

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: **LD4C60D010 EX4C609040 4LBSQLWWLI**

Issue Date: 2/18/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



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: LD4C60D010 EX4C609040 4LBSQLWWLI
Description: 4 INCH 6000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

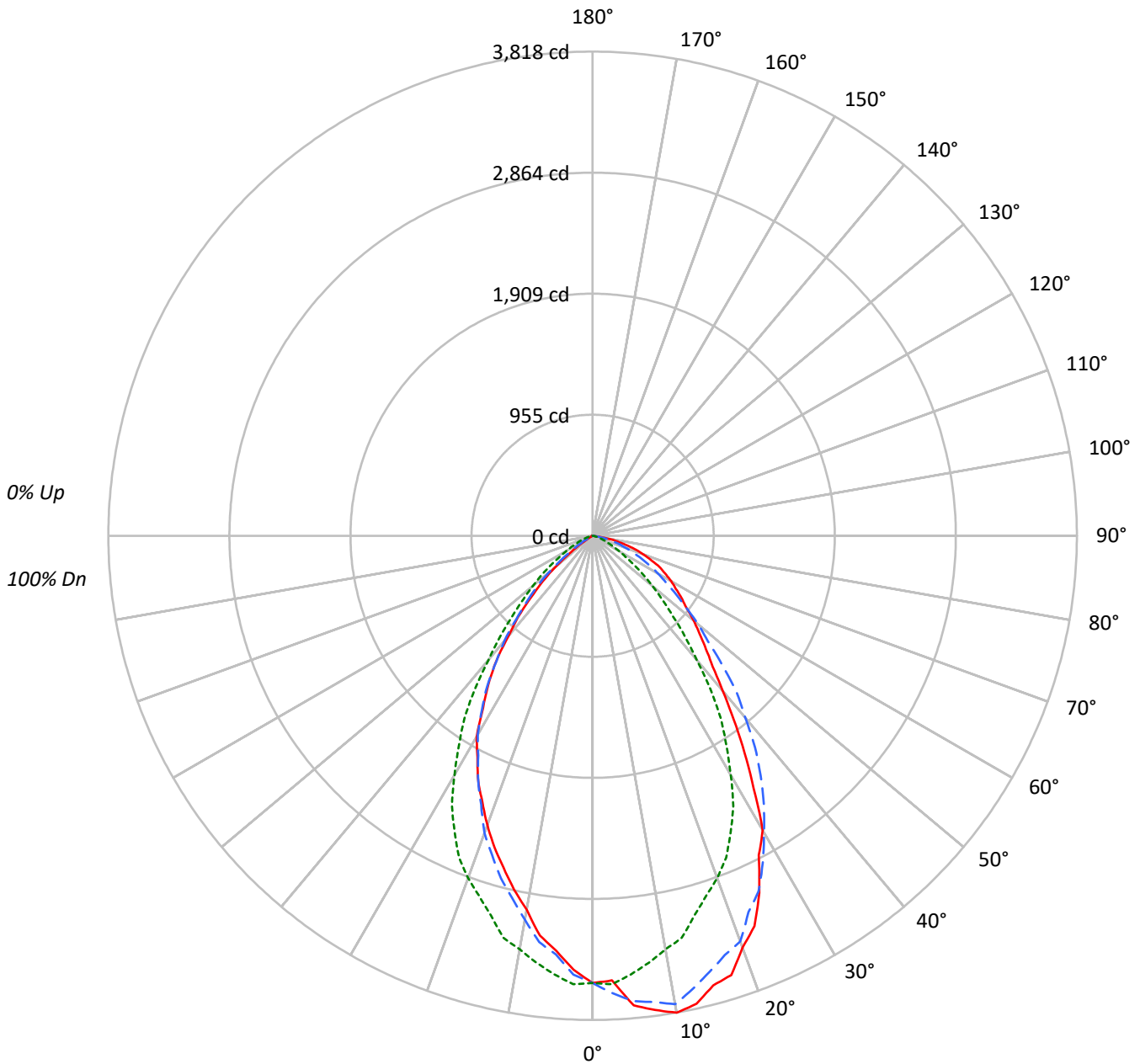
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5055.0 lumens
Efficiency: N/A
Efficacy: 70.2 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): 72
Input Voltage (V):
Input Current (Ain): 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: LD4C60D010 EX4C609040 4LBSQLWWLI

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C60D010 EX4C609040 4LBSQLWWLI

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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°	340268	340268	340268
5°	360000	336250	318235
10°	374117	324403	293315
15°	366636	309607	270749
20°	354743	294808	249218
25°	330889	274155	227343
30°	298695	242619	203534
35°	246054	207701	168854
40°	200801	160318	129963
45°	172521	121760	93472
50°	156144	92678	59038
55°	143696	66852	21348
60°	137921	45678	3261
65°	133220	30891	982
70°	119278	21441	1213
75°	97749	11072	0
80°	61122	4668	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C60D010 EX4C609040 4LBSQLWWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.4	6.5
10°-20°	890.2	17.6
20°-30°	1188.7	23.5
30°-40°	1128.4	22.3
40°-50°	780.0	15.4
50°-60°	431.0	8.5
60°-70°	214.0	4.2
70°-80°	84.3	1.7
80°-90°	8.0	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°	2409.3	47.7
0°-40°	3537.7	70.0
0°-60°	4748.6	93.9
0°-90°	5055.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5055.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3526	3526	3526	3526	3526	
5°	3717	3683	3472	3315	3286	356
15°	3670	3560	3099	2795	2710	1038
25°	3108	3095	2575	2135	2135	1417
35°	2089	2309	1763	1450	1434	1309
45°	1264	1450	892	732	685	986
55°	854	804	397	203	127	769
65°	584	423	135	4	4	566
75°	262	161	30	0	0	279
85°	0	4	0	0	0	24
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C60D010 EX4C609040 4LBSQLWWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5
2.5°	3509.6	3606.8	3615.3	3606.8	3619.6	3615.3	3636.5	3615.3	3640.8	3602.7	3611.1
5°	3716.8	3678.7	3759.1	3716.8	3716.8	3712.7	3699.9	3695.6	3712.7	3657.7	3683.0
