

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: P251726

Luminaire Tested: **LD4B50D010TE EU4B30508030 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251726  
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 EU4B30508030 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4207.0 lumens  
Efficiency: N/A  
Efficacy: 71.6 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

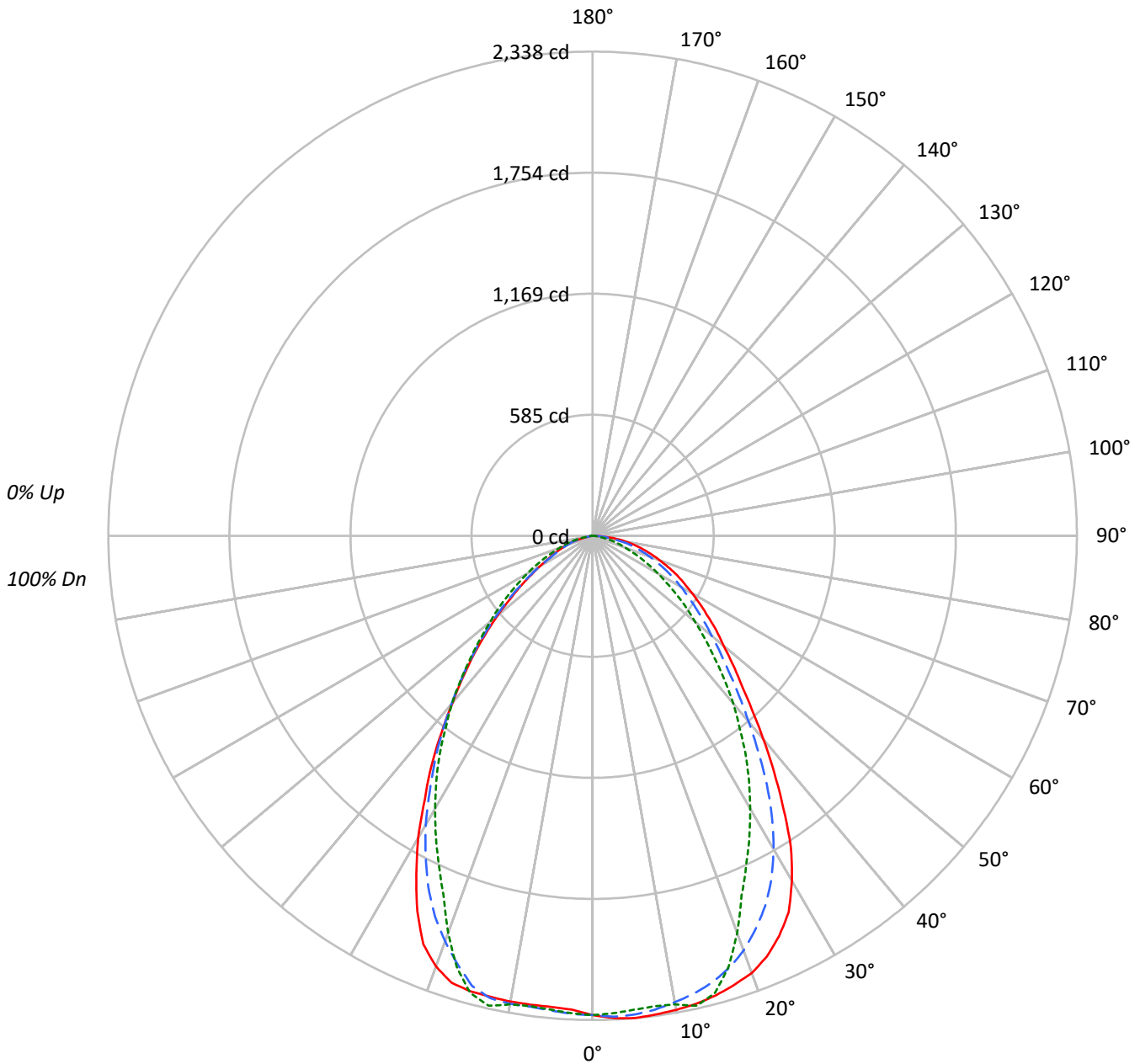
Input Watts (W): 58.77  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				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	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88	88	88	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77	77	77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67	67	67	67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60	60	60	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53	53	53	53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48	48	48	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43	43	43	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39	39	39	39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36	36	36	36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33	33	33	33

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

	0°	90°	180°
0°	225557	225557	225557
5°	228747	224765	223435
10°	230046	227364	226018
15°	231809	230436	229750
20°	233001	211532	229475
25°	229175	188667	215303
30°	216540	171087	189419
35°	190978	153025	161496
40°	163201	134271	133838
45°	139853	114589	111791
50°	125024	97763	91077
55°	115320	83614	72077
60°	107828	70774	56877
65°	103311	58689	46951
70°	97680	47387	39636
75°	94551	38333	28128
80°	91426	20934	7633
85°	79728	11406	3802



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.9	5.2
10°-20°	632.6	15.0
20°-30°	877.4	20.9
30°-40°	866.0	20.6
40°-50°	679.3	16.1
50°-60°	470.5	11.2
60°-70°	288.3	6.9
70°-80°	144.1	3.4
80°-90°	28.8	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°	1729.9	41.1
0°-40°	2595.9	61.7
0°-60°	3745.7	89.0
0°-90°	4207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4207.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2314	2314	2314	2314	2314	
5°	2338	2321	2298	2301	2284	223
15°	2298	2233	2284	2250	2277	649
25°	2131	1972	1754	1877	2002	975
35°	1605	1466	1286	1327	1357	1002
45°	1015	930	831	821	811	793
55°	679	608	492	438	424	611
65°	448	387	254	190	204	443
75°	251	210	102	78	75	266
85°	71	41	10	3	3	81
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°	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4
