

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: P251720

Luminaire Tested: **LD4B40D010 EU4B30509035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251720
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 EU4B30509035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2865.0 lumens
Efficiency: N/A
Efficacy: 66.6 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

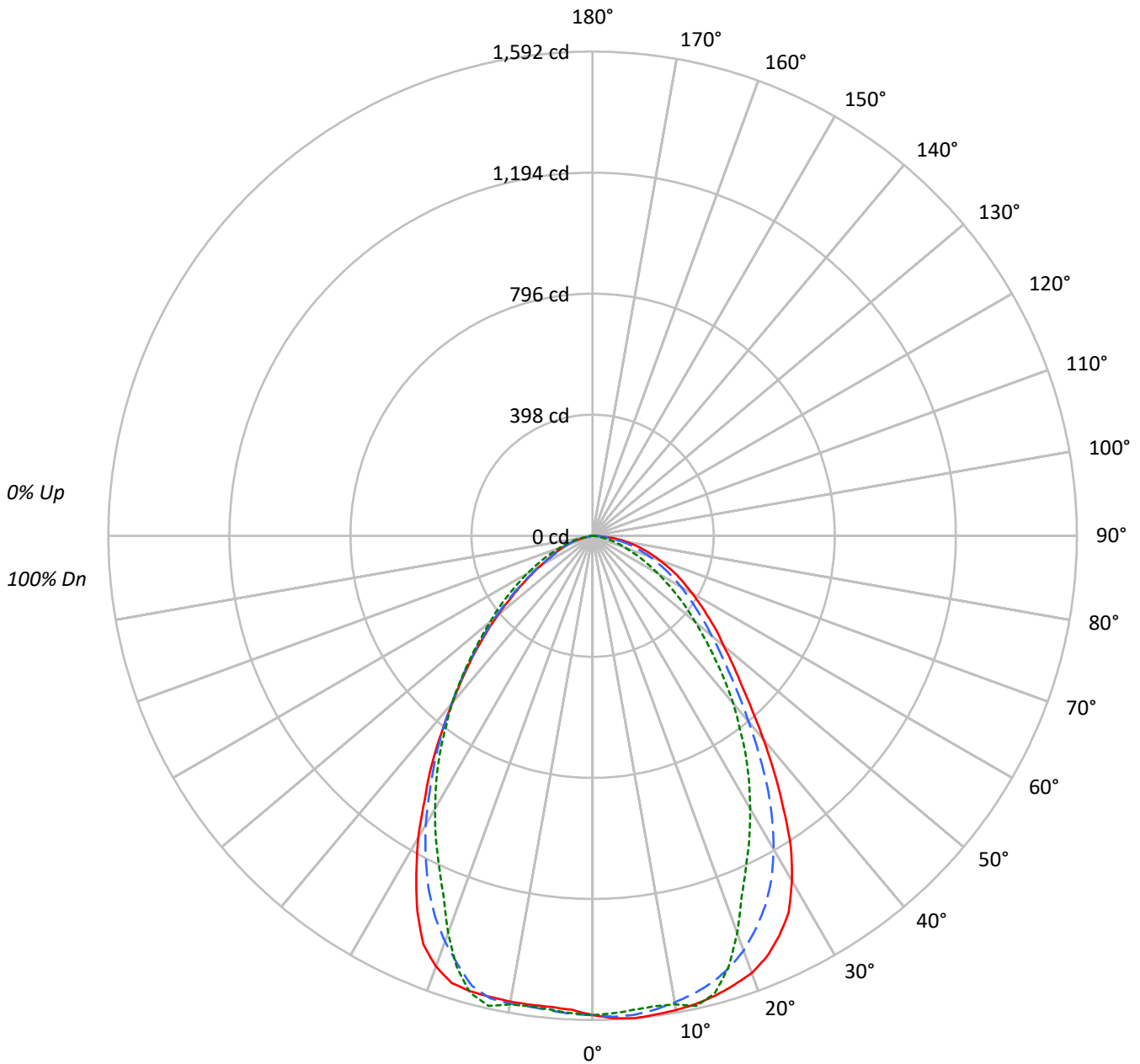
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	153604	153604	153604
5°	155775	153065	152156
10°	156666	154835	153915
15°	157862	156924	156459
20°	158670	144057	156274
25°	156074	128481	146621
30°	147466	116519	128999
35°	130051	104210	109980
40°	111142	91435	91142
45°	95238	78037	76122
50°	85149	66575	62027
55°	78534	56938	49088
60°	73425	48203	38749
65°	70358	39964	31985
70°	66507	32256	27013
75°	64390	26095	19129
80°	62241	14255	5163
85°	54233	7716	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.7	5.2
10°-20°	430.8	15.0
20°-30°	597.5	20.9
30°-40°	589.8	20.6
40°-50°	462.6	16.1
50°-60°	320.4	11.2
60°-70°	196.4	6.9
70°-80°	98.1	3.4
80°-90°	19.6	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°	1178.1	41.1
0°-40°	1767.8	61.7
0°-60°	2550.9	89.0
0°-90°	2865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2865.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1576	1576	1576	1576	1576	
5°	1592	1581	1565	1567	1555	152
15°	1565	1521	1555	1532	1551	442
25°	1451	1343	1195	1278	1364	664
35°	1093	998	876	904	924	682
45°	691	633	566	559	552	540
55°	462	414	335	298	289	416
65°	305	264	173	129	139	301
75°	171	143	69	53	51	181
85°	48	28	7	2	2	55
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°	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1
2.5°	1587.7	1583.1	1580.8	1587.7	1585.4	1590.0	1587.7	1585.4	1580.8	1583.1	1583.1
5°	1592.3	1585.4	1583.1	1587.7	1587.7	1592.3	1590.0	1585.4	1580.8	1583.1	1580.8
7.5°	1587.7	1583.1	1583.1	1585.4	1583.1	1587.7	1583.1	1578.5	1573.8	1576.1	1571.5
10°	1583.1	1576.1	1576.1	1576.1	1576.1	1580.8	1576.1	1569.2	1562.3	1562.3	1557.7
12.5°	1576.1	1569.2	1569.2	1571.5	1566.9	1571.5	1566.9	1555.3	1548.4	1546.1	1541.5
15°	1564.6	1557.7	1557.7	1557.7	1553.0	1555.3	1548.4	1536.9	1527.6	1527.6	1520.7
17.5°	1548.4	1541.5	1539.2	1539.2	1532.2	1534.5	1527.6	1516.1	1502.2	1497.6	1490.6