7.5°	3771.8	3826.8	3898.7	3809.9	3814.1	3814.1	3788.7	3780.3	3780.3	3678.7	3708.4
10°	3818.4	3784.4	3822.5	3788.7	3818.4	3814.1	3831.0	3776.0	3814.1	3754.9	3750.6
12.5°	3780.3	3767.5	3818.4	3763.4	3746.5	3750.6	3729.6	3716.8	3729.6	3661.8	3657.7
15°	3670.3	3683.0	3759.1	3699.9	3691.5	3683.0	3657.7	3615.3	3649.2	3556.1	3560.4
17.5°	3632.3	3611.1	3623.9	3573.0	3585.8	3577.3	3573.0	3535.1	3526.5	3467.3	3467.3
20°	3454.8	3501.1	3501.1	3467.3	3467.3	3463.2	3408.2	3442.0	3403.9	3387.0	3403.9
22.5°	3332.0	3336.3	3336.3	3306.6	3311.0	3294.1	3264.4	3243.2	3264.4	3243.2	3209.4
25°	3108.0	3116.5	3167.2	3112.2	3103.7	3120.6	3095.3	3082.5	3078.4	3027.7	3095.3
27.5°	2837.3	2921.8	2917.7	2896.5	2921.8	2888.0	2875.4	2879.6	2892.3	2888.0	2904.9
30°	2680.9	2693.5	2706.3	2689.4	2693.5	2680.9	2680.9	2685.1	2718.9	2706.3	2702.0
32.5°	2363.7	2405.9	2439.9	2439.9	2444.0	2456.8	2452.5	2541.3	2562.5	2520.2	2511.8
35°	2088.9	2118.5	2148.0	2152.3	2207.3	2211.4	2215.8	2241.1	2300.2	2313.0	2308.7
37.5°	1826.8	1856.3	1864.7	1902.8	1932.5	1962.0	1995.9	2029.7	2080.4	2122.6	2101.6
40°	1594.2	1606.8	1628.0	1644.9	1704.0	1704.0	1720.9	1788.7	1843.7	1877.5	1873.2
42.5°	1399.7	1403.8	1420.7	1450.4	1505.4	1492.6	1505.4	1551.9	1632.1	1636.4	1683.0
45°	1264.3	1260.0	1272.8	1276.9	1310.9	1327.8	1336.2	1370.0	1437.6	1446.1	1450.4
47.5°	1141.8	1137.4	1158.7	1167.1	1179.7	1196.6	1196.6	1200.9	1226.2	1247.4	1230.6
50°	1040.2	1040.2	1040.2	1048.7	1069.9	1065.5	1069.9	1086.8	1099.3	1090.9	1086.8
52.5°	930.2	947.1	959.9	964.2	968.3	968.3	972.6	964.2	959.9	947.1	921.8
55°	854.2	871.1	871.1	871.1	871.1	888.0	866.9	871.1	871.1	837.3	803.5
57.5°	778.1	795.0	807.6	790.7	807.6	790.7	782.3	778.1	769.5	735.7	685.0
60°	714.7	723.1	718.8	714.7	723.1	710.4	701.9	685.0	676.6	630.0	596.2
62.5°	642.8	646.9	651.2	642.8	634.3	630.0	613.1	587.8	570.9	532.8	503.1
65°	583.5	570.9	566.6	562.4	554.0	541.2	528.6	499.0	486.2	452.4	422.8
67.5°	494.7	490.5	499.0	486.2	465.2	465.2	452.4	427.1	397.4	376.4	346.7
70°	422.8	418.6	410.2	397.4	393.3	376.4	376.4	346.7	338.3	300.2	274.8
72.5°	346.7	346.7	334.0	321.4	308.6	300.2	296.0	274.8	262.2	241.0	219.8
75°	262.2	262.2	257.9	245.2	236.7	228.3	224.1	207.2	194.5	173.4	160.7
77.5°	186.0	186.0	169.1	160.7	164.8	156.4	147.9	143.8	139.5	126.9	110.0
80°	110.0	105.7	93.1	97.2	93.1	93.1	88.8	84.5	76.0	67.6	59.1
82.5°	29.7	33.8	33.8	33.8	38.1	29.7	29.7	29.7	33.8	33.8	21.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3	4.3
