

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: P251722

Luminaire Tested: **LD4B40D010 EU4B30509050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251722
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 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: 2882.0 lumens
Efficiency: N/A
Efficacy: 67.0 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

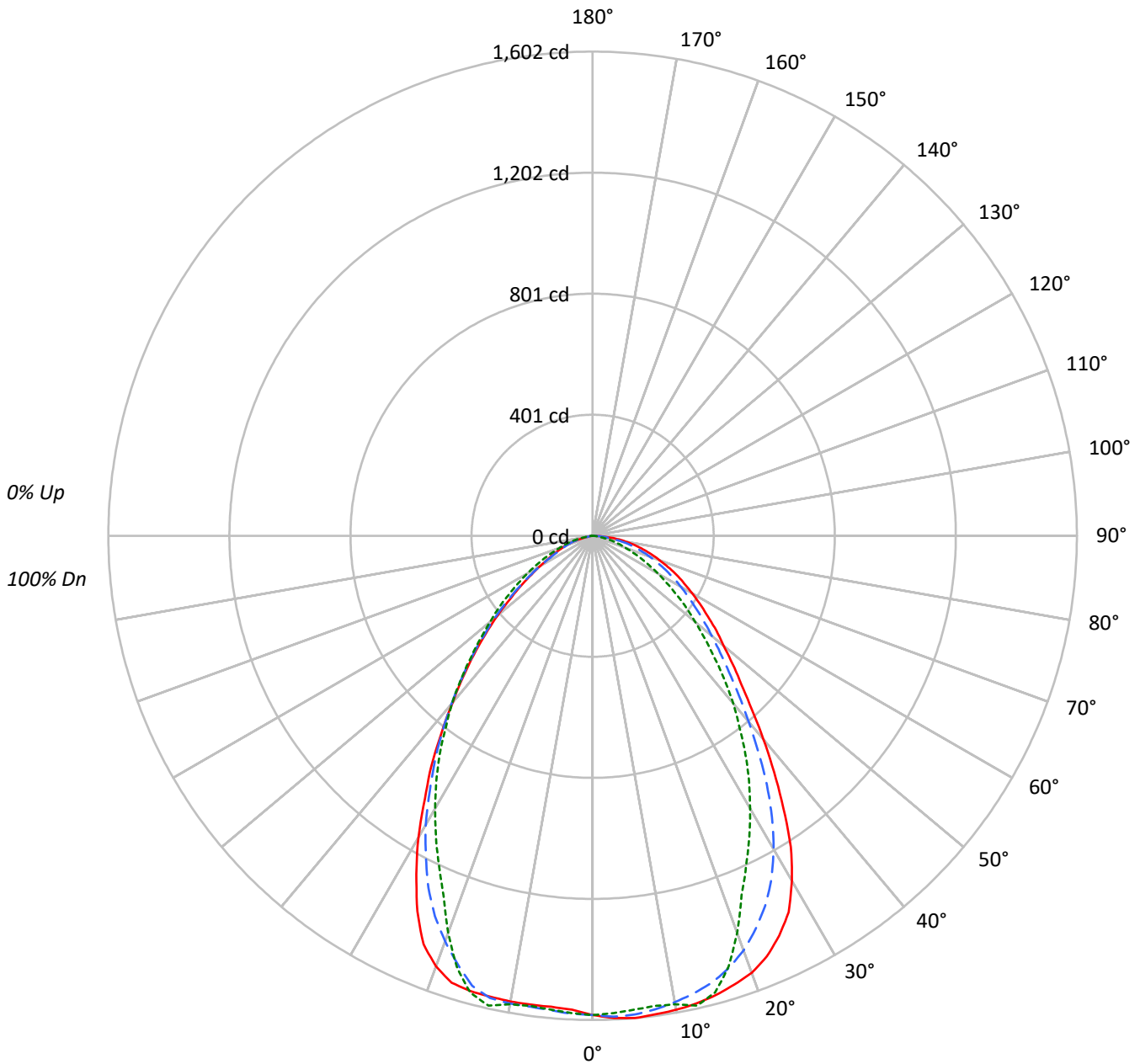
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	154520	154520	154520
5°	156705	153975	153065
10°	157596	155756	154835
15°	158800	157862	157388
20°	159614	144907	157208
25°	156998	129244	147492
30°	148343	117205	129764
35°	130824	104828	110634
40°	111803	91982	91689
45°	95803	78506	76576
50°	85649	66970	62391
55°	79010	57278	49377
60°	73854	48495	38964
65°	70773	40218	32169
70°	66906	32456	27156
75°	64766	26245	19242
80°	62634	14368	5220
85°	54568	7827	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	5.2
10°-20°	433.3	15.0
20°-30°	601.1	20.9
30°-40°	593.3	20.6
40°-50°	465.4	16.1
50°-60°	322.3	11.2
60°-70°	197.5	6.9
70°-80°	98.7	3.4
80°-90°	19.7	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°	1185.1	41.1
0°-40°	1778.3	61.7
0°-60°	2566.0	89.0
0°-90°	2882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2882.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1586	1586	1586	1586	1586	
5°	1602	1590	1574	1576	1565	152
15°	1574	1530	1565	1541	1560	444
25°	1460	1351	1202	1286	1372	668
35°	1100	1004	881	909	930	686
45°	695	637	570	563	556	543
55°	465	416	337	300	291	419
65°	307	265	174	130	140	303
75°	172	144	70	54	51	182
85°	49	28	7	2	2	56
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°	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5
2.5°	1597.1	1592.5	1590.2	1597.1	1594.8	1599.5	1597.1	1594.8	1590.2	1592.5	1592.5
5°	1601.8	1594.8	1592.5	1597.1	1597.1	1601.8	1599.5	1594.8	1590.2	1592.5	1590.2
7.5°	1597.1	1592.5	1592.5	1594.8	1592.5	1597.1	1592.5	1587.8	1583.2	1585.5	1580.9
10°	1592.5	1585.5	1585.5	1585.5	1585.5	1590.2	1585.5	1578.5	1571.6	1571.6	1566.9
12.5°	1585.5	1578.5	1578.5	1580.9	1576.2	1580.9	1576.2	1564.6	1557.6	1555.3	1550.6
15°	1573.9	1566.9	1566.9	1566.9	1562.3	1564.6	1557.6	1546.0	1536.7	1536.7	1529.7
17.5°	1557.6	1550.6	1548.3	1548.3	1541.3	1543.7	1536.7	1525.1	1511.1	1506.5	1499.5
20°	1539.0	1529.7	1525.1	1525.1	1518.1	1520.4	1511.1	1497.2	1478.6	1471.6	1460.0
