

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: P251735

Luminaire Tested: **LD4B50D010TE EU4B30509050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251735
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 EU4B30509050 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3666.0 lumens
Efficiency: N/A
Efficacy: 62.4 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

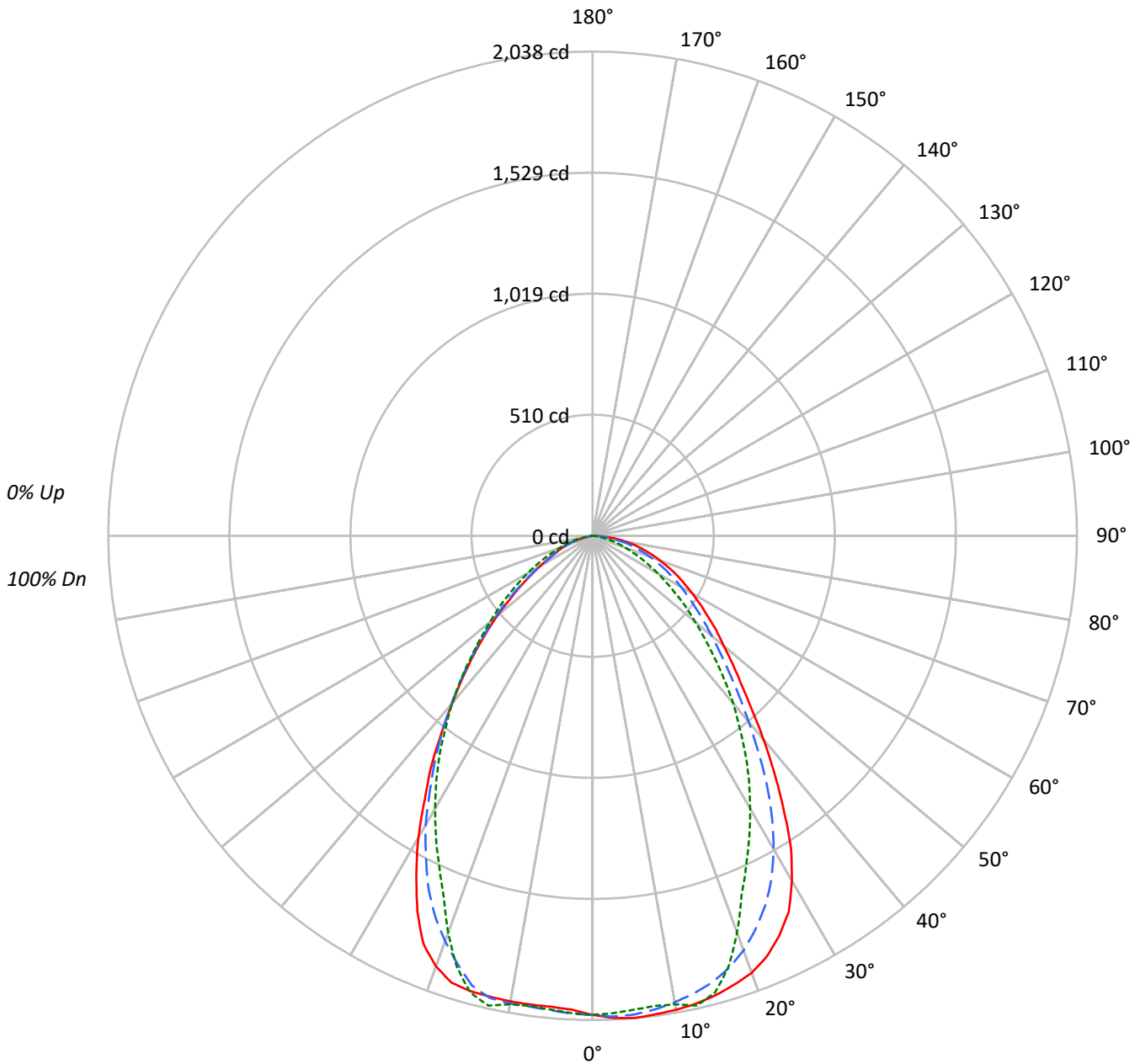
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	196553	196553	196553
5°	199329	195856	194702
10°	200466	198121	196953
15°	201994	200803	200208
20°	203038	184329	199968
25°	199700	164407	187613
30°	188687	149086	165066
35°	166421	133346	140735
40°	142209	117007	116625
45°	121866	99855	97416
50°	108953	85194	79357
55°	100487	72859	62817
60°	93950	61671	49567
65°	90028	51148	40909
70°	85114	41289	34536
75°	82389	33400	24513
80°	79640	18240	6623
85°	69441	9952	3355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.6	5.2
10°-20°	551.2	15.0
20°-30°	764.6	20.9
30°-40°	754.7	20.6
40°-50°	592.0	16.1
50°-60°	410.0	11.2
60°-70°	251.2	6.9
70°-80°	125.6	3.4
80°-90°	25.1	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°	1507.4	41.1
0°-40°	2262.1	61.7
0°-60°	3264.0	89.0
0°-90°	3666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3666.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2017	2017	2017	2017	2017	
5°	2038	2023	2002	2005	1990	194
15°	2002	1946	1990	1961	1984	565
25°	1857	1718	1529	1635	1745	850
35°	1399	1278	1121	1156	1183	873
45°	884	810	724	716	707	691
55°	591	529	429	382	370	533
65°	390	337	222	166	177	386
75°	219	183	89	68	65	232
85°	62	36	9	3	3	71
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°	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8
2.5°	2031.6	2025.7	2022.7	2031.6	2028.6	2034.6	2031.6	2028.6	2022.7	2025.7	2025.7
5°	2037.5	2028.6	2025.7	2031.6	2031.6	2037.5	2034.6	2028.6	2022.7	2025.7	2022.7
7.5°	2031.6	2025.7	2025.7	2028.6	2025.7	2031.6	2025.7	2019.8	2013.9	2016.8	2010.9
10°	2025.7	2016.8	2016.8	2016.8	2016.8	2022.7	2016.8	2007.9	1999.1	1999.1	1993.2
12.5°	2016.8	2007.9	2007.9	2010.9	2005.0	2010.9	2005.0	1990.2	1981.3	1978.4	1972.5
15°	2002.0	1993.2	1993.2	1993.2	1987.2	1990.2	1981.3	1966.5	1954.7	1954.7	1945.8
17.5°	1981.3	1972.5	1969.5	1969.5	1960.6	1963.6	1954.7	1939.9	1922.2	1916.3	1907.4
20°	1957.7	1945.8	1939.9	1939.9	1931.1	1934.0	1922.2	1904.4	1880.8	1871.9	1857.1
