

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

GL04IND4GL 11L 35K xx DW xx FS xx

4" Wide x 48" linear pendant or surface mount for semi-direct illumination

Test Number

SP-01618_1

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	33.6 W
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Lumen Output

Output Lumens	3394
Efficacy	101 lm/W

Luminous Dimensions

0° - 180° Size	0.33
90° - 270° Size	4
Height	0.19

Spacing Criterion

Two luminaires, plane 0°	1.41
Two luminaires, plane 90°	1.18
Four luminaires	1.45

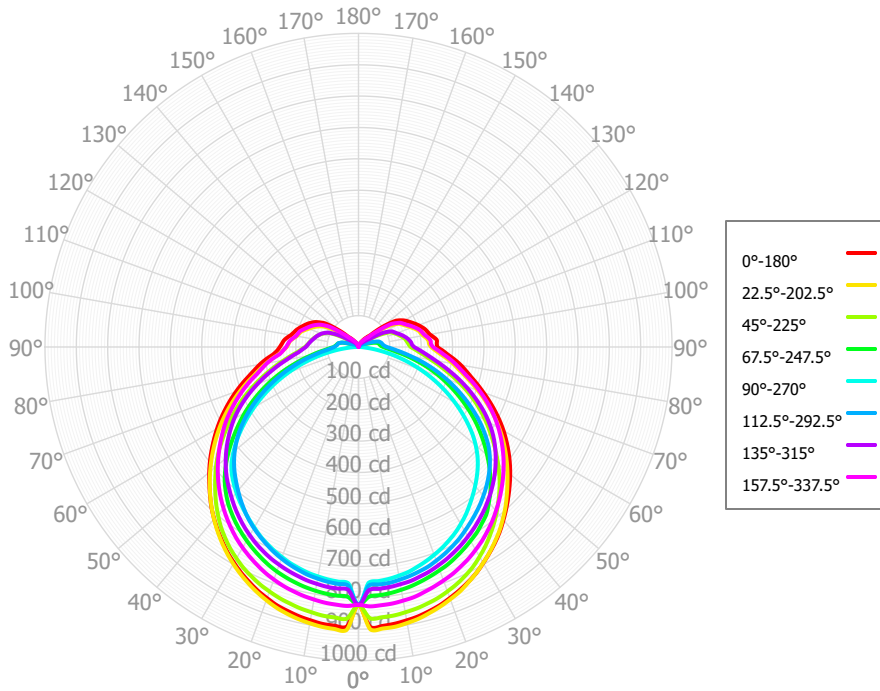
Full Beam Angle

0° - 180°	134°
90° - 270°	108°

IES File Header Contents

Keyword	Value
TEST	SP-01618_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	GL04IND4GL 11L 35K xx DW xx FS xx
LUMINAIRE	4" Wide x 48" linear pendant or surface mount for semi-direct illumination
OTHER	Diffuse White Acrylic Lens and Wire Guard
OTHER	Matte White interior finish
OTHER	Beam Angle 134 deg x 108 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	79.31	2.34%	90.00° - 100.00°	157.10	4.63%
10.00° - 20.00°	226.19	6.67%	100.00° - 110.00°	130.71	3.85%
20.00° - 30.00°	350.33	10.32%	100.00° - 120.00°	225.98	6.66%
30.00° - 40.00°	437.17	12.88%	120.00° - 130.00°	53.75	1.58%
40.00° - 50.00°	476.94	14.05%	130.00° - 140.00°	19.90	0.59%
50.00° - 60.00°	462.47	13.63%	140.00° - 150.00°	8.15	0.24%
60.00° - 70.00°	396.04	11.67%	150.00° - 160.00°	3.09	0.09%
70.00° - 80.00°	295.36	8.70%	160.00° - 170.00°	0.78	0.02%
80.00° - 90.00°	200.85	5.92%	170.00° - 180.00°	0.14	0.00%
0.00° - 90.00°	2924.66	86.18%	0.00° - 180.00°	3393.55	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°	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61	822.61
2.50°	895.27	902.67	866.45	796.81	752.49	761.35	774.68	826.79	893.79	904.43	867.50	797.50	754.14	761.41	775.89	828.16	895.27
5.00°	892.89	901.30	865.32	794.38	749.29	758.40	773.31	824.88	892.21	902.65	866.02	795.98	751.06	760.14	774.05	826.86	892.89
7.50°	890.14	899.89	863.79	791.29	745.96	755.15	771.50	822.50	890.57	900.06	864.44	793.55	747.88	758.79	772.05	825.36	890.14
10.00°	885.38	893.99	859.31	786.37	740.67	750.17	767.13	817.94	885.13	894.75	859.35	789.53	743.12	753.76	768.44	821.40	885.38
12.50°	880.02	887.53	854.44	780.86	734.99	744.62	762.26	812.91	879.54	888.72	854.18	784.49	738.09	748.63	764.74	817.29	880.02
15.00°	872.13	877.87	847.52	773.63	725.72	736.64	755.24	806.19	871.93	880.79	846.94	777.92	730.71	742.01	757.93	809.39	872.13
17.50°	863.43	867.98	839.94	765.97	716.25	728.18	747.87	798.76	864.14	871.53	839.50	770.45	722.99	735.20	750.99	801.41	863.43
20.00°	852.10	856.25	829.66	757.60	705.48	718.05	739.31	789.31	852.57	859.39	829.91	761.84	713.15	725.24	741.93	792.62	852.10
22.50°	840.31	844.42	818.63	749.10	694.33	707.17	730.06	778.91	840.73	846.33	819.95	751.58	702.98	715.13	732.69	783.67	840.31
25.00°	827.34	828.72	805.25	737.99	681.46	694.28	718.95	766.32	826.19	831.59	807.48	739.55	691.38	703.62	721.82	772.30	827.34
27.50°	813.01	812.91	790.53	726.53	667.95	681.02	707.05	753.24	811.33	815.87	794.44	726.73	679.17	691.79	710.71	760.69	813.01
30.00°	795.75	795.25	772.33	714.30	652.19	666.98	693.40	739.22	794.40	798.66	778.49	713.20	664.75	677.94	698.14	747.06	795.75
32.50°	778.22	777.44	753.14	702.01	635.64	651.80	679.05	724.04	776.98	780.23	761.78	698.57	650.45	664.04	685.32	733.07	778.22
35.00°	760.25	758.17	731.84	686.47	616.88	634.53	663.35	706.96	757.23	760.26	742.18	683.10	636.44	649.92	671.39	717.00	760.25