22.5°	1506.5	1501.8	1494.8	1492.5	1485.5	1483.2	1473.9	1455.3	1439.0	1427.4	1408.8
25°	1460.0	1457.6	1450.7	1448.3	1439.0	1434.4	1425.1	1404.2	1387.9	1369.3	1350.7
27.5°	1404.2	1394.9	1390.2	1383.2	1373.9	1371.6	1360.0	1341.4	1315.8	1304.2	1281.0
30°	1318.2	1313.5	1308.9	1301.9	1292.6	1287.9	1281.0	1260.0	1239.1	1218.2	1197.3
32.5°	1220.5	1211.2	1204.2	1206.6	1194.9	1190.3	1178.7	1160.1	1141.5	1127.5	1104.3
35°	1099.6	1097.3	1095.0	1090.3	1081.0	1078.7	1069.4	1055.5	1034.5	1018.3	1004.3
37.5°	985.7	978.7	974.1	974.1	964.8	964.8	957.8	941.5	929.9	918.3	899.7
40°	878.8	867.1	867.1	867.1	857.8	860.2	855.5	839.2	827.6	813.7	802.0
42.5°	778.8	774.2	771.8	767.2	762.5	762.5	757.9	748.6	737.0	727.7	716.0
45°	695.1	692.8	690.5	688.1	683.5	681.2	678.8	664.9	657.9	648.6	637.0
47.5°	627.7	623.0	620.7	618.4	613.7	611.4	606.8	597.5	590.5	581.2	571.9
50°	564.9	562.6	560.3	560.3	555.6	553.3	548.6	541.7	530.1	525.4	513.8
52.5°	516.1	511.5	506.8	506.8	502.2	502.2	495.2	488.2	476.6	471.9	462.6
55°	465.0	462.6	460.3	460.3	455.7	453.3	451.0	441.7	432.4	425.4	416.1
57.5°	420.8	418.5	416.1	416.1	411.5	409.2	406.8	399.9	390.6	385.9	374.3
60°	378.9	378.9	376.6	374.3	372.0	369.6	367.3	360.3	353.4	346.4	337.1
62.5°	341.7	339.4	337.1	334.8	334.8	332.4	330.1	320.8	316.2	309.2	299.9
65°	306.9	302.2	302.2	299.9	299.9	297.6	295.2	285.9	281.3	274.3	265.0
67.5°	269.7	267.3	265.0	265.0	262.7	262.7	260.4	253.4	246.4	241.8	232.5
70°	234.8	234.8	232.5	232.5	230.2	227.8	227.8	223.2	216.2	209.2	199.9
72.5°	204.6	202.3	199.9	199.9	197.6	197.6	195.3	190.6	186.0	181.3	169.7
75°	172.0	169.7	169.7	169.7	167.4	167.4	165.1	160.4	155.8	151.1	144.1
77.5°	141.8	141.8	139.5	139.5	137.2	137.2	137.2	132.5	127.9	123.2	113.9
80°	111.6	111.6	111.6	109.3	106.9	106.9	106.9	102.3	97.6	93.0	86.0
82.5°	81.4	79.0	79.0	76.7	74.4	74.4	74.4	69.7	67.4	60.4	55.8
85°	48.8	46.5	46.5	44.2	41.8	41.8	41.8	39.5	34.9	32.5	27.9
87.5°	18.6	18.6	18.6	18.6	18.6	16.3	16.3	13.9	13.9	11.6	11.6
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°	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5
2.5°	1592.5	1590.2	1590.2	1587.8	1590.2	1585.5	1585.5	1585.5	1585.5	1580.9	1580.9
5°	1587.8	1587.8	1585.5	1583.2	1585.5	1580.9	1583.2	1580.9	1580.9	1573.9	1573.9
7.5°	1578.5	1576.2	1571.6	1569.2	1571.6	1569.2	1569.2	1569.2	1573.9	1569.2	1569.2
