

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: **LD4C45D010 EX4C459040 4LBSQLWWH**

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: LD4C45D010 EX4C459040 4LBSQLWWH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

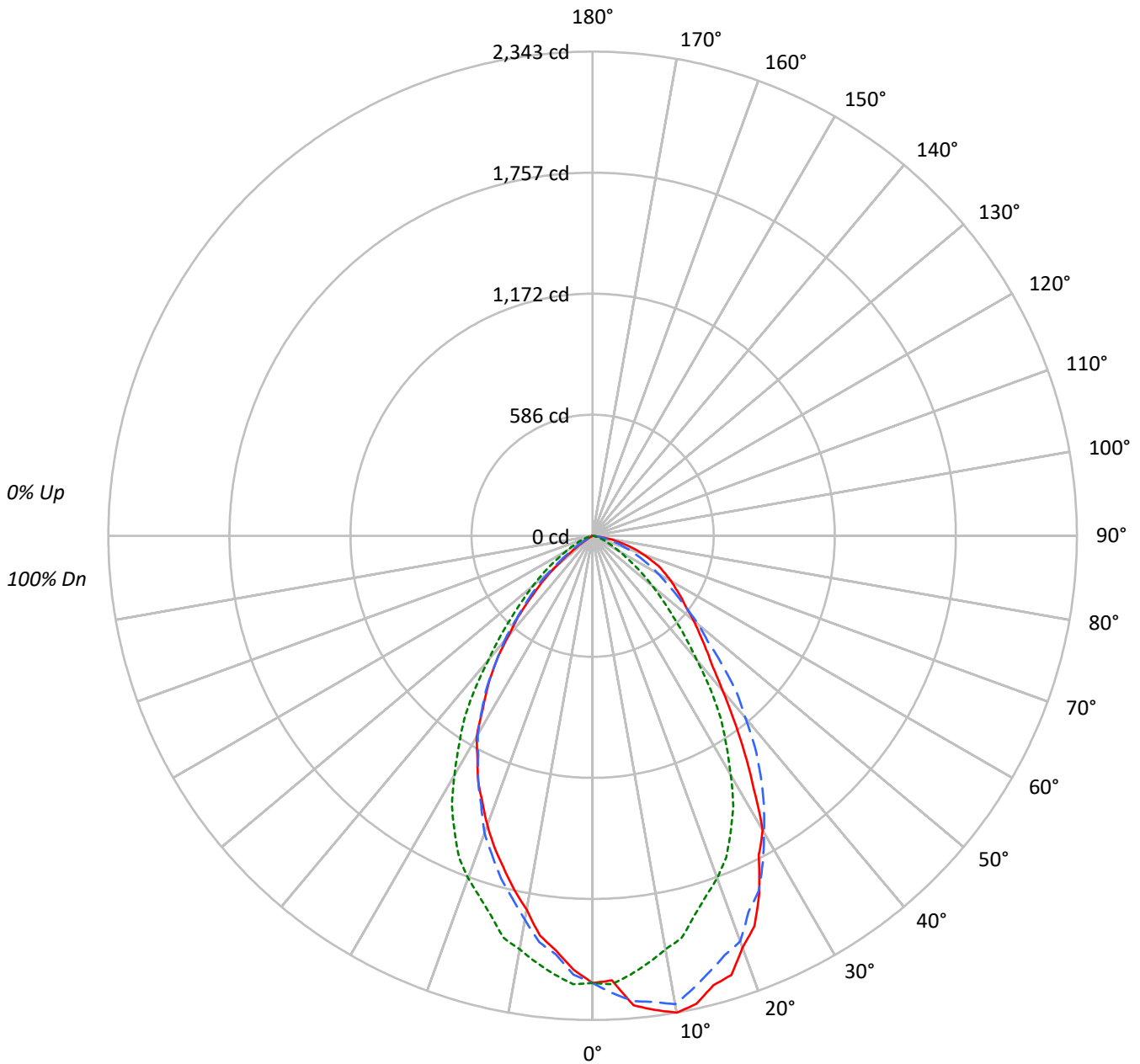
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3102.0 lumens
Efficiency: N/A
Efficacy: 62.5 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): 49.6
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

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Luminous Intensity Polar Plot





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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°	208802	208802	208802
5°	220913	206345	195284
10°	229581	199070	179994
15°	224988	189986	166151
20°	217684	180914	152934
25°	203048	168234	139510
30°	183301	148885	124897
35°	150985	127462	103621
40°	123224	98385	79744
45°	105876	74710	57366
50°	95815	56877	36222
55°	88183	41030	13105
60°	84640	28040	2007
65°	81736	18973	594
70°	73181	13175	733
75°	59984	6785	0
80°	37507	2889	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.8	6.5
10°-20°	546.3	17.6
20°-30°	729.4	23.5
30°-40°	692.4	22.3
40°-50°	478.6	15.4
50°-60°	264.5	8.5
60°-70°	131.3	4.2
70°-80°	51.7	1.7
80°-90°	4.9	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°	1478.4	47.7
0°-40°	2170.9	70.0
0°-60°	2914.0	93.9
0°-90°	3102.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3102.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2164	2164	2164	2164	2164	
5°	2281	2260	2130	2034	2016	218
15°	2252	2185	1902	1715	1663	637
25°	1907	1899	1580	1310	1310	869
35°	1282	1417	1082	890	880	803
45°	776	890	548	449	420	605
55°	524	493	244	124	78	472
65°	358	259	83	3	3	348
75°	161	99	18	0	0	172
85°	0	3	0	0	0	15
90°	0	0	0	0	0	



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0
2.5°	2153.7	2213.3	2218.5	2213.3	2221.2	2218.5	2231.5	2218.5	2234.2	2210.8	2216.0
5°	2280.8	2257.5	2306.8	2280.8	2280.8	2278.3	2270.5	2267.8	2278.3	2244.5	2260.1
7.5°	2314.6	2348.3	2392.5	2338.0	2340.5	2340.5	2325.0	2319.8	2319.8	2257.5	2275.6
10°	2343.2	2322.3	2345.7	2325.0	2343.2	2340.5	2350.9	2317.1	2340.5	2304.2	2301.6
12.5°	2319.8	2311.9	2343.2	2309.4	2299.0	2301.6	2288.7	2280.8	2288.7	2247.1	2244.5
