

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: P251719

Luminaire Tested: **LD4B40D010 EU4B30509030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251719
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 EU4B30509030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2824.0 lumens
Efficiency: N/A
Efficacy: 65.6 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

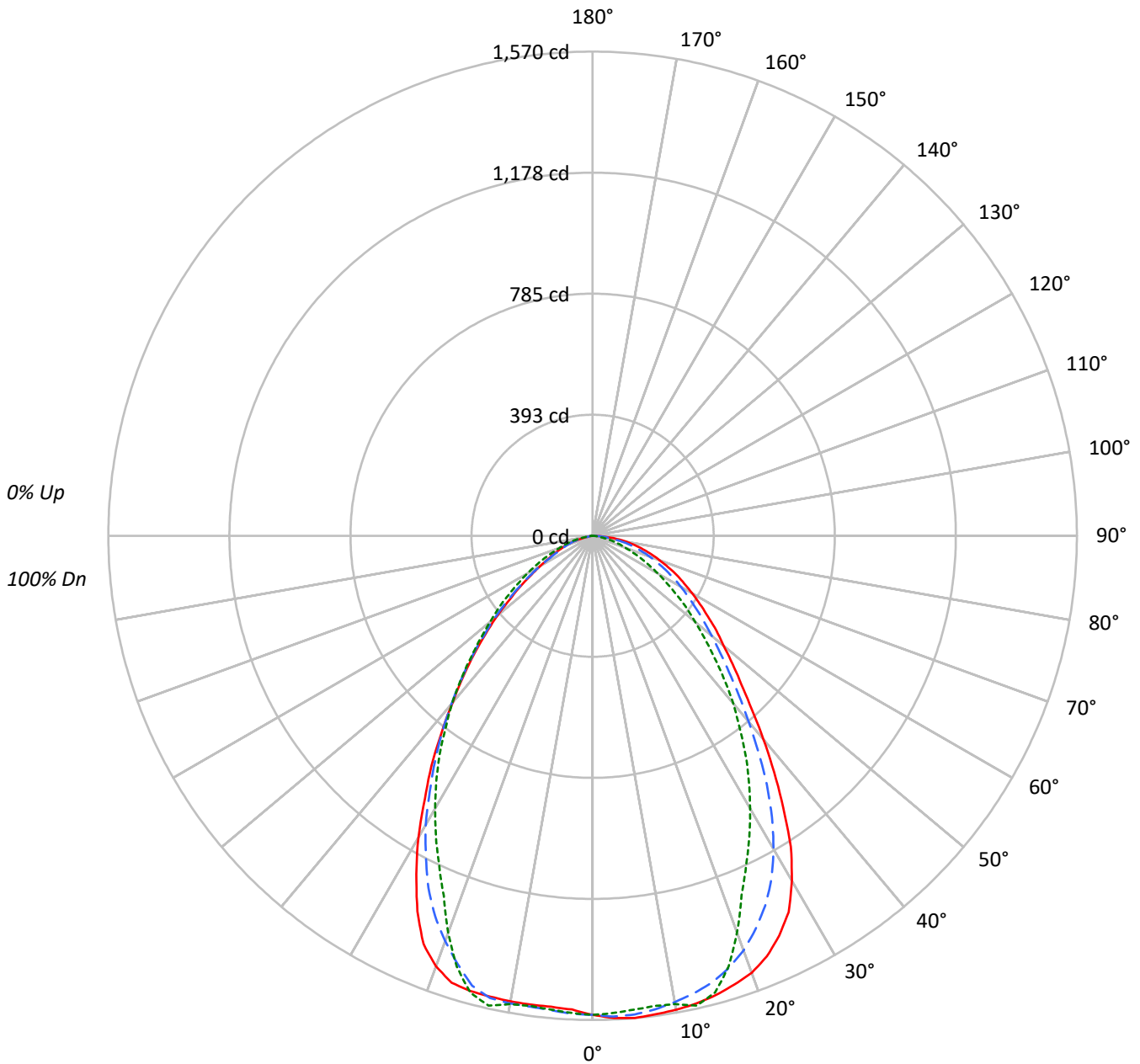
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	151411	151411	151411
5°	153545	150874	149984
10°	154420	152618	151718
15°	155602	154684	154220
20°	156399	141993	154045
25°	153837	126642	144524
30°	145350	114842	127153
35°	128195	102722	108409
40°	109551	90137	89845
45°	93874	76921	75033
50°	83936	65620	61132
55°	77412	56122	48374
60°	72372	47501	38184
65°	69343	39387	31524
70°	65567	31800	26614
75°	63486	25718	18865
80°	61343	14087	5107
85°	53450	7604	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.6	5.2
10°-20°	424.6	15.0
20°-30°	589.0	20.9
30°-40°	581.3	20.6
40°-50°	456.0	16.1
50°-60°	315.8	11.2
60°-70°	193.5	6.9
70°-80°	96.7	3.4
80°-90°	19.4	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°	1161.2	41.1
0°-40°	1742.5	61.7
0°-60°	2514.4	89.0
0°-90°	2824.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2824.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1554	1554	1554	1554	1554	
5°	1570	1558	1542	1544	1533	149
15°	1542	1499	1533	1510	1528	436
25°	1431	1324	1178	1260	1344	655
35°	1078	984	863	891	911	672
45°	681	624	558	551	544	532
55°	456	408	330	294	285	410
65°	301	260	171	128	137	297
75°	169	141	68	52	50	179
85°	48	27	7	2	2	54
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°	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6
2.5°	1565.0	1560.4	1558.1	1565.0	1562.7	1567.3	1565.0	1562.7	1558.1	1560.4	1560.4
5°	1569.5	1562.7	1560.4	1565.0	1565.0	1569.5	1567.3	1562.7	1558.1	1560.4	1558.1
7.5°	1565.0	1560.4	1560.4	1562.7	1560.4	1565.0	1560.4	1555.9	1551.3	1553.6	1549.0
10°	1560.4	1553.6	1553.6	1553.6	1553.6	1558.1	1553.6	1546.8	1539.9	1539.9	1535.4
12.5°	1553.6	1546.8	1546.8	1549.0	1544.5	1549.0	1544.5	1533.1	1526.3	1524.0	1519.4
15°	1542.2	1535.4	1535.4	1535.4	1530.8	1533.1	1526.3	1514.9	1505.8	1505.8	1498.9
17.5°	1526.3	1519.4	1517.1	1517.1	1510.3	1512.6	1505.8	1494.4	1480.7	1476.1	1469.3
