

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: P251549

Luminaire Tested: **LD4B30D010 EU4B30509027 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251549
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 EU4B30509027 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2212.0 lumens
Efficiency: N/A
Efficacy: 79.0 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

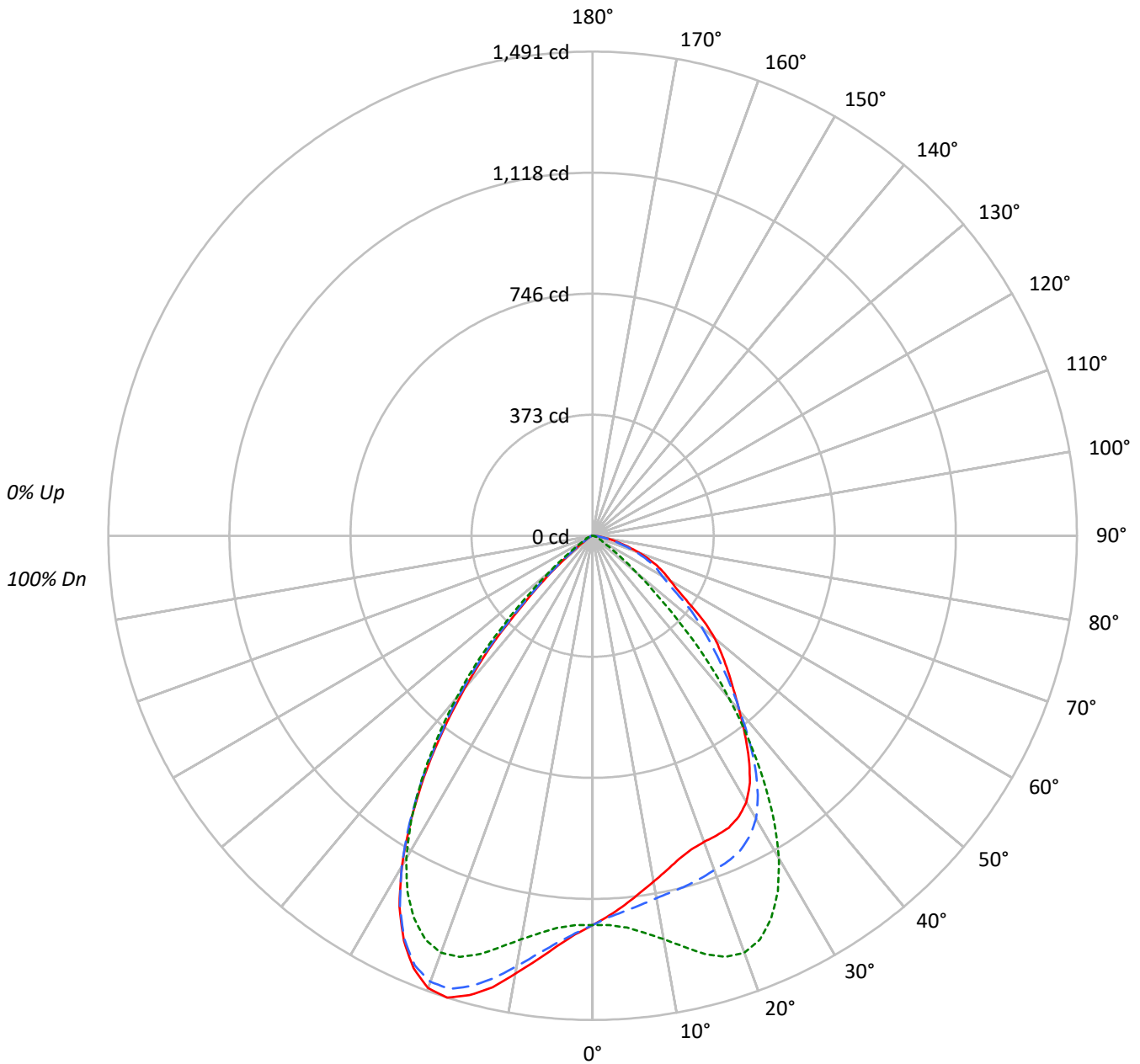
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80			80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64			64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58			58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53			53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48			48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44			44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40			40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37			37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	116823	116823	116823
5°	111605	118492	124157
10°	107007	124820	135498
15°	103893	134525	147782
20°	104034	141682	153692
25°	106684	139836	147912
30°	106537	129078	132071
35°	99796	109099	107612
40°	89387	83216	77644
45°	81097	52843	43346
50°	74505	26806	18513
55°	61152	11962	6117
60°	53680	6705	3353
65°	50526	5050	2537
70°	43255	4018	2223
75°	32986	2937	1770
80°	23740	1740	898
85°	17444	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	5.3
10°-20°	362.9	16.4
20°-30°	561.4	25.4
30°-40°	553.2	25.0
40°-50°	339.7	15.4
50°-60°	151.0	6.8
60°-70°	84.4	3.8
70°-80°	36.5	1.7
80°-90°	6.5	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°	1040.7	47.0
0°-40°	1593.9	72.1
0°-60°	2084.6	94.2
0°-90°	2212.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2212.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1199	1199	1199	1199	1199	
5°	1141	1160	1211	1258	1269	107
15°	1030	1116	1333	1435	1465	292
25°	992	1072	1300	1371	1376	455
35°	839	873	917	914	904	521
45°	588	559	383	335	314	456
55°	360	326	70	41	36	331
65°	219	197	22	12	11	215
75°	88	75	8	5	5	96
85°	16	12	0	0	0	19
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°	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7
2.5°	1170.5	1170.5	1170.5	1170.5	1173.6	1168.9	1173.6	1173.6	1178.3	1179.9	1175.2
5°	1140.8	1139.2	1140.8	1140.8	1143.9	1142.3	1147.0	1150.2	1156.4	1159.6	1159.6
