

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: P251797

Luminaire Tested: **LD4B40D010 EU4B30509030 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30509030 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2670.0 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

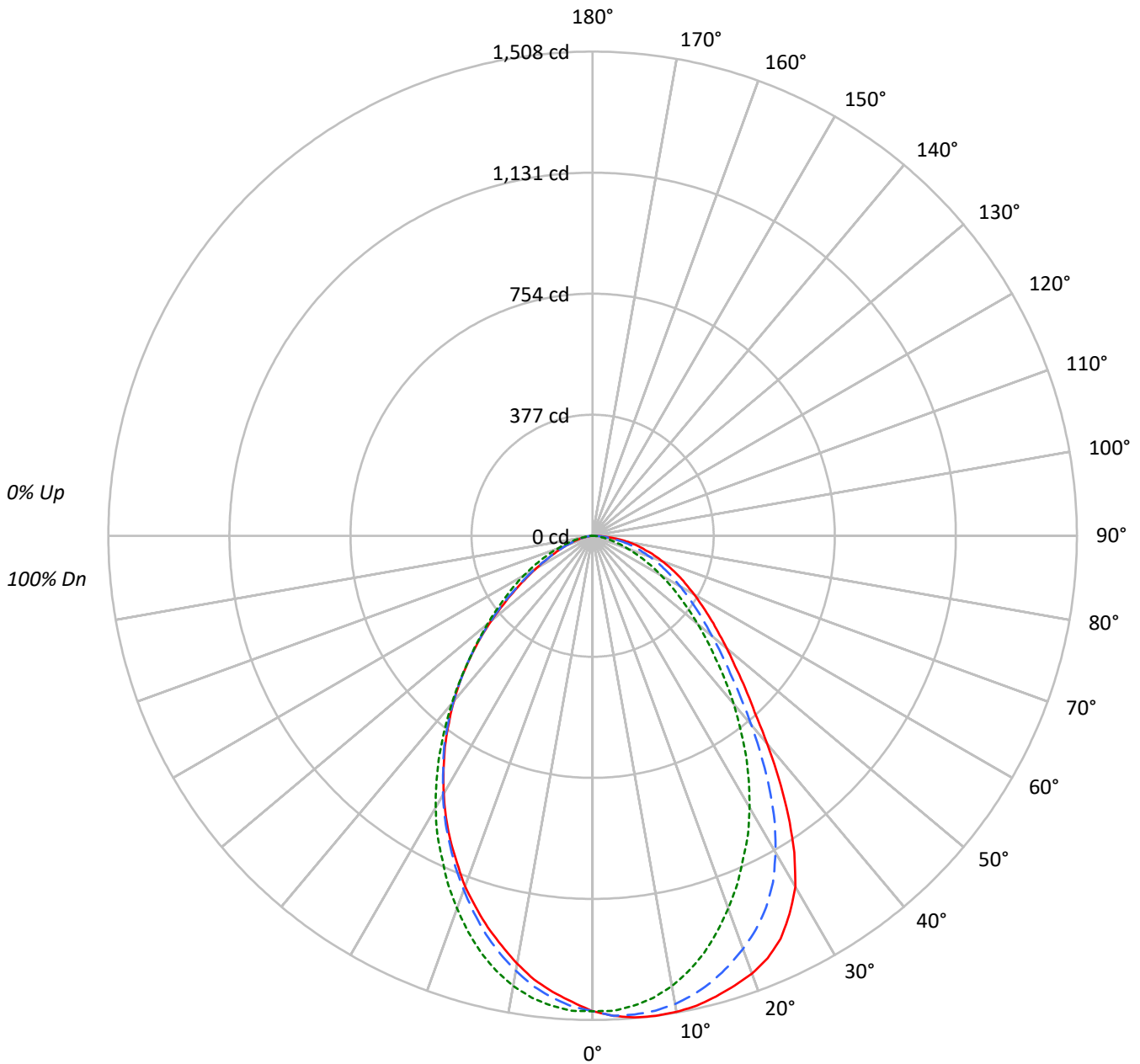
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88	88	88	88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76	76	76	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59	59	59	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32	32	32	32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	144316	144316	144316
5°	147313	143752	139516
10°	149016	140901	133915
15°	149861	135614	127341
20°	150498	128054	120493
25°	148944	119297	112684
30°	142030	109980	104342
35°	126303	98927	95406
40°	107528	86944	85494
45°	92619	74730	74413
50°	82556	64589	62512
55°	75866	55731	49937
60°	71047	47949	39081
65°	68305	40448	30463
70°	65567	32456	24677
75°	63486	25718	18865
80°	63925	17904	11505
85°	53450	12748	5144



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	5.2
10°-20°	381.1	14.3
20°-30°	532.9	20.0
30°-40°	547.8	20.5
40°-50°	444.6	16.7
50°-60°	313.1	11.7
60°-70°	192.7	7.2
70°-80°	96.3	3.6
80°-90°	22.9	0.9
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°	1052.6	39.4
0°-40°	1600.4	59.9
0°-60°	2358.1	88.3
0°-90°	2670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2670.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1481	1481	1481	1481	1481	
5°	1506	1497	1469	1444	1426	144
15°	1485	1438	1344	1285	1262	420
25°	1385	1278	1109	1055	1048	633
35°	1062	959	832	806	802	660
45°	672	606	542	542	540	523
55°	446	392	328	301	294	401
65°	296	248	175	134	132	293
75°	169	132	68	50	50	180
85°	48	32	11	7	5	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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1496.7	1499.0	1492.2	1499.0	1489.9	1494.4	1496.7	1492.2	1487.6	1496.7	1496.7
5°	1505.8	1505.8	1499.0	1508.1	1496.7	1499.0	1503.5	1496.7	1489.9	1499.0	1496.7
7.5°	1508.1	1508.1	1499.0	1508.1	1496.7	1499.0	1501.3	1494.4	1487.6	1494.4	1492.2
10°	1505.8	1503.5	1496.7	1505.8	1494.4	1494.4	1496.7	1489.9	1478.5	1485.3	1480.8
12.5°	1499.0	1499.0	1489.9	1499.0	1483.0	1483.0	1485.3	1476.2	1467.1	1467.1	1462.5
15°	1485.3	1485.3	1476.2	1483.0	1469.4	1469.4	1467.1	1458.0	1446.6	1446.6	1437.5
