

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: P251716

Luminaire Tested: **LD4B40D010 EU4B30508050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251716
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: LD4B40D010 EU4B30508050 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3424.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

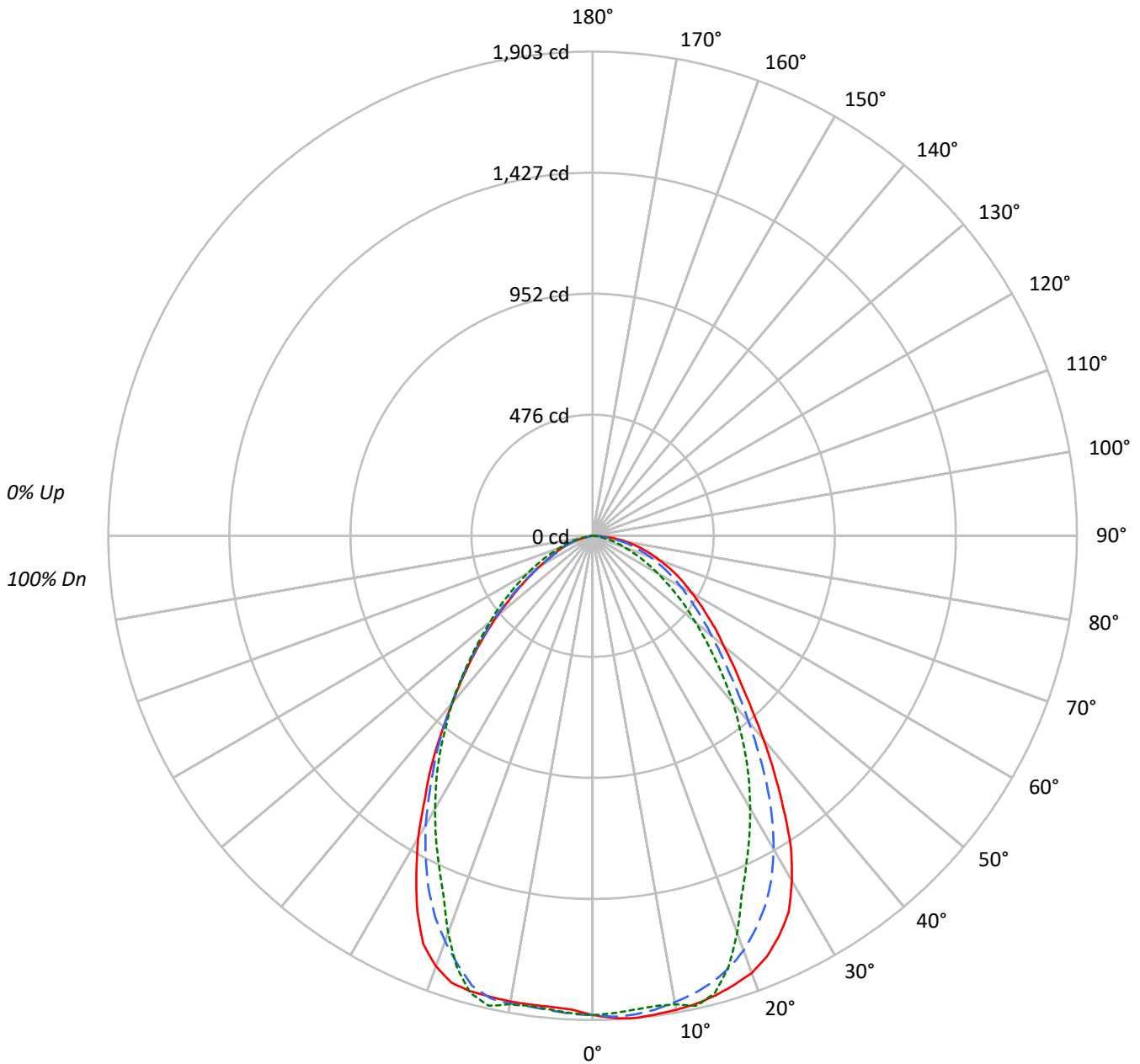
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	183582	183582	183582
5°	186171	182933	181847
10°	187235	185048	183950
15°	188665	187546	186991
20°	189628	172163	186766
25°	186516	153547	175236
30°	176230	139251	154162
35°	155428	124542	131443
40°	132820	109284	108928
45°	113817	93267	90979
50°	101766	79569	74126
55°	93860	68050	58654
60°	87751	57598	46293
65°	84079	47758	38211
70°	79501	38554	32256
75°	76967	31216	22894
80°	74420	17062	6174
85°	64856	9281	3131



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.9	5.2
10°-20°	514.8	15.0
20°-30°	714.1	20.9
30°-40°	704.9	20.6
40°-50°	552.9	16.1
50°-60°	382.9	11.2
60°-70°	234.7	6.9
70°-80°	117.3	3.4
80°-90°	23.5	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°	1407.9	41.1
0°-40°	2112.8	61.7
0°-60°	3048.6	89.0
0°-90°	3424.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3424.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1884	1884	1884	1884	1884	
5°	1903	1889	1870	1873	1859	181
15°	1870	1817	1859	1831	1853	528
25°	1734	1605	1428	1527	1630	794
35°	1306	1193	1047	1080	1105	815
45°	826	757	677	668	660	646
55°	552	494	400	356	345	497
65°	365	315	207	155	166	360
75°	204	171	83	64	61	217
85°	58	33	8	3	3	66
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°	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7
2.5°	1897.5	1892.0	1889.2	1897.5	1894.7	1900.2	1897.5	1894.7	1889.2	1892.0	1892.0
5°	1903.0	1894.7	1892.0	1897.5	1897.5	1903.0	1900.2	1894.7	1889.2	1892.0	1889.2
7.5°	1897.5	1892.0	1892.0	1894.7	1892.0	1897.5	1892.0	1886.4	1880.9	1883.7	1878.2
10°	1892.0	1883.7	1883.7	1883.7	1883.7	1889.2	1883.7	1875.4	1867.1	1867.1	1861.6
12.5°	1883.7	1875.4	1875.4	1878.2	1872.6	1878.2	1872.6	1858.8	1850.5	1847.8	1842.2
15°	1869.9	1861.6	1861.6	1861.6	1856.1	1858.8	1850.5	1836.7	1825.7	1825.7	1817.4
17.5°	1850.5	1842.2	1839.5	1839.5	1831.2	1834.0	1825.7	1811.9	1795.3	1789.8	1781.5
20°	1828.4	1817.4	1811.9	1811.9	1803.6	1806.3	1795.3	1778.7	1756.6	1748.3	1734.5