2.5°	2331.4	2324.6	2321.2	2331.4	2328.0	2334.8	2331.4	2328.0	2321.2	2324.6	2324.6
5°	2338.2	2328.0	2324.6	2331.4	2331.4	2338.2	2334.8	2328.0	2321.2	2324.6	2321.2
7.5°	2331.4	2324.6	2324.6	2328.0	2324.6	2331.4	2324.6	2317.8	2311.0	2314.4	2307.6
10°	2324.6	2314.4	2314.4	2314.4	2314.4	2321.2	2314.4	2304.3	2294.1	2294.1	2287.3
12.5°	2314.4	2304.3	2304.3	2307.6	2300.9	2307.6	2300.9	2283.9	2273.7	2270.3	2263.5
15°	2297.5	2287.3	2287.3	2287.3	2280.5	2283.9	2273.7	2256.7	2243.2	2243.2	2233.0
17.5°	2273.7	2263.5	2260.1	2260.1	2250.0	2253.4	2243.2	2226.2	2205.8	2199.1	2188.9
20°	2246.6	2233.0	2226.2	2226.2	2216.0	2219.4	2205.8	2185.5	2158.3	2148.1	2131.2
22.5°	2199.1	2192.3	2182.1	2178.7	2168.5	2165.1	2151.5	2124.4	2100.6	2083.7	2056.5
25°	2131.2	2127.8	2117.6	2114.2	2100.6	2093.9	2080.3	2049.7	2026.0	1998.8	1971.7
27.5°	2049.7	2036.2	2029.4	2019.2	2005.6	2002.2	1985.3	1958.1	1920.8	1903.8	1869.9
30°	1924.2	1917.4	1910.6	1900.4	1886.8	1880.1	1869.9	1839.3	1808.8	1778.2	1747.7
32.5°	1781.6	1768.1	1757.9	1761.3	1744.3	1737.5	1720.6	1693.4	1666.3	1645.9	1612.0
35°	1605.2	1601.8	1598.4	1591.6	1578.0	1574.6	1561.1	1540.7	1510.2	1486.4	1466.0
37.5°	1438.9	1428.7	1421.9	1421.9	1408.3	1408.3	1398.2	1374.4	1357.4	1340.5	1313.3
40°	1282.8	1265.8	1265.8	1265.8	1252.2	1255.6	1248.8	1225.1	1208.1	1187.8	1170.8
42.5°	1136.9	1130.1	1126.7	1119.9	1113.1	1113.1	1106.3	1092.7	1075.8	1062.2	1045.2
45°	1014.7	1011.3	1007.9	1004.5	997.7	994.3	990.9	970.6	960.4	946.8	929.8
47.5°	916.3	909.5	906.1	902.7	895.9	892.5	885.7	872.2	862.0	848.4	834.8
50°	824.6	821.3	817.9	817.9	811.1	807.7	800.9	790.7	773.7	767.0	750.0
52.5°	753.4	746.6	739.8	739.8	733.0	733.0	722.8	712.7	695.7	688.9	675.3
55°	678.7	675.3	671.9	671.9	665.1	661.8	658.4	644.8	631.2	621.0	607.5
57.5°	614.2	610.8	607.5	607.5	600.7	597.3	593.9	583.7	570.1	563.3	546.4
60°	553.2	553.2	549.8	546.4	543.0	539.6	536.2	526.0	515.8	505.6	492.1
62.5°	498.9	495.5	492.1	488.7	488.7	485.3	481.9	468.3	461.5	451.3	437.8
65°	448.0	441.2	441.2	437.8	437.8	434.4	431.0	417.4	410.6	400.4	386.9
67.5°	393.7	390.3	386.9	386.9	383.5	383.5	380.1	369.9	359.7	352.9	339.4
70°	342.8	342.8	339.4	339.4	336.0	332.6	332.6	325.8	315.6	305.4	291.8
72.5°	298.6	295.2	291.8	291.8	288.5	288.5	285.1	278.3	271.5	264.7	247.7
75°	251.1	247.7	247.7	247.7	244.3	244.3	240.9	234.2	227.4	220.6	210.4
77.5°	207.0	207.0	203.6	203.6	200.2	200.2	200.2	193.4	186.6	179.9	166.3
80°	162.9	162.9	162.9	159.5	156.1	156.1	156.1	149.3	142.5	135.7	125.6
82.5°	118.8	115.4	115.4	112.0	108.6	108.6	108.6	101.8	98.4	88.2	81.4