22.5°	1916.3	1910.4	1901.5	1898.5	1889.7	1886.7	1874.9	1851.2	1830.5	1815.7	1792.1
25°	1857.1	1854.2	1845.3	1842.3	1830.5	1824.6	1812.8	1786.1	1765.4	1741.8	1718.1
27.5°	1786.1	1774.3	1768.4	1759.5	1747.7	1744.7	1730.0	1706.3	1673.8	1659.0	1629.4
30°	1676.7	1670.8	1664.9	1656.0	1644.2	1638.3	1629.4	1602.8	1576.2	1549.6	1523.0
32.5°	1552.5	1540.7	1531.8	1534.8	1520.0	1514.1	1499.3	1475.6	1452.0	1434.2	1404.7
35°	1398.8	1395.8	1392.8	1386.9	1375.1	1372.1	1360.3	1342.6	1316.0	1295.3	1277.5
37.5°	1253.9	1245.0	1239.1	1239.1	1227.2	1227.2	1218.4	1197.7	1182.9	1168.1	1144.4
40°	1117.8	1103.0	1103.0	1103.0	1091.2	1094.2	1088.2	1067.5	1052.8	1035.0	1020.2
42.5°	990.7	984.7	981.8	975.9	970.0	970.0	964.0	952.2	937.4	925.6	910.8
45°	884.2	881.2	878.3	875.3	869.4	866.5	863.5	845.8	836.9	825.1	810.3
47.5°	798.4	792.5	789.6	786.6	780.7	777.7	771.8	760.0	751.1	739.3	727.5
50°	718.6	715.6	712.7	712.7	706.8	703.8	697.9	689.0	674.2	668.3	653.5
52.5°	656.5	650.6	644.7	644.7	638.8	638.8	629.9	621.0	606.2	600.3	588.5
55°	591.4	588.5	585.5	585.5	579.6	576.7	573.7	561.9	550.0	541.2	529.3
57.5°	535.3	532.3	529.3	529.3	523.4	520.5	517.5	508.6	496.8	490.9	476.1
60°	482.0	482.0	479.1	476.1	473.2	470.2	467.2	458.4	449.5	440.6	428.8
62.5°	434.7	431.8	428.8	425.8	425.8	422.9	419.9	408.1	402.2	393.3	381.5
65°	390.4	384.4	384.4	381.5	381.5	378.5	375.6	363.7	357.8	348.9	337.1
67.5°	343.0	340.1	337.1	337.1	334.2	334.2	331.2	322.3	313.5	307.5	295.7
70°	298.7	298.7	295.7	295.7	292.8	289.8	289.8	283.9	275.0	266.1	254.3
72.5°	260.2	257.3	254.3	254.3	251.4	251.4	248.4	242.5	236.6	230.7	215.9
75°	218.8	215.9	215.9	215.9	212.9	212.9	210.0	204.0	198.1	192.2	183.3
77.5°	180.4	180.4	177.4	177.4	174.5	174.5	174.5	168.6	162.6	156.7	144.9
80°	141.9	141.9	141.9	139.0	136.0	136.0	136.0	130.1	124.2	118.3	109.4
82.5°	103.5	100.5	100.5	97.6	94.6	94.6	94.6	88.7	85.8	76.9	71.0
85°	62.1	59.1	59.1	56.2	53.2	53.2	53.2	50.3	44.4	41.4	35.5
87.5°	23.7	23.7	23.7	23.7	23.7	20.7	20.7	17.7	17.7	14.8	14.8
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°	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8
2.5°	2025.7	2022.7	2022.7	2019.8	2022.7	2016.8	2016.8	2016.8	2016.8	2010.9	2010.9
5°	2019.8	2019.8	2016.8	2013.9	2016.8	2010.9	2013.9	2010.9	2010.9	2002.0	2002.0
7.5°	2007.9	2005.0	1999.1	1996.1	1999.1	1996.1	1996.1	1996.1	2002.0	1996.1	1996.1