20°	1529.9	1520.7	1516.1	1516.1	1509.1	1511.4	1502.2	1488.3	1469.8	1462.9	1451.4
22.5°	1497.6	1493.0	1486.0	1483.7	1476.8	1474.5	1465.2	1446.7	1430.6	1419.0	1400.5
25°	1451.4	1449.0	1442.1	1439.8	1430.6	1425.9	1416.7	1395.9	1379.7	1361.2	1342.7
27.5°	1395.9	1386.6	1382.0	1375.1	1365.8	1363.5	1352.0	1333.5	1308.1	1296.5	1273.4
30°	1310.4	1305.8	1301.1	1294.2	1285.0	1280.3	1273.4	1252.6	1231.8	1211.0	1190.2
32.5°	1213.3	1204.1	1197.1	1199.4	1187.9	1183.3	1171.7	1153.2	1134.7	1120.9	1097.8
35°	1093.1	1090.8	1088.5	1083.9	1074.6	1072.3	1063.1	1049.2	1028.4	1012.2	998.4
37.5°	979.9	973.0	968.3	968.3	959.1	959.1	952.2	936.0	924.4	912.9	894.4
40°	873.6	862.0	862.0	862.0	852.8	855.1	850.5	834.3	822.7	808.9	797.3
42.5°	774.2	769.6	767.3	762.7	758.0	758.0	753.4	744.2	732.6	723.4	711.8
45°	691.0	688.7	686.4	684.1	679.5	677.1	674.8	661.0	654.0	644.8	633.2
47.5°	624.0	619.4	617.1	614.7	610.1	607.8	603.2	593.9	587.0	577.8	568.5
50°	561.6	559.3	557.0	557.0	552.3	550.0	545.4	538.5	526.9	522.3	510.7
52.5°	513.1	508.4	503.8	503.8	499.2	499.2	492.3	485.3	473.8	469.1	459.9
55°	462.2	459.9	457.6	457.6	453.0	450.7	448.3	439.1	429.9	422.9	413.7
57.5°	418.3	416.0	413.7	413.7	409.1	406.7	404.4	397.5	388.3	383.6	372.1
60°	376.7	376.7	374.4	372.1	369.8	367.5	365.1	358.2	351.3	344.3	335.1
62.5°	339.7	337.4	335.1	332.8	332.8	330.5	328.2	318.9	314.3	307.4	298.1
65°	305.1	300.4	300.4	298.1	298.1	295.8	293.5	284.3	279.6	272.7	263.5
67.5°	268.1	265.8	263.5	263.5	261.2	261.2	258.8	251.9	245.0	240.4	231.1
70°	233.4	233.4	231.1	231.1	228.8	226.5	226.5	221.9	214.9	208.0	198.8
72.5°	203.4	201.1	198.8	198.8	196.4	196.4	194.1	189.5	184.9	180.3	168.7
75°	171.0	168.7	168.7	168.7	166.4	166.4	164.1	159.5	154.8	150.2	143.3
77.5°	141.0	141.0	138.7	138.7	136.4	136.4	136.4	131.7	127.1	122.5	113.2
80°	110.9	110.9	110.9	108.6	106.3	106.3	106.3	101.7	97.1	92.4	85.5
82.5°	80.9	78.6	78.6	76.3	74.0	74.0	74.0	69.3	67.0	60.1	55.5
85°	48.5	46.2	46.2	43.9	41.6	41.6	41.6	39.3	34.7	32.4	27.7
87.5°	18.5	18.5	18.5	18.5	18.5	16.2	16.2	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°	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1
2.5°	1583.1	1580.8	1580.8	1578.5	1580.8	1576.1	1576.1	1576.1	1576.1	1571.5	1571.5
5°	1578.5	1578.5	1576.1	1573.8	1576.1	1571.5	1573.8	1571.5	1571.5	1564.6	1564.6