37.50°	740.90	738.49	709.58	670.76	597.98	616.64	646.88	689.14	737.18	739.19	721.52	666.03	621.83	635.45	657.10	700.53	740.90
40.00°	719.45	716.24	685.64	646.98	578.76	597.79	629.17	670.31	716.09	716.90	697.60	647.91	605.87	619.76	641.52	682.32	719.45
42.50°	697.79	693.55	661.29	623.02	558.93	578.77	611.38	650.61	694.14	693.47	672.90	626.61	589.26	603.61	625.53	663.80	697.79
45.00°	675.87	668.90	636.31	594.67	537.94	559.53	593.49	629.89	669.68	668.99	646.25	603.59	571.42	586.11	608.35	644.27	675.87
47.50°	653.80	644.34	609.76	566.14	514.77	538.40	574.01	608.21	645.37	643.68	619.64	575.90	549.37	567.60	590.50	624.47	653.80
50.00°	631.57	620.10	581.27	535.57	488.19	515.16	552.75	585.59	621.43	617.70	593.08	546.07	520.63	546.76	571.15	603.95	631.57
52.50°	608.37	595.69	552.68	504.90	458.75	489.64	530.41	562.39	597.03	591.32	565.10	514.41	489.55	523.35	551.01	582.96	608.37
55.00°	584.26	570.78	523.99	473.62	425.46	462.01	507.05	538.71	571.68	564.66	534.67	482.07	455.36	494.95	529.34	560.93	584.26
57.50°	559.48	545.33	495.56	442.01	391.22	431.86	482.82	515.07	546.27	537.85	504.55	450.03	420.30	464.94	506.11	538.46	559.48
60.00°	534.17	518.60	467.36	408.71	355.92	399.68	457.88	491.46	520.76	510.95	474.85	418.08	384.24	432.34	480.41	515.20	534.17
62.50°	507.36	491.27	438.53	375.37	320.00	366.36	430.64	466.19	494.84	482.95	444.87	384.54	347.86	399.11	452.94	490.98	507.36
65.00°	479.57	462.80	409.21	341.85	283.50	332.27	401.83	439.92	468.35	454.43	414.54	350.63	311.17	365.02	423.03	465.26	479.57
67.50°	451.75	434.20	378.84	308.65	246.96	298.40	371.98	413.99	441.84	426.28	383.78	316.53	274.28	331.21	392.92	438.90	451.75
70.00°	423.92	405.40	347.78	276.43	210.38	264.65	341.50	388.22	415.33	398.27	352.58	282.39	237.21	297.73	362.58	411.72	423.92
72.50°	397.89	377.34	317.28	244.06	174.39	231.80	312.37	362.08	389.01	370.67	322.65	248.10	200.35	264.74	332.54	384.73	397.89
75.00°	372.69	350.33	287.09	211.31	138.81	199.39	283.90	335.78	362.90	343.20	293.83	213.78	163.63	232.24	302.78	357.95	372.69
77.50°	351.19	326.44	260.23	179.81	104.80	169.72	257.65	314.95	339.82	320.31	266.71	183.50	128.69	200.58	275.26	334.58	351.19
80.00°	331.11	306.17	234.86	150.84	71.71	141.11	232.29	295.95	319.30	298.54	240.86	153.52	94.76	169.64	249.61	314.44	331.11
82.50°	309.34	284.98	214.33	125.08	44.88	118.75	211.35	274.07	297.03	276.25	218.08	130.13	64.98	143.88	227.82	293.76	309.34
85.00°	287.05	262.88	195.61	104.86	21.08	98.38	191.86	251.42	273.50	253.86	197.22	107.02	37.23	121.76	208.72	272.64	287.05
87.50°	269.03	245.39	180.62	88.86	9.46	86.71	179.17	240.04	259.38	240.73	182.41	92.60	19.26	104.63	192.35	254.28	269.03
90.00°	252.03	231.80	166.74	78.87	2.66	77.20	168.22	230.95	250.97	228.86	170.79	78.76	5.22	90.47	177.59	237.81	252.03
92.50°	249.99	225.47	161.11	72.07	0.93	72.55	162.13	225.21	244.42	223.65	163.47	74.77	1.55	83.01	170.99	231.42	249.99
95.00°	250.71	224.28	157.44	69.07	0.87	68.85	156.98	219.94	238.83	219.00	158.03	70.95	1.33	78.91	168.41	230.78	250.71
97.50°	241.54	218.32	153.88	66.85	0.89	67.12	151.61	211.11	229.63	209.53	152.85	68.67	1.27	76.33	163.73	224.42	241.54
100.00°	231.13	209.48	150.34	65.43	0.94	65.66	146.20	201.92	218.90	199.88	147.78	65.91	1.25	74.37	158.21	215.37	231.13
102.50°	225.14	203.41	144.21	60.42	1.12	60.51	141.28	197.57	211.88	194.54	142.34	60.17	1.25	70.97	151.48	209.23	225.14
105.00°	219.50	198.73	137.78	52.28	1.33	55.06	136.39	193.46	206.13	189.00	136.81	53.06	1.26	67.07	144.34	204.25	219.50

