

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251725

Luminaire Tested: **LD4B50D010TE EU4B30508027 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251725  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B50D010TE EU4B30508027 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4024.0 lumens  
Efficiency: N/A  
Efficacy: 68.5 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

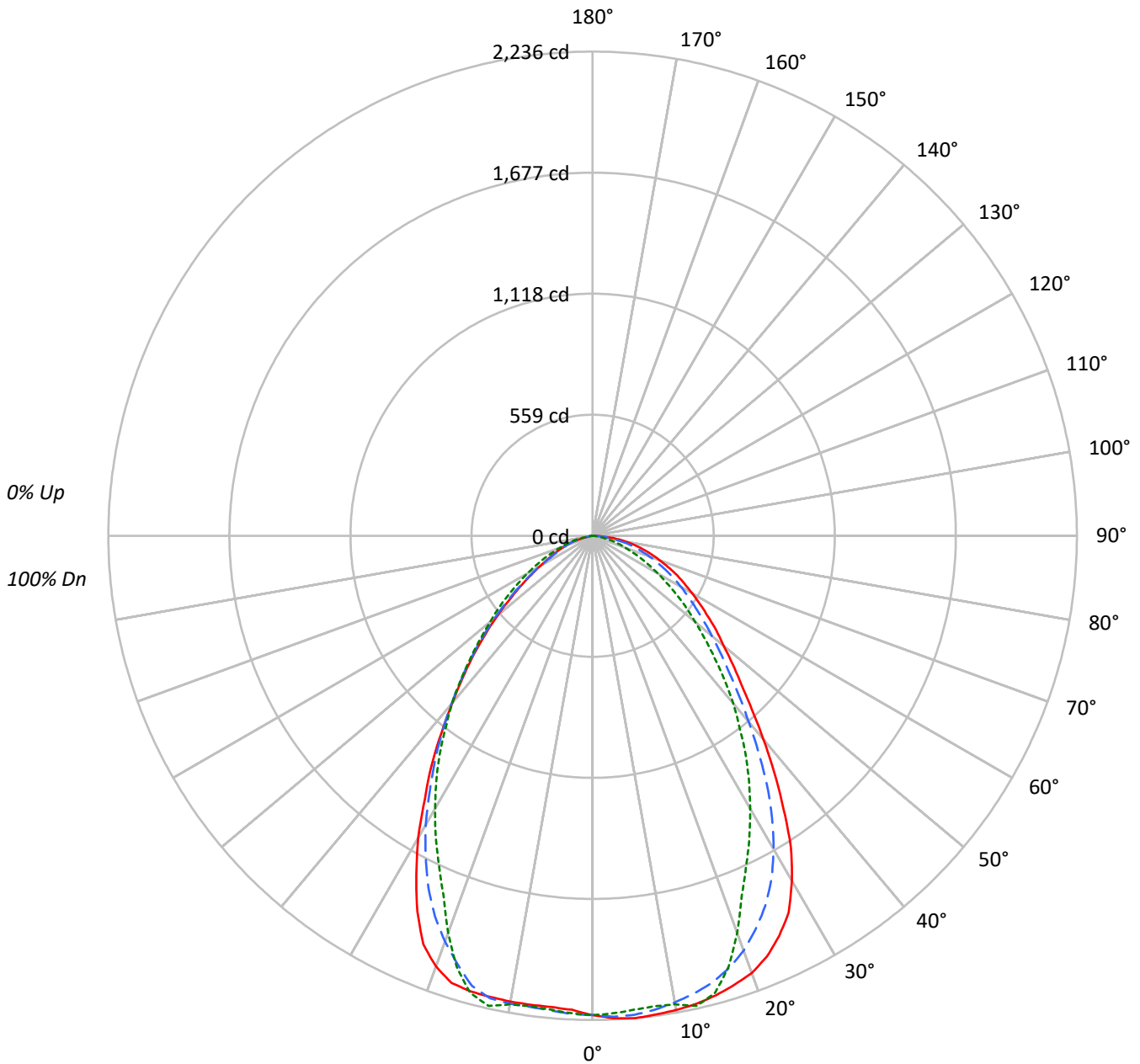
Input Watts (W): 58.77  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	102	99	101	98	96	97	95	93	93	91	90	88				88				
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77				
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67				
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60				
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53				
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48				
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36				
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	215753	215753	215753
5°	218798	214982	213710
10°	220041	217468	216181
15°	221719	220407	219762
20°	222858	202323	219498
25°	219206	180462	205937
30°	207120	163648	181181
35°	182673	146362	154476
40°	156102	128431	128024
45°	133761	109613	106926
50°	119596	93503	87104
55°	110308	79978	68934
60°	103130	67694	54421
65°	98814	56129	44922
70°	93406	45335	37927
75°	90447	36676	26886
80°	87441	20036	7296
85°	76262	10847	3578



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.3	5.2
10°-20°	605.1	15.0
20°-30°	839.3	20.9
30°-40°	828.4	20.6
40°-50°	649.8	16.1
50°-60°	450.0	11.2
60°-70°	275.8	6.9
70°-80°	137.8	3.4
80°-90°	27.6	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°	1654.6	41.1
0°-40°	2483.0	61.7
0°-60°	3582.8	89.0
0°-90°	4024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4024.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2214	2214	2214	2214	2214	
5°	2236	2220	2198	2201	2184	213
15°	2198	2136	2184	2152	2178	621
25°	2038	1886	1678	1795	1915	933
35°	1535	1402	1230	1269	1298	958
45°	970	889	795	786	776	759
55°	649	581	471	419	406	585
65°	428	370	243	182	195	423
75°	240	201	97	75	71	255
85°	68	39	10	3	3	78
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°	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8
2.5°	2230.0	2223.5	2220.3	2230.0	2226.7	2233.2	2230.0	2226.7	2220.3	2223.5	2223.5
5°	2236.5	2226.7	2223.5	2230.0	2230.0	2236.5	2233.2	2226.7	2220.3	2223.5	2220.3
7.5°	2230.0	2223.5	2223.5	2226.7	2223.5	2230.0	2223.5	2217.0	2210.5	2213.8	2207.3