20°	1508.0	1498.9	1494.4	1494.4	1487.5	1489.8	1480.7	1467.0	1448.8	1442.0	1430.6
22.5°	1476.1	1471.6	1464.8	1462.5	1455.6	1453.4	1444.2	1426.0	1410.1	1398.7	1380.5
25°	1430.6	1428.3	1421.5	1419.2	1410.1	1405.5	1396.4	1375.9	1360.0	1341.7	1323.5
27.5°	1375.9	1366.8	1362.2	1355.4	1346.3	1344.0	1332.6	1314.4	1289.3	1278.0	1255.2
30°	1291.6	1287.1	1282.5	1275.7	1266.6	1262.0	1255.2	1234.7	1214.2	1193.7	1173.2
32.5°	1195.9	1186.8	1180.0	1182.3	1170.9	1166.3	1154.9	1136.7	1118.5	1104.8	1082.0
35°	1077.5	1075.2	1072.9	1068.4	1059.3	1057.0	1047.9	1034.2	1013.7	997.8	984.1
37.5°	965.9	959.0	954.5	954.5	945.4	945.4	938.5	922.6	911.2	899.8	881.6
40°	861.1	849.7	849.7	849.7	840.6	842.9	838.3	822.4	811.0	797.3	785.9
42.5°	763.1	758.6	756.3	751.7	747.2	747.2	742.6	733.5	722.1	713.0	701.6
45°	681.1	678.8	676.6	674.3	669.7	667.5	665.2	651.5	644.7	635.6	624.2
47.5°	615.1	610.5	608.2	605.9	601.4	599.1	594.6	585.4	578.6	569.5	560.4
50°	553.6	551.3	549.0	549.0	544.4	542.2	537.6	530.8	519.4	514.8	503.4
52.5°	505.7	501.2	496.6	496.6	492.0	492.0	485.2	478.4	467.0	462.4	453.3
55°	455.6	453.3	451.0	451.0	446.5	444.2	441.9	432.8	423.7	416.9	407.8
57.5°	412.3	410.0	407.8	407.8	403.2	400.9	398.6	391.8	382.7	378.1	366.8
60°	371.3	371.3	369.0	366.8	364.5	362.2	359.9	353.1	346.3	339.4	330.3
62.5°	334.9	332.6	330.3	328.0	328.0	325.8	323.5	314.4	309.8	303.0	293.9
65°	300.7	296.1	296.1	293.9	293.9	291.6	289.3	280.2	275.6	268.8	259.7
67.5°	264.2	262.0	259.7	259.7	257.4	257.4	255.1	248.3	241.5	236.9	227.8
70°	230.1	230.1	227.8	227.8	225.5	223.2	223.2	218.7	211.9	205.0	195.9
72.5°	200.5	198.2	195.9	195.9	193.6	193.6	191.4	186.8	182.2	177.7	166.3
75°	168.6	166.3	166.3	166.3	164.0	164.0	161.7	157.2	152.6	148.1	141.2
77.5°	139.0	139.0	136.7	136.7	134.4	134.4	134.4	129.8	125.3	120.7	111.6
80°	109.3	109.3	109.3	107.1	104.8	104.8	104.8	100.2	95.7	91.1	84.3
82.5°	79.7	77.5	77.5	75.2	72.9	72.9	72.9	68.3	66.1	59.2	54.7
85°	47.8	45.6	45.6	43.3	41.0	41.0	41.0	38.7	34.2	31.9	27.3
87.5°	18.2	18.2	18.2	18.2	18.2	15.9	15.9	13.7	13.7	11.4	11.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6
2.5°	1560.4	1558.1	1558.1	1555.9	1558.1	1553.6	1553.6	1553.6	1553.6	1549.0	1549.0
5°	1555.9	1555.9	1553.6	1551.3	1553.6	1549.0	1551.3	1549.0	1549.0	1542.2	1542.2