87.5°	4.3	8.4	16.9	16.9	16.9	16.9	16.9	12.8	12.8	12.8	8.4
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: LD4C60D010 EX4C609040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5
2.5°	3568.9	3564.6	3568.9	3539.2	3606.8	3556.1	3547.7	3539.2	3568.9	3539.2	3497.0
5°	3644.9	3602.7	3589.9	3577.3	3615.3	3556.1	3543.5	3547.7	3526.5	3471.6	3475.8
7.5°	3670.3	3632.3	3594.2	3513.9	3547.7	3535.1	3501.1	3475.8	3442.0	3395.4	3387.0
10°	3678.7	3636.5	3581.5	3556.1	3505.4	3488.5	3475.8	3433.5	3391.3	3311.0	3289.8
12.5°	3653.4	3602.7	3535.1	3513.9	3475.8	3420.8	3391.3	3348.9	3311.0	3247.5	3201.0
15°	3543.5	3501.1	3480.1	3408.2	3391.3	3357.3	3298.2	3239.1	3184.1	3099.4	3074.1
17.5°	3416.6	3399.8	3378.5	3323.5	3319.4	3285.6	3230.6	3179.7	3108.0	2976.8	2934.6
20°	3285.6	3285.6	3217.9	3196.8	3239.1	3171.3	3129.1	3082.5	2934.6	2871.1	2795.1
22.5°	3188.4	3141.8	3103.7	3069.9	3074.1	3031.8	2972.7	2879.6	2824.6	2748.5	2659.7
25°	2998.0	3014.9	2930.4	2917.7	2930.4	2833.0	2803.5	2727.3	2647.0	2575.1	2507.5
27.5°	2879.6	2833.0	2778.2	2731.6	2731.6	2693.5	2609.0	2592.1	2469.4	2401.8	2317.1
30°	2702.0	2668.2	2621.6	2554.0	2545.6	2515.9	2448.3	2405.9	2279.2	2177.6	2131.1
32.5°	2477.8	2465.2	2427.1	2351.1	2325.8	2291.8	2207.3	2135.4	2076.3	1962.0	1907.1
35°	2317.1	2270.8	2190.4	2127.0	2105.8	2046.6	1978.9	1928.2	1864.7	1763.3	1691.4
37.5°	2076.3	2029.7	1953.5	1877.5	1877.5	1818.3	1725.2	1674.5	1585.7	1526.4	1467.3
40°	1864.7	1805.6	1729.5	1640.7	1628.0	1543.3	1505.4	1420.7	1365.7	1272.8	1264.3
42.5°	1628.0	1573.0	1505.4	1437.6	1386.9	1344.7	1247.4	1184.0	1124.9	1078.3	1065.5
45°	1412.3	1340.4	1281.2	1196.6	1145.9	1095.2	1031.8	989.5	943.0	892.3	862.6
47.5°	1226.2	1167.1	1082.4	1006.4	955.7	930.2	858.3	811.9	773.8	740.0	718.8
50°	1036.1	964.2	917.6	833.0	824.5	765.4	706.2	668.1	646.9	617.4	587.8
52.5°	892.3	824.5	761.1	697.8	663.8	642.8	587.8	549.7	520.2	499.0	482.1
55°	752.6	693.5	642.8	579.3	558.1	528.6	465.2	456.7	427.1	397.4	376.4
57.5°	646.9	591.9	532.8	490.5	452.4	431.4	380.5	346.7	329.8	304.5	283.3
60°	549.7	490.5	444.0	393.3	376.4	346.7	308.6	279.1	257.9	236.7	215.7
62.5°	460.9	410.2	359.5	317.1	291.7	274.8	245.2	219.8	198.8	181.9	164.8
65°	380.5	334.0	291.7	249.5	236.7	215.7	194.5	173.4	156.4	135.3	118.4
67.5°	312.9	270.7	228.3	198.8	186.0	177.6	152.2	131.0	118.4	105.7	88.8