10°	2223.5	2213.8	2213.8	2213.8	2213.8	2220.3	2213.8	2204.0	2194.3	2194.3	2187.8
12.5°	2213.8	2204.0	2204.0	2207.3	2200.8	2207.3	2200.8	2184.5	2174.8	2171.6	2165.1
15°	2197.5	2187.8	2187.8	2187.8	2181.3	2184.5	2174.8	2158.6	2145.6	2145.6	2135.9
17.5°	2174.8	2165.1	2161.8	2161.8	2152.1	2155.3	2145.6	2129.4	2109.9	2103.4	2093.7
20°	2148.8	2135.9	2129.4	2129.4	2119.6	2122.9	2109.9	2090.4	2064.4	2054.7	2038.5
22.5°	2103.4	2096.9	2087.2	2083.9	2074.2	2070.9	2058.0	2032.0	2009.3	1993.0	1967.1
25°	2038.5	2035.2	2025.5	2022.2	2009.3	2002.8	1989.8	1960.6	1937.9	1911.9	1885.9
27.5°	1960.6	1947.6	1941.1	1931.4	1918.4	1915.1	1898.9	1872.9	1837.2	1821.0	1788.5
30°	1840.5	1834.0	1827.5	1817.8	1804.8	1798.3	1788.5	1759.3	1730.1	1700.9	1671.7
32.5°	1704.1	1691.2	1681.4	1684.7	1668.4	1661.9	1645.7	1619.7	1593.8	1574.3	1541.8
35°	1535.4	1532.1	1528.9	1522.4	1509.4	1506.1	1493.2	1473.7	1444.5	1421.7	1402.3
37.5°	1376.3	1366.6	1360.1	1360.1	1347.1	1347.1	1337.3	1314.6	1298.4	1282.2	1256.2
40°	1227.0	1210.8	1210.8	1210.8	1197.8	1201.0	1194.5	1171.8	1155.6	1136.1	1119.9
42.5°	1087.4	1080.9	1077.7	1071.2	1064.7	1064.7	1058.2	1045.2	1029.0	1016.0	999.8
45°	970.5	967.3	964.1	960.8	954.3	951.1	947.8	928.4	918.6	905.6	889.4
47.5°	876.4	869.9	866.7	863.4	856.9	853.7	847.2	834.2	824.5	811.5	798.5
50°	788.8	785.5	782.3	782.3	775.8	772.5	766.1	756.3	740.1	733.6	717.4
52.5°	720.6	714.1	707.6	707.6	701.1	701.1	691.4	681.7	665.4	658.9	646.0
55°	649.2	646.0	642.7	642.7	636.2	633.0	629.7	616.7	603.8	594.0	581.0
57.5°	587.5	584.3	581.0	581.0	574.5	571.3	568.0	558.3	545.3	538.8	522.6
60°	529.1	529.1	525.8	522.6	519.4	516.1	512.9	503.1	493.4	483.7	470.7
62.5°	477.2	473.9	470.7	467.4	467.4	464.2	460.9	447.9	441.5	431.7	418.7
65°	428.5	422.0	422.0	418.7	418.7	415.5	412.2	399.3	392.8	383.0	370.0
67.5°	376.5	373.3	370.0	370.0	366.8	366.8	363.6	353.8	344.1	337.6	324.6
70°	327.8	327.8	324.6	324.6	321.4	318.1	318.1	311.6	301.9	292.1	279.2
72.5°	285.6	282.4	279.2	279.2	275.9	275.9	272.7	266.2	259.7	253.2	237.0
75°	240.2	237.0	237.0	237.0	233.7	233.7	230.5	224.0	217.5	211.0	201.3
77.5°	198.0	198.0	194.8	194.8	191.5	191.5	191.5	185.0	178.5	172.0	159.1
80°	155.8	155.8	155.8	152.6	149.3	149.3	149.3	142.8	136.3	129.8	120.1
82.5°	113.6	110.4	110.4	107.1	103.9	103.9	103.9	97.4	94.1	84.4	77.9
85°	68.2	64.9	64.9	61.7	58.4	58.4	58.4	55.2	48.7	45.4	39.0
87.5°	26.0	26.0	26.0	26.0	26.0	22.7	22.7	19.5	19.5	16.2	16.2