7.5°	1569.2	1566.9	1562.3	1560.0	1562.3	1560.0	1560.0	1560.0	1564.6	1560.0	1560.0
10°	1553.0	1550.7	1546.1	1543.8	1543.8	1541.5	1546.1	1550.7	1560.0	1564.6	1573.8
12.5°	1536.9	1532.2	1529.9	1529.9	1532.2	1532.2	1541.5	1553.0	1576.1	1583.1	1592.3
15°	1516.1	1513.8	1513.8	1520.7	1529.9	1536.9	1555.3	1562.3	1564.6	1555.3	1550.7
17.5°	1488.3	1488.3	1490.6	1497.6	1504.5	1504.5	1506.8	1502.2	1497.6	1486.0	1472.2
20°	1442.1	1439.8	1435.2	1435.2	1435.2	1425.9	1430.6	1414.4	1402.8	1389.0	1368.2
22.5°	1384.3	1372.8	1356.6	1345.0	1338.1	1333.5	1321.9	1303.4	1289.6	1280.3	1271.1
25°	1321.9	1303.4	1280.3	1261.8	1250.3	1248.0	1231.8	1215.6	1206.4	1194.8	1190.2
27.5°	1250.3	1229.5	1201.8	1183.3	1174.0	1167.1	1153.2	1137.0	1125.5	1116.2	1109.3
30°	1167.1	1146.3	1123.2	1100.1	1090.8	1079.3	1065.4	1053.8	1042.3	1035.4	1030.7
32.5°	1074.6	1053.8	1030.7	1014.6	1003.0	993.8	982.2	970.6	961.4	956.8	952.2
35°	979.9	959.1	940.6	924.4	915.2	908.3	899.0	885.1	878.2	875.9	871.3
37.5°	878.2	864.3	848.2	834.3	827.4	818.1	813.5	801.9	801.9	792.7	792.7
40°	783.5	774.2	758.0	746.5	741.9	734.9	728.0	723.4	721.1	718.7	716.4
42.5°	700.3	686.4	677.1	667.9	661.0	656.3	656.3	649.4	647.1	640.2	637.9
45°	624.0	617.1	600.9	593.9	591.6	584.7	582.4	577.8	570.8	566.2	563.9
47.5°	557.0	550.0	540.8	531.5	526.9	522.3	517.7	510.7	506.1	499.2	496.9
50°	501.5	489.9	480.7	473.8	466.8	464.5	459.9	450.7	446.0	439.1	439.1
52.5°	450.7	441.4	429.9	422.9	416.0	411.4	404.4	397.5	390.6	388.3	381.3
55°	406.7	395.2	383.6	374.4	367.5	360.5	358.2	349.0	339.7	335.1	330.5
57.5°	365.1	353.6	339.7	328.2	323.5	318.9	312.0	302.8	295.8	288.9	284.3
60°	323.5	314.3	300.4	288.9	284.3	277.3	270.4	261.2	254.2	247.3	242.7
62.5°	288.9	275.0	263.5	251.9	245.0	240.4	231.1	224.2	214.9	208.0	201.1
65°	254.2	240.4	228.8	217.2	212.6	205.7	198.8	189.5	180.3	173.3	164.1
67.5°	219.6	208.0	196.4	184.9	180.3	175.6	166.4	157.2	147.9	141.0	131.7
70°	189.5	178.0	166.4	157.2	152.5	147.9	138.7	129.4	122.5	113.2	106.3
72.5°	161.8	152.5	141.0	131.7	127.1	122.5	113.2	106.3	97.1	92.4	85.5
75°	134.0	124.8	115.6	106.3	101.7	97.1	90.1	83.2	76.3	69.3	64.7
77.5°	106.3	97.1	87.8	80.9	76.3	74.0	67.0	60.1	53.2	48.5	41.6
80°	78.6	69.3	62.4	55.5	50.8	48.5	41.6	37.0	32.4	25.4	23.1
82.5°	48.5	41.6	37.0	32.4	30.0	27.7	23.1	18.5	16.2	13.9	11.6