10°	1987.2	1984.3	1978.4	1975.4	1975.4	1972.5	1978.4	1984.3	1996.1	2002.0	2013.9
12.5°	1966.5	1960.6	1957.7	1957.7	1960.6	1960.6	1972.5	1987.2	2016.8	2025.7	2037.5
15°	1939.9	1937.0	1937.0	1945.8	1957.7	1966.5	1990.2	1999.1	2002.0	1990.2	1984.3
17.5°	1904.4	1904.4	1907.4	1916.3	1925.1	1925.1	1928.1	1922.2	1916.3	1901.5	1883.7
20°	1845.3	1842.3	1836.4	1836.4	1836.4	1824.6	1830.5	1809.8	1795.0	1777.3	1750.7
22.5°	1771.4	1756.6	1735.9	1721.1	1712.2	1706.3	1691.5	1667.9	1650.1	1638.3	1626.5
25°	1691.5	1667.9	1638.3	1614.6	1599.8	1596.9	1576.2	1555.5	1543.7	1528.9	1523.0
27.5°	1599.8	1573.2	1537.7	1514.1	1502.3	1493.4	1475.6	1454.9	1440.2	1428.3	1419.5
30°	1493.4	1466.8	1437.2	1407.6	1395.8	1381.0	1363.3	1348.5	1333.7	1324.8	1318.9
32.5°	1375.1	1348.5	1318.9	1298.2	1283.4	1271.6	1256.8	1242.0	1230.2	1224.3	1218.4
35°	1253.9	1227.2	1203.6	1182.9	1171.1	1162.2	1150.4	1132.6	1123.7	1120.8	1114.9
37.5°	1123.7	1106.0	1085.3	1067.5	1058.7	1046.8	1040.9	1026.1	1026.1	1014.3	1014.3
40°	1002.5	990.7	970.0	955.2	949.3	940.4	931.5	925.6	922.6	919.7	916.7
42.5°	896.0	878.3	866.5	854.6	845.8	839.8	839.8	831.0	828.0	819.1	816.2
45°	798.4	789.6	768.9	760.0	757.0	748.2	745.2	739.3	730.4	724.5	721.6
47.5°	712.7	703.8	692.0	680.2	674.2	668.3	662.4	653.5	647.6	638.8	635.8
50°	641.7	626.9	615.1	606.2	597.4	594.4	588.5	576.7	570.7	561.9	561.9
52.5°	576.7	564.8	550.0	541.2	532.3	526.4	517.5	508.6	499.8	496.8	487.9
55°	520.5	505.7	490.9	479.1	470.2	461.3	458.4	446.5	434.7	428.8	422.9
57.5°	467.2	452.5	434.7	419.9	414.0	408.1	399.2	387.4	378.5	369.7	363.7
60°	414.0	402.2	384.4	369.7	363.7	354.9	346.0	334.2	325.3	316.4	310.5
62.5°	369.7	351.9	337.1	322.3	313.5	307.5	295.7	286.8	275.0	266.1	257.3
65°	325.3	307.5	292.8	278.0	272.1	263.2	254.3	242.5	230.7	221.8	210.0
67.5°	280.9	266.1	251.4	236.6	230.7	224.7	212.9	201.1	189.3	180.4	168.6
70°	242.5	227.7	212.9	201.1	195.2	189.3	177.4	165.6	156.7	144.9	136.0
72.5°	207.0	195.2	180.4	168.6	162.6	156.7	144.9	136.0	124.2	118.3	109.4
75°	171.5	159.7	147.9	136.0	130.1	124.2	115.3	106.5	97.6	88.7	82.8
77.5°	136.0	124.2	112.4	103.5	97.6	94.6	85.8	76.9	68.0	62.1	53.2
80°	100.5	88.7	79.8	71.0	65.1	62.1	53.2	47.3	41.4	32.5	29.6
82.5°	62.1	53.2	47.3	41.4	38.4	35.5	29.6	23.7	20.7	17.7	14.8
85°	32.5	29.6	23.7	20.7	17.7	17.7	14.8	11.8	8.9	8.9	5.9
87.5°	11.8	8.9	8.9	5.9	5.9	5.9	5.9	3.0	3.0	3.0	3.0
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°	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8