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°	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8
2.5°	2223.5	2220.3	2220.3	2217.0	2220.3	2213.8	2213.8	2213.8	2213.8	2207.3	2207.3
5°	2217.0	2217.0	2213.8	2210.5	2213.8	2207.3	2210.5	2207.3	2207.3	2197.5	2197.5
7.5°	2204.0	2200.8	2194.3	2191.0	2194.3	2191.0	2191.0	2191.0	2197.5	2191.0	2191.0
10°	2181.3	2178.1	2171.6	2168.3	2168.3	2165.1	2171.6	2178.1	2191.0	2197.5	2210.5
12.5°	2158.6	2152.1	2148.8	2148.8	2152.1	2152.1	2165.1	2181.3	2213.8	2223.5	2236.5
15°	2129.4	2126.1	2126.1	2135.9	2148.8	2158.6	2184.5	2194.3	2197.5	2184.5	2178.1
17.5°	2090.4	2090.4	2093.7	2103.4	2113.1	2113.1	2116.4	2109.9	2103.4	2087.2	2067.7
20°	2025.5	2022.2	2015.8	2015.8	2015.8	2002.8	2009.3	1986.5	1970.3	1950.8	1921.6
22.5°	1944.3	1928.1	1905.4	1889.2	1879.4	1872.9	1856.7	1830.7	1811.3	1798.3	1785.3
25°	1856.7	1830.7	1798.3	1772.3	1756.1	1752.8	1730.1	1707.4	1694.4	1678.2	1671.7
27.5°	1756.1	1726.9	1687.9	1661.9	1649.0	1639.2	1619.7	1597.0	1580.8	1567.8	1558.1
30°	1639.2	1610.0	1577.5	1545.1	1532.1	1515.9	1496.4	1480.2	1463.9	1454.2	1447.7
32.5°	1509.4	1480.2	1447.7	1425.0	1408.8	1395.8	1379.5	1363.3	1350.3	1343.8	1337.3
35°	1376.3	1347.1	1321.1	1298.4	1285.4	1275.7	1262.7	1243.2	1233.5	1230.2	1223.7
37.5°	1233.5	1214.0	1191.3	1171.8	1162.1	1149.1	1142.6	1126.4	1126.4	1113.4	1113.4
40°	1100.4	1087.4	1064.7	1048.5	1042.0	1032.2	1022.5	1016.0	1012.7	1009.5	1006.3
42.5°	983.5	964.1	951.1	938.1	928.4	921.9	921.9	912.1	908.9	899.1	895.9
45°	876.4	866.7	844.0	834.2	831.0	821.2	818.0	811.5	801.8	795.3	792.0
47.5°	782.3	772.5	759.6	746.6	740.1	733.6	727.1	717.4	710.9	701.1	697.9
50°	704.4	688.1	675.2	665.4	655.7	652.4	646.0	633.0	626.5	616.7	616.7
52.5°	633.0	620.0	603.8	594.0	584.3	577.8	568.0	558.3	548.6	545.3	535.6
55°	571.3	555.1	538.8	525.8	516.1	506.4	503.1	490.1	477.2	470.7	464.2
57.5°	512.9	496.6	477.2	460.9	454.4	447.9	438.2	425.2	415.5	405.7	399.3
60°	454.4	441.5	422.0	405.7	399.3	389.5	379.8	366.8	357.1	347.3	340.8
62.5°	405.7	386.3	370.0	353.8	344.1	337.6	324.6	314.9	301.9	292.1	282.4
65°	357.1	337.6	321.4	305.1	298.6	288.9	279.2	266.2	253.2	243.4	230.5
67.5°	308.4	292.1	275.9	259.7	253.2	246.7	233.7	220.7	207.7	198.0	185.0
70°	266.2	249.9	233.7	220.7	214.2	207.7	194.8	181.8	172.0	159.1	149.3
72.5°	227.2	214.2	198.0	185.0	178.5	172.0	159.1	149.3	136.3	129.8	120.1
75°	188.3	175.3	162.3	149.3	142.8	136.3	126.6	116.9	107.1	97.4	90.9
77.5°	149.3	136.3	123.3	113.6	107.1	103.9	94.1	84.4	74.7	68.2	58.4
