

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: P880584

Luminaire Tested: **LD4C50D010 EU4509035 4LBDWNH**

Issue Date: 10/4/2024

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: P880584
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)
Test Lab: INNOVATION CENTER
Issue Date: 10/4/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C50D010 EU4509035 4LBDWNH
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

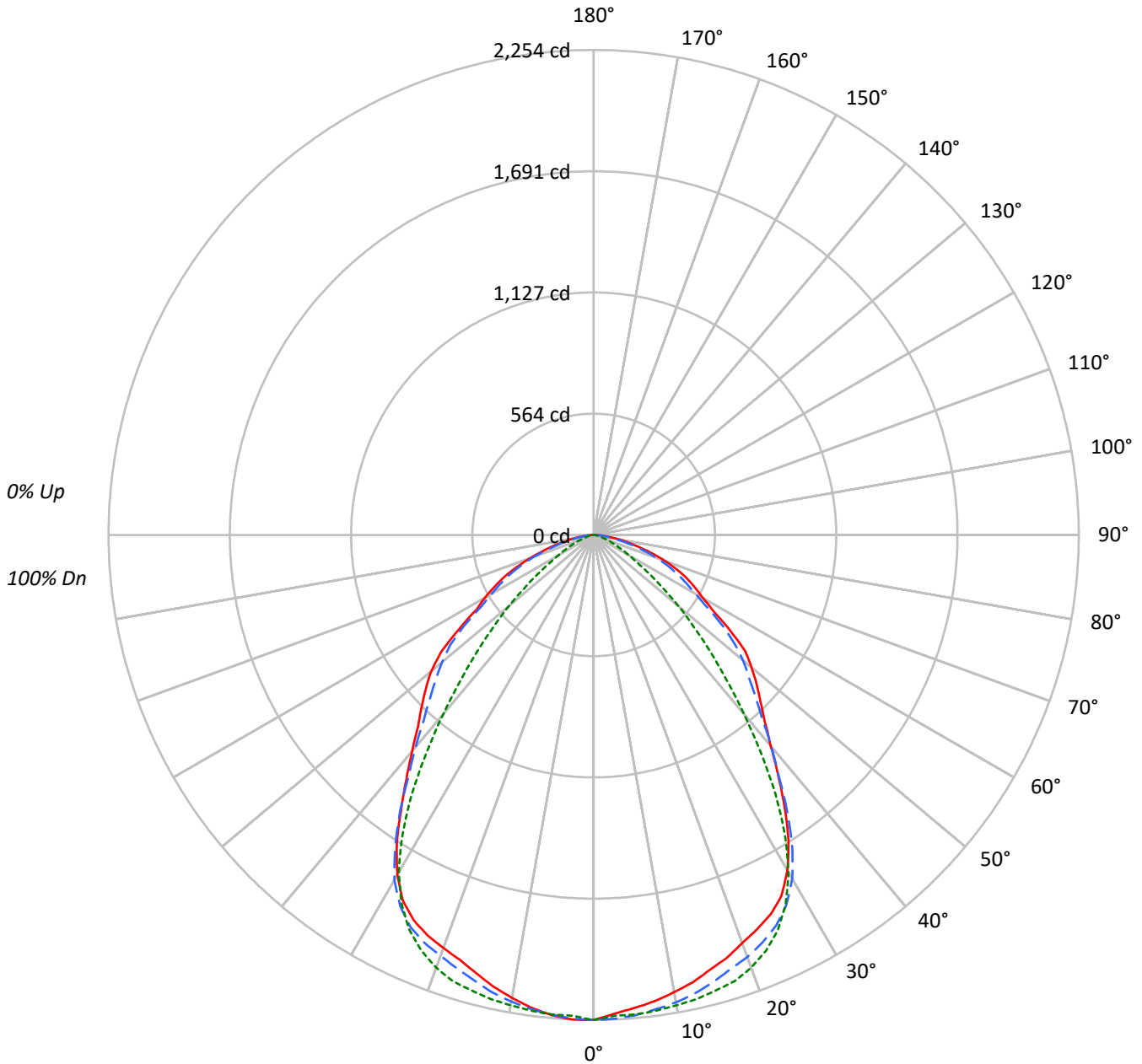
Lumens per Lamp: N/A
Luminaire Lumens: 4588.0 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 58.4
Input Voltage (V): NR
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

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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	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100				
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51				
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46				
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	276949	276949	276949
5°	272038	275873	276305
10°	269120	276917	272576
15°	265999	278769	268187
20°	263881	279779	267058
25°	263747	274564	267963
30°	255346	256836	258793
35°	231983	221080	234068
40°	205246	174086	210234
45°	190403	132564	196449
50°	182965	98124	188259
55°	165653	67619	163426
60°	144009	46021	143173
65°	139127	33285	132063
70°	125792	22450	112106
75°	103668	14762	88906
80°	83483	9834	66221
85°	68506	4793	43838



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.8	4.6
10°-20°	608.5	13.3
20°-30°	919.3	20.0
30°-40°	962.0	21.0
40°-50°	779.2	17.0
50°-60°	566.7	12.4
60°-70°	349.5	7.6
70°-80°	157.9	3.4
80°-90°	32.1	0.7
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°	1740.5	37.9
0°-40°	2702.6	58.9
0°-60°	4048.5	88.2
0°-90°	4588.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4588.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2254	2254	2254	2254	2254	
5°	2206	2240	2237	2237	2240	209
15°	2091	2150	2192	2143	2109	591
25°	1946	2005	2026	2012	1977	892
35°	1547	1568	1474	1568	1561	964
45°	1096	1061	763	1075	1131	852
