

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 EX4C459027 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 EX4C459027 4LBSQLWWH
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

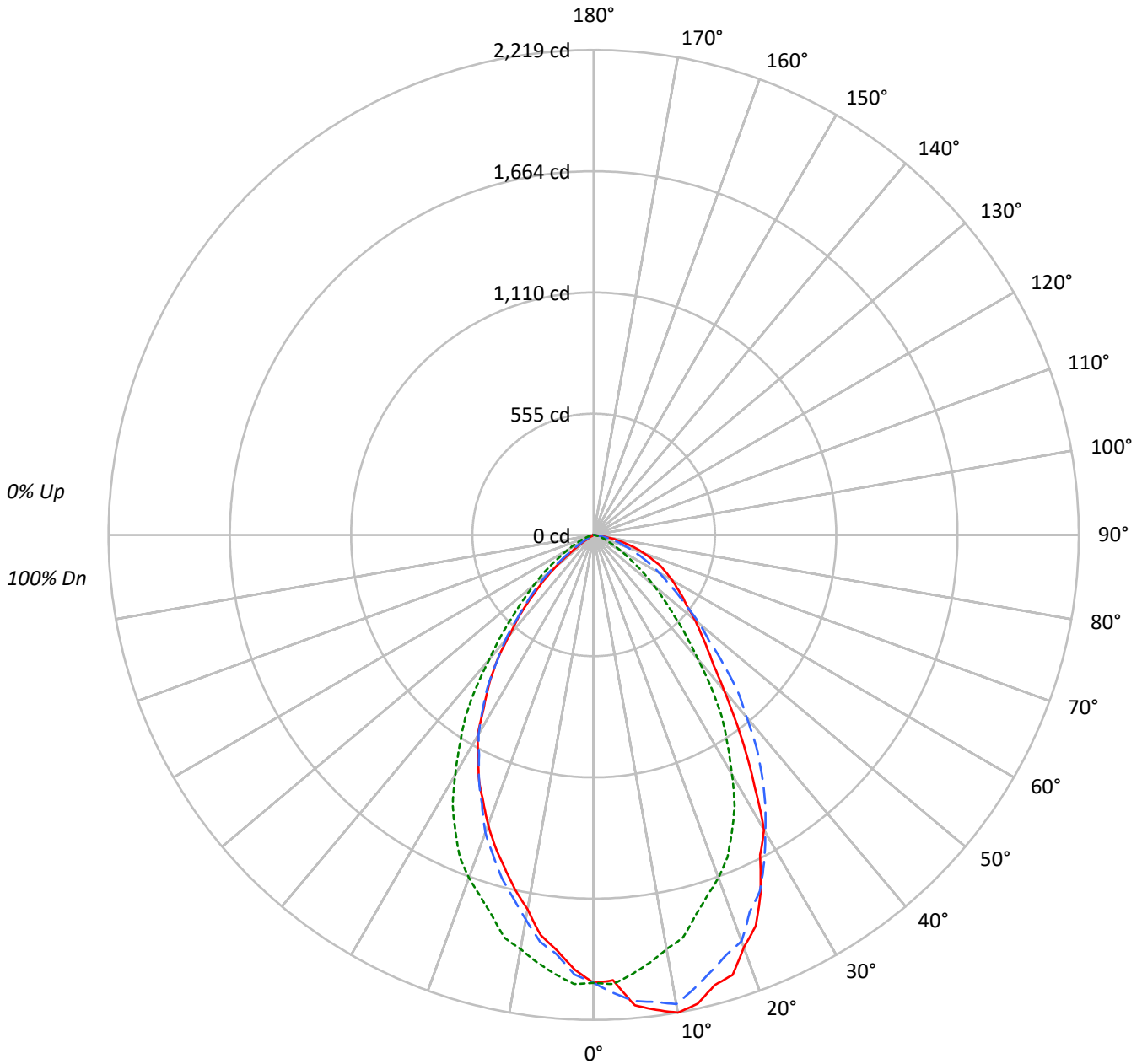
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2938.0 lumens
Efficiency: N/A
Efficacy: 59.2 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): 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°	197764	197764	197764
5°	209231	195429	184959
10°	217441	188538	170481
15°	213091	179947	157361
20°	206174	171344	144853
25°	192316	159344	132132
30°	173608	141019	118290
35°	143010	120724	98144
40°	116699	93183	75537
45°	100268	70766	54323
50°	90757	53875	34315
55°	83506	38860	12415
60°	80163	26554	1891
65°	77421	17968	571
70°	69316	12469	705
75°	56815	6412	0
80°	35507	2723	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.0	6.5
10°-20°	517.4	17.6
20°-30°	690.9	23.5
30°-40°	655.8	22.3
40°-50°	453.3	15.4
50°-60°	250.5	8.5
60°-70°	124.4	4.2
70°-80°	49.0	1.7
80°-90°	4.7	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°	1400.3	47.7
0°-40°	2056.1	70.0
0°-60°	2759.9	93.9
0°-90°	2938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2938.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2050	2050	2050	2050	2050	
5°	2160	2141	2018	1927	1910	207
15°	2133	2069	1801	1624	1575	603
25°	1806	1799	1497	1241	1241	824
35°	1214	1342	1025	843	833	761
45°	735	843	519	425	398	573
55°	496	467	231	118	74	447
65°	339	246	79	2	2	329
75°	152	93	17	0	0	162
85°	0	2	0	0	0	14
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°	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6
2.5°	2039.8	2096.3	2101.2	2096.3	2103.7	2101.2	2113.5	2101.2	2116.1	2093.9	2098.8
5°	2160.2	2138.1	2184.8	2160.2	2160.2	2157.8	2150.4	2147.9	2157.8	2125.9	2140.6
7.5°	2192.2	2224.2	2266.0	2214.4	2216.8	2216.8	2202.0	2197.1	2197.1	2138.1	2155.3
10°	2219.3	2199.5	2221.7	2202.0	2219.3	2216.8	2226.6	2194.6	2216.8	2182.4	2179.9
12.5°	2197.1	2189.7	2219.3	2187.3	2177.5	2179.9	2167.7	2160.2	2167.7	2128.3	2125.9
15°	2133.2	2140.6	2184.8	2150.4	2145.5	2140.6	2125.9	2101.2	2121.0	2066.9	2069.4
17.5°	2111.1	2098.8	2106.2	2076.7	2084.1	2079.2	2076.7	2054.6	2049.6	2015.2	2015.2
