

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: P251702

Luminaire Tested: **LD4B30D010 EU4B30508040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251702
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: LD4B30D010 EU4B30508040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2446.0 lumens
Efficiency: N/A
Efficacy: 87.4 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

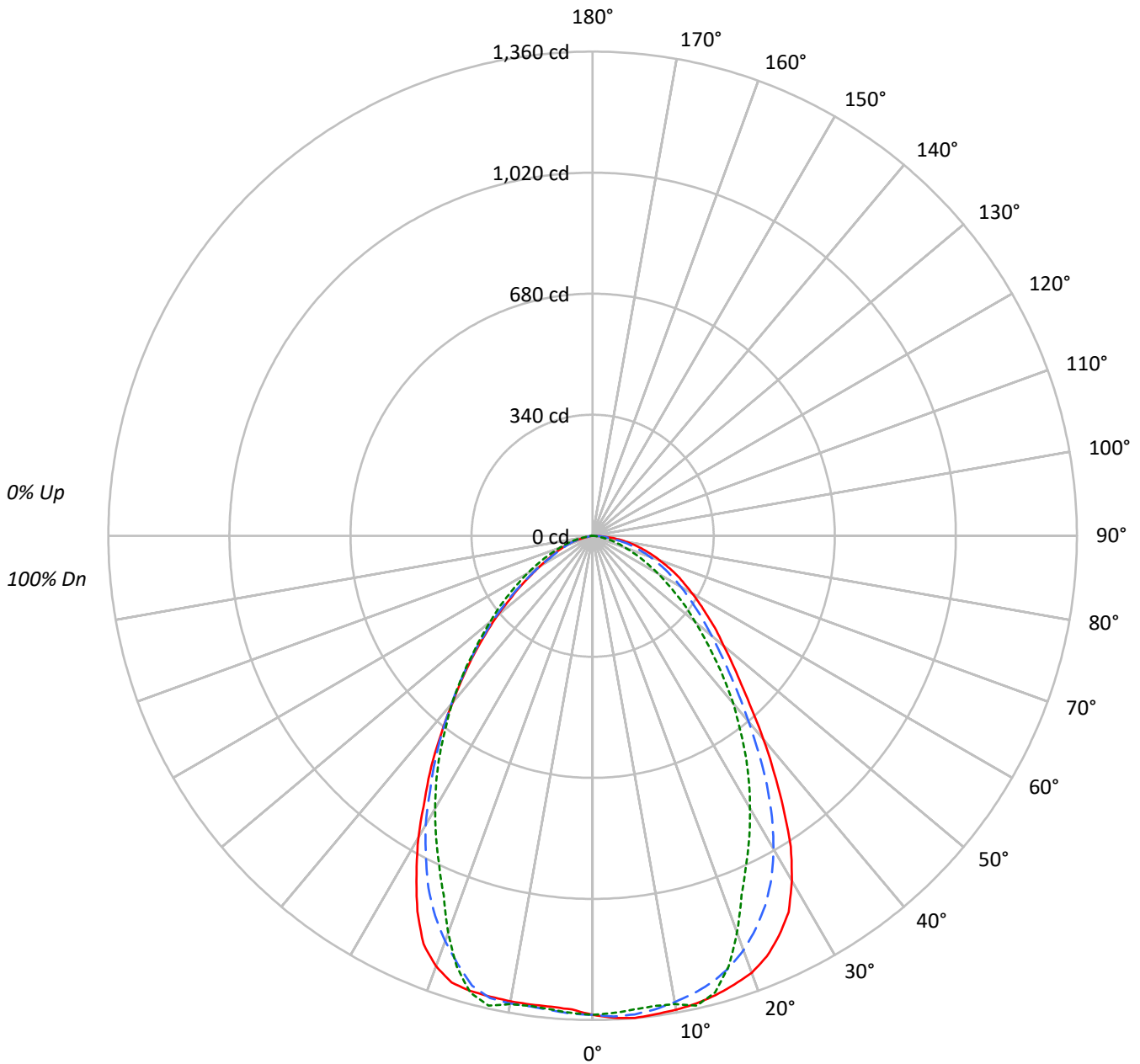
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	131140	131140	131140
5°	133000	130682	129909
10°	133756	132193	131411
15°	134777	133980	133576
20°	135470	122983	133416
25°	133244	109695	125179
30°	125893	99470	110127
35°	111039	88969	93895
40°	94883	78064	77822
45°	81318	66625	64999
50°	72701	56842	52945
55°	67048	48612	41901
60°	62685	41147	33077
65°	60050	34130	27304
70°	56790	27555	23052
75°	54976	22292	16342
80°	53149	12179	4434
85°	46294	6597	2236



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.8	5.2
10°-20°	367.8	15.0
20°-30°	510.1	20.9
30°-40°	503.5	20.6
40°-50°	395.0	16.1
50°-60°	273.6	11.2
60°-70°	167.6	6.9
70°-80°	83.8	3.4
80°-90°	16.8	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°	1005.8	41.1
0°-40°	1509.3	61.7
0°-60°	2177.8	89.0
0°-90°	2446.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2446.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1346	1346	1346	1346	1346	
5°	1360	1350	1336	1338	1328	129
15°	1336	1298	1328	1308	1324	377
25°	1239	1146	1020	1091	1164	567
35°	933	852	748	772	789	582
45°	590	541	483	478	472	461
55°	395	353	286	254	247	355
65°	260	225	148	110	118	257
75°	146	122	59	45	43	155
85°	41	24	6	2	2	47
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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1355.5	1351.6	1349.6	1355.5	1353.5	1357.5	1355.5	1353.5	1349.6	1351.6	1351.6
5°	1359.5	1353.5	1351.6	1355.5	1355.5	1359.5	1357.5	1353.5	1349.6	1351.6	1349.6
7.5°	1355.5	1351.6	1351.6	1353.5	1351.6	1355.5	1351.6	1347.6	1343.7	1345.6	1341.7
10°	1351.6	1345.6	1345.6	1345.6	1345.6	1349.6	1345.6	1339.7	1333.8	1333.8	1329.9
12.5°	1345.6	1339.7	1339.7	1341.7	1337.7	1341.7	1337.7	1327.9	1322.0	1320.0	1316.0
15°	1335.8	1329.9	1329.9	1329.9	1325.9	1327.9	1322.0	1312.1	1304.2	1304.2	1298.3
17.5°	1322.0	1316.0	1314.1	1314.1	1308.2	1310.1	1304.2	1294.3	1282.5	1278.6	1272.6
