

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

C0614LM 137L 35K WD DX NL CD XX
Nom 6" diam x 14" H 137L Cylinder for Whole Foods project

Test Number

SP-00998

Test Date

1/15/2020

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

Summary of Results

Power

Input Watts	106 W
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Lumen Output

Output Lumens	11307
Efficacy	106.67 lm/W

Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.98
Two luminaires, plane 90°	0.98
Four luminaires	1

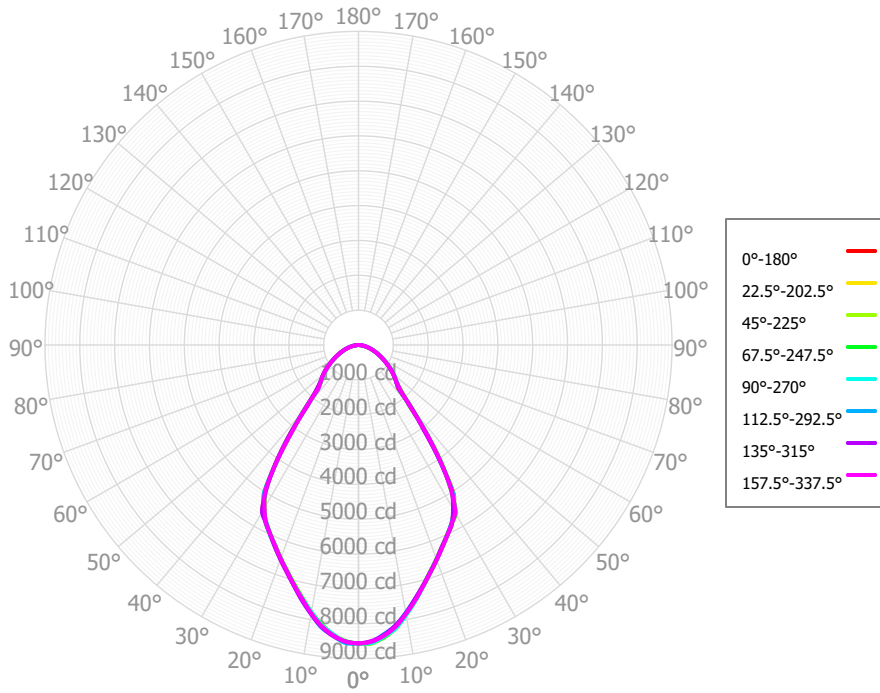
Full Beam Angle

0° - 180°	69°
90° - 270°	69°

IES File Header Contents

Keyword	Value
TEST	SP-00998
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/15/2020
ISSUEDATE	2/5/2020
LUMCAT	C0614LM 137L 35K WD DX NL CD XX
LUMINAIRE	Nom 6" diam x 14" H 137L Cylinder for Whole Foods project
OTHER	Beam Angle: 69.1 degrees
OTHER	Wide optic
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x .934, 30K x .963, 40K x 1.02, 50K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	82
_CCTMULT	27K x .934, 30K x .963, 40K x 1.02, 50K x 1.03
_LAMPMULT	100L x .799, 120L x .906