85°	71.3	67.9	67.9	64.5	61.1	61.1	61.1	57.7	50.9	47.5	40.7
87.5°	27.1	27.1	27.1	27.1	27.1	23.8	23.8	20.4	20.4	17.0	17.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4
2.5°	2324.6	2321.2	2321.2	2317.8	2321.2	2314.4	2314.4	2314.4	2314.4	2307.6	2307.6
5°	2317.8	2317.8	2314.4	2311.0	2314.4	2307.6	2311.0	2307.6	2307.6	2297.5	2297.5
7.5°	2304.3	2300.9	2294.1	2290.7	2294.1	2290.7	2290.7	2290.7	2297.5	2290.7	2290.7
10°	2280.5	2277.1	2270.3	2266.9	2266.9	2263.5	2270.3	2277.1	2290.7	2297.5	2311.0
12.5°	2256.7	2250.0	2246.6	2246.6	2250.0	2250.0	2263.5	2280.5	2314.4	2324.6	2338.2
15°	2226.2	2222.8	2222.8	2233.0	2246.6	2256.7	2283.9	2294.1	2297.5	2283.9	2277.1
17.5°	2185.5	2185.5	2188.9	2199.1	2209.2	2209.2	2212.6	2205.8	2199.1	2182.1	2161.7
20°	2117.6	2114.2	2107.4	2107.4	2107.4	2093.9	2100.6	2076.9	2059.9	2039.6	2009.0
22.5°	2032.8	2015.8	1992.0	1975.1	1964.9	1958.1	1941.1	1914.0	1893.6	1880.1	1866.5
25°	1941.1	1914.0	1880.1	1852.9	1835.9	1832.5	1808.8	1785.0	1771.5	1754.5	1747.7
27.5°	1835.9	1805.4	1764.7	1737.5	1723.9	1713.8	1693.4	1669.7	1652.7	1639.1	1628.9
30°	1713.8	1683.2	1649.3	1615.4	1601.8	1584.8	1564.5	1547.5	1530.5	1520.3	1513.5
32.5°	1578.0	1547.5	1513.5	1489.8	1472.8	1459.2	1442.3	1425.3	1411.7	1405.0	1398.2
35°	1438.9	1408.3	1381.2	1357.4	1343.9	1333.7	1320.1	1299.7	1289.6	1286.2	1279.4
37.5°	1289.6	1269.2	1245.5	1225.1	1214.9	1201.3	1194.5	1177.6	1177.6	1164.0	1164.0
40°	1150.4	1136.9	1113.1	1096.1	1089.3	1079.2	1069.0	1062.2	1058.8	1055.4	1052.0
42.5°	1028.3	1007.9	994.3	980.8	970.6	963.8	963.8	953.6	950.2	940.0	936.6
45°	916.3	906.1	882.3	872.2	868.8	858.6	855.2	848.4	838.2	831.4	828.0
47.5°	817.9	807.7	794.1	780.5	773.7	767.0	760.2	750.0	743.2	733.0	729.6
50°	736.4	719.4	705.9	695.7	685.5	682.1	675.3	661.8	655.0	644.8	644.8
52.5°	661.8	648.2	631.2	621.0	610.8	604.1	593.9	583.7	573.5	570.1	559.9
55°	597.3	580.3	563.3	549.8	539.6	529.4	526.0	512.4	498.9	492.1	485.3
57.5°	536.2	519.2	498.9	481.9	475.1	468.3	458.1	444.6	434.4	424.2	417.4
60°	475.1	461.5	441.2	424.2	417.4	407.2	397.1	383.5	373.3	363.1	356.3
62.5°	424.2	403.8	386.9	369.9	359.7	352.9	339.4	329.2	315.6	305.4	295.2
65°	373.3	352.9	336.0	319.0	312.2	302.0	291.8	278.3	264.7	254.5	240.9
67.5°	322.4	305.4	288.5	271.5	264.7	257.9	244.3	230.8	217.2	207.0	193.4
70°	278.3	261.3	244.3	230.8	224.0	217.2	203.6	190.0	179.9	166.3	156.1
72.5°	237.6	224.0	207.0	193.4	186.6	179.9	166.3	156.1	142.5	135.7	125.6
75°	196.8	183.3	169.7	156.1	149.3	142.5	132.4	122.2	112.0	101.8	95.0
77.5°	156.1	142.5	129.0	118.8	112.0	108.6	98.4	88.2	78.1	71.3	61.1