20°	1306.2	1298.3	1294.3	1294.3	1288.4	1290.4	1282.5	1270.7	1254.9	1249.0	1239.1
22.5°	1278.6	1274.6	1268.7	1266.7	1260.8	1258.8	1250.9	1235.1	1221.3	1211.5	1195.7
25°	1239.1	1237.1	1231.2	1229.2	1221.3	1217.4	1209.5	1191.7	1177.9	1162.1	1146.4
27.5°	1191.7	1183.8	1179.9	1174.0	1166.1	1164.1	1154.3	1138.5	1116.8	1106.9	1087.2
30°	1118.7	1114.8	1110.8	1104.9	1097.0	1093.1	1087.2	1069.4	1051.7	1033.9	1016.1
32.5°	1035.9	1028.0	1022.1	1024.0	1014.2	1010.2	1000.4	984.6	968.8	956.9	937.2
35°	933.3	931.3	929.3	925.4	917.5	915.5	907.6	895.8	878.0	864.2	852.4
37.5°	836.6	830.7	826.7	826.7	818.8	818.8	812.9	799.1	789.2	779.4	763.6
40°	745.8	736.0	736.0	736.0	728.1	730.0	726.1	712.3	702.4	690.6	680.7
42.5°	661.0	657.0	655.1	651.1	647.2	647.2	643.2	635.3	625.5	617.6	607.7
45°	590.0	588.0	586.0	584.0	580.1	578.1	576.1	564.3	558.4	550.5	540.6
47.5°	532.7	528.8	526.8	524.8	520.9	518.9	515.0	507.1	501.2	493.3	485.4
50°	479.5	477.5	475.5	475.5	471.6	469.6	465.6	459.7	449.9	445.9	436.1
52.5°	438.0	434.1	430.1	430.1	426.2	426.2	420.3	414.3	404.5	400.5	392.6
55°	394.6	392.6	390.7	390.7	386.7	384.8	382.8	374.9	367.0	361.1	353.2
57.5°	357.1	355.2	353.2	353.2	349.2	347.3	345.3	339.4	331.5	327.5	317.7
60°	321.6	321.6	319.6	317.7	315.7	313.7	311.7	305.8	299.9	294.0	286.1
62.5°	290.0	288.1	286.1	284.1	284.1	282.2	280.2	272.3	268.3	262.4	254.5
65°	260.4	256.5	256.5	254.5	254.5	252.6	250.6	242.7	238.7	232.8	224.9
67.5°	228.9	226.9	224.9	224.9	223.0	223.0	221.0	215.1	209.1	205.2	197.3
70°	199.3	199.3	197.3	197.3	195.3	193.4	193.4	189.4	183.5	177.6	169.7
72.5°	173.6	171.7	169.7	169.7	167.7	167.7	165.7	161.8	157.8	153.9	144.0
75°	146.0	144.0	144.0	144.0	142.1	142.1	140.1	136.1	132.2	128.3	122.3
77.5°	120.4	120.4	118.4	118.4	116.4	116.4	116.4	112.5	108.5	104.6	96.7
80°	94.7	94.7	94.7	92.7	90.8	90.8	90.8	86.8	82.9	78.9	73.0
82.5°	69.1	67.1	67.1	65.1	63.1	63.1	63.1	59.2	57.2	51.3	47.4
85°	41.4	39.5	39.5	37.5	35.5	35.5	35.5	33.5	29.6	27.6	23.7
87.5°	15.8	15.8	15.8	15.8	15.8	13.8	13.8	11.8	11.8	9.9	9.9
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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1351.6	1349.6	1349.6	1347.6	1349.6	1345.6	1345.6	1345.6	1345.6	1341.7	1341.7
5°	1347.6	1347.6	1345.6	1343.7	1345.6	1341.7	1343.7	1341.7	1341.7	1335.8	1335.8
