

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P#

Luminaire Tested: **LD4C90D010 EX4C909040 4LBSQLWWLI**

Issue Date: 2/18/2022



Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C90D010 EX4C909040 4LBSQLWWLI
Description: 4 INCH 9000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

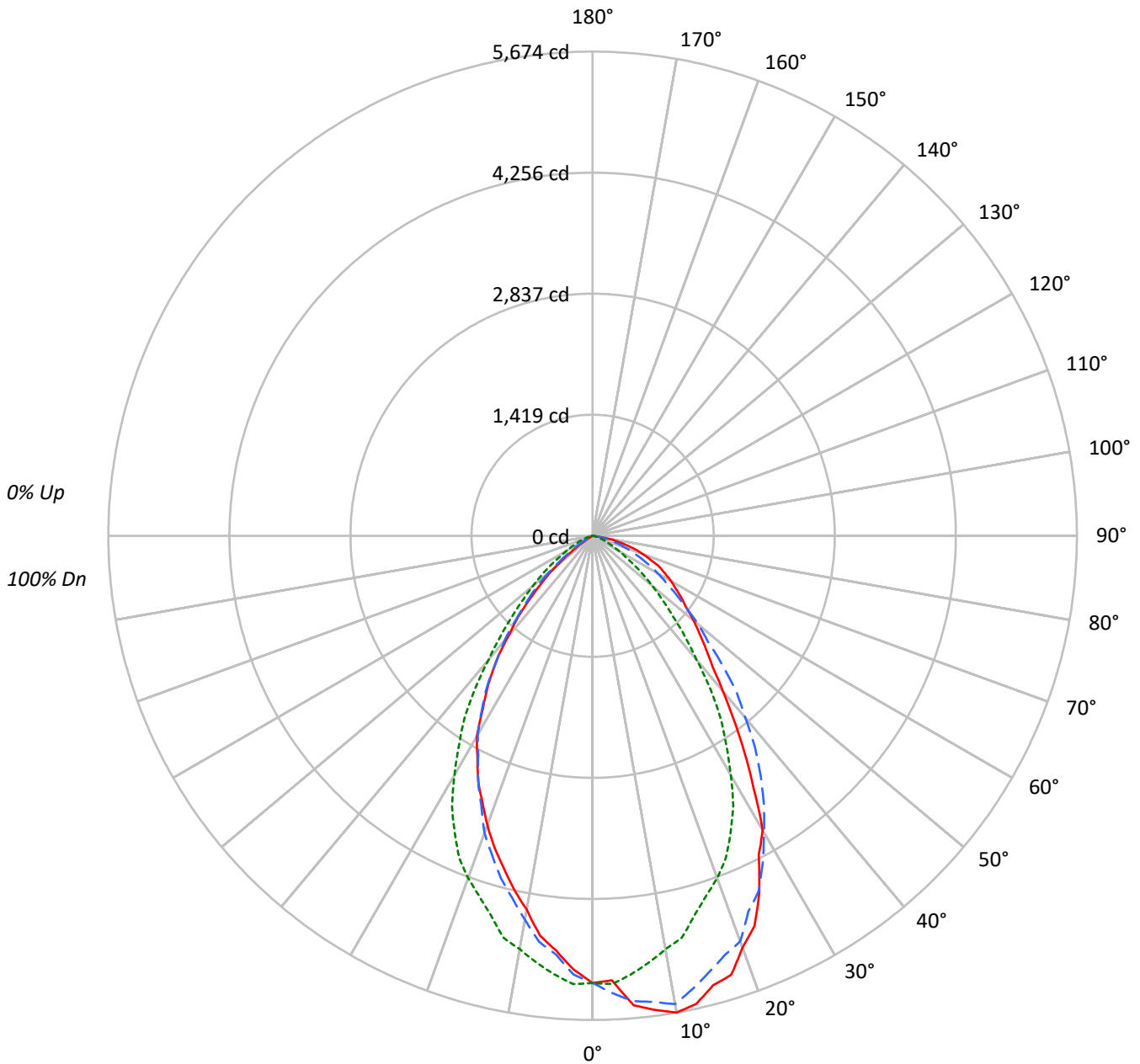
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7511.0 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P#
CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	505583	505583	505583
5°	534915	499630	472848
10°	555885	482010	435823
15°	544765	460036	402298
20°	527094	438049	370310
25°	491660	407351	337799
30°	443825	360508	302416
35°	365589	308613	250895
40°	298355	238210	193093
45°	256346	180913	138885
50°	232010	137711	87724
55°	213509	99336	31727
60°	204923	67890	4844
65°	197924	45914	1461
70°	177224	31879	1806
75°	145282	16441	0
80°	90794	7001	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	490.9	6.5
10°-20°	1322.7	17.6
20°-30°	1766.2	23.5
30°-40°	1676.6	22.3
40°-50°	1159.0	15.4
50°-60°	640.4	8.5
60°-70°	318.0	4.2
70°-80°	125.3	1.7
80°-90°	11.9	0.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3579.8	47.7
0°-40°	5256.5	70.0
0°-60°	7055.8	93.9
0°-90°	7511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7511.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5240	5240	5240	5240	5240	
5°	5523	5472	5158	4926	4882	529
15°	5454	5290	4605	4153	4027	1543
25°	4618	4599	3826	3173	3173	2105
35°	3104	3430	2620	2155	2130	1944
45°	1879	2155	1326	1087	1018	1465
55°	1269	1194	590	302	189	1142
65°	867	628	201	6	6	841
75°	390	239	44	0	0	415
85°	0	6	0	0	0	36
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8
2.5°	5214.7	5359.2	5371.8	5359.2	5378.2	5371.8	5403.3	5371.8	5409.7	5353.1	5365.6
5°	5522.7	5466.1	5585.4	5522.7	5522.7	5516.5	5497.6	5491.2	5516.5	5434.8	5472.5
7.5°	5604.4	5686.1	5792.9	5661.0	5667.2	5667.2	5629.5	5617.0	5617.0	5466.1	5510.1
10°	5673.6	5623.1	5679.7	5629.5	5673.6	5667.2	5692.3	5610.6	5667.2	5579.3	5572.9
12.5°	5617.0	5598.0	5673.6	5591.8	5566.7	5572.9	5541.6	5522.7	5541.6	5441.0	5434.8
15°	5453.5	5472.5	5585.4	5497.6	5485.0	5472.5	5434.8	5371.8	5422.2	5283.9	5290.3
17.5°	5397.1	5365.6	5384.6	5309.0	5328.0	5315.4	5309.0	5252.6	5239.8	5152.0	5152.0