22.5°	1789.8	1784.2	1776.0	1773.2	1764.9	1762.1	1751.1	1729.0	1709.7	1695.9	1673.8
25°	1734.5	1731.8	1723.5	1720.7	1709.7	1704.1	1693.1	1668.2	1648.9	1626.8	1604.7
27.5°	1668.2	1657.2	1651.7	1643.4	1632.3	1629.6	1615.8	1593.7	1563.3	1549.5	1521.9
30°	1566.0	1560.5	1555.0	1546.7	1535.7	1530.1	1521.9	1497.0	1472.1	1447.3	1422.4
32.5°	1450.0	1439.0	1430.7	1433.5	1419.7	1414.1	1400.3	1378.2	1356.1	1339.6	1311.9
35°	1306.4	1303.7	1300.9	1295.4	1284.3	1281.6	1270.5	1253.9	1229.1	1209.8	1193.2
37.5°	1171.1	1162.8	1157.3	1157.3	1146.2	1146.2	1137.9	1118.6	1104.8	1091.0	1068.9
40°	1044.0	1030.2	1030.2	1030.2	1019.2	1021.9	1016.4	997.1	983.3	966.7	952.9
42.5°	925.3	919.7	917.0	911.5	905.9	905.9	900.4	889.4	875.6	864.5	850.7
45°	825.8	823.1	820.3	817.5	812.0	809.3	806.5	789.9	781.6	770.6	756.8
47.5°	745.7	740.2	737.5	734.7	729.2	726.4	720.9	709.8	701.5	690.5	679.4
50°	671.2	668.4	665.6	665.6	660.1	657.4	651.8	643.5	629.7	624.2	610.4
52.5°	613.2	607.6	602.1	602.1	596.6	596.6	588.3	580.0	566.2	560.7	549.6
55°	552.4	549.6	546.9	546.9	541.4	538.6	535.8	524.8	513.7	505.4	494.4
57.5°	499.9	497.2	494.4	494.4	488.9	486.1	483.3	475.1	464.0	458.5	444.7
60°	450.2	450.2	447.4	444.7	441.9	439.2	436.4	428.1	419.8	411.5	400.5
62.5°	406.0	403.3	400.5	397.7	397.7	395.0	392.2	381.2	375.6	367.3	356.3
65°	364.6	359.1	359.1	356.3	356.3	353.5	350.8	339.7	334.2	325.9	314.9
67.5°	320.4	317.6	314.9	314.9	312.1	312.1	309.3	301.1	292.8	287.2	276.2
70°	279.0	279.0	276.2	276.2	273.4	270.7	270.7	265.2	256.9	248.6	237.5
72.5°	243.1	240.3	237.5	237.5	234.8	234.8	232.0	226.5	221.0	215.4	201.6
75°	204.4	201.6	201.6	201.6	198.9	198.9	196.1	190.6	185.1	179.5	171.2
77.5°	168.5	168.5	165.7	165.7	163.0	163.0	163.0	157.4	151.9	146.4	135.3
80°	132.6	132.6	132.6	129.8	127.1	127.1	127.1	121.5	116.0	110.5	102.2
82.5°	96.7	93.9	93.9	91.1	88.4	88.4	88.4	82.9	80.1	71.8	66.3
85°	58.0	55.2	55.2	52.5	49.7	49.7	49.7	47.0	41.4	38.7	33.1
87.5°	22.1	22.1	22.1	22.1	22.1	19.3	19.3	16.6	16.6	13.8	13.8
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°	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7
2.5°	1892.0	1889.2	1889.2	1886.4	1889.2	1883.7	1883.7	1883.7	1883.7	1878.2	1878.2
5°	1886.4	1886.4	1883.7	1880.9	1883.7	1878.2	1880.9	1878.2	1878.2	1869.9	1869.9
7.5°	1875.4	1872.6	1867.1	1864.3	1867.1	1864.3	1864.3	1864.3	1869.9	1864.3	1864.3
