

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: P251547

Luminaire Tested: **LD4B30D010 EU4B30508050 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251547
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B30D010 EU4B30508050 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE 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: 2787.0 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

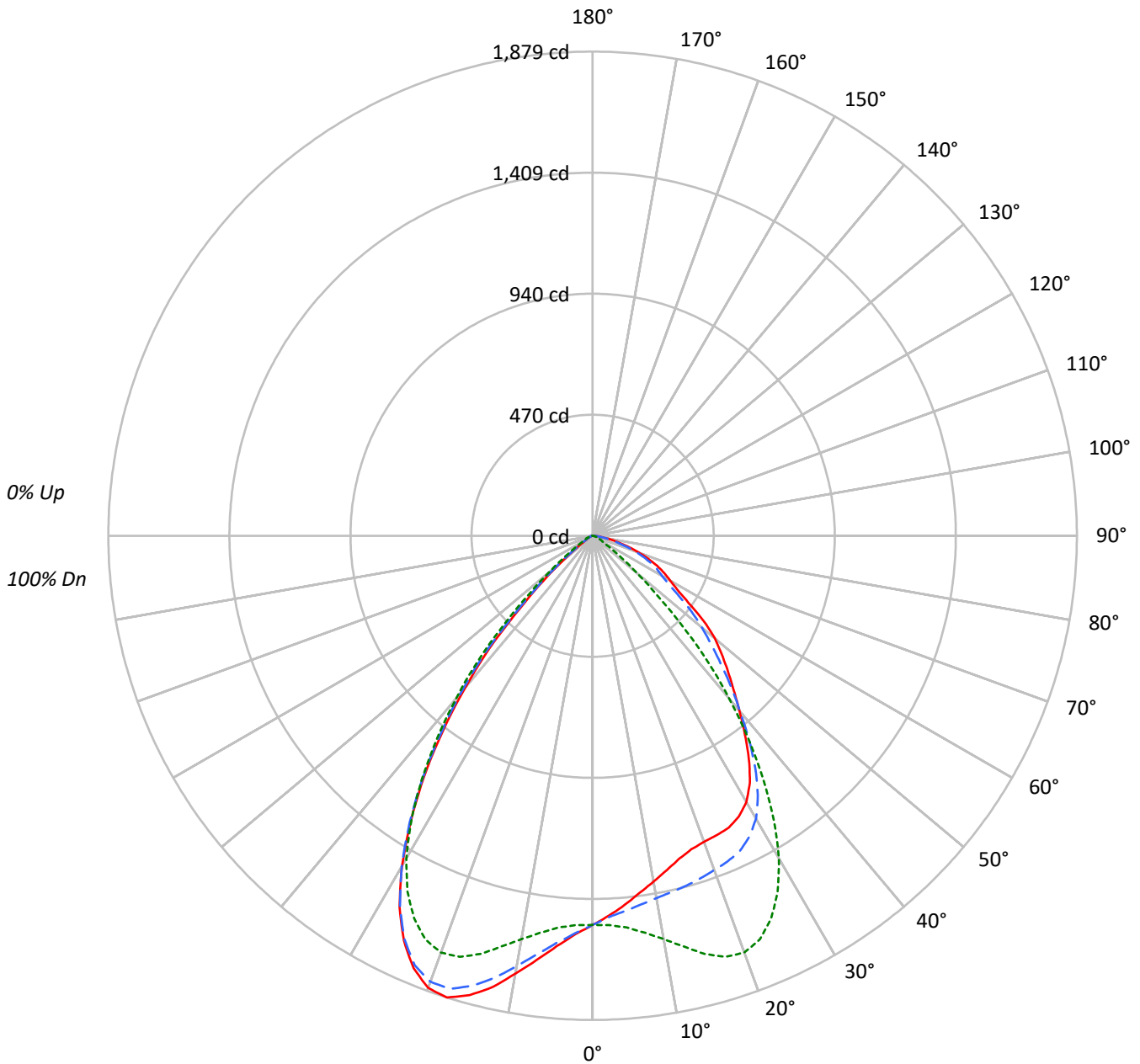
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
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	85	82	80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			
4	91	81	75	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	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	147191	147191	147191
5°	140612	149289	156431
10°	134825	157260	170728
15°	130892	169485	186194
20°	131072	178510	193642
25°	134416	176182	186366
30°	134232	162635	166405
35°	125732	137463	135583
40°	112630	104844	97821
45°	102171	66570	54621
50°	93867	33780	23319
55°	77056	15071	7697
60°	67636	8459	4230
65°	63647	6365	3182
70°	54482	5044	2821
75°	41571	3728	2222
80°	29858	2189	1122
85°	22029	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.7	5.3
10°-20°	457.2	16.4
20°-30°	707.4	25.4
30°-40°	697.0	25.0
40°-50°	428.0	15.4
50°-60°	190.3	6.8
60°-70°	106.3	3.8
70°-80°	46.0	1.7
80°-90°	8.2	0.3
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°	1311.3	47.0
0°-40°	2008.2	72.1
0°-60°	2626.5	94.2
0°-90°	2787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2787.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1510	1510	1510	1510	1510	
5°	1437	1461	1526	1585	1599	135
15°	1297	1406	1680	1808	1845	368
25°	1250	1351	1638	1727	1733	574
35°	1057	1100	1155	1151	1140	656
45°	741	704	483	422	396	574
55°	454	410	89	51	45	417
65°	276	248	28	16	14	270
75°	110	95	10	6	6	121
85°	20	16	0	0	0	24
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°	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1474.8	1474.8	1474.8	1474.8	1478.7	1472.8	1478.7	1478.7	1484.6	1486.6	1480.7
5°	1437.3	1435.3	1437.3	1437.3	1441.3	1439.3	1445.2	1449.1	1457.0	1461.0	1461.0
7.5°	1397.9	1397.9	1397.9	1401.8	1407.7	1405.8	1411.7	1417.6	1429.4	1437.3	1443.2
10°	1362.4	1360.4	1366.3	1368.3	1374.2	1374.2	1384.1	1390.0	1403.8	1419.6	1427.5