20°	5133.3	5202.2	5202.2	5152.0	5152.0	5145.8	5064.1	5114.3	5057.7	5032.6	5057.7
22.5°	4950.9	4957.3	4957.3	4913.2	4919.6	4894.5	4850.4	4818.9	4850.4	4818.9	4768.7
25°	4618.1	4630.6	4705.9	4624.2	4611.7	4636.8	4599.1	4580.2	4574.0	4498.7	4599.1
27.5°	4215.9	4341.4	4335.2	4303.7	4341.4	4291.2	4272.5	4278.6	4297.6	4291.2	4316.3
30°	3983.5	4002.2	4021.1	3996.0	4002.2	3983.5	3983.5	3989.6	4039.9	4021.1	4014.7
32.5°	3512.1	3574.9	3625.3	3625.3	3631.5	3650.4	3644.0	3776.0	3807.5	3744.7	3732.2
35°	3103.7	3147.8	3191.6	3198.0	3279.7	3285.9	3292.3	3329.9	3417.8	3436.8	3430.4
37.5°	2714.3	2758.1	2770.7	2827.3	2871.4	2915.2	2965.6	3015.9	3091.2	3154.0	3122.7
40°	2368.7	2387.4	2418.9	2444.0	2531.9	2531.9	2557.0	2657.7	2739.4	2789.6	2783.2
42.5°	2079.7	2085.9	2111.0	2155.1	2236.8	2217.8	2236.8	2306.0	2425.1	2431.5	2500.7
45°	1878.6	1872.2	1891.2	1897.3	1947.8	1972.9	1985.5	2035.7	2136.1	2148.7	2155.1
47.5°	1696.5	1690.1	1721.6	1734.1	1752.9	1778.0	1778.0	1784.4	1822.0	1853.5	1828.4
50°	1545.6	1545.6	1545.6	1558.1	1589.7	1583.3	1589.7	1614.8	1633.5	1620.9	1614.8
52.5°	1382.1	1407.3	1426.2	1432.6	1438.8	1438.8	1445.2	1432.6	1426.2	1407.3	1369.6
55°	1269.2	1294.3	1294.3	1294.3	1294.3	1319.4	1288.1	1294.3	1294.3	1244.1	1193.8
57.5°	1156.2	1181.3	1200.0	1174.9	1200.0	1174.9	1162.3	1156.2	1143.4	1093.2	1017.8
60°	1061.9	1074.5	1068.1	1061.9	1074.5	1055.5	1042.9	1017.8	1005.3	936.1	885.9
62.5°	955.1	961.2	967.6	955.1	942.5	936.1	911.0	873.3	848.2	791.6	747.6
65°	866.9	848.2	841.8	835.7	823.1	804.2	785.5	741.4	722.5	672.2	628.2
67.5°	735.0	728.9	741.4	722.5	691.2	691.2	672.2	634.6	590.5	559.3	515.2
70°	628.2	622.0	609.5	590.5	584.4	559.3	559.3	515.2	502.6	446.0	408.4
72.5°	515.2	515.2	496.2	477.5	458.6	446.0	439.9	408.4	389.7	358.2	326.6
75°	389.7	389.7	383.3	364.3	351.8	339.2	333.0	307.9	289.0	257.7	238.8
77.5°	276.4	276.4	251.3	238.8	244.9	232.4	219.8	213.7	207.3	188.6	163.4
80°	163.4	157.0	138.3	144.5	138.3	138.3	131.9	125.5	113.0	100.4	87.9
82.5°	44.1	50.2	50.2	50.2	56.6	44.1	44.1	44.1	50.2	50.2	31.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.4	6.4
87.5°	6.4	12.6	25.1	25.1	25.1	25.1	25.1	19.0	19.0	19.0	12.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8