15°	2252.3	2260.1	2306.8	2270.5	2265.3	2260.1	2244.5	2218.5	2239.4	2182.2	2184.9
17.5°	2229.0	2216.0	2223.8	2192.6	2200.4	2195.2	2192.6	2169.3	2164.0	2127.7	2127.7
20°	2120.0	2148.5	2148.5	2127.7	2127.7	2125.2	2091.4	2112.2	2088.8	2078.4	2088.8
22.5°	2044.7	2047.3	2047.3	2029.1	2031.8	2021.4	2003.2	1990.2	2003.2	1990.2	1969.4
25°	1907.2	1912.4	1943.5	1909.8	1904.6	1915.0	1899.4	1891.6	1889.0	1857.9	1899.4
27.5°	1741.1	1793.0	1790.4	1777.4	1793.0	1772.2	1764.5	1767.0	1774.9	1772.2	1782.6
30°	1645.2	1652.9	1660.7	1650.3	1652.9	1645.2	1645.2	1647.7	1668.4	1660.7	1658.1
32.5°	1450.5	1476.4	1497.2	1497.2	1499.8	1507.6	1505.0	1559.5	1572.5	1546.5	1541.4
35°	1281.8	1300.0	1318.1	1320.8	1354.5	1357.1	1359.7	1375.2	1411.5	1419.4	1416.7
37.5°	1121.0	1139.1	1144.3	1167.7	1185.9	1204.0	1224.8	1245.5	1276.6	1302.6	1289.7
40°	978.3	986.0	999.0	1009.4	1045.7	1045.7	1056.0	1097.6	1131.4	1152.1	1149.5
42.5°	858.9	861.5	871.8	890.0	923.8	916.0	923.8	952.3	1001.5	1004.2	1032.8
45°	775.9	773.2	781.1	783.6	804.4	814.8	820.0	840.7	882.2	887.4	890.0
47.5°	700.6	698.0	711.0	716.2	723.9	734.3	734.3	736.9	752.5	765.5	755.1
50°	638.3	638.3	638.3	643.5	656.5	653.9	656.5	666.9	674.6	669.4	666.9
52.5°	570.8	581.2	589.0	591.7	594.2	594.2	596.8	591.7	589.0	581.2	565.6
55°	524.2	534.5	534.5	534.5	534.5	544.9	532.0	534.5	534.5	513.8	493.0
57.5°	477.5	487.9	495.6	485.2	495.6	485.2	480.0	477.5	472.2	451.5	420.4
60°	438.6	443.7	441.1	438.6	443.7	435.9	430.7	420.4	415.2	386.6	365.9
62.5°	394.4	397.0	399.6	394.4	389.3	386.6	376.2	360.7	350.3	326.9	308.7
65°	358.0	350.3	347.7	345.1	339.9	332.1	324.4	306.2	298.4	277.6	259.4
67.5°	303.6	301.0	306.2	298.4	285.5	285.5	277.6	262.1	243.9	231.0	212.8
70°	259.4	256.9	251.7	243.9	241.3	231.0	231.0	212.8	207.6	184.2	168.7
72.5°	212.8	212.8	204.9	197.2	189.4	184.2	181.7	168.7	160.9	147.9	134.9
75°	160.9	160.9	158.3	150.5	145.3	140.1	137.5	127.2	119.3	106.4	98.6
77.5°	114.2	114.2	103.8	98.6	101.2	96.0	90.8	88.2	85.6	77.9	67.5
80°	67.5	64.9	57.1	59.7	57.1	57.1	54.5	51.8	46.7	41.5	36.3
82.5°	18.2	20.7	20.7	20.7	23.4	18.2	18.2	18.2	20.7	20.7	13.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6
87.5°	2.6	5.2	10.4	10.4	10.4	10.4	10.4	7.8	7.8	7.8	5.2