55°	773	725	316	732	763	690
65°	479	430	114	423	454	468
75°	218	187	31	163	187	237
85°	49	38	3	28	31	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3
2.5°	2226.6	2226.6	2247.5	2271.6	2250.9	2230.0	2243.9	2237.0	2261.4	2261.4	2250.9
5°	2205.9	2212.7	2230.0	2250.9	2233.6	2212.7	2230.0	2223.2	2247.5	2247.5	2240.5
7.5°	2185.0	2188.4	2209.3	2233.6	2216.1	2195.5	2209.3	2205.9	2226.6	2230.0	2223.2
10°	2157.3	2160.7	2181.6	2205.9	2188.4	2171.1	2185.0	2181.6	2209.3	2209.3	2205.9
12.5°	2129.5	2133.0	2153.9	2174.6	2157.3	2140.0	2153.9	2153.9	2181.6	2185.0	2181.6
15°	2091.4	2098.2	2115.7	2136.4	2126.1	2105.2	2119.1	2119.1	2143.4	2150.2	2150.2
17.5°	2060.2	2063.6	2080.9	2101.8	2088.0	2070.5	2084.3	2084.3	2108.6	2115.7	2115.7
20°	2018.4	2025.5	2042.7	2063.6	2053.2	2039.3	2049.8	2049.8	2077.5	2084.3	2088.0
22.5°	1983.9	1990.7	2004.6	2032.5	2015.0	2004.6	2018.4	2015.0	2046.4	2049.8	2049.8
25°	1945.7	1952.7	1970.0	1987.3	1976.8	1966.6	1976.8	1976.8	2001.1	2004.6	2004.6
27.5°	1890.2	1893.6	1910.9	1928.4	1918.0	1904.1	1918.0	1914.5	1938.6	1942.3	1938.6
30°	1800.0	1807.0	1813.9	1838.2	1827.7	1817.3	1831.1	1824.3	1848.6	1848.6	1845.0
32.5°	1685.5	1685.5	1699.5	1716.8	1703.0	1695.9	1706.4	1709.8	1727.3	1727.3	1716.8
35°	1546.8	1553.9	1564.1	1574.6	1564.1	1557.3	1567.7	1564.1	1585.0	1578.0	1567.7
37.5°	1408.2	1411.6	1422.0	1435.9	1422.0	1411.6	1415.0	1411.6	1428.9	1428.9	1411.6
40°	1279.8	1286.8	1293.6	1307.5	1293.6	1286.8	1290.2	1279.8	1300.7	1293.6	1283.2
42.5°	1175.7	1179.1	1189.6	1196.6	1182.7	1179.1	1182.7	1175.7	1186.1	1179.1	1158.4
45°	1095.9	1095.9	1099.5	1109.8	1095.9	1092.5	1092.5	1085.5	1095.9	1082.1	1061.4
47.5°	1026.6	1030.0	1033.6	1040.5	1030.0	1019.8	1023.2	1009.3	1016.1	1005.7	978.0
50°	957.3	964.1	967.7	974.5	964.1	957.3	960.7	946.8	946.8	929.5	905.2
52.5°	888.0	891.4	888.0	894.8	888.0	877.5	880.9	867.0	867.0	846.4	822.0
55°	773.4	776.8	780.5	787.3	780.5	770.0	776.8	766.6	766.6	752.5	724.8
57.5°	658.9	662.5	665.9	669.3	669.3	662.5	665.9	658.9	655.5	645.0	624.3
60°	586.1	586.1	586.1	589.6	586.1	582.7	582.7	575.7	575.7	561.8	541.1