17.5°	1469.4	1469.4	1460.3	1467.1	1451.1	1451.1	1448.9	1435.2	1419.3	1417.0	1405.6
20°	1451.1	1451.1	1439.8	1444.3	1426.1	1426.1	1423.8	1407.9	1389.6	1385.1	1369.1
22.5°	1423.8	1423.8	1412.4	1414.7	1396.5	1394.2	1391.9	1373.7	1355.5	1348.6	1328.1
25°	1385.1	1382.8	1373.7	1373.7	1355.5	1350.9	1346.4	1328.1	1309.9	1296.2	1278.0
27.5°	1328.1	1330.4	1319.0	1321.3	1298.5	1294.0	1291.7	1268.9	1248.4	1234.7	1216.5
30°	1262.1	1255.2	1243.8	1243.8	1225.6	1223.3	1218.8	1198.3	1175.5	1159.6	1139.0
32.5°	1168.7	1166.4	1155.0	1155.0	1134.5	1134.5	1125.4	1104.9	1084.4	1075.3	1054.8
35°	1061.6	1059.3	1050.2	1050.2	1032.0	1034.3	1025.1	1009.2	988.7	975.0	959.1
37.5°	952.2	950.0	940.9	943.1	927.2	927.2	920.4	904.4	888.5	881.6	861.1
40°	845.2	842.9	831.5	838.3	824.7	820.1	817.8	806.4	788.2	779.1	767.7
42.5°	747.2	749.5	738.1	742.7	731.3	726.7	724.4	715.3	701.7	692.5	681.2
45°	672.0	667.5	662.9	662.9	651.5	649.3	647.0	635.6	626.5	617.4	606.0
47.5°	601.4	596.9	592.3	594.6	585.5	583.2	578.6	569.5	558.1	553.6	542.2
50°	544.5	542.2	535.4	535.4	526.2	524.0	519.4	512.6	501.2	494.3	485.2
52.5°	492.1	492.1	485.2	483.0	476.1	473.8	471.6	462.5	453.3	444.2	435.1
55°	446.5	444.2	439.7	439.7	430.6	428.3	426.0	416.9	407.8	400.9	391.8
57.5°	403.2	403.2	398.7	398.7	391.8	387.3	387.3	378.2	366.8	362.2	350.8
60°	364.5	364.5	359.9	359.9	353.1	353.1	348.5	339.4	332.6	323.5	314.4
62.5°	328.0	330.3	325.8	323.5	316.7	314.4	314.4	307.5	296.2	289.3	280.2
65°	296.2	293.9	291.6	289.3	282.5	280.2	280.2	271.1	264.3	255.1	248.3
67.5°	262.0	262.0	257.4	257.4	252.9	250.6	246.0	239.2	232.4	225.5	218.7
70°	230.1	230.1	227.8	227.8	221.0	218.7	216.4	209.6	202.8	195.9	186.8
72.5°	200.5	198.2	195.9	195.9	191.4	189.1	186.8	180.0	173.1	166.3	159.5
75°	168.6	168.6	166.3	166.3	161.7	159.5	159.5	154.9	145.8	141.2	132.1
77.5°	141.2	141.2	139.0	139.0	134.4	134.4	132.1	125.3	120.7	113.9	109.3
80°	113.9	111.6	111.6	109.3	104.8	104.8	102.5	100.2	93.4	88.8	82.0
82.5°	79.7	79.7	79.7	77.5	75.2	75.2	72.9	68.3	63.8	61.5	54.7
85°	47.8	47.8	45.6	43.3	45.6	43.3	41.0	38.7	36.4	34.2	31.9
87.5°	20.5	20.5	18.2	18.2	18.2	18.2	18.2	15.9	13.7	13.7	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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1483.0	1489.9	1487.6	1485.3	1480.8	1480.8	1480.8	1478.5	1480.8	1480.8	1476.2
5°	1483.0	1487.6	1485.3	1480.8	1476.2	1476.2	1473.9	1469.4	1469.4	1469.4	1460.3