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	792.83	7.01%	90.00° - 100.00°	0.09	0.00%
10.00° - 20.00°	2,006.79	17.75%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	2,766.26	24.47%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	2,502.47	22.13%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	1,266.32	11.20%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	951.90	8.42%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	623.53	5.51%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	322.50	2.85%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	74.18	0.66%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	11,306.78	100.00%	0.00° - 180.00°	11,306.87	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°	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81	8,562.81
2.50°	8,547.13	8,537.22	8,583.11	8,545.55	8,564.63	8,562.72	8,518.78	8,524.88	8,524.42	8,511.44	8,540.48	8,506.15	8,538.53	8,526.58	8,506.02	8,524.01	8,547.13
5.00°	8,376.75	8,422.45	8,400.76	8,427.12	8,397.18	8,373.38	8,387.48	8,364.64	8,360.14	8,355.03	8,341.08	8,346.86	8,335.54	8,333.86	8,355.12	8,378.29	8,376.75
7.50°	8,162.48	8,185.41	8,211.28	8,188.91	8,204.56	8,177.88	8,159.43	8,134.80	8,147.81	8,101.34	8,132.81	8,091.40	8,117.36	8,128.49	8,119.39	8,159.33	8,162.48
10.00°	7,834.91	7,855.28	7,851.80	7,868.99	7,867.18	7,832.60	7,844.18	7,820.76	7,812.68	7,793.14	7,788.06	7,789.22	7,787.90	7,802.64	7,819.12	7,840.69	7,834.91
12.50°	7,482.47	7,509.54	7,493.82	7,526.89	7,526.85	7,487.54	7,509.64	7,466.67	7,477.84	7,437.29	7,445.21	7,441.60	7,452.98	7,477.58	7,471.19	7,511.51	7,482.47
15.00°	7,154.93	7,153.50	7,154.27	7,171.73	7,173.02	7,147.64	7,159.99	7,137.51	7,143.65	7,107.67	7,120.91	7,116.89	7,134.18	7,157.96	7,147.75	7,169.87	7,154.93
17.50°	6,831.74	6,838.41	6,820.85	6,855.48	6,833.80	6,811.88	6,845.12	6,818.59	6,826.59	6,798.24	6,802.19	6,811.56	6,816.40	6,844.13	6,839.94	6,853.78	6,831.74
20.00°	6,546.05	6,546.58	6,536.99	6,559.20	6,548.09	6,526.39	6,554.20	6,527.60	6,541.72	6,510.33	6,521.62	6,520.83	6,540.23	6,560.36	6,547.61	6,563.93	6,546.05
22.50°	6,265.18	6,276.47	6,259.82	6,281.82	6,272.57	6,244.50	6,272.90	6,246.23	6,265.67	6,236.77	6,246.30	6,240.96	6,265.40	6,282.97	6,263.93	6,290.15	6,265.18
25.00°	6,029.54	6,017.10	6,023.27	6,012.72	6,027.72	5,992.53	5,997.30	5,997.82	6,003.86	5,990.41	5,997.98	5,994.78	6,013.99	6,031.71	6,023.15	6,030.93	6,029.54
27.50°	5,797.76	5,793.02	5,777.50	5,787.71	5,776.18	5,734.78	5,758.28	5,758.75	5,750.90	5,759.70	5,744.52	5,770.33	5,757.70	5,773.48	5,802.87	5,788.19	5,797.76
30.00°	5,449.06	5,583.79	5,488.68	5,578.95	5,507.50	5,442.19	5,537.92	5,396.07	5,510.28	5,399.01	5,469.63	5,407.41	5,451.66	5,491.60	5,428.17	5,558.41	5,449.06
32.50°	5,094.55	4,956.15	5,062.31	4,946.08	5,034.25	5,037.79	4,932.91	5,004.47	4,993.71	4,973.16	5,047.02	4,967.59	5,067.02	5,037.89	4,990.85	4,970.59	5,094.55
35.00°	4,116.17	4,180.63	4,122.60	4,180.77	4,117.52	4,101.68	4,157.90	4,106.07	4,138.21	4,146.66	4,125.97	4,139.96	4,109.83	4,101.65	4,114.10	4,135.04	4,116.17
37.50°	3,134.53	3,250.08	3,209.00	3,240.33	3,219.44	3,191.29	3,243.14	3,114.92	3,257.19	3,149.32	3,226.36	3,125.01	3,178.14	3,194.40	3,085.24	3,231.66	3,134.53
40.00°	2,391.09	2,273.28	2,376.87	2,255.27	2,355.93	2,378.51	2,276.28	2,396.40	2,348.93	2,416.07	2,386.68	2,392.84	2,384.85	2,355.55	2,369.86	2,287.75	2,391.09
42.50°	1,680.87	1,856.32	1,732.41	1,855.76	1,757.89	1,726.50	1,844.87	1,714.98	1,802.12	1,777.55	1,746.24	1,776.57	1,712.89	1,738.73	1,744.04	1,813.03	1,680.87
45.00°	1,554.10	1,574.84	1,576.27	1,574.56	1,589.42	1,573.70	1,579.44	1,551.82	1,590.75	1,545.65	1,582.17	1,539.42	1,568.37	1,574.90	1,536.92	1,579.03	1,554.10
47.50°	1,427.60	1,433.80	1,431.92	1,439.50	1,441.38	1,430.55	1,437.36	1,438.90	1,434.38	1,437.01	1,433.28	1,432.59	1,429.16	1,427.61	1,426.27	1,425.74	1,427.60
50.00°	1,303.84	1,319.50	1,313.50	1,327.59	1,321.91	1,312.87	1,327.13	1,317.01	1,323.00	1,316.80	1,315.25	1,313.16	1,308.61	1,309.27	1,300.45	1,308.33	1,303.84
52.50°	1,179.72	1,190.92	1,191.35	1,198.69	1,198.35	1,192.74	1,201.36	1,194.60	1,201.84	1,193.75	1,193.75	1,190.09	1,186.87	1,186.33	1,171.83	1,182.98	1,179.72
55.00°	1,053.04	1,060.24	1,062.08	1,067.86	1,069.81	1,067.15	1,072.39	1,067.54	1,073.73	1,069.01	1,066.22	1,062.57	1,061.65	1,056.46	1,047.75	1,054.65	1,053.04
57.50°	928.92	943.60	938.98	949.06	947.60	945.82	953.75	940.62	953.97	943.94	945.99	934.02	940.71	934.29	924.31	937.45	928.92
60.00°	818.76	828.42	826.00	831.17	832.15	832.71	836.74	831.73	839.32	831.59	836.88	826.22	830.33	822.34	815.03	823.79	818.76
62.50°	711.48	724.81	719.87	730.37	725.08	726.25	732.85	723.56	735.07	721.17	732.84	722.21	724.43	717.60	707.09	718.61	711.48
65.00°	616.50	621.93	623.46	630.44	625.80	630.81	630.48	629.53	636.38	627.77	635.47	626.99	627.90	621.17	615.89	615.62	616.50
67.50°	525.67	532.26	533.10	538.11	535.95	539.78	542.36	537.25	546.71	536.18	543.46	533.00	536.39	531.19	526.00	527.71	525.67
70.00°	445.88	444.61	448.94	448.99	452.49	454.07	456.59	456.03	460.68	456.53	456.92	452.75	452.71	446.84	445.39	442.64	445.88
72.50°	369.16	365.64	370.53	371.07	375.30	376.65	381.55	377.68	383.72	378.34	379.82	374.57	374.18	366.52	367.21	364.76	369.16
75.00°	295.36	294.60	296.78	299.02	302.04	304.09	309.58	304.03	310.65	304.62	307.74	302.70	299.26	290.35	295.16	293.85	295.36
77.50°	236.92	230.42	237.87	231.08	237.26	240.82	240.67	238.58	245.42	239.81	245.40	239.65	239.86	233.31	232.35	233.27	236.92
80.00°	175.53	171.35	175.31	164.47	170.93	173.33	171.01	173.42	177.40	178.71	179.90	181.08	179.70	170.59	173.31	168.54	175.53
82.50°	116.56	114.93	115.33	110.49	112.12	112.49	111.23	110.52	115.33	115.09	118.37	117.22	120.79	112.60	115.89	112.27	116.56
85.00°	63.10	58.26	59.81	54.40	58.50	59.43	59.83	59.80	59.79	65.83	63.84	68.32	66.38	60.18	65.94	57.47	63.10
87.50°	10.05	8.74	8.98	5.70	6.74	8.54	7.27	9.92	10.04	14.07	12.10	14.12	16.09	9.41	12.35	6.89	10.05
90.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	1.05	1.33	0.94	1.07	1.70	1.40	1.77	0.00	0.00
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C0614LM 137L 35K WD DX NL CD XX