80°	115.4	101.8	91.6	81.4	74.7	71.3	61.1	54.3	47.5	37.3	33.9
82.5°	71.3	61.1	54.3	47.5	44.1	40.7	33.9	27.1	23.8	20.4	17.0
85°	37.3	33.9	27.1	23.8	20.4	20.4	17.0	13.6	10.2	10.2	6.8
87.5°	13.6	10.2	10.2	6.8	6.8	6.8	6.8	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	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°	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4
2.5°	2300.9	2304.3	2307.6	2311.0	2307.6	2307.6	2314.4	2300.9	2311.0	2311.0	2297.5
5°	2294.1	2300.9	2297.5	2304.3	2297.5	2297.5	2300.9	2294.1	2300.9	2300.9	2290.7
7.5°	2287.3	2294.1	2294.1	2297.5	2294.1	2294.1	2297.5	2287.3	2294.1	2294.1	2283.9
10°	2317.8	2324.6	2321.2	2317.8	2307.6	2300.9	2304.3	2287.3	2294.1	2294.1	2283.9
12.5°	2328.0	2324.6	2311.0	2304.3	2297.5	2290.7	2294.1	2280.5	2287.3	2287.3	2280.5
15°	2260.1	2253.4	2243.2	2246.6	2239.8	2236.4	2243.2	2236.4	2250.0	2256.7	2250.0
17.5°	2144.8	2141.4	2134.6	2134.6	2134.6	2138.0	2148.1	2148.1	2168.5	2182.1	2188.9
20°	1995.4	1992.0	1995.4	2002.2	2005.6	2019.2	2042.9	2056.5	2083.7	2107.4	2124.4
22.5°	1859.7	1866.5	1876.7	1890.2	1893.6	1910.6	1941.1	1954.7	1988.7	2015.8	2032.8
25°	1744.3	1754.5	1761.3	1771.5	1774.9	1795.2	1822.4	1839.3	1876.7	1897.0	1917.4
27.5°	1628.9	1642.5	1645.9	1659.5	1659.5	1679.8	1703.6	1720.6	1744.3	1764.7	1781.6
30°	1516.9	1520.3	1530.5	1533.9	1540.7	1561.1	1574.6	1584.8	1612.0	1622.1	1632.3
32.5°	1394.8	1408.3	1415.1	1418.5	1415.1	1432.1	1445.7	1452.5	1462.6	1476.2	1483.0
35°	1279.4	1286.2	1289.6	1296.4	1299.7	1303.1	1309.9	1313.3	1326.9	1330.3	1333.7
37.5°	1164.0	1174.2	1170.8	1174.2	1174.2	1177.6	1184.4	1181.0	1191.2	1194.5	1191.2
40°	1048.6	1048.6	1055.4	1052.0	1055.4	1052.0	1058.8	1058.8	1058.8	1062.2	1058.8
42.5°	933.2	936.6	933.2	940.0	933.2	936.6	936.6	933.2	936.6	933.2	933.2
45°	828.0	828.0	828.0	828.0	821.3	821.3	828.0	824.6	821.3	817.9	814.5
47.5°	726.2	729.6	722.8	726.2	722.8	719.4	716.0	716.0	712.7	705.9	702.5
50°	641.4	634.6	631.2	634.6	631.2	627.8	624.4	617.6	614.2	607.5	604.1
52.5°	556.6	549.8	543.0	543.0	539.6	532.8	529.4	522.6	519.2	512.4	512.4
55°	481.9	475.1	468.3	464.9	458.1	451.3	448.0	441.2	437.8	431.0	424.2
57.5°	410.6	400.4	393.7	390.3	386.9	376.7	373.3	366.5	359.7	352.9	349.5
60°	346.1	336.0	325.8	322.4	319.0	308.8	305.4	295.2	291.8	285.1	281.7
62.5°	285.1	278.3	264.7	261.3	254.5	247.7	237.6	234.2	230.8	234.2	234.2
65°	230.8	220.6	210.4	207.0	200.2	193.4	190.0	186.6	190.0	190.0	193.4
67.5°	183.3	173.1	162.9	162.9	159.5	152.7	152.7	152.7	156.1	156.1	159.5