62.5°	530.7	534.1	534.1	537.5	534.1	530.7	527.3	520.2	516.8	503.0	485.5
65°	478.6	478.6	475.2	482.0	478.6	475.2	475.2	468.2	461.4	447.5	430.0
67.5°	416.1	419.6	416.1	419.6	419.6	416.1	412.7	405.7	402.3	391.8	371.1
70°	350.2	350.2	350.2	353.9	350.2	350.2	353.9	343.4	340.0	325.9	308.6
72.5°	284.3	287.9	287.9	284.3	287.9	280.9	280.9	280.9	277.5	263.6	246.1
75°	218.4	222.0	222.0	225.5	222.0	218.4	218.4	215.0	211.6	201.1	187.3
77.5°	163.0	163.0	166.4	166.4	166.4	163.0	163.0	156.1	156.1	149.1	135.2
80°	118.0	118.0	114.5	118.0	118.0	114.5	114.5	110.9	110.9	104.1	93.6
82.5°	76.4	79.8	79.8	79.8	79.8	76.4	76.4	76.4	72.7	69.3	62.5
85°	48.6	48.6	48.6	48.6	52.0	48.6	52.0	48.6	48.6	41.6	38.2
87.5°	20.9	20.9	20.9	24.3	24.3	20.9	20.9	20.9	20.9	20.9	17.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3
2.5°	2250.9	2254.3	2243.9	2257.7	2247.5	2250.9	2254.3	2250.9	2237.0	2237.0	2275.2
5°	2237.0	2243.9	2233.6	2250.9	2243.9	2243.9	2250.9	2247.5	2233.6	2237.0	2271.6
7.5°	2223.2	2233.6	2226.6	2243.9	2233.6	2233.6	2240.5	2240.5	2226.6	2230.0	2261.4
10°	2202.3	2216.1	2212.7	2230.0	2219.8	2219.8	2230.0	2230.0	2216.1	2219.8	2250.9
12.5°	2185.0	2198.9	2195.5	2212.7	2205.9	2209.3	2212.7	2219.8	2202.3	2209.3	2237.0
15°	2157.3	2171.1	2171.1	2188.4	2181.6	2188.4	2195.5	2205.9	2191.8	2191.8	2219.8
17.5°	2126.1	2143.4	2143.4	2157.3	2157.3	2160.7	2174.6	2185.0	2171.1	2174.6	2198.9
20°	2091.4	2112.3	2112.3	2129.5	2126.1	2133.0	2143.4	2153.9	2140.0	2140.0	2167.7
22.5°	2056.6	2074.1	2077.5	2088.0	2088.0	2091.4	2101.8	2108.6	2091.4	2091.4	2119.1
25°	2008.2	2025.5	2028.9	2035.9	2028.9	2028.9	2035.9	2042.7	2025.5	2025.5	2049.8
27.5°	1942.3	1959.6	1959.6	1956.1	1949.1	1952.7	1949.1	1952.7	1935.2	1931.8	1956.1
30°	1845.0	1855.5	1855.5	1852.0	1841.6	1841.6	1831.1	1834.8	1810.5	1810.5	1831.1
32.5°	1713.4	1723.6	1716.8	1709.8	1695.9	1689.1	1682.1	1678.6	1654.3	1654.3	1678.6
35°	1557.3	1564.1	1553.9	1540.0	1522.5	1512.1	1501.8	1488.0	1470.5	1474.1	1488.0
37.5°	1397.7	1397.7	1383.9	1356.1	1342.3	1324.8	1307.5	1307.5	1279.8	1276.4	1286.8
40°	1262.5	1248.6	1224.3	1186.1	1161.8	1144.5	1120.2	1106.4	1085.5	1085.5	1103.0