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	3928	3928	3928	3928	3782	3782	3782	3782	3510	3510	3510	3261	3261	3261	3032	3032	2925
	1	3508	3315	3143	2988	3364	3191	3036	2895	2958	2832	2717	2744	2644	2550	2547	2468	2373
	2	3159	2848	2590	2374	3022	2742	2508	2309	2543	2350	2183	2360	2202	2063	2190	2062	1980
	3	2863	2477	2178	1940	2735	2386	2112	1891	2216	1986	1798	2058	1867	1707	1912	1754	1684
	4	2610	2178	1862	1621	2492	2101	1809	1584	1954	1707	1511	1818	1610	1440	1692	1517	1456
	5	2391	1935	1615	1380	2284	1868	1572	1350	1742	1487	1292	1624	1406	1235	1514	1329	1276
	6	2202	1733	1418	1192	2105	1675	1382	1168	1566	1311	1121	1464	1243	1074	1368	1178	1132
	7	2037	1565	1258	1043	1949	1514	1227	1023	1419	1167	984	1329	1109	945	1246	1054	1014
	8	1892	1422	1126	923	1812	1378	1100	906	1294	1048	873	1216	999	840	1142	951	916
	9	1765	1301	1016	824	1691	1262	993	810	1188	949	781	1118	906	753	1053	864	834
	10	1652	1196	923	742	1585	1162	904	730	1096	865	705	1034	827	681	976	791	764