2.5°	2005.0	2007.9	2010.9	2013.9	2010.9	2010.9	2016.8	2005.0	2013.9	2013.9	2002.0
5°	1999.1	2005.0	2002.0	2007.9	2002.0	2002.0	2005.0	1999.1	2005.0	2005.0	1996.1
7.5°	1993.2	1999.1	1999.1	2002.0	1999.1	1999.1	2002.0	1993.2	1999.1	1999.1	1990.2
10°	2019.8	2025.7	2022.7	2019.8	2010.9	2005.0	2007.9	1993.2	1999.1	1999.1	1990.2
12.5°	2028.6	2025.7	2013.9	2007.9	2002.0	1996.1	1999.1	1987.2	1993.2	1993.2	1987.2
15°	1969.5	1963.6	1954.7	1957.7	1951.8	1948.8	1954.7	1948.8	1960.6	1966.5	1960.6
17.5°	1869.0	1866.0	1860.1	1860.1	1860.1	1863.0	1871.9	1871.9	1889.7	1901.5	1907.4
20°	1738.8	1735.9	1738.8	1744.7	1747.7	1759.5	1780.2	1792.1	1815.7	1836.4	1851.2
22.5°	1620.5	1626.5	1635.3	1647.2	1650.1	1664.9	1691.5	1703.3	1732.9	1756.6	1771.4
25°	1520.0	1528.9	1534.8	1543.7	1546.6	1564.4	1588.0	1602.8	1635.3	1653.1	1670.8
27.5°	1419.5	1431.3	1434.2	1446.1	1446.1	1463.8	1484.5	1499.3	1520.0	1537.7	1552.5
30°	1321.9	1324.8	1333.7	1336.7	1342.6	1360.3	1372.1	1381.0	1404.7	1413.5	1422.4
32.5°	1215.4	1227.2	1233.2	1236.1	1233.2	1247.9	1259.8	1265.7	1274.6	1286.4	1292.3
35°	1114.9	1120.8	1123.7	1129.7	1132.6	1135.6	1141.5	1144.4	1156.3	1159.2	1162.2
37.5°	1014.3	1023.2	1020.2	1023.2	1023.2	1026.1	1032.1	1029.1	1038.0	1040.9	1038.0
40°	913.8	913.8	919.7	916.7	919.7	916.7	922.6	922.6	922.6	925.6	922.6
42.5°	813.2	816.2	813.2	819.1	813.2	816.2	816.2	813.2	816.2	813.2	813.2
45°	721.6	721.6	721.6	721.6	715.6	715.6	721.6	718.6	715.6	712.7	709.7
47.5°	632.8	635.8	629.9	632.8	629.9	626.9	624.0	624.0	621.0	615.1	612.1
50°	558.9	553.0	550.0	553.0	550.0	547.1	544.1	538.2	535.3	529.3	526.4
52.5°	485.0	479.1	473.2	473.2	470.2	464.3	461.3	455.4	452.5	446.5	446.5
55°	419.9	414.0	408.1	405.1	399.2	393.3	390.4	384.4	381.5	375.6	369.7
57.5°	357.8	348.9	343.0	340.1	337.1	328.2	325.3	319.4	313.5	307.5	304.6
60°	301.6	292.8	283.9	280.9	278.0	269.1	266.1	257.3	254.3	248.4	245.4
62.5°	248.4	242.5	230.7	227.7	221.8	215.9	207.0	204.0	201.1	204.0	204.0
65°	201.1	192.2	183.3	180.4	174.5	168.6	165.6	162.6	165.6	165.6	168.6
67.5°	159.7	150.8	141.9	141.9	139.0	133.1	133.1	133.1	136.0	136.0	139.0
70°	127.2	121.2	115.3	112.4	112.4	109.4	112.4	112.4	115.3	115.3	115.3
72.5°	100.5	97.6	94.6	91.7	91.7	91.7	91.7	91.7	91.7	91.7	94.6
75°	76.9	73.9	71.0	71.0	68.0	68.0	68.0	68.0	68.0	68.0	65.1
77.5°	50.3	47.3	44.4	44.4	41.4	38.4	38.4	35.5	35.5	35.5	35.5
