

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

EV04IND2GL 20L 35K xx DW xx FS xx

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

Test Number

SP-01620_3

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	28.6 W
-------------	--------

Lumen Output

Output Lumens	3193
Efficacy	111.63 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

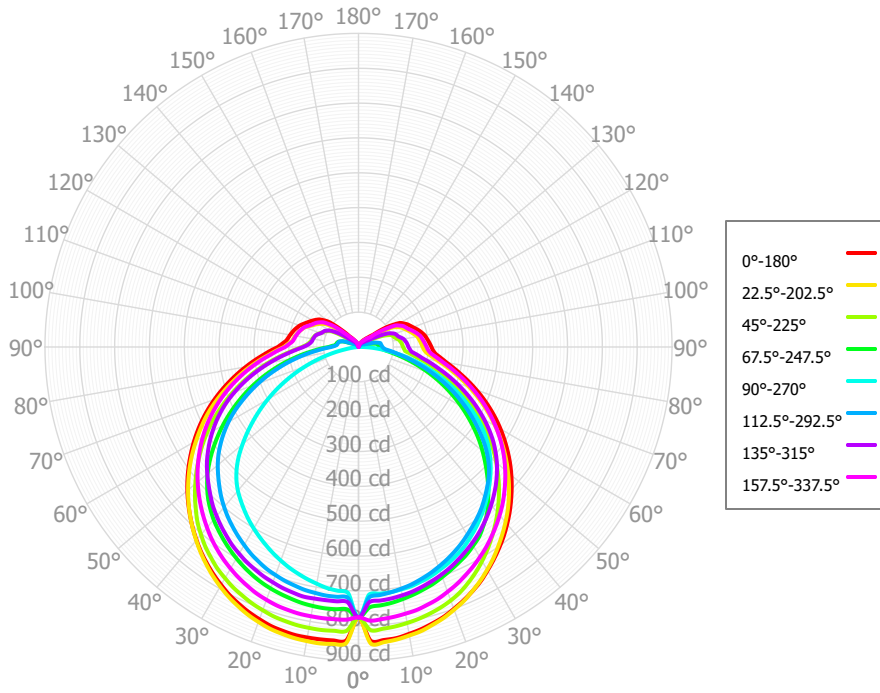
Full Beam Angle

0° - 180°	135°
90° - 270°	107°

IES File Header Contents

Keyword	Value
TEST	SP-01620_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	EV04IND2GL 20L 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	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 0.13, 11L x 0.29, 15L x 0.39