12.5°	1328.9	1326.9	1330.9	1336.8	1346.6	1346.6	1354.5	1364.4	1384.1	1401.8	1415.6
15°	1297.3	1299.3	1305.2	1309.2	1321.0	1321.0	1330.9	1342.7	1364.4	1386.1	1405.8
17.5°	1275.6	1277.6	1281.6	1287.5	1299.3	1299.3	1309.2	1323.0	1346.6	1370.3	1393.9
20°	1263.8	1265.8	1269.7	1275.6	1285.5	1287.5	1295.4	1311.1	1332.8	1358.5	1380.1
22.5°	1257.9	1261.8	1265.8	1269.7	1279.6	1279.6	1289.4	1301.3	1323.0	1348.6	1368.3
25°	1250.0	1254.0	1255.9	1261.8	1269.7	1269.7	1275.6	1289.4	1309.2	1330.9	1350.6
27.5°	1228.3	1232.3	1234.2	1240.2	1248.0	1246.1	1254.0	1263.8	1281.6	1301.3	1317.0
30°	1192.8	1194.8	1198.8	1200.7	1206.6	1206.6	1212.6	1222.4	1234.2	1252.0	1267.8
32.5°	1135.7	1139.6	1141.6	1143.5	1149.5	1147.5	1149.5	1155.4	1167.2	1183.0	1192.8
35°	1056.8	1064.7	1064.7	1068.6	1070.6	1068.6	1068.6	1076.5	1082.4	1094.3	1100.2
37.5°	970.0	976.0	974.0	977.9	979.9	974.0	977.9	979.9	987.8	993.7	995.7
40°	885.3	887.2	887.2	887.2	887.2	885.3	887.2	889.2	895.1	895.1	889.2
42.5°	808.4	810.3	810.3	806.4	810.3	808.4	808.4	808.4	808.4	800.5	794.6
45°	741.3	743.3	743.3	741.3	741.3	737.4	735.4	733.4	727.5	717.7	703.9
47.5°	678.2	682.2	684.2	680.2	678.2	674.3	674.3	662.5	654.6	642.8	623.0
50°	619.1	623.0	623.0	619.1	619.1	613.2	607.3	603.3	591.5	577.7	554.0
52.5°	544.2	550.1	550.1	548.1	548.1	540.2	538.3	530.4	520.5	504.7	485.0
55°	453.5	461.4	459.4	457.4	453.5	453.5	453.5	447.6	441.6	429.8	410.1
57.5°	388.4	390.4	390.4	388.4	388.4	384.5	384.5	378.6	376.6	364.8	349.0
60°	347.0	347.0	349.0	347.0	345.0	343.1	341.1	337.1	331.2	323.3	311.5
62.5°	313.5	315.5	315.5	313.5	311.5	309.5	307.6	303.6	299.7	293.8	281.9
65°	276.0	280.0	278.0	276.0	274.1	272.1	272.1	268.1	264.2	260.3	248.4
67.5°	234.6	236.6	238.6	234.6	234.6	232.7	232.7	228.7	226.7	218.9	211.0
70°	191.2	193.2	193.2	191.2	191.2	189.3	189.3	187.3	185.3	179.4	171.5
72.5°	149.8	151.8	149.8	147.9	147.9	147.9	145.9	143.9	142.0	138.0	132.1
75°	110.4	110.4	112.4	110.4	108.4	108.4	106.5	106.5	102.5	100.6	94.6
77.5°	78.9	80.8	78.9	78.9	76.9	74.9	74.9	73.0	73.0	71.0	67.0
80°	53.2	53.2	55.2	53.2	51.3	53.2	51.3	49.3	49.3	47.3	43.4
82.5°	33.5	35.5	33.5	33.5	33.5	33.5	33.5	31.5	31.5	29.6	27.6
85°	19.7	19.7	19.7	19.7	19.7	19.7	19.7	17.7	17.7	17.7	15.8
87.5°	9.9	9.9	7.9	7.9	9.9	9.9	9.9	7.9	7.9	7.9	7.9
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°	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1488.6	1490.6	1494.5	1500.4	1500.4	1496.5	1506.3	1506.3	1510.3	1512.2	1520.1