10°	1856.1	1853.3	1847.8	1845.0	1845.0	1842.2	1847.8	1853.3	1864.3	1869.9	1880.9
12.5°	1836.7	1831.2	1828.4	1828.4	1831.2	1831.2	1842.2	1856.1	1883.7	1892.0	1903.0
15°	1811.9	1809.1	1809.1	1817.4	1828.4	1836.7	1858.8	1867.1	1869.9	1858.8	1853.3
17.5°	1778.7	1778.7	1781.5	1789.8	1798.1	1798.1	1800.8	1795.3	1789.8	1776.0	1759.4
20°	1723.5	1720.7	1715.2	1715.2	1715.2	1704.1	1709.7	1690.3	1676.5	1660.0	1635.1
22.5°	1654.4	1640.6	1621.3	1607.5	1599.2	1593.7	1579.9	1557.8	1541.2	1530.1	1519.1
25°	1579.9	1557.8	1530.1	1508.0	1494.2	1491.5	1472.1	1452.8	1441.8	1427.9	1422.4
27.5°	1494.2	1469.4	1436.2	1414.1	1403.1	1394.8	1378.2	1358.9	1345.1	1334.0	1325.8
30°	1394.8	1369.9	1342.3	1314.7	1303.7	1289.8	1273.3	1259.5	1245.7	1237.4	1231.8
32.5°	1284.3	1259.5	1231.8	1212.5	1198.7	1187.7	1173.8	1160.0	1149.0	1143.5	1137.9
35°	1171.1	1146.2	1124.1	1104.8	1093.7	1085.5	1074.4	1057.8	1049.6	1046.8	1041.3
37.5°	1049.6	1033.0	1013.7	997.1	988.8	977.7	972.2	958.4	958.4	947.4	947.4
40°	936.3	925.3	905.9	892.1	886.6	878.3	870.0	864.5	861.7	859.0	856.2
42.5°	836.9	820.3	809.3	798.2	789.9	784.4	784.4	776.1	773.4	765.1	762.3
45°	745.7	737.5	718.1	709.8	707.1	698.8	696.0	690.5	682.2	676.7	673.9
47.5°	665.6	657.4	646.3	635.3	629.7	624.2	618.7	610.4	604.9	596.6	593.8
50°	599.4	585.5	574.5	566.2	557.9	555.2	549.6	538.6	533.1	524.8	524.8
52.5°	538.6	527.5	513.7	505.4	497.2	491.6	483.3	475.1	466.8	464.0	455.7
55°	486.1	472.3	458.5	447.4	439.2	430.9	428.1	417.1	406.0	400.5	395.0
57.5°	436.4	422.6	406.0	392.2	386.7	381.2	372.9	361.8	353.5	345.2	339.7
60°	386.7	375.6	359.1	345.2	339.7	331.4	323.2	312.1	303.8	295.5	290.0
62.5°	345.2	328.7	314.9	301.1	292.8	287.2	276.2	267.9	256.9	248.6	240.3
65°	303.8	287.2	273.4	259.6	254.1	245.8	237.5	226.5	215.4	207.1	196.1
67.5°	262.4	248.6	234.8	221.0	215.4	209.9	198.9	187.8	176.8	168.5	157.4
70°	226.5	212.7	198.9	187.8	182.3	176.8	165.7	154.7	146.4	135.3	127.1
72.5°	193.3	182.3	168.5	157.4	151.9	146.4	135.3	127.1	116.0	110.5	102.2
75°	160.2	149.1	138.1	127.1	121.5	116.0	107.7	99.4	91.1	82.9	77.3
77.5°	127.1	116.0	105.0	96.7	91.1	88.4	80.1	71.8	63.5	58.0	49.7
80°	93.9	82.9	74.6	66.3	60.8	58.0	49.7	44.2	38.7	30.4	27.6
82.5°	58.0	49.7	44.2	38.7	35.9	33.1	27.6	22.1	19.3	16.6	13.8
85°	30.4	27.6	22.1	19.3	16.6	16.6	13.8	11.0	8.3	8.3	5.5
