

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

GL04IND4GL 15L 35K xx DW xx FS xx

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

Test Number

SP-01618_2

Test Date

11/15/2023

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

Summary of Results

Power

Input Watts	45.7 W
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Lumen Output

Output Lumens	4644
Efficacy	101.61 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

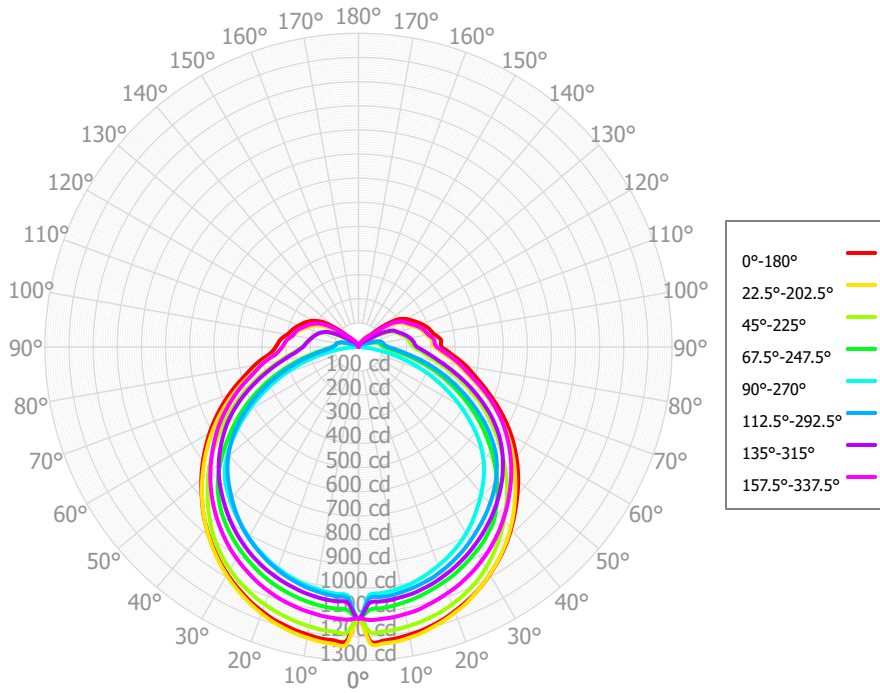
Full Beam Angle

0° - 180°	134°
90° - 270°	108°

IES File Header Contents

Keyword	Value
TEST	SP-01618_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/15/2023
ISSUEDATE	11/16/2023
LUMCAT	GL04IND4GL 15L 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°	108.53	2.34%	90.00° - 100.00°	214.98	4.63%
10.00° - 20.00°	309.52	6.67%	100.00° - 110.00°	178.87	3.85%
20.00° - 30.00°	479.39	10.32%	100.00° - 120.00°	309.24	6.66%
30.00° - 40.00°	598.23	12.88%	120.00° - 130.00°	73.55	1.58%
40.00° - 50.00°	652.65	14.05%	130.00° - 140.00°	27.23	0.59%
50.00° - 60.00°	632.86	13.63%	140.00° - 150.00°	11.15	0.24%
60.00° - 70.00°	541.95	11.67%	150.00° - 160.00°	4.23	0.09%
70.00° - 80.00°	404.17	8.70%	160.00° - 170.00°	1.07	0.02%
80.00° - 90.00°	274.85	5.92%	170.00° - 180.00°	0.19	0.00%
0.00° - 90.00°	4002.17	86.18%	0.00° - 180.00°	4643.80	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°	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67	1125.67
2.50°	1225.11	1235.24	1185.66	1090.37	1029.72	1041.85	1060.09	1131.39	1223.08	1237.64	1187.10	1091.32	1031.98	1041.93	1061.75	1133.28	1225.11
5.00°	1221.85	1233.36	1184.12	1087.05	1025.35	1037.81	1058.21	1128.78	1220.92	1235.20	1185.07	1089.24	1027.77	1040.19	1059.23	1131.50	1221.85
7.50°	1218.08	1231.43	1182.03	1082.82	1020.79	1033.36	1055.74	1125.52	1218.67	1231.67	1182.91	1085.91	1023.42	1038.34	1056.50	1129.44	1218.08
10.00°	1211.57	1223.35	1175.90	1076.08	1013.55	1026.55	1049.76	1119.29	1211.23	1224.39	1175.96	1080.41	1016.90	1031.47	1051.55	1124.01	1211.57
12.50°	1204.24	1214.51	1169.24	1068.54	1005.77	1018.95	1043.09	1112.41	1203.58	1216.15	1168.88	1073.51	1010.01	1024.44	1046.49	1118.40	1204.24
15.00°	1193.44	1201.30	1159.77	1058.65	993.10	1008.04	1033.48	1103.21	1193.17	1205.29	1158.97	1064.52	999.92	1015.38	1037.17	1107.59	1193.44
17.50°	1181.53	1187.77	1149.39	1048.16	980.13	996.45	1023.40	1093.05	1182.50	1192.62	1148.79	1054.30	989.36	1006.06	1027.67	1096.66	1181.53
20.00°	1166.03	1171.71	1135.33	1036.72	965.40	982.59	1011.68	1080.11	1166.68	1176.00	1135.66	1042.52	975.89	992.44	1015.28	1084.64	1166.03
22.50°	1149.90	1155.52	1120.23	1025.08	950.13	967.71	999.03	1065.88	1150.48	1158.14	1122.03	1028.48	961.98	978.60	1002.62	1072.39	1149.90
25.00°	1132.15	1134.04	1101.92	1009.88	932.52	950.07	983.82	1048.65	1130.57	1137.96	1104.97	1012.01	946.11	962.84	987.75	1056.83	1132.15
27.50°	1112.55	1112.40	1081.77	994.20	914.03	931.93	967.54	1030.75	1110.24	1116.46	1087.12	994.47	929.39	946.66	972.55	1040.94	1112.55
30.00°	1088.92	1088.24	1056.88	977.46	892.47	912.70	948.86	1011.57	1087.07	1092.90	1065.30	975.95	909.66	927.71	955.35	1022.30	1088.92
32.50°	1064.94	1063.87	1030.61	960.64	869.82	891.93	929.22	990.79	1063.24	1067.69	1042.44	955.93	890.08	908.69	937.80	1003.15	1064.94
35.00°	1040.34	1037.50	1001.47	939.38	844.15	868.31	907.75	967.42	1036.21	1040.36	1015.62	934.76	870.91	889.36	918.74	981.16	1040.34