85°	25.4	23.1	18.5	16.2	13.9	13.9	11.6	9.2	6.9	6.9	4.6
87.5°	9.2	6.9	6.9	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°	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1
2.5°	1566.9	1569.2	1571.5	1573.8	1571.5	1571.5	1576.1	1566.9	1573.8	1573.8	1564.6
5°	1562.3	1566.9	1564.6	1569.2	1564.6	1564.6	1566.9	1562.3	1566.9	1566.9	1560.0
7.5°	1557.7	1562.3	1562.3	1564.6	1562.3	1562.3	1564.6	1557.7	1562.3	1562.3	1555.3
10°	1578.5	1583.1	1580.8	1578.5	1571.5	1566.9	1569.2	1557.7	1562.3	1562.3	1555.3
12.5°	1585.4	1583.1	1573.8	1569.2	1564.6	1560.0	1562.3	1553.0	1557.7	1557.7	1553.0
15°	1539.2	1534.5	1527.6	1529.9	1525.3	1523.0	1527.6	1523.0	1532.2	1536.9	1532.2
17.5°	1460.6	1458.3	1453.7	1453.7	1453.7	1456.0	1462.9	1462.9	1476.8	1486.0	1490.6
20°	1358.9	1356.6	1358.9	1363.5	1365.8	1375.1	1391.3	1400.5	1419.0	1435.2	1446.7
22.5°	1266.5	1271.1	1278.0	1287.3	1289.6	1301.1	1321.9	1331.2	1354.3	1372.8	1384.3
25°	1187.9	1194.8	1199.4	1206.4	1208.7	1222.6	1241.0	1252.6	1278.0	1291.9	1305.8
27.5°	1109.3	1118.6	1120.9	1130.1	1130.1	1144.0	1160.2	1171.7	1187.9	1201.8	1213.3
30°	1033.0	1035.4	1042.3	1044.6	1049.2	1063.1	1072.3	1079.3	1097.8	1104.7	1111.6
32.5°	949.8	959.1	963.7	966.0	963.7	975.3	984.5	989.1	996.1	1005.3	1009.9
35°	871.3	875.9	878.2	882.8	885.1	887.5	892.1	894.4	903.6	905.9	908.3
37.5°	792.7	799.6	797.3	799.6	799.6	801.9	806.6	804.3	811.2	813.5	811.2
40°	714.1	714.1	718.7	716.4	718.7	716.4	721.1	721.1	721.1	723.4	721.1
42.5°	635.5	637.9	635.5	640.2	635.5	637.9	637.9	635.5	637.9	635.5	635.5
45°	563.9	563.9	563.9	563.9	559.3	559.3	563.9	561.6	559.3	557.0	554.7
47.5°	494.6	496.9	492.3	494.6	492.3	489.9	487.6	487.6	485.3	480.7	478.4
50°	436.8	432.2	429.9	432.2	429.9	427.5	425.2	420.6	418.3	413.7	411.4
52.5°	379.0	374.4	369.8	369.8	367.5	362.8	360.5	355.9	353.6	349.0	349.0
55°	328.2	323.5	318.9	316.6	312.0	307.4	305.1	300.4	298.1	293.5	288.9
57.5°	279.6	272.7	268.1	265.8	263.5	256.5	254.2	249.6	245.0	240.4	238.0
60°	235.7	228.8	221.9	219.6	217.2	210.3	208.0	201.1	198.8	194.1	191.8
62.5°	194.1	189.5	180.3	178.0	173.3	168.7	161.8	159.5	157.2	159.5	159.5
65°	157.2	150.2	143.3	141.0	136.4	131.7	129.4	127.1	129.4	129.4	131.7
67.5°	124.8	117.9	110.9	110.9	108.6	104.0	104.0	104.0	106.3	106.3	108.6