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	75.00	2.35%	90.00° - 100.00°	134.72	4.22%
10.00° - 20.00°	214.99	6.73%	100.00° - 110.00°	114.00	3.57%
20.00° - 30.00°	334.28	10.47%	100.00° - 120.00°	198.53	6.22%
30.00° - 40.00°	418.21	13.10%	120.00° - 130.00°	49.09	1.54%
40.00° - 50.00°	456.79	14.31%	130.00° - 140.00°	20.04	0.63%
50.00° - 60.00°	443.05	13.88%	140.00° - 150.00°	8.26	0.26%
60.00° - 70.00°	378.38	11.85%	150.00° - 160.00°	3.20	0.10%
70.00° - 80.00°	277.50	8.69%	160.00° - 170.00°	0.85	0.03%
80.00° - 90.00°	179.60	5.63%	170.00° - 180.00°	0.14	0.00%
0.00° - 90.00°	2777.80	87.01%	0.00° - 180.00°	3192.63	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°	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27	776.27
2.50°	845.74	853.74	813.88	747.92	711.03	720.02	732.70	783.47	844.66	852.46	816.25	753.88	705.89	718.80	732.57	786.35	845.74
5.00°	844.29	850.40	811.82	744.24	710.66	719.80	732.74	784.44	845.63	855.62	817.75	755.64	702.11	714.63	730.51	783.87	844.29
7.50°	842.66	846.79	809.07	740.42	710.01	719.55	732.82	785.26	846.54	858.18	819.36	756.41	697.68	710.26	727.94	781.24	842.66
10.00°	836.33	840.93	804.56	734.50	706.61	716.90	733.23	785.01	846.85	857.14	818.77	754.98	690.07	704.64	723.80	777.30	836.33
12.50°	829.83	834.94	799.25	728.10	703.07	714.13	733.69	784.38	846.68	855.63	817.77	752.53	682.15	698.59	718.82	773.17	829.83
15.00°	821.37	825.16	792.28	720.54	696.54	708.96	729.67	781.65	843.32	852.09	814.42	748.20	673.12	690.38	711.65	765.90	821.37
17.50°	812.43	815.19	784.24	712.77	689.92	703.65	725.29	778.30	839.23	847.62	810.77	743.35	663.56	681.78	704.05	758.33	812.43
20.00°	800.17	802.53	774.39	702.84	681.01	696.68	718.93	772.35	831.63	839.94	804.05	737.72	652.38	671.67	695.53	747.84	800.17
22.50°	787.63	789.48	762.11	692.66	671.98	689.35	712.47	765.56	823.49	831.33	797.08	730.68	640.74	661.18	686.00	737.03	787.63
25.00°	773.64	773.30	746.31	682.23	661.47	679.38	704.17	756.12	813.34	820.20	787.86	721.85	627.99	649.56	674.72	724.21	773.64
27.50°	758.85	756.81	728.94	671.77	650.51	668.99	695.76	746.09	802.27	808.12	778.53	711.88	614.99	637.31	663.13	711.09	758.85
30.00°	740.95	738.52	709.64	658.52	636.10	656.40	685.25	734.53	788.55	793.90	766.36	700.68	601.51	623.51	651.11	696.61	740.95
32.50°	722.84	719.77	689.00	645.07	621.45	643.59	674.50	722.21	774.23	778.73	754.03	688.49	587.20	609.69	638.06	681.66	722.84
35.00°	704.05	699.06	666.98	625.45	605.59	629.88	661.29	708.28	758.52	761.76	738.29	675.37	571.53	595.85	623.76	665.05	704.05
37.50°	684.67	678.13	644.17	605.39	589.33	615.65	647.93	693.32	741.90	743.91	722.27	661.45	555.41	580.82	608.55	648.15	684.67
40.00°	663.80	656.48	620.65	578.55	571.54	599.86	633.55	676.51	723.48	724.70	703.31	646.90	538.68	563.84	592.37	630.44	663.80
42.50°	642.31	634.22	595.85	551.50	553.43	583.33	618.68	659.18	704.33	704.74	683.75	629.87	518.63	546.52	575.44	611.98	642.31
45.00°	619.58	610.29	570.09	522.70	534.30	564.98	601.36	641.04	683.97	683.79	660.34	611.18	494.65	528.70	557.85	591.75	619.58
47.50°	596.49	585.84	543.50	493.86	514.58	546.39	584.04	622.26	663.04	661.78	636.62	589.31	466.61	507.75	538.74	571.13	596.49
50.00°	572.78	560.29	516.38	464.80	493.39	527.33	566.73	602.68	641.29	638.62	611.47	565.68	434.54	483.12	518.51	549.74	572.78
52.50°	548.35	534.52	488.31	435.29	470.57	506.60	548.57	582.18	618.61	614.77	586.07	538.52	401.78	455.48	496.01	527.55	548.35
55.00°	522.88	508.35	459.75	403.76	444.36	483.00	527.96	560.71	594.83	590.28	559.78	509.76	368.43	424.80	472.07	504.08	522.88
57.50°	497.04	481.37	430.61	372.20	415.86	458.06	506.64	538.64	570.60	564.71	533.06	479.89	334.77	393.52	445.33	479.86	497.04
60.00°	470.75	453.15	401.23	340.52	383.41	431.18	483.61	516.02	545.93	538.28	505.10	449.59	300.91	361.75	417.14	454.61	470.75
62.50°	443.78	424.83	371.44	308.73	350.76	402.10	459.79	492.14	520.52	511.94	476.53	418.07	266.42	329.67	387.72	428.63	443.78
65.00°	416.09	396.41	341.51	276.60	317.81	370.36	434.40	467.27	494.47	485.66	446.51	386.19	231.58	297.38	357.77	401.83	416.09
67.50°	388.16	367.82	310.59	244.49	283.91	338.49	407.56	441.43	467.48	457.55	416.29	354.16	197.05	264.62	327.39	374.70	388.16
70.00°	360.02	339.04	279.40	212.42	248.85	306.47	378.34	414.97	439.80	428.39	385.69	322.10	162.69	231.58	296.86	347.24	360.02
72.50°	332.41	310.91	250.04	181.12	214.58	274.00	348.67	387.87	411.81	399.07	355.07	289.18	129.41	199.66	267.25	320.08	332.41
75.00°	305.20	283.39	221.07	151.18	181.11	241.14	318.35	360.44	383.62	369.69	324.43	256.09	96.57	168.30	237.89	293.16	305.20
77.50°	280.24	257.45	194.98	123.33	147.88	209.12	288.15	333.02	355.98	340.95	294.07	223.65	67.17	140.77	212.08	268.16	280.24
80.00°	256.67	232.75	169.34	98.72	114.86	177.72	258.07	305.60	328.61	312.46	264.09	191.29	38.92	114.84	187.06	244.48	256.67
82.50°	238.03	213.12	151.75	79.29	84.31	148.47	229.42	279.20	302.36	285.20	235.05	161.28	20.86	95.37	169.31	225.26	238.03
85.00°	222.00	196.82	134.97	66.58	55.57	120.57	202.18	253.17	276.56	258.34	207.10	131.44	5.48	78.07	152.71	208.64	222.00
87.50°	213.99	188.44	131.11	59.39	32.57	98.11	178.67	231.27	253.69	235.81	182.90	108.33	2.24	72.03	147.54	200.21	213.99
90.00°	209.46	184.39	128.00	58.28	13.11	78.44	158.27	210.60	231.79	214.33	162.41	85.53	1.39	68.93	143.64	195.71	209.46
92.50°	205.23	181.03	126.10	57.64	4.43	68.68	145.58	199.14	218.92	202.37	149.08	75.13	1.09	67.21	141.13	191.72	205.23
95.00°	201.10	177.98	124.17	57.44	1.42	63.20	138.26	189.77	208.40	192.18	141.73	65.27	0.86	65.77	138.70	187.93	201.10
97.50°	197.00	174.73	121.12	55.53	0.55	61.16	134.35	185.76	203.24	187.98	137.13	64.42	0.89	64.68	135.15	184.14	197.00
100.00°	192.91	171.39	117.89	52.27	0.60	60.33	132.47	182.63	199.18	184.53	134.51	63.48	0.96	63.65	131.50	180.35	192.91
102.50°	186.95	165.32	112.20	44.41	0.63	59.02	130.09	178.96	194.81	180.04	131.54	61.63	1.00	56.43	124.70	174.02	186.95
105.00°	180.60	158.42	106.84	33.45	0.66	57.58	127.47	175.24	190.39	175.49	128.38	59.25	1.03	48.61	118.15	167.05	180.60