80°	110.4	97.4	87.6	77.9	71.4	68.2	58.4	51.9	45.4	35.7	32.5
82.5°	68.2	58.4	51.9	45.4	42.2	39.0	32.5	26.0	22.7	19.5	16.2
85°	35.7	32.5	26.0	22.7	19.5	19.5	16.2	13.0	9.7	9.7	6.5
87.5°	13.0	9.7	9.7	6.5	6.5	6.5	6.5	3.2	3.2	3.2	3.2
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8
2.5°	2200.8	2204.0	2207.3	2210.5	2207.3	2207.3	2213.8	2200.8	2210.5	2210.5	2197.5
5°	2194.3	2200.8	2197.5	2204.0	2197.5	2197.5	2200.8	2194.3	2200.8	2200.8	2191.0
7.5°	2187.8	2194.3	2194.3	2197.5	2194.3	2194.3	2197.5	2187.8	2194.3	2194.3	2184.5
10°	2217.0	2223.5	2220.3	2217.0	2207.3	2200.8	2204.0	2187.8	2194.3	2194.3	2184.5
12.5°	2226.7	2223.5	2210.5	2204.0	2197.5	2191.0	2194.3	2181.3	2187.8	2187.8	2181.3
15°	2161.8	2155.3	2145.6	2148.8	2142.3	2139.1	2145.6	2139.1	2152.1	2158.6	2152.1
17.5°	2051.5	2048.2	2041.7	2041.7	2041.7	2045.0	2054.7	2054.7	2074.2	2087.2	2093.7
20°	1908.6	1905.4	1908.6	1915.1	1918.4	1931.4	1954.1	1967.1	1993.0	2015.8	2032.0
22.5°	1778.8	1785.3	1795.0	1808.0	1811.3	1827.5	1856.7	1869.7	1902.1	1928.1	1944.3
25°	1668.4	1678.2	1684.7	1694.4	1697.6	1717.1	1743.1	1759.3	1795.0	1814.5	1834.0
27.5°	1558.1	1571.1	1574.3	1587.3	1587.3	1606.8	1629.5	1645.7	1668.4	1687.9	1704.1
30°	1451.0	1454.2	1463.9	1467.2	1473.7	1493.2	1506.1	1515.9	1541.8	1551.6	1561.3
32.5°	1334.1	1347.1	1353.6	1356.8	1353.6	1369.8	1382.8	1389.3	1399.0	1412.0	1418.5
35°	1223.7	1230.2	1233.5	1240.0	1243.2	1246.5	1252.9	1256.2	1269.2	1272.4	1275.7
37.5°	1113.4	1123.1	1119.9	1123.1	1123.1	1126.4	1132.8	1129.6	1139.3	1142.6	1139.3
40°	1003.0	1003.0	1009.5	1006.3	1009.5	1006.3	1012.7	1012.7	1012.7	1016.0	1012.7
42.5°	892.6	895.9	892.6	899.1	892.6	895.9	895.9	892.6	895.9	892.6	892.6
45°	792.0	792.0	792.0	792.0	785.5	785.5	792.0	788.8	785.5	782.3	779.0
47.5°	694.6	697.9	691.4	694.6	691.4	688.1	684.9	684.9	681.7	675.2	671.9
50°	613.5	607.0	603.8	607.0	603.8	600.5	597.3	590.8	587.5	581.0	577.8
52.5°	532.3	525.8	519.4	519.4	516.1	509.6	506.4	499.9	496.6	490.1	490.1
55°	460.9	454.4	447.9	444.7	438.2	431.7	428.5	422.0	418.7	412.2	405.7
57.5°	392.8	383.0	376.5	373.3	370.0	360.3	357.1	350.6	344.1	337.6	334.3
60°	331.1	321.4	311.6	308.4	305.1	295.4	292.1	282.4	279.2	272.7	269.4
62.5°	272.7	266.2	253.2	249.9	243.4	237.0	227.2	224.0	220.7	224.0	224.0
65°	220.7	211.0	201.3	198.0	191.5	185.0	181.8	178.5	181.8	181.8	185.0
67.5°	175.3	165.5	155.8	155.8	152.6	146.1	146.1	146.1	149.3	149.3	152.6
70°	139.6	133.1	126.6	123.3	123.3	120.1	123.3	123.3	126.6	126.6	126.6
72.5°	110.4	107.1	103.9	100.6	100.6	100.6	100.6	100.6	100.6	100.6	103.9