10°	1562.3	1559.9	1555.3	1553.0	1553.0	1550.6	1555.3	1559.9	1569.2	1573.9	1583.2
12.5°	1546.0	1541.3	1539.0	1539.0	1541.3	1541.3	1550.6	1562.3	1585.5	1592.5	1601.8
15°	1525.1	1522.7	1522.7	1529.7	1539.0	1546.0	1564.6	1571.6	1573.9	1564.6	1559.9
17.5°	1497.2	1497.2	1499.5	1506.5	1513.4	1513.4	1515.8	1511.1	1506.5	1494.8	1480.9
20°	1450.7	1448.3	1443.7	1443.7	1443.7	1434.4	1439.0	1422.8	1411.1	1397.2	1376.3
22.5°	1392.5	1380.9	1364.6	1353.0	1346.0	1341.4	1329.8	1311.2	1297.2	1287.9	1278.6
25°	1329.8	1311.2	1287.9	1269.3	1257.7	1255.4	1239.1	1222.8	1213.5	1201.9	1197.3
27.5°	1257.7	1236.8	1208.9	1190.3	1181.0	1174.0	1160.1	1143.8	1132.2	1122.9	1115.9
30°	1174.0	1153.1	1129.8	1106.6	1097.3	1085.7	1071.7	1060.1	1048.5	1041.5	1036.9
32.5°	1081.0	1060.1	1036.9	1020.6	1009.0	999.7	988.0	976.4	967.1	962.5	957.8
35°	985.7	964.8	946.2	929.9	920.6	913.6	904.3	890.4	883.4	881.1	876.4
37.5°	883.4	869.5	853.2	839.2	832.3	823.0	818.3	806.7	806.7	797.4	797.4
40°	788.1	778.8	762.5	750.9	746.3	739.3	732.3	727.7	725.3	723.0	720.7
42.5°	704.4	690.5	681.2	671.9	664.9	660.2	660.2	653.3	650.9	644.0	641.6
45°	627.7	620.7	604.4	597.5	595.1	588.2	585.8	581.2	574.2	569.6	567.2
47.5°	560.3	553.3	544.0	534.7	530.1	525.4	520.8	513.8	509.1	502.2	499.8
50°	504.5	492.9	483.6	476.6	469.6	467.3	462.6	453.3	448.7	441.7	441.7
52.5°	453.3	444.0	432.4	425.4	418.5	413.8	406.8	399.9	392.9	390.6	383.6
55°	409.2	397.5	385.9	376.6	369.6	362.7	360.3	351.0	341.7	337.1	332.4
57.5°	367.3	355.7	341.7	330.1	325.5	320.8	313.8	304.5	297.6	290.6	285.9
60°	325.5	316.2	302.2	290.6	285.9	279.0	272.0	262.7	255.7	248.8	244.1
62.5°	290.6	276.6	265.0	253.4	246.4	241.8	232.5	225.5	216.2	209.2	202.3
65°	255.7	241.8	230.2	218.5	213.9	206.9	199.9	190.6	181.3	174.4	165.1
67.5°	220.9	209.2	197.6	186.0	181.3	176.7	167.4	158.1	148.8	141.8	132.5
70°	190.6	179.0	167.4	158.1	153.4	148.8	139.5	130.2	123.2	113.9	106.9
72.5°	162.7	153.4	141.8	132.5	127.9	123.2	113.9	106.9	97.6	93.0	86.0
75°	134.8	125.5	116.2	106.9	102.3	97.6	90.7	83.7	76.7	69.7	65.1
77.5°	106.9	97.6	88.3	81.4	76.7	74.4	67.4	60.4	53.5	48.8	41.8
80°	79.0	69.7	62.8	55.8	51.1	48.8	41.8	37.2	32.5	25.6	23.2
82.5°	48.8	41.8	37.2	32.5	30.2	27.9	23.2	18.6	16.3	13.9	11.6
85°	25.6	23.2	18.6	16.3	13.9	13.9	11.6	9.3	7.0	7.0	4.6
87.5°	9.3	7.0	7.0	4.6	4.6	4.6	4.6	2.3	2.3	2.3	2.3