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	27.2 fc	25.9 ft
6.5 ft	19.5 fc	30.6 ft
7.5 ft	14.6 fc	35.3 ft
8.0 ft	12.9 fc	37.7 ft
10.0 ft	8.2 fc	47.1 ft
12.0 ft	5.7 fc	56.5 ft
14.0 ft	4.2 fc	66.0 ft
16.0 ft	3.2 fc	75.4 ft
20.0 ft	2.1 fc	94.2 ft
24.0 ft	1.4 fc	113.1 ft
28.0 ft	1.0 fc	131.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	6708	6708	6708
45.00°	4946	5093	5922
55.00°	4558	4572	5664
65.00°	4141	4059	4964
75.00°	3729	3420	3715
85.00°	3543	3031	1278

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	17.8	19.2	18.4	19.8	20.4	15.1	16.5	15.6	17.1	17.7
	3H	20.4	21.7	20.9	22.2	22.9	16.5	17.8	17.1	18.4	19.1
	4H	21.6	22.8	22.2	23.4	24.1	16.9	18.2	17.5	18.8	19.5
	6H	22.9	24.1	23.5	24.7	25.4	17.2	18.3	17.8	18.9	19.6
	8H	23.6	24.7	24.2	25.3	26.0	17.2	18.3	17.8	19.0	19.7
	12H	24.4	25.4	25.0	26.0	26.8	17.2	18.3	17.8	18.9	19.6
4H	2H	18.2	19.4	18.8	20.0	20.7	16.1	17.3	16.7	17.9	18.6
	3H	21.0	22.0	21.6	22.7	23.4	17.7	18.8	18.3	19.4	20.1
	4H	22.4	23.3	23.0	24.0	24.7	18.3	19.2	18.9	19.9	20.6
	6H	23.9	24.7	24.5	25.4	26.1	18.6	19.5	19.3	20.2	20.9
	8H	24.7	25.5	25.3	26.1	26.9	18.7	19.5	19.4	20.2	20.9
	12H	25.5	26.3	26.2	27.0	27.7	18.8	19.5	19.4	20.2	20.9
8H	4H	22.5	23.4	23.2	24.0	24.8	19.0	19.8	19.7	20.5	21.2
	6H	24.2	24.9	24.9	25.6	26.4	19.6	20.2	20.2	21.0	21.7
	8H	25.1	25.8	25.8	26.5	27.2	19.7	20.4	20.4	21.1	21.8
	12H	26.2	26.7	26.9	27.4	28.3	19.8	20.4	20.5	21.1	21.9
12H	4H	22.5	23.3	23.2	24.0	24.7	19.2	20.0	19.9	20.6	21.4
	6H	24.2	24.9	24.9	25.5	26.4	19.9	20.5	20.6	21.2	22.0
	8H	25.2	25.8	25.9	26.5	27.3	20.2	20.7	20.8	21.4	22.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0