7.5°	1546.8	1544.5	1539.9	1537.6	1539.9	1537.6	1537.6	1537.6	1542.2	1537.6	1537.6
10°	1530.8	1528.5	1524.0	1521.7	1521.7	1519.4	1524.0	1528.5	1537.6	1542.2	1551.3
12.5°	1514.9	1510.3	1508.0	1508.0	1510.3	1510.3	1519.4	1530.8	1553.6	1560.4	1569.5
15°	1494.4	1492.1	1492.1	1498.9	1508.0	1514.9	1533.1	1539.9	1542.2	1533.1	1528.5
17.5°	1467.0	1467.0	1469.3	1476.1	1483.0	1483.0	1485.3	1480.7	1476.1	1464.8	1451.1
20°	1421.5	1419.2	1414.6	1414.6	1414.6	1405.5	1410.1	1394.1	1382.7	1369.1	1348.6
22.5°	1364.5	1353.1	1337.2	1325.8	1319.0	1314.4	1303.0	1284.8	1271.1	1262.0	1252.9
25°	1303.0	1284.8	1262.0	1243.8	1232.4	1230.1	1214.2	1198.2	1189.1	1177.7	1173.2
27.5°	1232.4	1211.9	1184.6	1166.3	1157.2	1150.4	1136.7	1120.8	1109.4	1100.3	1093.4
30°	1150.4	1129.9	1107.1	1084.3	1075.2	1063.8	1050.2	1038.8	1027.4	1020.5	1016.0
32.5°	1059.3	1038.8	1016.0	1000.0	988.7	979.5	968.1	956.8	947.6	943.1	938.5
35°	965.9	945.4	927.1	911.2	902.1	895.3	886.1	872.5	865.6	863.4	858.8
37.5°	865.6	852.0	836.0	822.4	815.5	806.4	801.9	790.5	790.5	781.4	781.4
40°	772.2	763.1	747.2	735.8	731.2	724.4	717.6	713.0	710.7	708.5	706.2
42.5°	690.2	676.6	667.5	658.3	651.5	647.0	647.0	640.1	637.8	631.0	628.7
45°	615.1	608.2	592.3	585.4	583.2	576.3	574.1	569.5	562.7	558.1	555.8
47.5°	549.0	542.2	533.1	523.9	519.4	514.8	510.3	503.4	498.9	492.0	489.8
50°	494.3	482.9	473.8	467.0	460.2	457.9	453.3	444.2	439.7	432.8	432.8
52.5°	444.2	435.1	423.7	416.9	410.0	405.5	398.6	391.8	385.0	382.7	375.9
55°	400.9	389.5	378.1	369.0	362.2	355.4	353.1	344.0	334.9	330.3	325.8
57.5°	359.9	348.5	334.9	323.5	318.9	314.4	307.5	298.4	291.6	284.7	280.2
60°	318.9	309.8	296.1	284.7	280.2	273.4	266.5	257.4	250.6	243.7	239.2
62.5°	284.7	271.1	259.7	248.3	241.5	236.9	227.8	221.0	211.9	205.0	198.2
65°	250.6	236.9	225.5	214.1	209.6	202.7	195.9	186.8	177.7	170.8	161.7
67.5°	216.4	205.0	193.6	182.2	177.7	173.1	164.0	154.9	145.8	139.0	129.8
70°	186.8	175.4	164.0	154.9	150.3	145.8	136.7	127.6	120.7	111.6	104.8
72.5°	159.5	150.3	139.0	129.8	125.3	120.7	111.6	104.8	95.7	91.1	84.3
75°	132.1	123.0	113.9	104.8	100.2	95.7	88.8	82.0	75.2	68.3	63.8
77.5°	104.8	95.7	86.6	79.7	75.2	72.9	66.1	59.2	52.4	47.8	41.0
80°	77.5	68.3	61.5	54.7	50.1	47.8	41.0	36.4	31.9	25.1	22.8
82.5°	47.8	41.0	36.4	31.9	29.6	27.3	22.8	18.2	15.9	13.7	11.4