2.5°	5302.9	5296.5	5302.9	5258.8	5359.2	5283.9	5271.4	5258.8	5302.9	5258.8	5196.0
5°	5415.8	5353.1	5334.1	5315.4	5371.8	5283.9	5265.2	5271.4	5239.8	5158.4	5164.5
7.5°	5453.5	5397.1	5340.5	5221.1	5271.4	5252.6	5202.2	5164.5	5114.3	5045.1	5032.6
10°	5466.1	5403.3	5321.6	5283.9	5208.6	5183.5	5164.5	5101.8	5039.0	4919.6	4888.1
12.5°	5428.4	5353.1	5252.6	5221.1	5164.5	5082.8	5039.0	4976.0	4919.6	4825.3	4756.2
15°	5265.2	5202.2	5170.9	5064.1	5039.0	4988.5	4900.6	4812.8	4731.0	4605.3	4567.6
17.5°	5076.6	5051.5	5020.0	4938.3	4932.2	4881.9	4800.2	4724.6	4618.1	4423.1	4360.3
20°	4881.9	4881.9	4781.3	4750.0	4812.8	4712.1	4649.3	4580.2	4360.3	4266.1	4153.1
22.5°	4737.4	4668.3	4611.7	4561.4	4567.6	4504.8	4417.0	4278.6	4196.9	4083.9	3952.0
25°	4454.6	4479.7	4354.2	4335.2	4354.2	4209.5	4165.6	4052.4	3933.0	3826.2	3725.8
27.5°	4278.6	4209.5	4128.0	4058.8	4058.8	4002.2	3876.7	3851.5	3669.1	3568.7	3442.9
30°	4014.7	3964.5	3895.4	3794.9	3782.4	3738.3	3637.9	3574.9	3386.6	3235.7	3166.5
32.5°	3681.7	3663.0	3606.4	3493.4	3455.7	3405.3	3279.7	3172.9	3085.0	2915.2	2833.7
35°	3442.9	3374.0	3254.6	3160.4	3128.8	3041.0	2940.3	2865.0	2770.7	2620.0	2513.2
37.5°	3085.0	3015.9	2902.6	2789.6	2789.6	2701.8	2563.4	2488.1	2356.2	2268.0	2180.2
40°	2770.7	2682.8	2569.8	2437.9	2418.9	2293.2	2236.8	2111.0	2029.3	1891.2	1878.6
42.5°	2418.9	2337.2	2236.8	2136.1	2060.8	1998.0	1853.5	1759.3	1671.4	1602.2	1583.3
45°	2098.4	1991.6	1903.7	1778.0	1702.6	1627.3	1533.0	1470.3	1401.1	1325.8	1281.7
47.5°	1822.0	1734.1	1608.4	1495.4	1420.1	1382.1	1275.3	1206.4	1149.8	1099.6	1068.1
50°	1539.4	1432.6	1363.4	1237.7	1225.1	1137.2	1049.3	992.7	961.2	917.4	873.3
52.5°	1325.8	1225.1	1130.8	1036.8	986.3	955.1	873.3	816.7	772.9	741.4	716.3
55°	1118.3	1030.4	955.1	860.8	829.3	785.5	691.2	678.6	634.6	590.5	559.3
57.5°	961.2	879.5	791.6	728.9	672.2	641.0	565.4	515.2	490.1	452.4	420.9
60°	816.7	728.9	659.7	584.4	559.3	515.2	458.6	414.8	383.3	351.8	320.5
62.5°	684.8	609.5	534.2	471.1	433.5	408.4	364.3	326.6	295.4	270.3	244.9
65°	565.4	496.2	433.5	370.7	351.8	320.5	289.0	257.7	232.4	201.1	176.0
67.5°	465.0	402.2	339.2	295.4	276.4	263.9	226.2	194.7	176.0	157.0	131.9
70°	364.3	320.5	270.3	232.4	213.7	194.7	169.6	150.9	125.5	113.0	94.3