7.5°	1476.2	1480.8	1473.9	1469.4	1464.8	1460.3	1460.3	1453.4	1453.4	1451.1	1442.0
10°	1462.5	1464.8	1455.7	1451.1	1444.3	1442.0	1437.5	1428.4	1426.1	1423.8	1414.7
12.5°	1442.0	1444.3	1432.9	1423.8	1414.7	1412.4	1407.9	1396.5	1391.9	1387.4	1376.0
15°	1412.4	1412.4	1398.8	1387.4	1378.2	1376.0	1364.6	1353.2	1348.6	1344.1	1328.1
17.5°	1378.2	1376.0	1357.7	1346.4	1335.0	1330.4	1319.0	1305.4	1296.2	1291.7	1278.0
20°	1341.8	1335.0	1314.5	1303.1	1289.4	1282.6	1271.2	1253.0	1243.8	1234.7	1221.1
22.5°	1298.5	1289.4	1266.6	1250.7	1237.0	1230.2	1214.2	1198.3	1184.6	1175.5	1159.6
25°	1246.1	1234.7	1209.7	1189.2	1177.8	1170.9	1155.0	1136.8	1123.1	1109.4	1095.8
27.5°	1184.6	1170.9	1145.9	1125.4	1114.0	1102.6	1091.2	1070.7	1059.3	1047.9	1032.0
30°	1109.4	1093.5	1070.7	1052.5	1038.8	1029.7	1016.0	997.8	984.1	977.3	961.4
32.5°	1027.4	1009.2	988.7	970.5	963.6	952.2	940.9	922.6	911.2	904.4	893.0
35°	936.3	922.6	899.8	886.2	874.8	870.2	861.1	842.9	838.3	831.5	817.8
37.5°	840.6	829.2	813.3	801.9	792.8	788.2	779.1	767.7	760.9	754.1	747.2
40°	751.8	742.7	729.0	719.9	708.5	701.7	701.7	688.0	683.4	683.4	676.6
42.5°	665.2	660.6	649.3	635.6	633.3	626.5	624.2	617.4	612.8	610.5	608.3
45°	592.3	585.5	574.1	567.2	560.4	560.4	553.6	546.7	544.5	542.2	539.9
47.5°	528.5	519.4	510.3	503.5	498.9	496.6	489.8	485.2	483.0	483.0	480.7
50°	471.6	464.7	455.6	448.8	444.2	439.7	435.1	430.6	428.3	426.0	426.0
52.5°	423.7	414.6	405.5	398.7	391.8	389.6	385.0	380.4	378.2	375.9	373.6
55°	380.4	373.6	362.2	355.4	348.5	348.5	341.7	334.9	330.3	328.0	325.8
57.5°	339.4	332.6	321.2	314.4	309.8	305.3	300.7	296.2	291.6	287.0	282.5
60°	303.0	296.2	284.8	275.6	273.4	268.8	264.3	255.1	250.6	246.0	241.5
62.5°	268.8	259.7	250.6	241.5	239.2	234.6	227.8	221.0	214.1	209.6	202.8
65°	236.9	230.1	218.7	211.9	205.0	202.8	195.9	186.8	180.0	175.4	168.6
67.5°	207.3	198.2	186.8	180.0	175.4	170.9	164.0	157.2	150.4	143.5	136.7
70°	177.7	170.9	159.5	152.6	148.1	143.5	136.7	127.6	120.7	113.9	109.3
72.5°	150.4	141.2	132.1	125.3	120.7	116.2	109.3	102.5	95.7	91.1	84.3
75°	125.3	116.2	109.3	100.2	98.0	93.4	86.6	79.7	72.9	68.3	63.8
77.5°	100.2	93.4	84.3	79.7	75.2	70.6	66.1	59.2	54.7	47.8	43.3
80°	75.2	68.3	61.5	57.0	52.4	50.1	45.6	41.0	36.4	31.9	29.6
82.5°	50.1	45.6	38.7	36.4	34.2	31.9	27.3	25.1	22.8	20.5	18.2
85°	27.3	25.1	22.8	18.2	18.2	15.9	13.7	13.7	11.4	11.4	9.1