70°	145.9	139.1	132.4	129.0	129.0	125.6	129.0	129.0	132.4	132.4	132.4
72.5°	115.4	112.0	108.6	105.2	105.2	105.2	105.2	105.2	105.2	105.2	108.6
75°	88.2	84.8	81.4	81.4	78.1	78.1	78.1	78.1	78.1	78.1	74.7
77.5°	57.7	54.3	50.9	50.9	47.5	44.1	44.1	40.7	40.7	40.7	40.7
80°	30.5	27.1	23.8	20.4	20.4	17.0	17.0	17.0	17.0	13.6	13.6
82.5°	13.6	10.2	10.2	10.2	10.2	6.8	6.8	6.8	6.8	6.8	6.8
85°	6.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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: P251726

CATALOG NUMBER: LD4B50D010TE EU4B30508030 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4
2.5°	2304.3	2297.5	2304.3	2307.6	2300.9	2297.5	2304.3	2290.7
5°	2300.9	2290.7	2294.1	2297.5	2290.7	2287.3	2294.1	2283.9
7.5°	2294.1	2290.7	2294.1	2297.5	2287.3	2287.3	2294.1	2283.9
10°	2294.1	2287.3	2290.7	2297.5	2290.7	2290.7	2297.5	2283.9
12.5°	2290.7	2280.5	2290.7	2294.1	2287.3	2287.3	2294.1	2280.5
15°	2266.9	2266.9	2270.3	2277.1	2273.7	2277.1	2287.3	2277.1
17.5°	2216.0	2222.8	2236.4	2246.6	2253.4	2260.1	2270.3	2263.5
20°	2154.9	2165.1	2182.1	2192.3	2205.8	2209.2	2226.2	2212.6
22.5°	2059.9	2080.3	2093.9	2104.0	2114.2	2124.4	2138.0	2134.6
25°	1944.5	1958.1	1968.3	1978.5	1992.0	1998.8	2005.6	2002.2
27.5°	1805.4	1812.2	1825.8	1832.5	1839.3	1846.1	1859.7	1842.7
30°	1652.7	1656.1	1662.9	1673.0	1673.0	1679.8	1686.6	1683.2
32.5°	1496.6	1496.6	1503.4	1510.2	1506.8	1510.2	1523.7	1506.8
35°	1343.9	1340.5	1350.7	1354.0	1354.0	1350.7	1360.8	1357.4
37.5°	1194.5	1197.9	1201.3	1204.7	1197.9	1204.7	1204.7	1197.9
40°	1058.8	1055.4	1062.2	1065.6	1062.2	1065.6	1065.6	1052.0
42.5°	936.6	929.8	933.2	936.6	933.2	936.6	933.2	926.5
45°	817.9	814.5	814.5	817.9	811.1	811.1	811.1	811.1
47.5°	705.9	702.5	705.9	705.9	699.1	699.1	702.5	699.1
50°	604.1	600.7	600.7	600.7	597.3	597.3	600.7	600.7
52.5°	512.4	505.6	505.6	505.6	505.6	505.6	509.0	502.3
55°	420.8	420.8	420.8	420.8	424.2	424.2	424.2	424.2
57.5°	346.1	349.5	349.5	352.9	349.5	352.9	352.9	349.5
60°	288.5	285.1	288.5	288.5	291.8	291.8	291.8	291.8
62.5°	237.6	237.6	237.6	240.9	240.9	240.9	244.3	240.9
65°	196.8	196.8	200.2	200.2	200.2	203.6	203.6	203.6
67.5°	162.9	162.9	162.9	162.9	166.3	166.3	169.7	166.3
70°	135.7	135.7	135.7	135.7	135.7	139.1	139.1	139.1
72.5°	108.6	108.6	108.6	108.6	112.0	112.0	112.0	112.0
75°	74.7	74.7	74.7	78.1	74.7	74.7	74.7	74.7
77.5°	37.3	37.3	37.3	37.3	37.3	33.9	33.9	33.9
80°	13.6	13.6	13.6	13.6	13.6	13.6	10.2	13.6
82.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	3.4
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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)