72.5°	282.8	244.9	201.1	169.6	157.0	144.5	119.4	100.4	87.9	75.3	62.8
75°	201.1	169.6	144.5	113.0	106.8	100.4	81.7	69.2	56.6	44.1	37.7
77.5°	138.3	113.0	87.9	75.3	69.2	56.6	50.2	37.7	31.5	25.1	19.0
80°	75.3	56.6	44.1	37.7	31.5	25.1	25.1	19.0	12.6	12.6	6.4
82.5°	25.1	19.0	12.6	6.4	6.4	6.4	6.4	6.4	6.4	0.0	6.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8
2.5°	5233.7	5164.5	5183.5	5183.5	5170.9	5170.9	5158.4	5139.4	5145.8	5107.9	5026.4
5°	5177.1	5089.2	5076.6	5089.2	5039.0	5026.4	5001.3	5039.0	4925.8	4969.8	4919.6
7.5°	5013.9	4932.2	4913.2	4957.3	4894.5	4856.6	4850.4	4900.6	4800.2	4750.0	4693.4
10°	4831.5	4800.2	4743.6	4712.1	4693.4	4699.5	4649.3	4586.6	4567.6	4555.0	4504.8
12.5°	4668.3	4599.1	4548.9	4511.2	4498.7	4498.7	4417.0	4404.4	4347.8	4335.2	4259.9
15°	4473.3	4391.9	4360.3	4310.1	4266.1	4291.2	4196.9	4171.8	4153.1	4071.4	4083.9
17.5°	4303.7	4215.9	4140.5	4109.0	4071.4	4033.7	3945.6	3964.5	3920.5	3920.5	3807.5
20°	4083.9	3989.6	3933.0	3870.3	3870.3	3820.0	3757.3	3763.4	3706.8	3650.4	3549.8
22.5°	3851.5	3750.9	3681.7	3656.6	3593.8	3581.3	3505.9	3487.0	3411.7	3417.8	3329.9
25°	3606.4	3505.9	3411.7	3417.8	3361.5	3336.3	3292.3	3204.4	3172.9	3135.2	3110.1
27.5°	3317.4	3248.2	3166.5	3160.4	3053.5	3059.7	3003.3	2978.2	2902.6	2921.6	2865.0
30°	3053.5	2953.1	2877.5	2858.8	2814.8	2802.2	2714.3	2676.4	2689.2	2638.8	2607.5
32.5°	2783.2	2632.6	2601.1	2563.4	2538.3	2506.8	2444.0	2469.2	2412.5	2425.1	2374.9
35°	2425.1	2362.3	2280.6	2280.6	2255.5	2230.4	2186.6	2211.7	2155.1	2130.0	2079.7
37.5°	2123.6	2067.2	1985.5	2010.6	1966.5	1928.8	1891.2	1897.3	1847.1	1841.0	1790.5
40°	1796.9	1765.4	1709.0	1709.0	1677.5	1677.5	1658.6	1639.9	1608.4	1570.7	1514.1
42.5°	1489.0	1463.9	1438.8	1445.2	1401.1	1438.8	1388.5	1420.1	1319.4	1313.2	1275.3
45°	1262.8	1206.4	1212.5	1187.4	1162.3	1174.9	1130.8	1143.4	1087.0	1074.5	1036.8
47.5°	1024.2	1005.3	967.6	955.1	955.1	936.1	917.4	911.0	885.9	854.4	804.2
50°	841.8	772.9	760.1	741.4	728.9	728.9	703.7	666.1	672.2	641.0	590.5
52.5°	659.7	603.1	578.0	571.8	546.7	534.2	502.6	477.5	458.6	446.0	414.8
55°	508.8	458.6	427.3	427.3	389.7	389.7	345.6	326.6	301.5	276.4	257.7
57.5°	383.3	358.2	326.6	301.5	289.0	257.7	232.4	201.1	182.2	144.5	119.4
60°	289.0	263.9	232.4	213.7	201.1	169.6	138.3	113.0	69.2	56.6	50.2
