.21	395.51	422.60	422.85	410.25	377.92	311.18	327.91	345.27	367.19	385.39
45.00°	371.75	366.17	342.06	313.62	320.58	338.99	360.81	384.62	410.38	410.27	396.20	366.71	296.79	317.22	334.71	355.05	371.75
47.50°	357.90	351.51	326.10	296.32	308.75	327.84	350.42	373.35	397.82	397.07	381.97	353.59	279.96	304.65	323.24	342.68	357.90
50.00°	343.67	336.17	309.83	278.88	296.03	316.40	340.04	361.61	384.78	383.17	366.88	339.41	260.73	289.87	311.11	329.85	343.67
52.50°	329.01	320.71	292.99	261.17	282.34	303.96	329.14	349.31	371.17	368.86	351.64	323.11	241.07	273.29	297.60	316.53	329.01
55.00°	313.73	305.01	275.85	242.26	266.62	289.80	316.77	336.43	356.90	354.17	335.87	305.86	221.06	254.88	283.24	302.45	313.73
57.50°	298.23	288.82	258.37	223.32	249.52	274.83	303.98	323.18	342.36	338.83	319.84	287.93	200.86	236.11	267.20	287.91	298.23
60.00°	282.45	271.89	240.74	204.31	230.05	258.71	290.17	309.61	327.56	322.97	303.06	269.75	180.54	217.05	250.28	272.76	282.45
62.50°	266.27	254.90	222.87	185.24	210.46	241.26	275.87	295.28	312.31	307.16	285.92	250.84	159.85	197.80	232.63	257.18	266.27
65.00°	249.66	237.85	204.91	165.96	190.69	222.22	260.64	280.36	296.68	291.40	267.90	231.71	138.95	178.43	214.66	241.10	249.66
67.50°	232.90	220.69	186.36	146.69	170.35	203.09	244.54	264.86	280.49	274.53	249.77	212.50	118.23	158.77	196.43	224.82	232.90
70.00°	216.01	203.42	167.64	127.45	149.31	183.88	227.01	248.98	263.88	257.03	231.41	193.26	97.61	138.95	178.11	208.35	216.01
72.50°	199.45	186.55	150.02	108.67	128.75	164.40	209.20	232.72	247.09	239.44	213.04	173.51	77.65	119.80	160.35	192.05	199.45
75.00°	183.12	170.03	132.64	90.71	108.67	144.69	191.01	216.26	230.17	221.81	194.66	153.66	57.94	100.98	142.73	175.89	183.12
77.50°	168.14	154.47	116.99	74.00	88.73	125.47	172.89	199.81	213.59	204.57	176.44	134.19	40.30	84.46	127.25	160.90	168.14
80.00°	154.00	139.65	101.61	59.23	68.92	106.63	154.84	183.36	197.17	187.47	158.46	114.77	23.35	68.90	112.24	146.69	154.00
82.50°	142.82	127.87	91.05	47.58	50.58	89.08	137.65	167.52	181.42	171.12	141.03	96.77	12.51	57.22	101.59	135.15	142.82
85.00°	133.20	118.09	80.98	39.95	33.34	72.34	121.31	151.90	165.94	155.00	124.26	78.86	3.29	46.84	91.62	125.18	133.20
87.50°	128.40	113.06	78.66	35.63	19.54	58.87	107.20	138.76	152.21	141.49	109.74	65.00	1.35	43.22	88.53	120.13	128.40
90.00°	125.67	110.63	76.80	34.97	7.87	47.07	94.96	126.36	139.08	128.60	97.44	51.32	0.84	41.36	86.18	117.42	125.67
92.50°	123.14	108.62	75.66	34.58	2.66	41.21	87.35	119.48	131.35	121.42	89.45	45.08	0.65	40.32	84.68	115.03	123.14
95.00°	120.66	106.79	74.50	34.47	0.85	37.92	82.95	113.86	125.04	115.31	85.04	39.16	0.51	39.46	83.22	112.76	120.66
97.50°	118.20	104.84	72.67	33.32	0.33	36.70	80.61	111.46	121.95	112.79	82.28	38.65	0.54	38.81	81.09	110.49	118.20
100.00°	115.74	102.83	70.73	31.36	0.36	36.20	79.48	109.58	119.51	110.72	80.71	38.09	0.57	38.19	78.90	108.21	115.74
102.50°	112.17	99.19	67.32	26.65	0.38	35.41	78.06	107.38	116.88	108.03	78.93	36.98	0.60	33.86	74.82	104.41	112.17
105.00°	108.36	95.05	64.11	20.07	0.39	34.55	76.48	105.14	114.23	105.29	77.03	35.55	0.62	29.16	70.89	100.23	108.36