42.5°	1141.1	1113.4	1082.1	1030.0	1005.7	985.0	953.9	940.0	915.7	912.1	922.5
45°	1033.6	1005.7	960.7	905.2	874.1	849.8	804.6	787.3	766.6	763.0	770.0
47.5°	946.8	915.7	860.2	787.3	756.1	724.8	679.8	655.5	638.2	627.7	638.2
50°	870.5	828.9	770.0	693.6	652.0	624.3	568.9	544.5	520.2	513.4	516.8
52.5°	787.3	745.7	683.2	603.4	565.2	523.6	471.6	437.0	416.1	405.7	416.1
55°	697.1	655.5	593.2	513.4	471.6	433.6	378.0	350.2	325.9	315.7	325.9
57.5°	600.0	561.8	506.4	426.6	388.4	353.9	301.8	274.1	249.8	242.7	249.8
60°	516.8	485.5	430.0	353.9	322.5	284.3	239.3	211.6	190.7	187.3	190.7
62.5°	461.4	426.6	374.5	301.8	270.5	239.3	197.7	170.0	152.5	149.1	152.5
65°	405.7	367.7	319.1	256.6	225.5	201.1	159.5	135.2	118.0	114.5	118.0
67.5°	343.4	308.6	267.0	211.6	187.3	163.0	128.4	104.1	90.2	86.8	90.2
70°	284.3	253.2	211.6	170.0	145.7	128.4	97.0	79.8	65.9	62.5	65.9
72.5°	225.5	197.7	163.0	128.4	114.5	97.0	76.4	58.9	48.6	45.0	48.6
75°	173.4	152.5	124.8	93.6	83.2	72.7	52.0	41.6	34.8	31.1	34.8
77.5°	121.4	107.5	86.8	69.3	58.9	52.0	38.2	27.7	24.3	20.9	24.3
80°	83.2	72.7	58.9	45.0	38.2	31.1	24.3	17.3	13.9	13.9	13.9
82.5°	55.5	45.0	34.8	27.7	24.3	20.9	13.9	10.5	10.5	7.0	7.0
85°	31.1	27.7	20.9	17.3	13.9	10.5	7.0	7.0	3.4	3.4	3.4
87.5°	13.9	10.5	7.0	7.0	3.4	3.4	3.4	3.4	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3
2.5°	2264.8	2254.3	2268.2	2254.3	2247.5	2254.3	2247.5	2268.2	2250.9	2237.0	2250.9
5°	2261.4	2247.5	2261.4	2250.9	2240.5	2243.9	2237.0	2257.7	2237.0	2226.6	2233.6
7.5°	2254.3	2243.9	2250.9	2240.5	2230.0	2233.6	2226.6	2243.9	2223.2	2212.7	2219.8
10°	2243.9	2233.6	2237.0	2230.0	2219.8	2219.8	2212.7	2226.6	2202.3	2188.4	2195.5
12.5°	2230.0	2216.1	2223.2	2212.7	2198.9	2198.9	2191.8	2202.3	2178.0	2164.1	2167.7
15°	2212.7	2198.9	2198.9	2188.4	2174.6	2174.6	2160.7	2171.1	2143.4	2129.5	2129.5
17.5°	2191.8	2174.6	2174.6	2164.1	2146.8	2143.4	2133.0	2143.4	2112.3	2098.2	2098.2
20°	2160.7	2146.8	2143.4	2136.4	2119.1	2115.7	2101.8	2105.2	2080.9	2070.5	2067.1
22.5°	2119.1	2105.2	2108.6	2098.2	2084.3	2080.9	2067.1	2077.5	2053.2	2042.7	2046.4