37.50°	1013.86	1010.57	971.01	917.88	818.28	843.82	885.20	943.04	1008.78	1011.52	987.35	911.40	850.92	869.57	899.19	958.62	1013.86
40.00°	984.50	980.11	938.25	885.34	791.99	818.02	860.97	917.27	979.91	981.01	954.61	886.61	829.08	848.10	877.87	933.70	984.50
42.50°	954.87	949.07	904.92	852.55	764.85	792.00	836.63	890.31	949.88	948.96	920.81	857.47	806.36	825.99	855.98	908.36	954.87
45.00°	924.87	915.34	870.74	813.76	736.13	765.68	812.14	861.96	916.40	915.46	884.34	825.96	781.95	802.05	832.47	881.63	924.87
47.50°	894.67	881.73	834.41	774.72	704.43	736.75	785.49	832.29	883.13	880.83	847.92	788.07	751.77	776.72	808.05	854.53	894.67
50.00°	864.25	848.56	795.42	732.88	668.05	704.95	756.39	801.34	850.38	845.28	811.58	747.25	712.45	748.19	781.58	826.46	864.25
52.50°	832.50	815.16	756.30	690.92	627.76	670.04	725.82	769.59	816.99	809.17	773.29	703.93	669.91	716.16	754.01	797.73	832.50
55.00°	799.52	781.07	717.04	648.11	582.20	632.23	693.86	737.18	782.30	772.69	731.66	659.68	623.13	677.30	724.35	767.58	799.52
57.50°	765.61	746.24	678.13	604.85	535.35	590.97	660.71	704.83	747.53	736.00	690.44	615.83	575.15	636.23	692.57	736.84	765.61
60.00°	730.97	709.66	639.55	559.29	487.05	546.93	626.57	672.52	712.63	699.20	649.80	572.11	525.80	591.62	657.41	705.01	730.97
62.50°	694.28	672.27	600.09	513.67	437.90	501.33	589.30	637.94	677.15	660.89	608.77	526.22	476.01	546.16	619.81	671.87	694.28
65.00°	656.25	633.31	559.98	467.79	387.95	454.69	549.88	602.00	640.89	621.85	567.26	479.80	425.81	499.50	578.88	636.67	656.25
67.50°	618.18	594.17	518.41	422.37	337.94	408.33	509.02	566.51	604.63	583.33	525.17	433.14	375.33	453.24	537.68	600.60	618.18
70.00°	580.10	554.75	475.91	378.27	287.89	362.15	467.32	531.25	568.34	545.00	482.47	386.43	324.61	407.42	496.17	563.40	580.10
72.50°	544.48	516.36	434.17	333.97	238.64	317.20	427.46	495.48	532.34	507.23	441.52	339.50	274.17	362.28	455.06	526.47	544.48
75.00°	510.00	479.40	392.86	289.16	189.95	272.85	388.49	459.49	496.60	469.65	402.08	292.55	223.92	317.80	414.33	489.83	510.00
77.50°	480.57	446.70	356.11	246.06	143.41	232.25	352.58	430.99	465.02	438.31	364.97	251.11	176.10	274.48	376.68	457.85	480.57
80.00°	453.09	418.97	321.38	206.41	98.13	193.10	317.87	404.98	436.93	408.53	329.60	210.07	129.68	232.15	341.57	430.29	453.09
82.50°	423.30	389.97	293.29	171.16	61.41	162.50	289.22	375.05	406.47	378.02	298.42	178.08	88.92	196.89	311.75	401.98	423.30
85.00°	392.80	359.73	267.67	143.50	28.85	134.63	262.54	344.05	374.26	347.38	269.87	146.45	50.95	166.63	285.61	373.08	392.80
87.50°	368.15	335.80	247.17	121.59	12.95	118.66	245.18	328.47	354.94	329.42	249.61	126.72	26.36	143.18	263.22	347.96	368.15
90.00°	344.88	317.20	228.17	107.93	3.64	105.65	230.20	316.04	343.44	313.17	233.71	107.78	7.14	123.81	243.02	325.43	344.88
92.50°	342.09	308.54	220.47	98.62	1.28	99.28	221.86	308.18	334.47	306.05	223.69	102.32	2.12	113.60	233.99	316.68	342.09
95.00°	343.07	306.91	215.44	94.51	1.19	94.21	214.82	300.97	326.82	299.68	216.25	97.10	1.82	107.98	230.46	315.81	343.07
97.50°	330.53	298.76	210.57	91.47	1.22	91.85	207.47	288.88	314.23	286.72	209.17	93.96	1.74	104.45	224.06	307.10	330.53
100.00°	316.29	286.65	205.72	89.54	1.28	89.85	200.07	276.31	299.54	273.53	202.22	90.19	1.71	101.77	216.50	294.71	316.29
102.50°	308.08	278.35	197.34	82.68	1.53	82.80	193.33	270.36	289.94	266.22	194.79	82.34	1.72	97.11	207.29	286.31	308.08
105.00°	300.37	271.95	188.55	71.54	1.82	75.34	186.64	264.74	282.07	258.63	187.21	72.61	1.73	91.77	197.52	279.49	300.37