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
	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%
RCR	0	13,461	13,461	13,461	13,461	13,147	13,147	13,147	13,147	12,563	12,563	12,563	12,029	12,029	12,029	11,538	11,538	11,538
	1	12,599	12,186	11,817	11,484	12,308	11,937	11,602	11,299	11,469	11,196	10,947	11,039	10,820	10,617	10,642	10,469	10,306
	2	11,741	11,018	10,421	9,919	11,469	10,815	10,268	9,804	10,433	9,977	9,583	10,080	9,703	9,372	9,754	9,445	9,170
	3	10,948	10,008	9,281	8,701	10,697	9,840	9,168	8,627	9,525	8,953	8,483	9,233	8,749	8,343	8,962	8,556	8,209
	4	10,225	9,138	8,342	7,734	9,995	8,999	8,257	7,684	8,736	8,095	7,587	8,492	7,940	7,492	8,265	7,792	7,400
	5	9,570	8,385	7,558	6,947	9,360	8,269	7,493	6,913	8,048	7,367	6,845	7,843	7,247	6,779	7,652	7,132	6,715
	6	8,975	7,730	6,894	6,295	8,785	7,632	6,844	6,270	7,446	6,745	6,222	7,272	6,650	6,175	7,109	6,559	6,129
	7	8,436	7,156	6,327	5,745	8,263	7,073	6,286	5,727	6,914	6,207	5,692	6,766	6,131	5,658	6,626	6,058	5,624
	8	7,947	6,651	5,836	5,276	7,790	6,580	5,803	5,263	6,443	5,739	5,237	6,316	5,677	5,211	6,195	5,618	5,185
	9	7,502	6,204	5,408	4,871	7,360	6,142	5,381	4,861	6,024	5,329	4,841	5,914	5,278	4,821	5,809	5,229	4,802
	10	7,097	5,806	5,032	4,518	6,968	5,752	5,010	4,510	5,650	4,966	4,495	5,553	4,924	4,479	5,462	4,883	4,464