87.5°	11.4	9.1	9.1	6.8	6.8	6.8	4.6	4.6	4.6	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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1478.5	1469.4	1469.4	1469.4	1462.5	1464.8	1467.1	1469.4	1467.1	1460.3	1467.1
5°	1462.5	1453.4	1453.4	1448.9	1444.3	1444.3	1444.3	1446.6	1444.3	1437.5	1439.8
7.5°	1442.0	1430.6	1428.4	1423.8	1419.3	1417.0	1417.0	1417.0	1414.7	1405.6	1410.1
10°	1410.1	1398.8	1394.2	1391.9	1385.1	1382.8	1380.5	1378.2	1376.0	1366.9	1371.4
12.5°	1371.4	1362.3	1353.2	1350.9	1344.1	1339.5	1337.2	1337.2	1332.7	1323.6	1328.1
15°	1325.9	1312.2	1305.4	1300.8	1294.0	1289.4	1284.8	1287.1	1284.8	1275.7	1278.0
17.5°	1271.2	1257.5	1250.7	1248.4	1239.3	1234.7	1232.5	1232.5	1230.2	1221.1	1223.3
20°	1211.9	1198.3	1193.7	1189.2	1184.6	1180.1	1177.8	1175.5	1173.2	1164.1	1170.9
22.5°	1152.7	1136.8	1129.9	1129.9	1120.8	1118.5	1116.3	1118.5	1116.3	1107.2	1111.7
25°	1091.2	1075.3	1070.7	1063.9	1059.3	1057.0	1057.0	1057.0	1054.8	1050.2	1054.8
27.5°	1022.9	1011.5	1004.6	1002.4	997.8	995.5	993.3	995.5	995.5	988.7	993.3
30°	954.5	945.4	940.9	938.6	931.7	929.5	931.7	931.7	931.7	924.9	931.7
32.5°	886.2	879.3	877.1	870.2	865.7	865.7	865.7	868.0	865.7	861.1	868.0
35°	817.8	808.7	806.4	804.2	804.2	799.6	804.2	801.9	806.4	799.6	804.2
37.5°	744.9	740.4	738.1	738.1	733.5	735.8	735.8	735.8	740.4	733.5	738.1
40°	676.6	672.0	672.0	672.0	669.8	669.8	669.8	672.0	674.3	669.8	674.3
42.5°	608.3	606.0	606.0	603.7	601.4	603.7	606.0	606.0	608.3	603.7	606.0
45°	542.2	539.9	542.2	539.9	539.9	537.6	539.9	542.2	542.2	539.9	539.9
47.5°	480.7	480.7	478.4	478.4	478.4	478.4	478.4	478.4	478.4	473.8	478.4
50°	426.0	421.4	423.7	421.4	421.4	419.2	419.2	416.9	414.6	412.3	412.3
52.5°	373.6	369.1	369.1	366.8	364.5	364.5	362.2	359.9	357.7	353.1	353.1
55°	323.5	318.9	316.7	314.4	312.1	309.8	307.5	305.3	300.7	298.4	298.4
57.5°	277.9	273.4	268.8	268.8	264.3	262.0	257.4	252.9	250.6	246.0	246.0
60°	236.9	232.4	225.5	223.3	221.0	216.4	209.6	207.3	205.0	200.5	202.8
62.5°	198.2	191.4	184.5	182.2	180.0	175.4	170.9	166.3	164.0	166.3	166.3
65°	161.7	154.9	150.4	145.8	143.5	139.0	136.7	134.4	134.4	134.4	136.7
67.5°	129.9	123.0	118.5	116.2	111.6	109.3	109.3	109.3	109.3	109.3	109.3
70°	102.5	98.0	93.4	88.8	88.8	86.6	86.6	86.6	86.6	86.6	86.6
72.5°	77.5	72.9	70.6	70.6	68.3	68.3	68.3	68.3	66.1	66.1	68.3