85°	25.1	22.8	18.2	15.9	13.7	13.7	11.4	9.1	6.8	6.8	4.6
87.5°	9.1	6.8	6.8	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°	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6
2.5°	1544.5	1546.8	1549.0	1551.3	1549.0	1549.0	1553.6	1544.5	1551.3	1551.3	1542.2
5°	1539.9	1544.5	1542.2	1546.8	1542.2	1542.2	1544.5	1539.9	1544.5	1544.5	1537.6
7.5°	1535.4	1539.9	1539.9	1542.2	1539.9	1539.9	1542.2	1535.4	1539.9	1539.9	1533.1
10°	1555.9	1560.4	1558.1	1555.9	1549.0	1544.5	1546.8	1535.4	1539.9	1539.9	1533.1
12.5°	1562.7	1560.4	1551.3	1546.8	1542.2	1537.6	1539.9	1530.8	1535.4	1535.4	1530.8
15°	1517.1	1512.6	1505.8	1508.0	1503.5	1501.2	1505.8	1501.2	1510.3	1514.9	1510.3
17.5°	1439.7	1437.4	1432.9	1432.9	1432.9	1435.1	1442.0	1442.0	1455.6	1464.8	1469.3
20°	1339.5	1337.2	1339.5	1344.0	1346.3	1355.4	1371.4	1380.5	1398.7	1414.6	1426.0
22.5°	1248.3	1252.9	1259.7	1268.8	1271.1	1282.5	1303.0	1312.1	1334.9	1353.1	1364.5
25°	1170.9	1177.7	1182.3	1189.1	1191.4	1205.1	1223.3	1234.7	1259.7	1273.4	1287.1
27.5°	1093.4	1102.6	1104.8	1113.9	1113.9	1127.6	1143.6	1154.9	1170.9	1184.6	1195.9
30°	1018.3	1020.5	1027.4	1029.7	1034.2	1047.9	1057.0	1063.8	1082.0	1088.9	1095.7
32.5°	936.3	945.4	949.9	952.2	949.9	961.3	970.4	975.0	981.8	990.9	995.5
35°	858.8	863.4	865.6	870.2	872.5	874.8	879.3	881.6	890.7	893.0	895.3
37.5°	781.4	788.2	785.9	788.2	788.2	790.5	795.0	792.7	799.6	801.9	799.6
40°	703.9	703.9	708.5	706.2	708.5	706.2	710.7	710.7	710.7	713.0	710.7
42.5°	626.4	628.7	626.4	631.0	626.4	628.7	628.7	626.4	628.7	626.4	626.4
45°	555.8	555.8	555.8	555.8	551.3	551.3	555.8	553.6	551.3	549.0	546.7
47.5°	487.5	489.8	485.2	487.5	485.2	482.9	480.7	480.7	478.4	473.8	471.5
50°	430.5	426.0	423.7	426.0	423.7	421.4	419.2	414.6	412.3	407.8	405.5
52.5°	373.6	369.0	364.5	364.5	362.2	357.6	355.4	350.8	348.5	344.0	344.0
55°	323.5	318.9	314.4	312.1	307.5	303.0	300.7	296.1	293.9	289.3	284.7
57.5°	275.6	268.8	264.2	262.0	259.7	252.9	250.6	246.0	241.5	236.9	234.6
60°	232.4	225.5	218.7	216.4	214.1	207.3	205.0	198.2	195.9	191.4	189.1
62.5°	191.4	186.8	177.7	175.4	170.8	166.3	159.5	157.2	154.9	157.2	157.2
65°	154.9	148.1	141.2	139.0	134.4	129.8	127.6	125.3	127.6	127.6	129.8
67.5°	123.0	116.2	109.3	109.3	107.1	102.5	102.5	102.5	104.8	104.8	107.1