5°	1472.8	1476.8	1484.6	1494.5	1496.5	1494.5	1508.3	1514.2	1520.1	1526.0	1537.9
7.5°	1459.0	1466.9	1480.7	1494.5	1500.4	1500.4	1522.1	1530.0	1541.8	1553.6	1567.4
10°	1451.1	1462.9	1482.7	1504.4	1510.3	1516.2	1541.8	1557.6	1573.4	1589.1	1608.9
12.5°	1441.3	1462.9	1488.6	1516.2	1528.0	1535.9	1571.4	1591.1	1612.8	1632.5	1658.1
15°	1439.3	1464.9	1498.4	1533.9	1549.7	1561.5	1601.0	1628.6	1654.2	1679.8	1705.5
17.5°	1431.4	1462.9	1504.4	1543.8	1563.5	1579.3	1624.6	1658.1	1687.7	1713.3	1742.9
20°	1421.5	1457.0	1502.4	1545.8	1567.4	1583.2	1632.5	1664.1	1697.6	1721.2	1748.8
22.5°	1407.7	1443.2	1488.6	1532.0	1551.7	1565.5	1614.8	1642.4	1671.9	1695.6	1721.2
25°	1384.1	1417.6	1457.0	1492.5	1512.2	1524.1	1567.4	1593.1	1614.8	1638.4	1662.1
27.5°	1350.6	1376.2	1409.7	1435.3	1447.2	1459.0	1494.5	1516.2	1535.9	1555.6	1571.4
30°	1291.4	1311.1	1334.8	1356.5	1368.3	1370.3	1403.8	1415.6	1431.4	1445.2	1457.0
32.5°	1212.6	1228.3	1242.1	1254.0	1261.8	1263.8	1289.4	1293.4	1309.2	1309.2	1326.9
35°	1112.0	1119.9	1129.7	1129.7	1135.7	1129.7	1147.5	1151.4	1153.4	1155.4	1169.2
37.5°	997.6	1001.6	1007.5	995.7	995.7	989.8	995.7	999.6	991.7	991.7	1001.6
40°	889.2	881.3	873.4	861.6	855.7	843.9	843.9	834.0	828.1	824.1	826.1
42.5°	784.7	767.0	749.2	723.6	711.8	699.9	688.1	674.3	670.4	660.5	654.6
45°	684.2	658.5	634.9	593.5	569.8	558.0	532.3	504.7	487.0	483.0	467.3
47.5°	599.4	561.9	522.5	473.2	449.5	427.8	390.4	366.7	343.1	331.2	321.4
50°	524.5	490.9	439.7	386.4	356.9	335.2	293.8	266.2	240.5	222.8	211.0
52.5°	459.4	421.9	374.6	313.5	283.9	260.3	214.9	183.4	161.7	143.9	130.1
55°	386.4	356.9	309.5	252.4	222.8	195.2	155.8	122.2	100.6	88.7	78.9
57.5°	333.2	307.6	262.2	207.0	179.4	153.8	114.4	86.8	69.0	57.2	51.3
60°	297.7	274.1	234.6	181.4	155.8	132.1	94.6	69.0	53.2	43.4	39.4
62.5°	268.1	244.5	209.0	159.7	138.0	114.4	80.8	57.2	43.4	35.5	29.6
65°	234.6	212.9	181.4	138.0	118.3	98.6	69.0	47.3	35.5	27.6	23.7
67.5°	199.1	179.4	151.8	114.4	98.6	82.8	55.2	39.4	29.6	23.7	19.7
70°	161.7	145.9	120.3	92.7	78.9	65.1	45.3	31.5	21.7	17.7	15.8
72.5°	124.2	110.4	92.7	71.0	59.1	49.3	33.5	23.7	17.7	13.8	11.8
75°	88.7	78.9	65.1	51.3	43.4	35.5	25.6	17.7	11.8	9.9	7.9
77.5°	61.1	55.2	45.3	35.5	29.6	25.6	17.7	11.8	9.9	7.9	5.9
80°	39.4	35.5	29.6	21.7	17.7	15.8	9.9	7.9	5.9	3.9	3.9