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°	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0
2.5°	2190.1	2187.4	2190.1	2171.9	2213.3	2182.2	2177.0	2171.9	2190.1	2171.9	2145.9
5°	2236.7	2210.8	2203.0	2195.2	2218.5	2182.2	2174.5	2177.0	2164.0	2130.4	2132.9
7.5°	2252.3	2229.0	2205.6	2156.3	2177.0	2169.3	2148.5	2132.9	2112.2	2083.6	2078.4
10°	2257.5	2231.5	2197.8	2182.2	2151.1	2140.7	2132.9	2107.0	2081.1	2031.8	2018.8
12.5°	2241.9	2210.8	2169.3	2156.3	2132.9	2099.2	2081.1	2055.0	2031.8	1992.8	1964.3
15°	2174.5	2148.5	2135.6	2091.4	2081.1	2060.2	2023.9	1987.6	1953.9	1901.9	1886.4
17.5°	2096.6	2086.3	2073.2	2039.5	2037.0	2016.2	1982.5	1951.3	1907.2	1826.7	1800.8
20°	2016.2	2016.2	1974.6	1961.7	1987.6	1946.1	1920.1	1891.6	1800.8	1761.9	1715.2
22.5°	1956.5	1928.0	1904.6	1883.9	1886.4	1860.5	1824.2	1767.0	1733.3	1686.6	1632.1
25°	1839.7	1850.1	1798.3	1790.4	1798.3	1738.5	1720.4	1673.6	1624.3	1580.2	1538.7
27.5°	1767.0	1738.5	1704.8	1676.3	1676.3	1652.9	1601.0	1590.7	1515.3	1473.9	1421.9
30°	1658.1	1637.3	1608.8	1567.3	1562.1	1543.9	1502.4	1476.4	1398.6	1336.3	1307.7
32.5°	1520.5	1512.8	1489.4	1442.8	1427.2	1406.4	1354.5	1310.4	1274.1	1204.0	1170.3
35°	1421.9	1393.4	1344.1	1305.2	1292.2	1255.9	1214.3	1183.2	1144.3	1082.1	1037.9
37.5°	1274.1	1245.5	1198.8	1152.1	1152.1	1115.8	1058.7	1027.6	973.1	936.7	900.4
40°	1144.3	1108.0	1061.3	1006.8	999.0	947.1	923.8	871.8	838.1	781.1	775.9
42.5°	999.0	965.3	923.8	882.2	851.1	825.2	765.5	726.6	690.3	661.7	653.9
45°	866.6	822.5	786.2	734.3	703.2	672.1	633.1	607.2	578.6	547.5	529.3
47.5°	752.5	716.2	664.2	617.6	586.5	570.8	526.7	498.2	474.9	454.1	441.1
50°	635.8	591.7	563.1	511.1	506.0	469.7	433.4	410.0	397.0	378.9	360.7
52.5°	547.5	506.0	467.0	428.2	407.3	394.4	360.7	337.3	319.2	306.2	295.8
55°	461.8	425.5	394.4	355.5	342.5	324.4	285.5	280.3	262.1	243.9	231.0
57.5°	397.0	363.2	326.9	301.0	277.6	264.7	233.5	212.8	202.4	186.9	173.8
60°	337.3	301.0	272.4	241.3	231.0	212.8	189.4	171.3	158.3	145.3	132.4
62.5°	282.8	251.7	220.6	194.6	179.0	168.7	150.5	134.9	122.0	111.6	101.2
65°	233.5	204.9	179.0	153.1	145.3	132.4	119.3	106.4	96.0	83.1	72.7
67.5°	192.0	166.1	140.1	122.0	114.2	109.0	93.4	80.4	72.7	64.9	54.5
70°	150.5	132.4	111.6	96.0	88.2	80.4	70.0	62.3	51.8	46.7	38.9