7.5°	1109.5	1109.5	1109.5	1112.6	1117.3	1115.7	1120.4	1125.1	1134.5	1140.8	1145.5
10°	1081.3	1079.7	1084.4	1086.0	1090.7	1090.7	1098.5	1103.2	1114.2	1126.7	1133.0
12.5°	1054.7	1053.1	1056.3	1061.0	1068.8	1068.8	1075.1	1082.9	1098.5	1112.6	1123.6
15°	1029.7	1031.2	1035.9	1039.1	1048.5	1048.5	1056.3	1065.7	1082.9	1100.1	1115.7
17.5°	1012.5	1014.0	1017.2	1021.8	1031.2	1031.2	1039.1	1050.0	1068.8	1087.6	1106.4
20°	1003.1	1004.6	1007.8	1012.5	1020.3	1021.8	1028.1	1040.6	1057.8	1078.2	1095.4
22.5°	998.4	1001.5	1004.6	1007.8	1015.6	1015.6	1023.4	1032.8	1050.0	1070.4	1086.0
25°	992.1	995.2	996.8	1001.5	1007.8	1007.8	1012.5	1023.4	1039.1	1056.3	1071.9
27.5°	974.9	978.0	979.6	984.3	990.6	989.0	995.2	1003.1	1017.2	1032.8	1045.3
30°	946.7	948.3	951.4	953.0	957.7	957.7	962.4	970.2	979.6	993.7	1006.2
32.5°	901.4	904.5	906.1	907.6	912.3	910.7	912.3	917.0	926.4	938.9	946.7
35°	838.8	845.0	845.0	848.2	849.7	848.2	848.2	854.4	859.1	868.5	873.2
37.5°	769.9	774.6	773.0	776.2	777.7	773.0	776.2	777.7	784.0	788.7	790.3
40°	702.6	704.2	704.2	704.2	704.2	702.6	704.2	705.7	710.4	710.4	705.7
42.5°	641.6	643.2	643.2	640.0	643.2	641.6	641.6	641.6	641.6	635.3	630.6
45°	588.4	589.9	589.9	588.4	588.4	585.3	583.7	582.1	577.4	569.6	558.7
47.5°	538.3	541.4	543.0	539.9	538.3	535.2	535.2	525.8	519.5	510.1	494.5
50°	491.4	494.5	494.5	491.4	491.4	486.7	482.0	478.8	469.5	458.5	439.7
52.5°	431.9	436.6	436.6	435.0	435.0	428.8	427.2	420.9	413.1	400.6	385.0
55°	359.9	366.2	364.6	363.0	359.9	359.9	359.9	355.2	350.5	341.1	325.5
57.5°	308.3	309.8	309.8	308.3	308.3	305.1	305.1	300.5	298.9	289.5	277.0
60°	275.4	275.4	277.0	275.4	273.8	272.3	270.7	267.6	262.9	256.6	247.2
62.5°	248.8	250.4	250.4	248.8	247.2	245.7	244.1	241.0	237.9	233.2	223.8
65°	219.1	222.2	220.6	219.1	217.5	215.9	215.9	212.8	209.7	206.6	197.2
67.5°	186.2	187.8	189.3	186.2	186.2	184.7	184.7	181.5	180.0	173.7	167.4
70°	151.8	153.4	153.4	151.8	151.8	150.2	150.2	148.7	147.1	142.4	136.1
72.5°	118.9	120.5	118.9	117.4	117.4	117.4	115.8	114.2	112.7	109.5	104.8
75°	87.6	87.6	89.2	87.6	86.1	86.1	84.5	84.5	81.4	79.8	75.1
77.5°	62.6	64.2	62.6	62.6	61.0	59.5	59.5	57.9	57.9	56.3	53.2
80°	42.3	42.3	43.8	42.3	40.7	42.3	40.7	39.1	39.1	37.6	34.4
82.5°	26.6	28.2	26.6	26.6	26.6	26.6	26.6	25.0	25.0	23.5	21.9
85°	15.6	15.6	15.6	15.6	15.6	15.6	15.6	14.1	14.1	14.1	12.5