7.5°	1339.7	1337.7	1333.8	1331.8	1333.8	1331.8	1331.8	1331.8	1335.8	1331.8	1331.8
10°	1325.9	1323.9	1320.0	1318.0	1318.0	1316.0	1320.0	1323.9	1331.8	1335.8	1343.7
12.5°	1312.1	1308.2	1306.2	1306.2	1308.2	1308.2	1316.0	1325.9	1345.6	1351.6	1359.5
15°	1294.3	1292.4	1292.4	1298.3	1306.2	1312.1	1327.9	1333.8	1335.8	1327.9	1323.9
17.5°	1270.7	1270.7	1272.6	1278.6	1284.5	1284.5	1286.4	1282.5	1278.6	1268.7	1256.9
20°	1231.2	1229.2	1225.3	1225.3	1225.3	1217.4	1221.3	1207.5	1197.7	1185.8	1168.1
22.5°	1181.9	1172.0	1158.2	1148.3	1142.4	1138.5	1128.6	1112.8	1101.0	1093.1	1085.2
25°	1128.6	1112.8	1093.1	1077.3	1067.4	1065.5	1051.7	1037.8	1029.9	1020.1	1016.1
27.5°	1067.4	1049.7	1026.0	1010.2	1002.3	996.4	984.6	970.8	960.9	953.0	947.1
30°	996.4	978.6	958.9	939.2	931.3	921.4	909.6	899.7	889.9	883.9	880.0
32.5°	917.5	899.7	880.0	866.2	856.3	848.4	838.6	828.7	820.8	816.9	812.9
35°	836.6	818.8	803.0	789.2	781.3	775.4	767.5	755.7	749.8	747.8	743.9
37.5°	749.8	737.9	724.1	712.3	706.4	698.5	694.5	684.7	684.7	676.8	676.8
40°	668.9	661.0	647.2	637.3	633.4	627.4	621.5	617.6	615.6	613.6	611.7
42.5°	597.8	586.0	578.1	570.2	564.3	560.4	560.4	554.4	552.5	546.5	544.6
45°	532.7	526.8	513.0	507.1	505.1	499.2	497.2	493.3	487.4	483.4	481.4
47.5°	475.5	469.6	461.7	453.8	449.9	445.9	442.0	436.1	432.1	426.2	424.2
50°	428.2	418.3	410.4	404.5	398.6	396.6	392.6	384.8	380.8	374.9	374.9
52.5°	384.8	376.9	367.0	361.1	355.2	351.2	345.3	339.4	333.5	331.5	325.6
55°	347.3	337.4	327.5	319.6	313.7	307.8	305.8	297.9	290.0	286.1	282.2
57.5°	311.7	301.9	290.0	280.2	276.2	272.3	266.4	258.5	252.6	246.6	242.7
60°	276.2	268.3	256.5	246.6	242.7	236.8	230.9	223.0	217.0	211.1	207.2
62.5°	246.6	234.8	224.9	215.1	209.1	205.2	197.3	191.4	183.5	177.6	171.7
65°	217.0	205.2	195.3	185.5	181.5	175.6	169.7	161.8	153.9	148.0	140.1
67.5°	187.4	177.6	167.7	157.8	153.9	150.0	142.1	134.2	126.3	120.4	112.5
70°	161.8	151.9	142.1	134.2	130.2	126.3	118.4	110.5	104.6	96.7	90.8
72.5°	138.1	130.2	120.4	112.5	108.5	104.6	96.7	90.8	82.9	78.9	73.0
75°	114.4	106.5	98.7	90.8	86.8	82.9	77.0	71.0	65.1	59.2	55.2
77.5°	90.8	82.9	75.0	69.1	65.1	63.1	57.2	51.3	45.4	41.4	35.5
80°	67.1	59.2	53.3	47.4	43.4	41.4	35.5	31.6	27.6	21.7	19.7
82.5°	41.4	35.5	31.6	27.6	25.7	23.7	19.7	15.8	13.8	11.8	9.9
85°	21.7	19.7	15.8	13.8	11.8	11.8	9.9	7.9	5.9	5.9	3.9