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	2221	2221	2221	2221	2141	2141	2141	2141	1990	1990	1990	1852	1852	1852	1726	1726	1667
	1	1986	1878	1782	1695	1906	1809	1722	1643	1681	1610	1546	1563	1506	1454	1454	1409	1357
	2	1789	1614	1469	1347	1713	1555	1423	1311	1445	1337	1243	1344	1255	1177	1251	1179	1114
	3	1621	1403	1235	1101	1550	1353	1199	1074	1259	1130	1023	1173	1065	974	1092	1003	926
	4	1477	1234	1056	920	1412	1191	1027	900	1111	971	860	1036	918	822	966	867	784
	5	1354	1096	916	783	1294	1059	892	767	990	846	735	925	802	705	865	759	675
	6	1247	982	804	676	1193	950	784	663	890	745	638	833	708	613	781	673	588
	7	1153	886	713	592	1104	859	696	581	806	664	560	757	632	539	711	602	518
	8	1071	805	638	523	1026	781	624	514	735	596	496	692	569	479	651	543	461
	9	999	737	576	467	958	715	563	460	675	539	444	637	516	429	601	493	414
	10	935	677	523	421	898	659	513	414	623	491	401	589	471	388	557	451	375

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	15.4 fc	27.1 ft
6.5 ft	11.0 fc	32.1 ft
7.5 ft	8.3 fc	37.0 ft
8.0 ft	7.3 fc	39.5 ft
10.0 ft	4.7 fc	49.3 ft
12.0 ft	3.2 fc	59.2 ft
14.0 ft	2.4 fc	69.0 ft
16.0 ft	1.8 fc	78.9 ft
20.0 ft	1.2 fc	98.6 ft
24.0 ft	0.8 fc	118.4 ft
28.0 ft	0.6 fc	138.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	7596	7596	7596
45.00°	5441	5351	6752
55.00°	4895	4676	6675
65.00°	4311	3920	6113
75.00°	3665	3017	5055
85.00°	3288	2360	2991

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	17.7	19.1	18.2	19.7	20.3	16.2	17.6	16.7	18.2	18.8
	3H	20.0	21.3	20.6	21.9	22.6	17.6	18.9	18.2	19.5	20.1
	4H	21.1	22.3	21.7	22.9	23.6	18.0	19.3	18.6	19.9	20.5
	6H	22.2	23.3	22.8	23.9	24.6	18.3	19.5	18.9	20.1	20.7
	8H	22.7	23.8	23.3	24.5	25.1	18.3	19.5	19.0	20.1	20.8
	12H	23.3	24.4	23.9	25.0	25.7	18.4	19.4	19.0	20.0	20.8
4H	2H	18.0	19.3	18.6	19.8	20.5	17.2	18.5	17.8	19.0	19.7
	3H	20.6	21.6	21.2	22.3	22.9	19.0	20.0	19.5	20.6	21.3
	4H	21.8	22.8	22.4	23.4	24.1	19.6	20.6	20.2	21.2	21.9
	6H	23.1	23.9	23.7	24.6	25.3	20.0	20.8	20.6	21.5	22.2
	8H	23.7	24.5	24.4	25.2	25.9	20.1	20.9	20.7	21.5	22.3
	12H	24.4	25.2	25.1	25.9	26.6	20.1	20.9	20.8	21.5	22.3
8H	4H	22.0	22.8	22.6	23.4	24.2	20.3	21.2	21.0	21.8	22.6
	6H	23.4	24.1	24.0	24.8	25.5	21.0	21.7	21.6	22.4	23.1
	8H	24.2	24.8	24.8	25.5	26.2	21.2	21.8	21.9	22.5	23.3
	12H	25.0	25.6	25.7	26.3	27.1	21.3	21.9	22.0	22.6	23.4
12H	4H	21.9	22.7	22.6	23.4	24.1	20.5	21.3	21.2	21.9	22.7
	6H	23.4	24.0	24.1	24.7	25.5	21.3	21.9	22.0	22.6	23.4
	8H	24.2	24.8	24.9	25.5	26.3	21.6	22.1	22.3	22.8	23.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0