20°	2007.9	2034.9	2034.9	2015.2	2015.2	2012.8	1980.9	2000.5	1978.4	1968.5	1978.4
22.5°	1936.6	1939.1	1939.1	1921.8	1924.3	1914.5	1897.3	1885.0	1897.3	1885.0	1865.3
25°	1806.4	1811.3	1840.8	1808.8	1803.9	1813.7	1799.0	1791.6	1789.2	1759.7	1799.0
27.5°	1649.1	1698.2	1695.8	1683.4	1698.2	1678.5	1671.2	1673.6	1681.0	1678.5	1688.4
30°	1558.2	1565.5	1572.9	1563.1	1565.5	1558.2	1558.2	1560.6	1580.2	1572.9	1570.4
32.5°	1373.8	1398.3	1418.1	1418.1	1420.5	1427.9	1425.4	1477.0	1489.3	1464.8	1459.9
35°	1214.1	1231.3	1248.4	1250.9	1282.9	1285.3	1287.8	1302.5	1336.9	1344.3	1341.8
37.5°	1061.7	1078.9	1083.8	1105.9	1123.2	1140.3	1160.0	1179.7	1209.1	1233.7	1221.5
40°	926.5	933.9	946.2	956.0	990.4	990.4	1000.2	1039.6	1071.6	1091.2	1088.7
42.5°	813.5	815.9	825.7	843.0	874.9	867.5	874.9	902.0	948.6	951.1	978.2
45°	734.8	732.3	739.8	742.2	761.9	771.7	776.6	796.3	835.6	840.5	843.0
47.5°	663.6	661.1	673.4	678.3	685.6	695.5	695.5	698.0	712.7	725.0	715.2
50°	604.6	604.6	604.6	609.5	621.8	619.3	621.8	631.6	638.9	634.0	631.6
52.5°	540.6	550.5	557.9	560.4	562.8	562.8	565.3	560.4	557.9	550.5	535.7
55°	496.4	506.3	506.3	506.3	506.3	516.1	503.9	506.3	506.3	486.6	467.0
57.5°	452.3	462.1	469.4	459.6	469.4	459.6	454.7	452.3	447.2	427.6	398.1
60°	415.4	420.3	417.8	415.4	420.3	412.9	408.0	398.1	393.2	366.2	346.5
62.5°	373.6	376.0	378.5	373.6	368.7	366.2	356.4	341.6	331.8	309.7	292.4
65°	339.1	331.8	329.3	326.9	322.0	314.6	307.2	290.0	282.6	263.0	245.7
67.5°	287.5	285.1	290.0	282.6	270.4	270.4	263.0	248.2	231.0	218.8	201.5
70°	245.7	243.3	238.4	231.0	228.6	218.8	218.8	201.5	196.6	174.5	159.7
72.5°	201.5	201.5	194.1	186.8	179.4	174.5	172.1	159.7	152.4	140.1	127.8
75°	152.4	152.4	149.9	142.5	137.6	132.7	130.3	120.5	113.0	100.8	93.4
77.5°	108.1	108.1	98.3	93.4	95.8	90.9	86.0	83.6	81.1	73.8	63.9
80°	63.9	61.4	54.1	56.5	54.1	54.1	51.6	49.1	44.2	39.3	34.4
82.5°	17.2	19.6	19.6	19.6	22.1	17.2	17.2	17.2	19.6	19.6	12.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5
87.5°	2.5	4.9	9.8	9.8	9.8	9.8	9.8	7.4	7.4	7.4	4.9
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°	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6
2.5°	2074.3	2071.8	2074.3	2057.0	2096.3	2066.9	2061.9	2057.0	2074.3	2057.0	2032.5