70°	245.2	215.7	181.9	156.4	143.8	131.0	114.1	101.6	84.5	76.0	63.4
72.5°	190.3	164.8	135.3	114.1	105.7	97.2	80.3	67.6	59.1	50.7	42.2
75°	135.3	114.1	97.2	76.0	71.9	67.6	55.0	46.6	38.1	29.7	25.3
77.5°	93.1	76.0	59.1	50.7	46.6	38.1	33.8	25.3	21.2	16.9	12.8
80°	50.7	38.1	29.7	25.3	21.2	16.9	16.9	12.8	8.4	8.4	4.3
82.5°	16.9	12.8	8.4	4.3	4.3	4.3	4.3	4.3	4.3	0.0	4.3
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°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	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: LD4C60D010 EX4C609040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5
2.5°	3522.3	3475.8	3488.5	3488.5	3480.1	3480.1	3471.6	3458.9	3463.2	3437.7	3382.9
5°	3484.2	3425.1	3416.6	3425.1	3391.3	3382.9	3366.0	3391.3	3315.1	3344.8	3311.0
7.5°	3374.4	3319.4	3306.6	3336.3	3294.1	3268.5	3264.4	3298.2	3230.6	3196.8	3158.7
10°	3251.6	3230.6	3192.5	3171.3	3158.7	3162.9	3129.1	3086.8	3074.1	3065.6	3031.8
12.5°	3141.8	3095.3	3061.5	3036.1	3027.7	3027.7	2972.7	2964.2	2926.1	2917.7	2867.0
15°	3010.6	2955.8	2934.6	2900.8	2871.1	2888.0	2824.6	2807.7	2795.1	2740.1	2748.5
17.5°	2896.5	2837.3	2786.6	2765.4	2740.1	2714.7	2655.4	2668.2	2638.5	2638.5	2562.5
20°	2748.5	2685.1	2647.0	2604.7	2604.7	2570.9	2528.7	2532.8	2494.7	2456.8	2389.0
22.5°	2592.1	2524.4	2477.8	2460.9	2418.7	2410.2	2359.5	2346.8	2296.1	2300.2	2241.1
25°	2427.1	2359.5	2296.1	2300.2	2262.3	2245.4	2215.8	2156.6	2135.4	2110.1	2093.2
27.5°	2232.6	2186.1	2131.1	2127.0	2055.1	2059.2	2021.3	2004.4	1953.5	1966.3	1928.2
30°	2055.1	1987.5	1936.6	1924.0	1894.4	1885.9	1826.8	1801.3	1809.9	1775.9	1754.9
32.5°	1873.2	1771.8	1750.6	1725.2	1708.3	1687.1	1644.9	1661.8	1623.7	1632.1	1598.3
35°	1632.1	1589.9	1534.9	1534.9	1518.0	1501.1	1471.6	1488.5	1450.4	1433.5	1399.7
37.5°	1429.2	1391.2	1336.2	1353.1	1323.5	1298.1	1272.8	1276.9	1243.1	1239.0	1205.0
40°	1209.3	1188.1	1150.2	1150.2	1129.0	1129.0	1116.2	1103.7	1082.4	1057.1	1019.0
42.5°	1002.1	985.2	968.3	972.6	943.0	968.3	934.5	955.7	888.0	883.8	858.3
45°	849.9	811.9	816.1	799.2	782.3	790.7	761.1	769.5	731.6	723.1	697.8
47.5°	689.3	676.6	651.2	642.8	642.8	630.0	617.4	613.1	596.2	575.0	541.2
50°	566.6	520.2	511.6	499.0	490.5	490.5	473.6	448.3	452.4	431.4	397.4
52.5°	444.0	405.9	389.0	384.8	367.9	359.5	338.3	321.4	308.6	300.2	279.1
55°	342.4	308.6	287.6	287.6	262.2	262.2	232.6	219.8	202.9	186.0	173.4
57.5°	257.9	241.0	219.8	202.9	194.5	173.4	156.4	135.3	122.6	97.2	80.3