80°	26.6	23.7	20.7	17.7	17.7	14.8	14.8	14.8	14.8	11.8	11.8
82.5°	11.8	8.9	8.9	8.9	8.9	5.9	5.9	5.9	5.9	5.9	5.9
85°	5.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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: P251735

CATALOG NUMBER: LD4B50D010TE EU4B30509050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8	2016.8
2.5°	2007.9	2002.0	2007.9	2010.9	2005.0	2002.0	2007.9	1996.1
5°	2005.0	1996.1	1999.1	2002.0	1996.1	1993.2	1999.1	1990.2
7.5°	1999.1	1996.1	1999.1	2002.0	1993.2	1993.2	1999.1	1990.2
10°	1999.1	1993.2	1996.1	2002.0	1996.1	1996.1	2002.0	1990.2
12.5°	1996.1	1987.2	1996.1	1999.1	1993.2	1993.2	1999.1	1987.2
15°	1975.4	1975.4	1978.4	1984.3	1981.3	1984.3	1993.2	1984.3
17.5°	1931.1	1937.0	1948.8	1957.7	1963.6	1969.5	1978.4	1972.5
20°	1877.8	1886.7	1901.5	1910.4	1922.2	1925.1	1939.9	1928.1
22.5°	1795.0	1812.8	1824.6	1833.5	1842.3	1851.2	1863.0	1860.1
25°	1694.5	1706.3	1715.2	1724.0	1735.9	1741.8	1747.7	1744.7
27.5°	1573.2	1579.1	1591.0	1596.9	1602.8	1608.7	1620.5	1605.8
30°	1440.2	1443.1	1449.0	1457.9	1457.9	1463.8	1469.7	1466.8
32.5°	1304.1	1304.1	1310.0	1316.0	1313.0	1316.0	1327.8	1313.0
35°	1171.1	1168.1	1177.0	1179.9	1179.9	1177.0	1185.8	1182.9
37.5°	1040.9	1043.9	1046.8	1049.8	1043.9	1049.8	1049.8	1043.9
40°	922.6	919.7	925.6	928.6	925.6	928.6	928.6	916.7
42.5°	816.2	810.3	813.2	816.2	813.2	816.2	813.2	807.3
45°	712.7	709.7	709.7	712.7	706.8	706.8	706.8	706.8
47.5°	615.1	612.1	615.1	615.1	609.2	609.2	612.1	609.2
50°	526.4	523.4	523.4	523.4	520.5	520.5	523.4	523.4
52.5°	446.5	440.6	440.6	440.6	440.6	440.6	443.6	437.7
55°	366.7	366.7	366.7	366.7	369.7	369.7	369.7	369.7
57.5°	301.6	304.6	304.6	307.5	304.6	307.5	307.5	304.6
60°	251.4	248.4	251.4	251.4	254.3	254.3	254.3	254.3
62.5°	207.0	207.0	207.0	210.0	210.0	210.0	212.9	210.0
65°	171.5	171.5	174.5	174.5	174.5	177.4	177.4	177.4
67.5°	141.9	141.9	141.9	141.9	144.9	144.9	147.9	144.9
70°	118.3	118.3	118.3	118.3	118.3	121.2	121.2	121.2
72.5°	94.6	94.6	94.6	94.6	97.6	97.6	97.6	97.6
75°	65.1	65.1	65.1	68.0	65.1	65.1	65.1	65.1
77.5°	32.5	32.5	32.5	32.5	32.5	29.6	29.6	29.6
80°	11.8	11.8	11.8	11.8	11.8	11.8	8.9	11.8
82.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	3.0
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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



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













(END OF REPORT)