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	283.1 fc	7.6 ft
6.5 ft	202.7 fc	8.9 ft
7.5 ft	152.2 fc	10.3 ft
8.0 ft	133.8 fc	11.0 ft
10.0 ft	85.6 fc	13.8 ft
12.0 ft	59.5 fc	16.5 ft
14.0 ft	43.7 fc	19.3 ft
16.0 ft	33.4 fc	22.0 ft
20.0 ft	21.4 fc	27.5 ft
24.0 ft	14.9 fc	33.0 ft
28.0 ft	10.9 fc	38.5 ft

Average Luminaire Luminance [cd/m

	0.00°	45.00°	90.00°
0.00°	469,414	469,414	469,414
45.00°	120,486	122,204	123,224
55.00°	100,645	101,509	102,249
65.00°	79,969	80,872	81,175
75.00°	62,560	62,861	63,975
85.00°	39,688	37,620	36,797

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	25.2	26.5	25.6	26.8	27.1	25.2	26.5	25.6	26.8	27.1
	3H	26.5	27.7	26.9	28.0	28.4	26.6	27.7	27.0	28.1	28.4
	4H	27.0	28.1	27.4	28.4	28.8	27.1	28.2	27.5	28.5	28.9
	6H	27.3	28.3	27.8	28.7	29.1	27.4	28.4	27.8	28.8	29.2
	8H	27.4	28.4	27.9	28.8	29.2	27.5	28.4	27.9	28.8	29.2
	12H	27.5	28.4	27.9	28.8	29.2	27.5	28.4	28.0	28.8	29.2
4H	2H	25.6	26.7	26.0	27.1	27.5	25.7	26.8	26.1	27.1	27.5
	3H	27.2	28.1	27.6	28.5	28.9	27.3	28.1	27.7	28.5	29.0
	4H	27.8	28.6	28.2	29.0	29.4	27.9	28.6	28.3	29.1	29.5
	6H	28.2	28.9	28.7	29.3	29.8	28.3	29.0	28.8	29.4	29.9
	8H	28.3	29.0	28.8	29.4	29.9	28.4	29.1	28.9	29.5	30.0
	12H	28.4	29.0	28.9	29.4	29.9	28.5	29.1	29.0	29.5	30.0
8H	4H	27.9	28.6	28.4	29.0	29.5	28.0	28.7	28.5	29.1	29.6
	6H	28.5	29.0	29.0	29.5	30.0	28.6	29.1	29.1	29.6	30.1
	8H	28.7	29.1	29.2	29.7	30.1	28.8	29.2	29.3	29.8	30.3
	12H	28.8	29.2	29.3	29.7	30.3	28.9	29.3	29.4	29.8	30.4
12H	4H	27.9	28.5	28.4	29.0	29.5	28.0	28.6	28.5	29.1	29.6
	6H	28.5	29.0	29.0	29.4	30.0	28.6	29.1	29.2	29.6	30.1
	8H	28.7	29.1	29.2	29.6	30.2	28.8	29.3	29.4	29.7	30.3

Corrected UGR values based on total output lumens

SHR = 1.0