60°	194.5	177.6	156.4	143.8	135.3	114.1	93.1	76.0	46.6	38.1	33.8
62.5°	143.8	126.9	105.7	97.2	88.8	71.9	50.7	25.3	12.8	12.8	12.8
65°	105.7	84.5	67.6	59.1	50.7	38.1	16.9	8.4	4.3	4.3	4.3
67.5°	71.9	55.0	38.1	33.8	25.3	12.8	4.3	4.3	4.3	4.3	4.3
70°	46.6	33.8	16.9	12.8	8.4	4.3	4.3	4.3	4.3	4.3	4.3
72.5°	29.7	16.9	8.4	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	16.9	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	8.4	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	4.3	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	4.3	4.3	4.3
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: LD4C60D010 EX4C609040 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5	3526.5
2.5°	3442.0	3412.3	3429.2	3391.3	3408.2	3437.7	3416.6	3425.1
5°	3323.5	3306.6	3285.6	3230.6	3272.9	3306.6	3289.8	3285.6
7.5°	3196.8	3137.5	3167.2	3150.3	3141.8	3175.6	3137.5	3179.7
10°	3065.6	3023.4	3019.2	2989.6	2989.6	3014.9	3019.2	2993.7
12.5°	2871.1	2850.1	2850.1	2845.8	2841.5	2867.0	2871.1	2858.5
15°	2731.6	2723.2	2702.0	2697.8	2672.5	2710.4	2714.7	2710.4
17.5°	2562.5	2566.6	2545.6	2545.6	2562.5	2575.1	2541.3	2575.1
20°	2448.3	2427.1	2418.7	2380.6	2401.8	2423.0	2423.0	2427.1
22.5°	2283.3	2249.5	2262.3	2241.1	2228.3	2258.0	2258.0	2270.8
25°	2097.3	2097.3	2105.8	2093.2	2101.6	2118.5	2105.8	2135.4
27.5°	1919.7	1936.6	1936.6	1919.7	1928.2	1978.9	2000.1	1966.3
30°	1754.9	1759.0	1771.8	1763.3	1788.7	1805.6	1801.3	1826.8
32.5°	1568.8	1589.9	1598.3	1585.7	1594.2	1632.1	1611.1	1606.8
35°	1425.0	1386.9	1382.8	1386.9	1403.8	1412.3	1403.8	1433.5
37.5°	1217.8	1205.0	1188.1	1192.4	1205.0	1222.1	1230.6	1251.6
40°	1019.0	1002.1	1002.1	998.0	985.2	1031.8	1031.8	1031.8
42.5°	845.7	841.4	820.4	820.4	837.3	849.9	841.4	871.1
45°	693.5	676.6	663.8	663.8	676.6	676.6	689.3	685.0
47.5°	545.5	528.6	532.8	520.2	532.8	549.7	528.6	532.8
50°	410.2	410.2	401.7	410.2	405.9	410.2	401.7	393.3
52.5°	279.1	317.1	321.4	304.5	266.4	232.6	211.4	228.3
55°	160.7	143.8	143.8	139.5	131.0	126.9	114.1	126.9
57.5°	80.3	71.9	71.9	71.9	67.6	63.4	55.0	55.0
60°	33.8	29.7	29.7	25.3	21.2	16.9	12.8	16.9
62.5°	12.8	8.4	8.4	8.4	8.4	8.4	8.4	8.4
65°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
67.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
70°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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)