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	3702	3702	3702	3702	3568	3568	3568	3568	3317	3317	3317	3087	3087	3087	2877	2877	2778
	1	3310	3130	2969	2824	3177	3016	2870	2739	2802	2684	2576	2605	2510	2423	2424	2349	2262
	2	2981	2689	2448	2245	2855	2592	2372	2186	2409	2228	2071	2241	2092	1962	2085	1964	1889
	3	2701	2339	2058	1834	2584	2256	1998	1790	2099	1883	1705	1954	1774	1623	1820	1671	1606
	4	2462	2057	1760	1533	2354	1986	1711	1499	1851	1618	1433	1726	1529	1369	1610	1444	1388
	5	2256	1827	1526	1305	2157	1765	1486	1278	1649	1410	1226	1542	1336	1174	1441	1265	1217
	6	2078	1636	1340	1127	1988	1583	1307	1106	1483	1242	1063	1389	1180	1021	1301	1121	1079
	7	1922	1477	1188	986	1840	1431	1160	968	1343	1106	933	1261	1053	898	1185	1003	966
	8	1785	1342	1064	872	1711	1302	1040	857	1225	993	827	1153	948	798	1086	905	873
	9	1665	1228	960	779	1597	1192	939	766	1125	899	741	1061	860	715	1001	822	794
	10	1558	1129	872	701	1496	1098	854	690	1038	819	668	981	785	646	928	752	727