70°	98.0	93.4	88.8	86.6	86.6	84.3	86.6	86.6	88.8	88.8	88.8
72.5°	77.5	75.2	72.9	70.6	70.6	70.6	70.6	70.6	70.6	70.6	72.9
75°	59.2	56.9	54.7	54.7	52.4	52.4	52.4	52.4	52.4	52.4	50.1
77.5°	38.7	36.4	34.2	34.2	31.9	29.6	29.6	27.3	27.3	27.3	27.3
80°	20.5	18.2	15.9	13.7	13.7	11.4	11.4	11.4	11.4	9.1	9.1
82.5°	9.1	6.8	6.8	6.8	6.8	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: P251719

CATALOG NUMBER: LD4B40D010 EU4B30509030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6	1553.6
2.5°	1546.8	1542.2	1546.8	1549.0	1544.5	1542.2	1546.8	1537.6
5°	1544.5	1537.6	1539.9	1542.2	1537.6	1535.4	1539.9	1533.1
7.5°	1539.9	1537.6	1539.9	1542.2	1535.4	1535.4	1539.9	1533.1
10°	1539.9	1535.4	1537.6	1542.2	1537.6	1537.6	1542.2	1533.1
12.5°	1537.6	1530.8	1537.6	1539.9	1535.4	1535.4	1539.9	1530.8
15°	1521.7	1521.7	1524.0	1528.5	1526.3	1528.5	1535.4	1528.5
17.5°	1487.5	1492.1	1501.2	1508.0	1512.6	1517.1	1524.0	1519.4
20°	1446.5	1453.4	1464.8	1471.6	1480.7	1483.0	1494.4	1485.3
22.5°	1382.7	1396.4	1405.5	1412.4	1419.2	1426.0	1435.1	1432.9
25°	1305.3	1314.4	1321.2	1328.1	1337.2	1341.7	1346.3	1344.0
27.5°	1211.9	1216.5	1225.6	1230.1	1234.7	1239.2	1248.3	1237.0
30°	1109.4	1111.7	1116.2	1123.1	1123.1	1127.6	1132.2	1129.9
32.5°	1004.6	1004.6	1009.2	1013.7	1011.4	1013.7	1022.8	1011.4
35°	902.1	899.8	906.6	908.9	908.9	906.6	913.5	911.2
37.5°	801.9	804.1	806.4	808.7	804.1	808.7	808.7	804.1
40°	710.7	708.5	713.0	715.3	713.0	715.3	715.3	706.2
42.5°	628.7	624.2	626.4	628.7	626.4	628.7	626.4	621.9
45°	549.0	546.7	546.7	549.0	544.4	544.4	544.4	544.4
47.5°	473.8	471.5	473.8	473.8	469.3	469.3	471.5	469.3
50°	405.5	403.2	403.2	403.2	400.9	400.9	403.2	403.2
52.5°	344.0	339.4	339.4	339.4	339.4	339.4	341.7	337.1
55°	282.5	282.5	282.5	282.5	284.7	284.7	284.7	284.7
57.5°	232.4	234.6	234.6	236.9	234.6	236.9	236.9	234.6
60°	193.6	191.4	193.6	193.6	195.9	195.9	195.9	195.9
62.5°	159.5	159.5	159.5	161.7	161.7	161.7	164.0	161.7
65°	132.1	132.1	134.4	134.4	134.4	136.7	136.7	136.7
67.5°	109.3	109.3	109.3	109.3	111.6	111.6	113.9	111.6
70°	91.1	91.1	91.1	91.1	91.1	93.4	93.4	93.4
72.5°	72.9	72.9	72.9	72.9	75.2	75.2	75.2	75.2
75°	50.1	50.1	50.1	52.4	50.1	50.1	50.1	50.1
77.5°	25.1	25.1	25.1	25.1	25.1	22.8	22.8	22.8
80°	9.1	9.1	9.1	9.1	9.1	9.1	6.8	9.1
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)