87.5°	7.8	7.8	6.3	6.3	7.8	7.8	7.8	6.3	6.3	6.3	6.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7
2.5°	1181.5	1183.0	1186.2	1190.9	1190.9	1187.7	1195.5	1195.5	1198.7	1200.2	1206.5
5°	1168.9	1172.1	1178.3	1186.2	1187.7	1186.2	1197.1	1201.8	1206.5	1211.2	1220.6
7.5°	1158.0	1164.3	1175.2	1186.2	1190.9	1190.9	1208.1	1214.3	1223.7	1233.1	1244.1
10°	1151.7	1161.1	1176.8	1194.0	1198.7	1203.4	1223.7	1236.2	1248.8	1261.3	1276.9
12.5°	1143.9	1161.1	1181.5	1203.4	1212.8	1219.0	1247.2	1262.8	1280.1	1295.7	1316.0
15°	1142.3	1162.7	1189.3	1217.5	1230.0	1239.4	1270.7	1292.6	1312.9	1333.3	1353.6
17.5°	1136.1	1161.1	1194.0	1225.3	1240.9	1253.4	1289.4	1316.0	1339.5	1359.9	1383.3
20°	1128.3	1156.4	1192.4	1226.8	1244.1	1256.6	1295.7	1320.7	1347.3	1366.1	1388.0
22.5°	1117.3	1145.5	1181.5	1215.9	1231.5	1242.5	1281.6	1303.5	1327.0	1345.8	1366.1
25°	1098.5	1125.1	1156.4	1184.6	1200.2	1209.6	1244.1	1264.4	1281.6	1300.4	1319.2
27.5°	1071.9	1092.3	1118.9	1139.2	1148.6	1158.0	1186.2	1203.4	1219.0	1234.7	1247.2
30°	1025.0	1040.6	1059.4	1076.6	1086.0	1087.6	1114.2	1123.6	1136.1	1147.0	1156.4
32.5°	962.4	974.9	985.9	995.2	1001.5	1003.1	1023.4	1026.5	1039.1	1039.1	1053.1
35°	882.6	888.8	896.7	896.7	901.4	896.7	910.7	913.9	915.4	917.0	928.0
37.5°	791.8	794.9	799.6	790.3	790.3	785.6	790.3	793.4	787.1	787.1	794.9
40°	705.7	699.5	693.2	683.8	679.1	669.8	669.8	661.9	657.2	654.1	655.7
42.5°	622.8	608.7	594.6	574.3	564.9	555.5	546.1	535.2	532.1	524.2	519.5
45°	543.0	522.7	503.9	471.0	452.2	442.9	422.5	400.6	386.5	383.4	370.9
47.5°	475.7	446.0	414.7	375.6	356.8	339.6	309.8	291.1	272.3	262.9	255.1
50°	416.3	389.6	349.0	306.7	283.2	266.0	233.2	211.3	190.9	176.8	167.4
52.5°	364.6	334.9	297.3	248.8	225.3	206.6	170.6	145.5	128.3	114.2	103.3
55°	306.7	283.2	245.7	200.3	176.8	154.9	123.6	97.0	79.8	70.4	62.6
57.5°	264.5	244.1	208.1	164.3	142.4	122.1	90.8	68.9	54.8	45.4	40.7
60°	236.3	217.5	186.2	144.0	123.6	104.8	75.1	54.8	42.3	34.4	31.3
62.5°	212.8	194.0	165.9	126.8	109.5	90.8	64.2	45.4	34.4	28.2	23.5
65°	186.2	169.0	144.0	109.5	93.9	78.2	54.8	37.6	28.2	21.9	18.8
67.5°	158.1	142.4	120.5	90.8	78.2	65.7	43.8	31.3	23.5	18.8	15.6
70°	128.3	115.8	95.5	73.5	62.6	51.6	36.0	25.0	17.2	14.1	12.5
72.5°	98.6	87.6	73.5	56.3	46.9	39.1	26.6	18.8	14.1	11.0	9.4
75°	70.4	62.6	51.6	40.7	34.4	28.2	20.3	14.1	9.4	7.8	6.3