25°	2046.4	2039.3	2046.4	2042.7	2032.5	2032.5	2025.5	2032.5	2011.6	2004.6	2008.2
27.5°	1963.0	1959.6	1963.0	1963.0	1956.1	1956.1	1956.1	1966.6	1945.7	1942.3	1942.3
30°	1841.6	1841.6	1845.0	1848.6	1848.6	1855.5	1852.0	1865.9	1852.0	1845.0	1852.0
32.5°	1682.1	1695.9	1706.4	1706.4	1706.4	1713.4	1720.2	1730.7	1716.8	1720.2	1720.2
35°	1501.8	1512.1	1519.1	1536.4	1526.1	1550.2	1557.3	1571.1	1567.7	1574.6	1571.1
37.5°	1300.7	1314.5	1328.4	1352.7	1349.1	1376.8	1390.7	1418.4	1411.6	1425.5	1432.3
40°	1113.4	1134.1	1155.0	1172.3	1186.1	1213.9	1241.6	1276.4	1286.8	1297.1	1300.7
42.5°	933.0	953.9	988.4	1012.7	1033.6	1078.6	1116.8	1158.4	1168.9	1189.6	1196.6
45°	787.3	804.6	846.4	877.5	894.8	960.7	1005.7	1057.7	1075.2	1099.5	1109.8
47.5°	652.0	683.2	724.8	763.0	787.3	856.6	915.7	971.1	995.5	1023.2	1037.0
50°	534.1	568.9	624.3	658.9	693.6	770.0	835.9	894.8	919.1	950.2	964.1
52.5°	437.0	475.2	527.3	565.2	603.4	683.2	752.5	808.2	839.3	860.2	880.9
55°	343.4	385.0	437.0	478.6	509.8	596.6	655.5	710.9	731.8	749.1	759.5
57.5°	267.0	298.2	350.2	385.0	423.2	499.3	558.4	600.0	617.3	638.2	645.0
60°	208.2	239.3	287.9	322.5	357.3	430.0	489.1	530.7	548.0	565.2	575.7
62.5°	166.4	197.7	242.7	274.1	305.2	371.1	423.2	464.8	485.5	503.0	513.4
65°	131.8	159.5	197.7	228.9	253.2	312.1	364.1	402.3	423.2	440.5	450.9
67.5°	104.1	128.4	163.0	183.9	208.2	256.6	301.8	336.4	353.9	374.5	385.0
70°	79.8	97.0	128.4	145.7	163.0	204.6	239.3	274.1	291.4	305.2	312.1
72.5°	58.9	72.7	97.0	110.9	121.4	156.1	183.9	208.2	222.0	235.9	242.7
75°	41.6	52.0	69.3	79.8	86.8	110.9	135.2	152.5	163.0	173.4	183.9
77.5°	27.7	34.8	45.0	52.0	58.9	76.4	90.2	104.1	114.5	124.8	128.4
80°	17.3	24.3	31.1	34.8	38.2	48.6	62.5	69.3	76.4	83.2	86.8
82.5°	10.5	13.9	17.3	20.9	24.3	31.1	38.2	45.0	48.6	55.5	58.9
85°	3.4	7.0	7.0	10.5	10.5	17.3	20.9	24.3	27.7	31.1	34.8
87.5°	0.0	0.0	3.4	3.4	3.4	3.4	7.0	7.0	7.0	7.0	7.0
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: P880584

CATALOG NUMBER: LD4C50D010 EU4509035 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3	2254.3