72.5°	116.8	101.2	83.1	70.0	64.9	59.7	49.3	41.5	36.3	31.1	25.9
75°	83.1	70.0	59.7	46.7	44.1	41.5	33.8	28.6	23.4	18.2	15.6
77.5°	57.1	46.7	36.3	31.1	28.6	23.4	20.7	15.6	13.0	10.4	7.8
80°	31.1	23.4	18.2	15.6	13.0	10.4	10.4	7.8	5.2	5.2	2.6
82.5°	10.4	7.8	5.2	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6
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°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	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°	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0
2.5°	2161.5	2132.9	2140.7	2140.7	2135.6	2135.6	2130.4	2122.5	2125.2	2109.5	2075.9
5°	2138.1	2101.8	2096.6	2101.8	2081.1	2075.9	2065.5	2081.1	2034.3	2052.5	2031.8
7.5°	2070.7	2037.0	2029.1	2047.3	2021.4	2005.7	2003.2	2023.9	1982.5	1961.7	1938.3
10°	1995.4	1982.5	1959.1	1946.1	1938.3	1940.9	1920.1	1894.2	1886.4	1881.2	1860.5
12.5°	1928.0	1899.4	1878.7	1863.1	1857.9	1857.9	1824.2	1819.0	1795.6	1790.4	1759.3
15°	1847.5	1813.8	1800.8	1780.1	1761.9	1772.2	1733.3	1722.9	1715.2	1681.4	1686.6
17.5°	1777.4	1741.1	1710.0	1697.0	1681.4	1665.9	1629.5	1637.3	1619.1	1619.1	1572.5
20°	1686.6	1647.7	1624.3	1598.4	1598.4	1577.7	1551.7	1554.3	1530.9	1507.6	1466.0
22.5°	1590.7	1549.1	1520.5	1510.2	1484.2	1479.0	1447.9	1440.1	1409.0	1411.5	1375.2
25°	1489.4	1447.9	1409.0	1411.5	1388.3	1377.9	1359.7	1323.4	1310.4	1294.8	1284.5
27.5°	1370.1	1341.5	1307.7	1305.2	1261.1	1263.6	1240.3	1230.0	1198.8	1206.6	1183.2
30°	1261.1	1219.6	1188.4	1180.7	1162.5	1157.3	1121.0	1105.3	1110.6	1089.8	1076.9
32.5°	1149.5	1087.2	1074.2	1058.7	1048.3	1035.3	1009.4	1019.7	996.4	1001.5	980.8
35°	1001.5	975.6	941.9	941.9	931.5	921.1	903.0	913.4	890.0	879.7	858.9
37.5°	877.0	853.7	820.0	830.4	812.2	796.6	781.1	783.6	762.9	760.3	739.5
40°	742.1	729.1	705.8	705.8	692.8	692.8	685.0	677.3	664.2	648.7	625.3
42.5°	614.9	604.6	594.2	596.8	578.6	594.2	573.5	586.5	544.9	542.4	526.7
45°	521.5	498.2	500.8	490.4	480.0	485.2	467.0	472.2	448.9	443.7	428.2
47.5°	423.0	415.2	399.6	394.4	394.4	386.6	378.9	376.2	365.9	352.9	332.1
50°	347.7	319.2	313.9	306.2	301.0	301.0	290.6	275.1	277.6	264.7	243.9
52.5°	272.4	249.1	238.7	236.2	225.8	220.6	207.6	197.2	189.4	184.2	171.3
55°	210.1	189.4	176.5	176.5	160.9	160.9	142.7	134.9	124.5	114.2	106.4