5°	2118.5	2093.9	2086.5	2079.2	2101.2	2066.9	2059.5	2061.9	2049.6	2017.7	2020.2
7.5°	2133.2	2111.1	2089.0	2042.3	2061.9	2054.6	2034.9	2020.2	2000.5	1973.5	1968.5
10°	2138.1	2113.5	2081.6	2066.9	2037.4	2027.6	2020.2	1995.6	1971.0	1924.3	1912.0
12.5°	2123.4	2093.9	2054.6	2042.3	2020.2	1988.2	1971.0	1946.4	1924.3	1887.5	1860.4
15°	2059.5	2034.9	2022.7	1980.9	1971.0	1951.3	1916.9	1882.6	1850.6	1801.4	1786.7
17.5°	1985.8	1976.0	1963.6	1931.7	1929.3	1909.6	1877.7	1848.1	1806.4	1730.1	1705.6
20°	1909.6	1909.6	1870.2	1858.0	1882.6	1843.2	1818.6	1791.6	1705.6	1668.7	1624.5
22.5°	1853.1	1826.0	1803.9	1784.3	1786.7	1762.1	1727.7	1673.6	1641.7	1597.5	1545.9
25°	1742.5	1752.3	1703.2	1695.8	1703.2	1646.6	1629.4	1585.1	1538.4	1496.7	1457.4
27.5°	1673.6	1646.6	1614.7	1587.6	1587.6	1565.5	1516.4	1506.6	1435.2	1395.9	1346.7
30°	1570.4	1550.8	1523.7	1484.4	1479.5	1462.3	1423.0	1398.3	1324.7	1265.7	1238.6
32.5°	1440.1	1432.8	1410.7	1366.5	1351.7	1332.0	1282.9	1241.1	1206.7	1140.3	1108.4
35°	1346.7	1319.8	1273.1	1236.2	1223.9	1189.5	1150.1	1120.7	1083.8	1024.9	983.1
37.5°	1206.7	1179.7	1135.4	1091.2	1091.2	1056.8	1002.7	973.2	921.6	887.2	852.8
40°	1083.8	1049.4	1005.2	953.6	946.2	897.0	874.9	825.7	793.8	739.8	734.8
42.5°	946.2	914.2	874.9	835.6	806.1	781.5	725.0	688.1	653.8	626.7	619.3
45°	820.8	779.0	744.7	695.5	666.0	636.5	599.7	575.1	548.1	518.6	501.4
47.5°	712.7	678.3	629.1	584.9	555.5	540.6	498.9	471.9	449.7	430.1	417.8
50°	602.2	560.4	533.3	484.1	479.2	444.8	410.5	388.3	376.0	358.9	341.6
52.5°	518.6	479.2	442.3	405.6	385.8	373.6	341.6	319.5	302.3	290.0	280.2
55°	437.4	403.0	373.6	336.7	324.4	307.2	270.4	265.5	248.2	231.0	218.8
57.5°	376.0	344.0	309.7	285.1	263.0	250.7	221.2	201.5	191.7	177.0	164.6
60°	319.5	285.1	258.0	228.6	218.8	201.5	179.4	162.2	149.9	137.6	125.4
62.5°	267.9	238.4	208.9	184.3	169.6	159.7	142.5	127.8	115.5	105.7	95.8
65°	221.2	194.1	169.6	145.0	137.6	125.4	113.0	100.8	90.9	78.7	68.8
67.5°	181.9	157.3	132.7	115.5	108.1	103.2	88.5	76.2	68.8	61.4	51.6
70°	142.5	125.4	105.7	90.9	83.6	76.2	66.3	59.0	49.1	44.2	36.9
72.5°	110.6	95.8	78.7	66.3	61.4	56.5	46.7	39.3	34.4	29.5	24.6
75°	78.7	66.3	56.5	44.2	41.8	39.3	32.0	27.1	22.1	17.2	14.7