87.5°	7.9	5.9	5.9	3.9	3.9	3.9	3.9	2.0	2.0	2.0	2.0
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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1337.7	1339.7	1341.7	1343.7	1341.7	1341.7	1345.6	1337.7	1343.7	1343.7	1335.8
5°	1333.8	1337.7	1335.8	1339.7	1335.8	1335.8	1337.7	1333.8	1337.7	1337.7	1331.8
7.5°	1329.9	1333.8	1333.8	1335.8	1333.8	1333.8	1335.8	1329.9	1333.8	1333.8	1327.9
10°	1347.6	1351.6	1349.6	1347.6	1341.7	1337.7	1339.7	1329.9	1333.8	1333.8	1327.9
12.5°	1353.5	1351.6	1343.7	1339.7	1335.8	1331.8	1333.8	1325.9	1329.9	1329.9	1325.9
15°	1314.1	1310.1	1304.2	1306.2	1302.2	1300.3	1304.2	1300.3	1308.2	1312.1	1308.2
17.5°	1247.0	1245.0	1241.1	1241.1	1241.1	1243.0	1249.0	1249.0	1260.8	1268.7	1272.6
20°	1160.2	1158.2	1160.2	1164.1	1166.1	1174.0	1187.8	1195.7	1211.5	1225.3	1235.1
22.5°	1081.2	1085.2	1091.1	1099.0	1101.0	1110.8	1128.6	1136.5	1156.2	1172.0	1181.9
25°	1014.2	1020.1	1024.0	1029.9	1031.9	1043.8	1059.5	1069.4	1091.1	1103.0	1114.8
27.5°	947.1	955.0	956.9	964.8	964.8	976.7	990.5	1000.4	1014.2	1026.0	1035.9
30°	882.0	883.9	889.9	891.8	895.8	907.6	915.5	921.4	937.2	943.1	949.1
32.5°	810.9	818.8	822.8	824.7	822.8	832.6	840.5	844.5	850.4	858.3	862.2
35°	743.9	747.8	749.8	753.7	755.7	757.7	761.6	763.6	771.5	773.4	775.4
37.5°	676.8	682.7	680.7	682.7	682.7	684.7	688.6	686.6	692.6	694.5	692.6
40°	609.7	609.7	613.6	611.7	613.6	611.7	615.6	615.6	615.6	617.6	615.6
42.5°	542.6	544.6	542.6	546.5	542.6	544.6	544.6	542.6	544.6	542.6	542.6
45°	481.4	481.4	481.4	481.4	477.5	477.5	481.4	479.5	477.5	475.5	473.5
47.5°	422.2	424.2	420.3	422.2	420.3	418.3	416.3	416.3	414.3	410.4	408.4
50°	372.9	369.0	367.0	369.0	367.0	365.0	363.0	359.1	357.1	353.2	351.2
52.5°	323.6	319.6	315.7	315.7	313.7	309.8	307.8	303.9	301.9	297.9	297.9
55°	280.2	276.2	272.3	270.3	266.4	262.4	260.4	256.5	254.5	250.6	246.6
57.5°	238.7	232.8	228.9	226.9	224.9	219.0	217.0	213.1	209.1	205.2	203.2
60°	201.3	195.3	189.4	187.4	185.5	179.6	177.6	171.7	169.7	165.7	163.8
62.5°	165.7	161.8	153.9	151.9	148.0	144.0	138.1	136.1	134.2	136.1	136.1
65°	134.2	128.3	122.3	120.4	116.4	112.5	110.5	108.5	110.5	110.5	112.5
67.5°	106.5	100.6	94.7	94.7	92.7	88.8	88.8	88.8	90.8	90.8	92.7
70°	84.8	80.9	77.0	75.0	75.0	73.0	75.0	75.0	77.0	77.0	77.0
72.5°	67.1	65.1	63.1	61.2	61.2	61.2	61.2	61.2	61.2	61.2	63.1