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°	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5
2.5°	1576.2	1578.5	1580.9	1583.2	1580.9	1580.9	1585.5	1576.2	1583.2	1583.2	1573.9
5°	1571.6	1576.2	1573.9	1578.5	1573.9	1573.9	1576.2	1571.6	1576.2	1576.2	1569.2
7.5°	1566.9	1571.6	1571.6	1573.9	1571.6	1571.6	1573.9	1566.9	1571.6	1571.6	1564.6
10°	1587.8	1592.5	1590.2	1587.8	1580.9	1576.2	1578.5	1566.9	1571.6	1571.6	1564.6
12.5°	1594.8	1592.5	1583.2	1578.5	1573.9	1569.2	1571.6	1562.3	1566.9	1566.9	1562.3
15°	1548.3	1543.7	1536.7	1539.0	1534.4	1532.0	1536.7	1532.0	1541.3	1546.0	1541.3
17.5°	1469.3	1466.9	1462.3	1462.3	1462.3	1464.6	1471.6	1471.6	1485.5	1494.8	1499.5
20°	1367.0	1364.6	1367.0	1371.6	1373.9	1383.2	1399.5	1408.8	1427.4	1443.7	1455.3
22.5°	1274.0	1278.6	1285.6	1294.9	1297.2	1308.9	1329.8	1339.1	1362.3	1380.9	1392.5
25°	1194.9	1201.9	1206.6	1213.5	1215.9	1229.8	1248.4	1260.0	1285.6	1299.6	1313.5
27.5°	1115.9	1125.2	1127.5	1136.8	1136.8	1150.8	1167.0	1178.7	1194.9	1208.9	1220.5
30°	1039.2	1041.5	1048.5	1050.8	1055.5	1069.4	1078.7	1085.7	1104.3	1111.2	1118.2
32.5°	955.5	964.8	969.4	971.8	969.4	981.1	990.4	995.0	1002.0	1011.3	1015.9
35°	876.4	881.1	883.4	888.1	890.4	892.7	897.4	899.7	909.0	911.3	913.6
37.5°	797.4	804.4	802.0	804.4	804.4	806.7	811.3	809.0	816.0	818.3	816.0
40°	718.4	718.4	723.0	720.7	723.0	720.7	725.3	725.3	725.3	727.7	725.3
42.5°	639.3	641.6	639.3	644.0	639.3	641.6	641.6	639.3	641.6	639.3	639.3
45°	567.2	567.2	567.2	567.2	562.6	562.6	567.2	564.9	562.6	560.3	557.9
47.5°	497.5	499.8	495.2	497.5	495.2	492.9	490.5	490.5	488.2	483.6	481.2
50°	439.4	434.7	432.4	434.7	432.4	430.1	427.8	423.1	420.8	416.1	413.8
52.5°	381.3	376.6	372.0	372.0	369.6	365.0	362.7	358.0	355.7	351.0	351.0
55°	330.1	325.5	320.8	318.5	313.8	309.2	306.9	302.2	299.9	295.2	290.6
57.5°	281.3	274.3	269.7	267.3	265.0	258.1	255.7	251.1	246.4	241.8	239.5
60°	237.1	230.2	223.2	220.9	218.5	211.6	209.2	202.3	199.9	195.3	193.0
62.5°	195.3	190.6	181.3	179.0	174.4	169.7	162.7	160.4	158.1	160.4	160.4
65°	158.1	151.1	144.1	141.8	137.2	132.5	130.2	127.9	130.2	130.2	132.5
67.5°	125.5	118.6	111.6	111.6	109.3	104.6	104.6	104.6	106.9	106.9	109.3
70°	100.0	95.3	90.7	88.3	88.3	86.0	88.3	88.3	90.7	90.7	90.7
72.5°	79.0	76.7	74.4	72.1	72.1	72.1	72.1	72.1	72.1	72.1	74.4
75°	60.4	58.1	55.8	55.8	53.5	53.5	53.5	53.5	53.5	53.5	51.1