77.5°	54.1	44.2	34.4	29.5	27.1	22.1	19.6	14.7	12.3	9.8	7.4
80°	29.5	22.1	17.2	14.7	12.3	9.8	9.8	7.4	4.9	4.9	2.5
82.5°	9.8	7.4	4.9	2.5	2.5	2.5	2.5	2.5	2.5	0.0	2.5
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°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	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°	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6
2.5°	2047.2	2020.2	2027.6	2027.6	2022.7	2022.7	2017.7	2010.3	2012.8	1998.0	1966.1
5°	2025.1	1990.7	1985.8	1990.7	1971.0	1966.1	1956.3	1971.0	1926.8	1944.0	1924.3
7.5°	1961.2	1929.3	1921.8	1939.1	1914.5	1899.7	1897.3	1916.9	1877.7	1858.0	1835.9
10°	1889.9	1877.7	1855.5	1843.2	1835.9	1838.3	1818.6	1794.1	1786.7	1781.8	1762.1
12.5°	1826.0	1799.0	1779.3	1764.6	1759.7	1759.7	1727.7	1722.8	1700.7	1695.8	1666.3
15°	1749.8	1717.9	1705.6	1685.9	1668.7	1678.5	1641.7	1631.8	1624.5	1592.6	1597.5
17.5°	1683.4	1649.1	1619.6	1607.3	1592.6	1577.8	1543.4	1550.8	1533.5	1533.5	1489.3
20°	1597.5	1560.6	1538.4	1513.9	1513.9	1494.2	1469.7	1472.1	1450.0	1427.9	1388.5
22.5°	1506.6	1467.2	1440.1	1430.3	1405.8	1400.8	1371.4	1364.0	1334.5	1336.9	1302.5
25°	1410.7	1371.4	1334.5	1336.9	1314.9	1305.0	1287.8	1253.4	1241.1	1226.4	1216.6
27.5°	1297.6	1270.6	1238.6	1236.2	1194.4	1196.8	1174.8	1165.0	1135.4	1142.8	1120.7
30°	1194.4	1155.1	1125.6	1118.3	1101.0	1096.1	1061.7	1046.9	1051.9	1032.2	1019.9
32.5°	1088.7	1029.8	1017.4	1002.7	992.9	980.6	956.0	965.8	943.7	948.6	929.0
35°	948.6	924.0	892.1	892.1	882.3	872.4	855.3	865.1	843.0	833.2	813.5
37.5°	830.6	808.6	776.6	786.5	769.2	754.5	739.8	742.2	722.5	720.1	700.4
40°	702.9	690.6	668.5	668.5	656.2	656.2	648.8	641.4	629.1	614.4	592.2
42.5°	582.4	572.6	562.8	565.3	548.1	562.8	543.1	555.5	516.1	513.7	498.9
45°	493.9	471.9	474.3	464.5	454.7	459.6	442.3	447.2	425.2	420.3	405.6
47.5°	400.6	393.2	378.5	373.6	373.6	366.2	358.9	356.4	346.5	334.2	314.6
50°	329.3	302.3	297.3	290.0	285.1	285.1	275.3	260.5	263.0	250.7	231.0
52.5°	258.0	235.9	226.1	223.7	213.8	208.9	196.6	186.8	179.4	174.5	162.2
55°	199.0	179.4	167.2	167.2	152.4	152.4	135.2	127.8	117.9	108.1	100.8
57.5°	149.9	140.1	127.8	117.9	113.0	100.8	90.9	78.7	71.3	56.5	46.7
60°	113.0	103.2	90.9	83.6	78.7	66.3	54.1	44.2	27.1	22.1	19.6