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	5376	5376	5376	5376	5176	5176	5176	5176	4803	4803	4803	4462	4462	4462	4149	4149	4002
	1	4800	4537	4301	4089	4603	4367	4154	3961	4048	3876	3718	3756	3617	3490	3486	3377	3247
	2	4323	3897	3545	3249	4136	3752	3432	3160	3480	3216	2988	3229	3013	2823	2997	2822	2667
	3	3918	3389	2980	2654	3743	3265	2890	2588	3032	2718	2460	2816	2555	2336	2616	2401	2304
	4	3571	2981	2548	2218	3410	2875	2476	2167	2674	2336	2068	2488	2203	1971	2315	2075	1992
	5	3273	2647	2211	1888	3126	2556	2151	1848	2383	2035	1768	2222	1924	1691	2072	1818	1746
	6	3014	2372	1941	1632	2880	2293	1891	1599	2143	1794	1534	2003	1701	1470	1872	1611	1549
	7	2788	2141	1722	1428	2667	2072	1679	1400	1942	1597	1346	1819	1518	1293	1704	1442	1387
	8	2589	1946	1541	1263	2479	1886	1505	1240	1771	1435	1194	1664	1367	1149	1562	1301	1253
	9	2415	1780	1391	1128	2315	1727	1359	1108	1626	1299	1069	1530	1240	1031	1441	1182	1141
	10	2260	1637	1264	1015	2169	1590	1237	998	1500	1183	965	1415	1132	932	1335	1082	1045