2.5°	2264.8	2254.3	2247.5	2243.9	2268.2	2237.0	2250.9	2254.3
5°	2250.9	2240.5	2233.6	2230.0	2250.9	2223.2	2233.6	2240.5
7.5°	2230.0	2223.2	2212.7	2209.3	2230.0	2198.9	2212.7	2216.1
10°	2205.9	2195.5	2188.4	2185.0	2202.3	2171.1	2185.0	2185.0
12.5°	2174.6	2167.7	2153.9	2153.9	2167.7	2140.0	2150.2	2150.2
15°	2133.0	2126.1	2112.3	2112.3	2126.1	2098.2	2108.6	2108.6
17.5°	2098.2	2091.4	2080.9	2077.5	2091.4	2063.6	2074.1	2070.5
20°	2070.5	2063.6	2049.8	2049.8	2060.2	2032.5	2042.7	2042.7
22.5°	2046.4	2042.7	2028.9	2028.9	2042.7	2015.0	2022.0	2015.0
25°	2008.2	2004.6	1990.7	1994.3	2001.1	1973.4	1983.9	1976.8
27.5°	1945.7	1945.7	1931.8	1928.4	1938.6	1914.5	1921.4	1918.0
30°	1848.6	1852.0	1834.8	1834.8	1838.2	1817.3	1827.7	1824.3
32.5°	1716.8	1720.2	1706.4	1703.0	1713.4	1695.9	1703.0	1703.0
35°	1571.1	1574.6	1564.1	1564.1	1574.6	1564.1	1564.1	1560.7
37.5°	1425.5	1432.3	1425.5	1428.9	1435.9	1425.5	1432.3	1428.9
40°	1307.5	1314.5	1304.1	1310.9	1318.0	1307.5	1318.0	1310.9
42.5°	1200.0	1210.5	1203.4	1210.5	1217.3	1210.5	1217.3	1207.0
45°	1120.2	1127.3	1123.6	1127.3	1134.1	1130.7	1134.1	1130.7
47.5°	1043.9	1057.7	1050.9	1057.7	1068.2	1061.4	1068.2	1057.7
50°	974.5	985.0	981.6	988.4	991.8	988.4	995.5	985.0
52.5°	884.3	894.8	891.4	891.4	898.2	891.4	898.2	891.4
55°	766.6	770.0	770.0	773.4	770.0	766.6	770.0	763.0
57.5°	652.0	658.9	648.6	658.9	655.5	652.0	652.0	645.0
60°	579.1	589.6	582.7	589.6	586.1	586.1	586.1	582.7
62.5°	520.2	527.3	520.2	523.6	523.6	523.6	520.2	516.8
65°	454.3	464.8	457.7	461.4	457.7	454.3	457.7	454.3
67.5°	388.4	391.8	391.8	388.4	388.4	388.4	388.4	381.6
70°	315.7	319.1	315.7	322.5	319.1	315.7	319.1	312.1
72.5°	246.1	249.8	246.1	249.8	246.1	246.1	246.1	246.1
75°	183.9	187.3	187.3	187.3	187.3	187.3	180.4	187.3
77.5°	131.8	131.8	131.8	135.2	131.8	131.8	131.8	131.8
80°	90.2	90.2	90.2	93.6	90.2	93.6	90.2	93.6
82.5°	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9
85°	31.1	34.8	34.8	31.1	31.1	31.1	31.1	31.1
87.5°	7.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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













(END OF REPORT)