77.5°	39.5	37.2	34.9	34.9	32.5	30.2	30.2	27.9	27.9	27.9	27.9
80°	20.9	18.6	16.3	13.9	13.9	11.6	11.6	11.6	11.6	9.3	9.3
82.5°	9.3	7.0	7.0	7.0	7.0	4.6	4.6	4.6	4.6	4.6	4.6
85°	4.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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: P251722

CATALOG NUMBER: LD4B40D010 EU4B30509050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5	1585.5
2.5°	1578.5	1573.9	1578.5	1580.9	1576.2	1573.9	1578.5	1569.2
5°	1576.2	1569.2	1571.6	1573.9	1569.2	1566.9	1571.6	1564.6
7.5°	1571.6	1569.2	1571.6	1573.9	1566.9	1566.9	1571.6	1564.6
10°	1571.6	1566.9	1569.2	1573.9	1569.2	1569.2	1573.9	1564.6
12.5°	1569.2	1562.3	1569.2	1571.6	1566.9	1566.9	1571.6	1562.3
15°	1553.0	1553.0	1555.3	1559.9	1557.6	1559.9	1566.9	1559.9
17.5°	1518.1	1522.7	1532.0	1539.0	1543.7	1548.3	1555.3	1550.6
20°	1476.2	1483.2	1494.8	1501.8	1511.1	1513.4	1525.1	1515.8
22.5°	1411.1	1425.1	1434.4	1441.4	1448.3	1455.3	1464.6	1462.3
25°	1332.1	1341.4	1348.4	1355.3	1364.6	1369.3	1373.9	1371.6
27.5°	1236.8	1241.4	1250.7	1255.4	1260.0	1264.7	1274.0	1262.4
30°	1132.2	1134.5	1139.1	1146.1	1146.1	1150.8	1155.4	1153.1
32.5°	1025.2	1025.2	1029.9	1034.5	1032.2	1034.5	1043.8	1032.2
35°	920.6	918.3	925.3	927.6	927.6	925.3	932.2	929.9
37.5°	818.3	820.6	823.0	825.3	820.6	825.3	825.3	820.6
40°	725.3	723.0	727.7	730.0	727.7	730.0	730.0	720.7
42.5°	641.6	637.0	639.3	641.6	639.3	641.6	639.3	634.7
45°	560.3	557.9	557.9	560.3	555.6	555.6	555.6	555.6
47.5°	483.6	481.2	483.6	483.6	478.9	478.9	481.2	478.9
50°	413.8	411.5	411.5	411.5	409.2	409.2	411.5	411.5
52.5°	351.0	346.4	346.4	346.4	346.4	346.4	348.7	344.1
55°	288.3	288.3	288.3	288.3	290.6	290.6	290.6	290.6
57.5°	237.1	239.5	239.5	241.8	239.5	241.8	241.8	239.5
60°	197.6	195.3	197.6	197.6	199.9	199.9	199.9	199.9
62.5°	162.7	162.7	162.7	165.1	165.1	165.1	167.4	165.1
65°	134.8	134.8	137.2	137.2	137.2	139.5	139.5	139.5
67.5°	111.6	111.6	111.6	111.6	113.9	113.9	116.2	113.9
70°	93.0	93.0	93.0	93.0	93.0	95.3	95.3	95.3
72.5°	74.4	74.4	74.4	74.4	76.7	76.7	76.7	76.7
75°	51.1	51.1	51.1	53.5	51.1	51.1	51.1	51.1
77.5°	25.6	25.6	25.6	25.6	25.6	23.2	23.2	23.2
80°	9.3	9.3	9.3	9.3	9.3	9.3	7.0	9.3
82.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	2.3
85°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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)