75°	84.4	81.1	77.9	77.9	74.7	74.7	74.7	74.7	74.7	74.7	71.4
77.5°	55.2	51.9	48.7	48.7	45.4	42.2	42.2	39.0	39.0	39.0	39.0
80°	29.2	26.0	22.7	19.5	19.5	16.2	16.2	16.2	16.2	13.0	13.0
82.5°	13.0	9.7	9.7	9.7	9.7	6.5	6.5	6.5	6.5	6.5	6.5
85°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0





TEST NUMBER: P251725

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8	2213.8
2.5°	2204.0	2197.5	2204.0	2207.3	2200.8	2197.5	2204.0	2191.0
5°	2200.8	2191.0	2194.3	2197.5	2191.0	2187.8	2194.3	2184.5
7.5°	2194.3	2191.0	2194.3	2197.5	2187.8	2187.8	2194.3	2184.5
10°	2194.3	2187.8	2191.0	2197.5	2191.0	2191.0	2197.5	2184.5
12.5°	2191.0	2181.3	2191.0	2194.3	2187.8	2187.8	2194.3	2181.3
15°	2168.3	2168.3	2171.6	2178.1	2174.8	2178.1	2187.8	2178.1
17.5°	2119.6	2126.1	2139.1	2148.8	2155.3	2161.8	2171.6	2165.1
20°	2061.2	2070.9	2087.2	2096.9	2109.9	2113.1	2129.4	2116.4
22.5°	1970.3	1989.8	2002.8	2012.5	2022.2	2032.0	2045.0	2041.7
25°	1859.9	1872.9	1882.7	1892.4	1905.4	1911.9	1918.4	1915.1
27.5°	1726.9	1733.4	1746.3	1752.8	1759.3	1765.8	1778.8	1762.6
30°	1580.8	1584.0	1590.5	1600.3	1600.3	1606.8	1613.3	1610.0
32.5°	1431.5	1431.5	1438.0	1444.5	1441.2	1444.5	1457.4	1441.2
35°	1285.4	1282.2	1291.9	1295.1	1295.1	1291.9	1301.6	1298.4
37.5°	1142.6	1145.8	1149.1	1152.3	1145.8	1152.3	1152.3	1145.8
40°	1012.7	1009.5	1016.0	1019.2	1016.0	1019.2	1019.2	1006.3
42.5°	895.9	889.4	892.6	895.9	892.6	895.9	892.6	886.2
45°	782.3	779.0	779.0	782.3	775.8	775.8	775.8	775.8
47.5°	675.2	671.9	675.2	675.2	668.7	668.7	671.9	668.7
50°	577.8	574.5	574.5	574.5	571.3	571.3	574.5	574.5
52.5°	490.1	483.7	483.7	483.7	483.7	483.7	486.9	480.4
55°	402.5	402.5	402.5	402.5	405.7	405.7	405.7	405.7
57.5°	331.1	334.3	334.3	337.6	334.3	337.6	337.6	334.3
60°	275.9	272.7	275.9	275.9	279.2	279.2	279.2	279.2
62.5°	227.2	227.2	227.2	230.5	230.5	230.5	233.7	230.5
65°	188.3	188.3	191.5	191.5	191.5	194.8	194.8	194.8
67.5°	155.8	155.8	155.8	155.8	159.1	159.1	162.3	159.1
70°	129.8	129.8	129.8	129.8	129.8	133.1	133.1	133.1
72.5°	103.9	103.9	103.9	103.9	107.1	107.1	107.1	107.1
75°	71.4	71.4	71.4	74.7	71.4	71.4	71.4	71.4
77.5°	35.7	35.7	35.7	35.7	35.7	32.5	32.5	32.5
80°	13.0	13.0	13.0	13.0	13.0	13.0	9.7	13.0
82.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	3.2
85°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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



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















(END OF REPORT)