75°	51.3	49.3	47.4	47.4	45.4	45.4	45.4	45.4	45.4	45.4	43.4
77.5°	33.5	31.6	29.6	29.6	27.6	25.7	25.7	23.7	23.7	23.7	23.7
80°	17.8	15.8	13.8	11.8	11.8	9.9	9.9	9.9	9.9	7.9	7.9
82.5°	7.9	5.9	5.9	5.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9
85°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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: P251702

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1339.7	1335.8	1339.7	1341.7	1337.7	1335.8	1339.7	1331.8
5°	1337.7	1331.8	1333.8	1335.8	1331.8	1329.9	1333.8	1327.9
7.5°	1333.8	1331.8	1333.8	1335.8	1329.9	1329.9	1333.8	1327.9
10°	1333.8	1329.9	1331.8	1335.8	1331.8	1331.8	1335.8	1327.9
12.5°	1331.8	1325.9	1331.8	1333.8	1329.9	1329.9	1333.8	1325.9
15°	1318.0	1318.0	1320.0	1323.9	1322.0	1323.9	1329.9	1323.9
17.5°	1288.4	1292.4	1300.3	1306.2	1310.1	1314.1	1320.0	1316.0
20°	1252.9	1258.8	1268.7	1274.6	1282.5	1284.5	1294.3	1286.4
22.5°	1197.7	1209.5	1217.4	1223.3	1229.2	1235.1	1243.0	1241.1
25°	1130.6	1138.5	1144.4	1150.3	1158.2	1162.1	1166.1	1164.1
27.5°	1049.7	1053.6	1061.5	1065.5	1069.4	1073.4	1081.2	1071.4
30°	960.9	962.9	966.8	972.7	972.7	976.7	980.6	978.6
32.5°	870.1	870.1	874.1	878.0	876.0	878.0	885.9	876.0
35°	781.3	779.4	785.3	787.3	787.3	785.3	791.2	789.2
37.5°	694.5	696.5	698.5	700.4	696.5	700.4	700.4	696.5
40°	615.6	613.6	617.6	619.5	617.6	619.5	619.5	611.7
42.5°	544.6	540.6	542.6	544.6	542.6	544.6	542.6	538.7
45°	475.5	473.5	473.5	475.5	471.6	471.6	471.6	471.6
47.5°	410.4	408.4	410.4	410.4	406.5	406.5	408.4	406.5
50°	351.2	349.2	349.2	349.2	347.3	347.3	349.2	349.2
52.5°	297.9	294.0	294.0	294.0	294.0	294.0	296.0	292.0
55°	244.7	244.7	244.7	244.7	246.6	246.6	246.6	246.6
57.5°	201.3	203.2	203.2	205.2	203.2	205.2	205.2	203.2
60°	167.7	165.7	167.7	167.7	169.7	169.7	169.7	169.7
62.5°	138.1	138.1	138.1	140.1	140.1	140.1	142.1	140.1
65°	114.4	114.4	116.4	116.4	116.4	118.4	118.4	118.4
67.5°	94.7	94.7	94.7	94.7	96.7	96.7	98.7	96.7
70°	78.9	78.9	78.9	78.9	78.9	80.9	80.9	80.9
72.5°	63.1	63.1	63.1	63.1	65.1	65.1	65.1	65.1
75°	43.4	43.4	43.4	45.4	43.4	43.4	43.4	43.4
77.5°	21.7	21.7	21.7	21.7	21.7	19.7	19.7	19.7
80°	7.9	7.9	7.9	7.9	7.9	7.9	5.9	7.9
82.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	2.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)