77.5°	48.5	43.8	36.0	28.2	23.5	20.3	14.1	9.4	7.8	6.3	4.7
80°	31.3	28.2	23.5	17.2	14.1	12.5	7.8	6.3	4.7	3.1	3.1
82.5°	18.8	17.2	14.1	9.4	7.8	6.3	4.7	3.1	3.1	1.6	1.6
85°	11.0	9.4	6.3	4.7	4.7	3.1	3.1	1.6	1.6	0.0	0.0
87.5°	4.7	3.1	3.1	1.6	1.6	1.6	1.6	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°	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7
2.5°	1203.4	1211.2	1209.6	1214.3	1212.8	1212.8	1220.6	1217.5	1225.3	1225.3	1226.8
5°	1220.6	1231.5	1231.5	1239.4	1237.8	1240.9	1248.8	1248.8	1258.1	1261.3	1261.3
7.5°	1245.6	1259.7	1262.8	1270.7	1272.2	1278.5	1284.7	1286.3	1298.8	1302.0	1303.5
10°	1280.1	1297.3	1302.0	1309.8	1312.9	1319.2	1327.0	1330.1	1345.8	1347.3	1353.6
12.5°	1322.3	1341.1	1345.8	1355.2	1356.7	1364.6	1375.5	1378.6	1394.3	1399.0	1403.7
15°	1363.0	1380.2	1388.0	1397.4	1399.0	1408.4	1417.8	1420.9	1435.0	1441.2	1445.9
17.5°	1391.2	1411.5	1416.2	1428.7	1428.7	1436.5	1445.9	1449.1	1463.1	1467.8	1471.0
20°	1397.4	1416.2	1422.5	1431.8	1433.4	1438.1	1445.9	1449.1	1461.6	1463.1	1467.8
22.5°	1373.9	1392.7	1395.8	1405.2	1406.8	1411.5	1417.8	1416.2	1431.8	1430.3	1431.8
25°	1323.9	1341.1	1341.1	1352.0	1350.5	1355.2	1358.3	1356.7	1370.8	1370.8	1370.8
27.5°	1251.9	1267.5	1269.1	1276.9	1272.2	1273.8	1276.9	1275.4	1284.7	1284.7	1284.7
30°	1162.7	1175.2	1170.5	1176.8	1173.6	1176.8	1173.6	1172.1	1175.2	1178.3	1176.8
32.5°	1051.6	1061.0	1061.0	1062.5	1062.5	1053.1	1050.0	1050.0	1048.5	1046.9	1046.9
35°	923.3	931.1	928.0	928.0	926.4	917.0	912.3	909.2	913.9	904.5	910.7
37.5°	791.8	793.4	788.7	787.1	779.3	779.3	771.5	765.2	768.3	766.8	760.5
40°	647.8	654.1	644.7	641.6	646.3	640.0	632.2	624.4	630.6	622.8	625.9
42.5°	507.0	505.4	502.3	502.3	502.3	492.9	491.4	489.8	491.4	485.1	480.4
45°	366.2	361.5	356.8	356.8	350.5	347.4	347.4	342.7	334.9	334.9	325.5
47.5°	247.2	236.3	233.2	231.6	228.5	228.5	225.3	222.2	220.6	212.8	212.8
50°	161.2	150.2	147.1	145.5	147.1	144.0	140.8	137.7	134.6	133.0	129.9
52.5°	97.0	92.3	89.2	87.6	84.5	82.9	81.4	78.2	76.7	76.7	75.1
55°	57.9	53.2	46.9	46.9	46.9	45.4	43.8	42.3	40.7	40.7	39.1
57.5°	36.0	32.9	29.7	28.2	28.2	28.2	26.6	26.6	26.6	26.6	25.0
60°	26.6	23.5	21.9	21.9	21.9	20.3	20.3	20.3	20.3	18.8	18.8
62.5°	20.3	18.8	17.2	17.2	15.6	15.6	15.6	15.6	15.6	15.6	14.1
65°	17.2	14.1	14.1	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