62.5°	83.6	73.8	61.4	56.5	51.6	41.8	29.5	14.7	7.4	7.4	7.4
65°	61.4	49.1	39.3	34.4	29.5	22.1	9.8	4.9	2.5	2.5	2.5
67.5°	41.8	32.0	22.1	19.6	14.7	7.4	2.5	2.5	2.5	2.5	2.5
70°	27.1	19.6	9.8	7.4	4.9	2.5	2.5	2.5	2.5	2.5	2.5
72.5°	17.2	9.8	4.9	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	9.8	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	4.9	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.5	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	2.5	2.5	2.5
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 EX4C459027 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6	2049.6
2.5°	2000.5	1983.3	1993.1	1971.0	1980.9	1998.0	1985.8	1990.7
5°	1931.7	1921.8	1909.6	1877.7	1902.2	1921.8	1912.0	1909.6
7.5°	1858.0	1823.5	1840.8	1831.0	1826.0	1845.7	1823.5	1848.1
10°	1781.8	1757.2	1754.8	1737.6	1737.6	1752.3	1754.8	1740.0
12.5°	1668.7	1656.5	1656.5	1654.0	1651.5	1666.3	1668.7	1661.4
15°	1587.6	1582.7	1570.4	1568.0	1553.3	1575.3	1577.8	1575.3
17.5°	1489.3	1491.7	1479.5	1479.5	1489.3	1496.7	1477.0	1496.7
20°	1423.0	1410.7	1405.8	1383.6	1395.9	1408.3	1408.3	1410.7
22.5°	1327.1	1307.5	1314.9	1302.5	1295.1	1312.4	1312.4	1319.8
25°	1219.0	1219.0	1223.9	1216.6	1221.5	1231.3	1223.9	1241.1
27.5°	1115.7	1125.6	1125.6	1115.7	1120.7	1150.1	1162.4	1142.8
30°	1019.9	1022.4	1029.8	1024.9	1039.6	1049.4	1046.9	1061.7
32.5°	911.8	924.0	929.0	921.6	926.5	948.6	936.4	933.9
35°	828.2	806.1	803.7	806.1	815.9	820.8	815.9	833.2
37.5°	707.8	700.4	690.6	693.1	700.4	710.3	715.2	727.4
40°	592.2	582.4	582.4	580.0	572.6	599.7	599.7	599.7
42.5°	491.5	489.0	476.8	476.8	486.6	493.9	489.0	506.3
45°	403.0	393.2	385.8	385.8	393.2	393.2	400.6	398.1
47.5°	317.1	307.2	309.7	302.3	309.7	319.5	307.2	309.7
50°	238.4	238.4	233.5	238.4	235.9	238.4	233.5	228.6
52.5°	162.2	184.3	186.8	177.0	154.8	135.2	122.9	132.7
55°	93.4	83.6	83.6	81.1	76.2	73.8	66.3	73.8
57.5°	46.7	41.8	41.8	41.8	39.3	36.9	32.0	32.0
60°	19.6	17.2	17.2	14.7	12.3	9.8	7.4	9.8
62.5°	7.4	4.9	4.9	4.9	4.9	4.9	4.9	4.9
65°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
67.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
70°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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)