87.5°	11.0	8.3	8.3	5.5	5.5	5.5	5.5	2.8	2.8	2.8	2.8
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7
2.5°	1872.6	1875.4	1878.2	1880.9	1878.2	1878.2	1883.7	1872.6	1880.9	1880.9	1869.9
5°	1867.1	1872.6	1869.9	1875.4	1869.9	1869.9	1872.6	1867.1	1872.6	1872.6	1864.3
7.5°	1861.6	1867.1	1867.1	1869.9	1867.1	1867.1	1869.9	1861.6	1867.1	1867.1	1858.8
10°	1886.4	1892.0	1889.2	1886.4	1878.2	1872.6	1875.4	1861.6	1867.1	1867.1	1858.8
12.5°	1894.7	1892.0	1880.9	1875.4	1869.9	1864.3	1867.1	1856.1	1861.6	1861.6	1856.1
15°	1839.5	1834.0	1825.7	1828.4	1822.9	1820.2	1825.7	1820.2	1831.2	1836.7	1831.2
17.5°	1745.6	1742.8	1737.3	1737.3	1737.3	1740.1	1748.3	1748.3	1764.9	1776.0	1781.5
20°	1624.1	1621.3	1624.1	1629.6	1632.3	1643.4	1662.7	1673.8	1695.9	1715.2	1729.0
22.5°	1513.6	1519.1	1527.4	1538.4	1541.2	1555.0	1579.9	1590.9	1618.5	1640.6	1654.4
25°	1419.7	1427.9	1433.5	1441.8	1444.5	1461.1	1483.2	1497.0	1527.4	1544.0	1560.5
27.5°	1325.8	1336.8	1339.6	1350.6	1350.6	1367.2	1386.5	1400.3	1419.7	1436.2	1450.0
30°	1234.6	1237.4	1245.7	1248.4	1253.9	1270.5	1281.6	1289.8	1311.9	1320.2	1328.5
32.5°	1135.2	1146.2	1151.7	1154.5	1151.7	1165.6	1176.6	1182.1	1190.4	1201.5	1207.0
35°	1041.3	1046.8	1049.6	1055.1	1057.8	1060.6	1066.1	1068.9	1079.9	1082.7	1085.5
37.5°	947.4	955.6	952.9	955.6	955.6	958.4	963.9	961.2	969.5	972.2	969.5
40°	853.5	853.5	859.0	856.2	859.0	856.2	861.7	861.7	861.7	864.5	861.7
42.5°	759.5	762.3	759.5	765.1	759.5	762.3	762.3	759.5	762.3	759.5	759.5
45°	673.9	673.9	673.9	673.9	668.4	668.4	673.9	671.2	668.4	665.6	662.9
47.5°	591.1	593.8	588.3	591.1	588.3	585.5	582.8	582.8	580.0	574.5	571.7
50°	522.0	516.5	513.7	516.5	513.7	511.0	508.2	502.7	499.9	494.4	491.6
52.5°	453.0	447.4	441.9	441.9	439.2	433.6	430.9	425.3	422.6	417.1	417.1
55°	392.2	386.7	381.2	378.4	372.9	367.3	364.6	359.1	356.3	350.8	345.2
57.5°	334.2	325.9	320.4	317.6	314.9	306.6	303.8	298.3	292.8	287.2	284.5
60°	281.7	273.4	265.2	262.4	259.6	251.3	248.6	240.3	237.5	232.0	229.2
62.5°	232.0	226.5	215.4	212.7	207.1	201.6	193.3	190.6	187.8	190.6	190.6
65°	187.8	179.5	171.2	168.5	163.0	157.4	154.7	151.9	154.7	154.7	157.4
67.5°	149.1	140.9	132.6	132.6	129.8	124.3	124.3	124.3	127.1	127.1	129.8
70°	118.8	113.2	107.7	105.0	105.0	102.2	105.0	105.0	107.7	107.7	107.7
72.5°	93.9	91.1	88.4	85.6	85.6	85.6	85.6	85.6	85.6	85.6	88.4