82.5°	23.7	21.7	17.7	11.8	9.9	7.9	5.9	3.9	3.9	2.0	2.0
85°	13.8	11.8	7.9	5.9	5.9	3.9	3.9	2.0	2.0	0.0	0.0
87.5°	5.9	3.9	3.9	2.0	2.0	2.0	2.0	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1516.2	1526.0	1524.1	1530.0	1528.0	1528.0	1537.9	1533.9	1543.8	1543.8	1545.8
5°	1537.9	1551.7	1551.7	1561.5	1559.6	1563.5	1573.4	1573.4	1585.2	1589.1	1589.1
7.5°	1569.4	1587.2	1591.1	1601.0	1602.9	1610.8	1618.7	1620.7	1636.5	1640.4	1642.4
10°	1612.8	1634.5	1640.4	1650.3	1654.2	1662.1	1671.9	1675.9	1695.6	1697.6	1705.5
12.5°	1666.0	1689.7	1695.6	1707.4	1709.4	1719.3	1733.1	1737.0	1756.7	1762.6	1768.6
15°	1717.3	1739.0	1748.8	1760.7	1762.6	1774.5	1786.3	1790.2	1808.0	1815.9	1821.8
17.5°	1752.8	1778.4	1784.3	1800.1	1800.1	1810.0	1821.8	1825.7	1843.5	1849.4	1853.3
20°	1760.7	1784.3	1792.2	1804.0	1806.0	1811.9	1821.8	1825.7	1841.5	1843.5	1849.4
22.5°	1731.1	1754.8	1758.7	1770.5	1772.5	1778.4	1786.3	1784.3	1804.0	1802.1	1804.0
25°	1668.0	1689.7	1689.7	1703.5	1701.5	1707.4	1711.4	1709.4	1727.1	1727.1	1727.1
27.5°	1577.3	1597.0	1599.0	1608.9	1602.9	1604.9	1608.9	1606.9	1618.7	1618.7	1618.7
30°	1464.9	1480.7	1474.8	1482.7	1478.7	1482.7	1478.7	1476.8	1480.7	1484.6	1482.7
32.5°	1324.9	1336.8	1336.8	1338.7	1338.7	1326.9	1323.0	1323.0	1321.0	1319.0	1319.0
35°	1163.3	1173.1	1169.2	1169.2	1167.2	1155.4	1149.5	1145.5	1151.4	1139.6	1147.5
37.5°	997.6	999.6	993.7	991.7	981.9	981.9	972.0	964.1	968.1	966.1	958.2
40°	816.3	824.1	812.3	808.4	814.3	806.4	796.5	786.7	794.6	784.7	788.7
42.5°	638.8	636.8	632.9	632.9	632.9	621.1	619.1	617.1	619.1	611.2	605.3
45°	461.4	455.4	449.5	449.5	441.6	437.7	437.7	431.8	421.9	421.9	410.1
47.5°	311.5	297.7	293.8	291.8	287.9	287.9	283.9	280.0	278.0	268.1	268.1
50°	203.1	189.3	185.3	183.4	185.3	181.4	177.4	173.5	169.6	167.6	163.6
52.5°	122.2	116.3	112.4	110.4	106.5	104.5	102.5	98.6	96.6	96.6	94.6
55°	73.0	67.0	59.1	59.1	59.1	57.2	55.2	53.2	51.3	51.3	49.3
57.5°	45.3	41.4	37.5	35.5	35.5	35.5	33.5	33.5	33.5	33.5	31.5
60°	33.5	29.6	27.6	27.6	27.6	25.6	25.6	25.6	25.6	23.7	23.7
62.5°	25.6	23.7	21.7	21.7	19.7	19.7	19.7	19.7	19.7	19.7	17.7
65°	21.7	17.7	17.7	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
67.5°	15.8	13.8	13.8	13.8	13.8	11.8	11.8	11.8	11.8	11.8	11.8
70°	11.8	11.8	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
72.5°	9.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