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	25.7 fc	27.1 ft
6.5 ft	18.4 fc	32.1 ft
7.5 ft	13.8 fc	37.0 ft
8.0 ft	12.1 fc	39.5 ft
10.0 ft	7.8 fc	49.3 ft
12.0 ft	5.4 fc	59.2 ft
14.0 ft	4.0 fc	69.0 ft
16.0 ft	3.0 fc	78.9 ft
20.0 ft	1.9 fc	98.6 ft
24.0 ft	1.3 fc	118.4 ft
28.0 ft	1.0 fc	138.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	12660	12660	12660
45.00°	9069	8919	11254
55.00°	8159	7793	11125
65.00°	7185	6534	10189
75.00°	6108	5029	8425
85.00°	5480	3933	4986

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	19.4	20.9	20.0	21.4	22.1	18.0	19.4	18.5	20.0	20.6
	3H	21.8	23.1	22.4	23.7	24.3	19.4	20.7	19.9	21.3	21.9
	4H	22.9	24.1	23.5	24.7	25.4	19.8	21.1	20.4	21.7	22.3
	6H	24.0	25.1	24.5	25.7	26.4	20.1	21.2	20.7	21.8	22.5
	8H	24.5	25.6	25.1	26.2	26.9	20.1	21.2	20.7	21.9	22.5
	12H	25.1	26.2	25.7	26.8	27.5	20.1	21.2	20.8	21.8	22.5
4H	2H	19.8	21.0	20.4	21.6	22.3	19.0	20.2	19.6	20.8	21.5
	3H	22.3	23.4	22.9	24.0	24.7	20.7	21.8	21.3	22.4	23.1
	4H	23.6	24.6	24.2	25.2	25.9	21.4	22.3	22.0	23.0	23.7
	6H	24.9	25.7	25.5	26.4	27.1	21.8	22.6	22.4	23.3	24.0
	8H	25.5	26.3	26.1	27.0	27.7	21.9	22.7	22.5	23.3	24.1
	12H	26.2	26.9	26.9	27.6	28.4	21.9	22.6	22.6	23.3	24.1
8H	4H	23.7	24.5	24.4	25.2	25.9	22.1	22.9	22.8	23.6	24.3
	6H	25.1	25.8	25.8	26.5	27.3	22.7	23.4	23.4	24.1	24.9
	8H	25.9	26.5	26.6	27.2	28.0	23.0	23.6	23.6	24.3	25.0
	12H	26.8	27.4	27.5	28.1	28.9	23.1	23.6	23.8	24.3	25.2
12H	4H	23.7	24.5	24.4	25.1	25.9	22.3	23.0	23.0	23.7	24.5
	6H	25.2	25.8	25.9	26.5	27.3	23.0	23.7	23.7	24.3	25.1
	8H	26.0	26.6	26.7	27.2	28.1	23.4	23.9	24.0	24.6	25.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0