70°	99.4	94.8	90.1	87.8	87.8	85.5	87.8	87.8	90.1	90.1	90.1
72.5°	78.6	76.3	74.0	71.6	71.6	71.6	71.6	71.6	71.6	71.6	74.0
75°	60.1	57.8	55.5	55.5	53.2	53.2	53.2	53.2	53.2	53.2	50.8
77.5°	39.3	37.0	34.7	34.7	32.4	30.0	30.0	27.7	27.7	27.7	27.7
80°	20.8	18.5	16.2	13.9	13.9	11.6	11.6	11.6	11.6	9.2	9.2
82.5°	9.2	6.9	6.9	6.9	6.9	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: P251720

CATALOG NUMBER: LD4B40D010 EU4B30509035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1	1576.1
2.5°	1569.2	1564.6	1569.2	1571.5	1566.9	1564.6	1569.2	1560.0
5°	1566.9	1560.0	1562.3	1564.6	1560.0	1557.7	1562.3	1555.3
7.5°	1562.3	1560.0	1562.3	1564.6	1557.7	1557.7	1562.3	1555.3
10°	1562.3	1557.7	1560.0	1564.6	1560.0	1560.0	1564.6	1555.3
12.5°	1560.0	1553.0	1560.0	1562.3	1557.7	1557.7	1562.3	1553.0
15°	1543.8	1543.8	1546.1	1550.7	1548.4	1550.7	1557.7	1550.7
17.5°	1509.1	1513.8	1523.0	1529.9	1534.5	1539.2	1546.1	1541.5
20°	1467.5	1474.5	1486.0	1493.0	1502.2	1504.5	1516.1	1506.8
22.5°	1402.8	1416.7	1425.9	1432.9	1439.8	1446.7	1456.0	1453.7
25°	1324.2	1333.5	1340.4	1347.4	1356.6	1361.2	1365.8	1363.5
27.5°	1229.5	1234.1	1243.4	1248.0	1252.6	1257.2	1266.5	1254.9
30°	1125.5	1127.8	1132.4	1139.4	1139.4	1144.0	1148.6	1146.3
32.5°	1019.2	1019.2	1023.8	1028.4	1026.1	1028.4	1037.7	1026.1
35°	915.2	912.9	919.8	922.1	922.1	919.8	926.7	924.4
37.5°	813.5	815.8	818.1	820.4	815.8	820.4	820.4	815.8
40°	721.1	718.7	723.4	725.7	723.4	725.7	725.7	716.4
42.5°	637.9	633.2	635.5	637.9	635.5	637.9	635.5	630.9
45°	557.0	554.7	554.7	557.0	552.3	552.3	552.3	552.3
47.5°	480.7	478.4	480.7	480.7	476.1	476.1	478.4	476.1
50°	411.4	409.1	409.1	409.1	406.7	406.7	409.1	409.1
52.5°	349.0	344.3	344.3	344.3	344.3	344.3	346.7	342.0
55°	286.6	286.6	286.6	286.6	288.9	288.9	288.9	288.9
57.5°	235.7	238.0	238.0	240.4	238.0	240.4	240.4	238.0
60°	196.4	194.1	196.4	196.4	198.8	198.8	198.8	198.8
62.5°	161.8	161.8	161.8	164.1	164.1	164.1	166.4	164.1
65°	134.0	134.0	136.4	136.4	136.4	138.7	138.7	138.7
67.5°	110.9	110.9	110.9	110.9	113.2	113.2	115.6	113.2
70°	92.4	92.4	92.4	92.4	92.4	94.8	94.8	94.8
72.5°	74.0	74.0	74.0	74.0	76.3	76.3	76.3	76.3
75°	50.8	50.8	50.8	53.2	50.8	50.8	50.8	50.8
77.5°	25.4	25.4	25.4	25.4	25.4	23.1	23.1	23.1
80°	9.2	9.2	9.2	9.2	9.2	9.2	6.9	9.2
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)