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	37.2 fc	25.9 ft
6.5 ft	26.6 fc	30.6 ft
7.5 ft	20.0 fc	35.3 ft
8.0 ft	17.6 fc	37.7 ft
10.0 ft	11.3 fc	47.1 ft
12.0 ft	7.8 fc	56.5 ft
14.0 ft	5.7 fc	66.0 ft
16.0 ft	4.4 fc	75.4 ft
20.0 ft	2.8 fc	94.2 ft
24.0 ft	2.0 fc	113.1 ft
28.0 ft	1.4 fc	131.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	9179	9179	9179
45.00°	6769	6970	8104
55.00°	6238	6256	7751
65.00°	5666	5555	6793
75.00°	5103	4680	5084
85.00°	4848	4148	1749

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	18.9	20.3	19.5	20.9	21.5	16.2	17.6	16.7	18.2	18.8
	3H	21.4	22.8	22.0	23.3	24.0	17.6	18.9	18.2	19.5	20.1
	4H	22.7	23.9	23.3	24.5	25.2	18.0	19.3	18.6	19.9	20.5
	6H	24.0	25.2	24.6	25.8	26.5	18.3	19.4	18.9	20.0	20.7
	8H	24.7	25.8	25.3	26.4	27.1	18.3	19.4	18.9	20.0	20.7
	12H	25.4	26.5	26.1	27.1	27.9	18.3	19.4	18.9	20.0	20.7
4H	2H	19.3	20.5	19.9	21.1	21.8	17.2	18.4	17.7	19.0	19.7
	3H	22.1	23.1	22.7	23.7	24.4	18.8	19.9	19.4	20.5	21.2
	4H	23.4	24.4	24.1	25.1	25.8	19.4	20.3	20.0	21.0	21.7
	6H	25.0	25.8	25.6	26.5	27.2	19.7	20.6	20.4	21.2	22.0
	8H	25.7	26.6	26.4	27.2	28.0	19.8	20.6	20.5	21.3	22.0
	12H	26.6	27.4	27.3	28.0	28.8	19.8	20.6	20.5	21.3	22.0
8H	4H	23.6	24.4	24.3	25.1	25.9	20.1	20.9	20.8	21.6	22.3
	6H	25.3	26.0	26.0	26.7	27.5	20.6	21.3	21.3	22.0	22.8
	8H	26.2	26.8	26.9	27.6	28.3	20.8	21.4	21.5	22.2	22.9
	12H	27.3	27.8	28.0	28.5	29.4	20.9	21.5	21.6	22.2	23.0
12H	4H	23.6	24.4	24.3	25.1	25.8	20.3	21.0	21.0	21.7	22.5
	6H	25.3	26.0	26.0	26.6	27.5	21.0	21.6	21.7	22.3	23.1
	8H	26.3	26.9	27.0	27.6	28.4	21.2	21.8	21.9	22.5	23.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0