75°	71.8	69.0	66.3	66.3	63.5	63.5	63.5	63.5	63.5	63.5	60.8
77.5°	47.0	44.2	41.4	41.4	38.7	35.9	35.9	33.1	33.1	33.1	33.1
80°	24.9	22.1	19.3	16.6	16.6	13.8	13.8	13.8	13.8	11.0	11.0
82.5°	11.0	8.3	8.3	8.3	8.3	5.5	5.5	5.5	5.5	5.5	5.5
85°	5.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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: P251716

CATALOG NUMBER: LD4B40D010 EU4B30508050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7	1883.7
2.5°	1875.4	1869.9	1875.4	1878.2	1872.6	1869.9	1875.4	1864.3
5°	1872.6	1864.3	1867.1	1869.9	1864.3	1861.6	1867.1	1858.8
7.5°	1867.1	1864.3	1867.1	1869.9	1861.6	1861.6	1867.1	1858.8
10°	1867.1	1861.6	1864.3	1869.9	1864.3	1864.3	1869.9	1858.8
12.5°	1864.3	1856.1	1864.3	1867.1	1861.6	1861.6	1867.1	1856.1
15°	1845.0	1845.0	1847.8	1853.3	1850.5	1853.3	1861.6	1853.3
17.5°	1803.6	1809.1	1820.2	1828.4	1834.0	1839.5	1847.8	1842.2
20°	1753.9	1762.1	1776.0	1784.2	1795.3	1798.1	1811.9	1800.8
22.5°	1676.5	1693.1	1704.1	1712.4	1720.7	1729.0	1740.1	1737.3
25°	1582.6	1593.7	1602.0	1610.2	1621.3	1626.8	1632.3	1629.6
27.5°	1469.4	1474.9	1486.0	1491.5	1497.0	1502.5	1513.6	1499.8
30°	1345.1	1347.9	1353.4	1361.7	1361.7	1367.2	1372.7	1369.9
32.5°	1218.0	1218.0	1223.6	1229.1	1226.3	1229.1	1240.1	1226.3
35°	1093.7	1091.0	1099.3	1102.0	1102.0	1099.3	1107.6	1104.8
37.5°	972.2	975.0	977.7	980.5	975.0	980.5	980.5	975.0
40°	861.7	859.0	864.5	867.3	864.5	867.3	867.3	856.2
42.5°	762.3	756.8	759.5	762.3	759.5	762.3	759.5	754.0
45°	665.6	662.9	662.9	665.6	660.1	660.1	660.1	660.1
47.5°	574.5	571.7	574.5	574.5	569.0	569.0	571.7	569.0
50°	491.6	488.9	488.9	488.9	486.1	486.1	488.9	488.9
52.5°	417.1	411.5	411.5	411.5	411.5	411.5	414.3	408.8
55°	342.5	342.5	342.5	342.5	345.2	345.2	345.2	345.2
57.5°	281.7	284.5	284.5	287.2	284.5	287.2	287.2	284.5
60°	234.8	232.0	234.8	234.8	237.5	237.5	237.5	237.5
62.5°	193.3	193.3	193.3	196.1	196.1	196.1	198.9	196.1
65°	160.2	160.2	163.0	163.0	163.0	165.7	165.7	165.7
67.5°	132.6	132.6	132.6	132.6	135.3	135.3	138.1	135.3
70°	110.5	110.5	110.5	110.5	110.5	113.2	113.2	113.2
72.5°	88.4	88.4	88.4	88.4	91.1	91.1	91.1	91.1
75°	60.8	60.8	60.8	63.5	60.8	60.8	60.8	60.8
77.5°	30.4	30.4	30.4	30.4	30.4	27.6	27.6	27.6
80°	11.0	11.0	11.0	11.0	11.0	11.0	8.3	11.0
82.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	2.8
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)