62.5°	213.7	188.6	157.0	144.5	131.9	106.8	75.3	37.7	19.0	19.0	19.0
65°	157.0	125.5	100.4	87.9	75.3	56.6	25.1	12.6	6.4	6.4	6.4
67.5°	106.8	81.7	56.6	50.2	37.7	19.0	6.4	6.4	6.4	6.4	6.4
70°	69.2	50.2	25.1	19.0	12.6	6.4	6.4	6.4	6.4	6.4	6.4
72.5°	44.1	25.1	12.6	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	25.1	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	12.6	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.4	6.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: LD4C90D010 EX4C909040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8	5239.8
2.5°	5114.3	5070.2	5095.4	5039.0	5064.1	5107.9	5076.6	5089.2
5°	4938.3	4913.2	4881.9	4800.2	4863.0	4913.2	4888.1	4881.9
7.5°	4750.0	4661.9	4705.9	4680.8	4668.3	4718.5	4661.9	4724.6
10°	4555.0	4492.3	4486.1	4442.1	4442.1	4479.7	4486.1	4448.2
12.5°	4266.1	4234.8	4234.8	4228.4	4222.0	4259.9	4266.1	4247.4
15°	4058.8	4046.3	4014.7	4008.6	3970.9	4027.3	4033.7	4027.3
17.5°	3807.5	3813.6	3782.4	3782.4	3807.5	3826.2	3776.0	3826.2
20°	3637.9	3606.4	3593.8	3537.2	3568.7	3600.2	3600.2	3606.4
22.5°	3392.7	3342.5	3361.5	3329.9	3311.0	3355.1	3355.1	3374.0
25°	3116.3	3116.3	3128.8	3110.1	3122.7	3147.8	3128.8	3172.9
27.5°	2852.4	2877.5	2877.5	2852.4	2865.0	2940.3	2971.8	2921.6
30°	2607.5	2613.6	2632.6	2620.0	2657.7	2682.8	2676.4	2714.3
32.5°	2331.1	2362.3	2374.9	2356.2	2368.7	2425.1	2393.8	2387.4
35°	2117.4	2060.8	2054.6	2060.8	2085.9	2098.4	2085.9	2130.0
37.5°	1809.5	1790.5	1765.4	1771.8	1790.5	1815.9	1828.4	1859.7
40°	1514.1	1489.0	1489.0	1482.8	1463.9	1533.0	1533.0	1533.0
42.5°	1256.6	1250.2	1218.9	1218.9	1244.1	1262.8	1250.2	1294.3
45°	1030.4	1005.3	986.3	986.3	1005.3	1005.3	1024.2	1017.8
47.5°	810.6	785.5	791.6	772.9	791.6	816.7	785.5	791.6
50°	609.5	609.5	596.9	609.5	603.1	609.5	596.9	584.4
52.5°	414.8	471.1	477.5	452.4	395.8	345.6	314.1	339.2
55°	238.8	213.7	213.7	207.3	194.7	188.6	169.6	188.6
57.5°	119.4	106.8	106.8	106.8	100.4	94.3	81.7	81.7
60°	50.2	44.1	44.1	37.7	31.5	25.1	19.0	25.1
62.5°	19.0	12.6	12.6	12.6	12.6	12.6	12.6	12.6
65°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
67.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
70°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)