75°	57.0	54.7	52.4	52.4	52.4	50.1	50.1	50.1	50.1	50.1	50.1
77.5°	41.0	38.7	38.7	36.4	36.4	36.4	36.4	36.4	36.4	34.2	34.2
80°	27.3	25.1	25.1	25.1	25.1	22.8	22.8	22.8	22.8	22.8	22.8
82.5°	15.9	15.9	15.9	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
85°	9.1	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	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: P251797

CATALOG NUMBER: LD4B40D010 EU4B30509030 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1453.4	1462.5	1464.8	1458.0	1460.3	1455.7	1458.0	1453.4
5°	1428.4	1435.2	1437.5	1432.9	1432.9	1428.4	1430.6	1426.1
7.5°	1396.5	1403.3	1405.6	1401.0	1401.0	1396.5	1396.5	1394.2
10°	1360.0	1362.3	1366.9	1360.0	1362.3	1357.7	1357.7	1353.2
12.5°	1314.5	1319.0	1323.6	1316.7	1316.7	1314.5	1314.5	1307.6
15°	1266.6	1271.2	1273.5	1268.9	1268.9	1266.6	1264.3	1262.1
17.5°	1216.5	1218.8	1223.3	1216.5	1221.1	1216.5	1216.5	1211.9
20°	1159.6	1166.4	1168.7	1161.8	1164.1	1161.8	1161.8	1161.8
22.5°	1104.9	1109.4	1111.7	1107.2	1109.4	1104.9	1107.2	1102.6
25°	1047.9	1050.2	1052.5	1047.9	1052.5	1050.2	1047.9	1047.9
27.5°	988.7	991.0	993.3	988.7	993.3	991.0	993.3	988.7
30°	924.9	929.5	934.0	929.5	931.7	929.5	929.5	927.2
32.5°	861.1	865.7	870.2	865.7	870.2	865.7	868.0	863.4
35°	801.9	804.2	806.4	801.9	804.2	804.2	804.2	801.9
37.5°	735.8	740.4	740.4	738.1	742.7	740.4	740.4	735.8
40°	672.0	674.3	676.6	672.0	674.3	672.0	674.3	672.0
42.5°	606.0	610.5	612.8	608.3	608.3	608.3	606.0	608.3
45°	537.6	542.2	546.7	539.9	542.2	542.2	542.2	539.9
47.5°	476.1	476.1	478.4	476.1	478.4	473.8	478.4	476.1
50°	412.3	412.3	416.9	412.3	412.3	412.3	412.3	412.3
52.5°	350.8	353.1	353.1	348.5	350.8	348.5	350.8	348.5
55°	293.9	293.9	296.2	293.9	293.9	293.9	293.9	293.9
57.5°	243.8	246.0	246.0	243.8	246.0	243.8	243.8	243.8
60°	202.8	202.8	202.8	200.5	202.8	200.5	202.8	200.5
62.5°	164.0	166.3	166.3	164.0	166.3	164.0	164.0	164.0
65°	134.4	134.4	134.4	134.4	134.4	134.4	134.4	132.1
67.5°	107.1	107.1	109.3	107.1	109.3	109.3	109.3	109.3
70°	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
72.5°	66.1	66.1	68.3	66.1	66.1	66.1	66.1	66.1
75°	50.1	50.1	50.1	50.1	50.1	47.8	47.8	50.1
77.5°	34.2	34.2	34.2	34.2	34.2	34.2	34.2	36.4
80°	22.8	22.8	22.8	22.8	20.5	20.5	22.8	20.5
82.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
85°	6.8	6.8	4.6	4.6	4.6	4.6	4.6	4.6
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)