57.5°	158.3	147.9	134.9	124.5	119.3	106.4	96.0	83.1	75.2	59.7	49.3
60°	119.3	109.0	96.0	88.2	83.1	70.0	57.1	46.7	28.6	23.4	20.7
62.5°	88.2	77.9	64.9	59.7	54.5	44.1	31.1	15.6	7.8	7.8	7.8
65°	64.9	51.8	41.5	36.3	31.1	23.4	10.4	5.2	2.6	2.6	2.6
67.5°	44.1	33.8	23.4	20.7	15.6	7.8	2.6	2.6	2.6	2.6	2.6
70°	28.6	20.7	10.4	7.8	5.2	2.6	2.6	2.6	2.6	2.6	2.6
72.5°	18.2	10.4	5.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.4	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.6	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	2.6	2.6	2.6
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: LD4C45D010 EX4C459040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0	2164.0
2.5°	2112.2	2094.0	2104.4	2081.1	2091.4	2109.5	2096.6	2101.8
5°	2039.5	2029.1	2016.2	1982.5	2008.4	2029.1	2018.8	2016.2
7.5°	1961.7	1925.3	1943.5	1933.2	1928.0	1948.7	1925.3	1951.3
10°	1881.2	1855.3	1852.7	1834.5	1834.5	1850.1	1852.7	1837.1
12.5°	1761.9	1749.0	1749.0	1746.3	1743.7	1759.3	1761.9	1754.1
15°	1676.3	1671.1	1658.1	1655.5	1640.0	1663.3	1665.9	1663.3
17.5°	1572.5	1575.0	1562.1	1562.1	1572.5	1580.2	1559.5	1580.2
20°	1502.4	1489.4	1484.2	1460.8	1473.9	1486.9	1486.9	1489.4
22.5°	1401.2	1380.4	1388.3	1375.2	1367.4	1385.6	1385.6	1393.4
25°	1287.0	1287.0	1292.2	1284.5	1289.7	1300.0	1292.2	1310.4
27.5°	1178.0	1188.4	1188.4	1178.0	1183.2	1214.3	1227.3	1206.6
30°	1076.9	1079.4	1087.2	1082.1	1097.6	1108.0	1105.3	1121.0
32.5°	962.7	975.6	980.8	973.1	978.3	1001.5	988.6	986.0
35°	874.5	851.1	848.6	851.1	861.5	866.6	861.5	879.7
37.5°	747.3	739.5	729.1	731.7	739.5	749.9	755.1	768.0
40°	625.3	614.9	614.9	612.4	604.6	633.1	633.1	633.1
42.5°	519.0	516.3	503.4	503.4	513.8	521.5	516.3	534.5
45°	425.5	415.2	407.3	407.3	415.2	415.2	423.0	420.4
47.5°	334.8	324.4	326.9	319.2	326.9	337.3	324.4	326.9
50°	251.7	251.7	246.5	251.7	249.1	251.7	246.5	241.3
52.5°	171.3	194.6	197.2	186.9	163.5	142.7	129.7	140.1
55°	98.6	88.2	88.2	85.6	80.4	77.9	70.0	77.9
57.5°	49.3	44.1	44.1	44.1	41.5	38.9	33.8	33.8
60°	20.7	18.2	18.2	15.6	13.0	10.4	7.8	10.4
62.5°	7.8	5.2	5.2	5.2	5.2	5.2	5.2	5.2
65°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
67.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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)