67.5°	12.5	11.0	11.0	11.0	11.0	9.4	9.4	9.4	9.4	9.4	9.4
70°	9.4	9.4	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
72.5°	7.8	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
75°	6.3	6.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
77.5°	4.7	4.7	4.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	3.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	1.6	1.6	1.6	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: P251549

CATALOG NUMBER: LD4B30D010 EU4B30509027 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7	1198.7
2.5°	1226.8	1234.7	1226.8	1226.8	1231.5	1230.0	1233.1	1228.4
5°	1262.8	1273.8	1266.0	1264.4	1272.2	1270.7	1272.2	1269.1
7.5°	1306.7	1317.6	1309.8	1309.8	1317.6	1316.0	1320.7	1317.6
10°	1356.7	1369.2	1358.3	1359.9	1370.8	1369.2	1369.2	1369.2
12.5°	1408.4	1420.9	1414.6	1414.6	1422.5	1424.0	1425.6	1424.0
15°	1450.6	1463.1	1455.3	1455.3	1466.3	1464.7	1466.3	1464.7
17.5°	1475.7	1488.2	1478.8	1478.8	1488.2	1488.2	1489.7	1491.3
20°	1469.4	1483.5	1475.7	1472.5	1483.5	1483.5	1481.9	1481.9
22.5°	1433.4	1445.9	1439.7	1436.5	1444.4	1441.2	1439.7	1441.2
25°	1370.8	1383.3	1370.8	1370.8	1377.1	1375.5	1377.1	1375.5
27.5°	1286.3	1295.7	1283.2	1281.6	1287.9	1284.7	1283.2	1287.9
30°	1173.6	1183.0	1176.8	1172.1	1179.9	1175.2	1172.1	1173.6
32.5°	1045.3	1051.6	1048.5	1040.6	1045.3	1042.2	1040.6	1042.2
35°	904.5	912.3	899.8	898.2	906.1	899.8	896.7	904.5
37.5°	759.0	768.3	757.4	759.0	754.3	755.8	752.7	757.4
40°	621.2	619.7	616.6	615.0	616.6	611.9	615.0	610.3
42.5°	472.6	475.7	474.2	472.6	474.2	467.9	464.8	471.0
45°	328.6	327.1	323.9	320.8	320.8	319.2	319.2	314.5
47.5°	211.3	209.7	203.4	205.0	208.1	205.0	200.3	206.6
50°	128.3	126.8	126.8	125.2	128.3	125.2	122.1	122.1
52.5°	72.0	72.0	70.4	70.4	70.4	70.4	68.9	67.3
55°	39.1	37.6	37.6	37.6	36.0	36.0	36.0	36.0
57.5°	25.0	25.0	25.0	25.0	25.0	25.0	23.5	23.5
60°	18.8	18.8	18.8	18.8	17.2	18.8	17.2	17.2
62.5°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
65°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
67.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
70°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
72.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
75°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
77.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)