75°	7.9	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
77.5°	5.9	5.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
80°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	2.0	2.0	2.0	2.0	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	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: P251547

CATALOG NUMBER: LD4B30D010 EU4B30508050 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1545.8	1555.6	1545.8	1545.8	1551.7	1549.7	1553.6	1547.7
5°	1591.1	1604.9	1595.0	1593.1	1602.9	1601.0	1602.9	1599.0
7.5°	1646.3	1660.1	1650.3	1650.3	1660.1	1658.1	1664.1	1660.1
10°	1709.4	1725.2	1711.4	1713.3	1727.1	1725.2	1725.2	1725.2
12.5°	1774.5	1790.2	1782.4	1782.4	1792.2	1794.2	1796.2	1794.2
15°	1827.7	1843.5	1833.6	1833.6	1847.4	1845.4	1847.4	1845.4
17.5°	1859.2	1875.0	1863.2	1863.2	1875.0	1875.0	1877.0	1879.0
20°	1851.4	1869.1	1859.2	1855.3	1869.1	1869.1	1867.1	1867.1
22.5°	1806.0	1821.8	1813.9	1810.0	1819.8	1815.9	1813.9	1815.9
25°	1727.1	1742.9	1727.1	1727.1	1735.0	1733.1	1735.0	1733.1
27.5°	1620.7	1632.5	1616.7	1614.8	1622.7	1618.7	1616.7	1622.7
30°	1478.7	1490.6	1482.7	1476.8	1486.6	1480.7	1476.8	1478.7
32.5°	1317.0	1324.9	1321.0	1311.1	1317.0	1313.1	1311.1	1313.1
35°	1139.6	1149.5	1133.7	1131.7	1141.6	1133.7	1129.7	1139.6
37.5°	956.2	968.1	954.3	956.2	950.3	952.3	948.4	954.3
40°	782.7	780.8	776.8	774.9	776.8	770.9	774.9	768.9
42.5°	595.4	599.4	597.4	595.4	597.4	589.5	585.6	593.5
45°	414.0	412.1	408.1	404.2	404.2	402.2	402.2	396.3
47.5°	266.2	264.2	256.3	258.3	262.2	258.3	252.4	260.3
50°	161.7	159.7	159.7	157.7	161.7	157.7	153.8	153.8
52.5°	90.7	90.7	88.7	88.7	88.7	88.7	86.8	84.8
55°	49.3	47.3	47.3	47.3	45.3	45.3	45.3	45.3
57.5°	31.5	31.5	31.5	31.5	31.5	31.5	29.6	29.6
60°	23.7	23.7	23.7	23.7	21.7	23.7	21.7	21.7
62.5°	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
65°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
67.5°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
70°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
72.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
75°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
77.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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



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













(END OF REPORT)