

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: P251781

Luminaire Tested: **LD4B30D010 EU4B30508050 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251781
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: LD4B30D010 EU4B30508050 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2310.0 lumens
Efficiency: N/A
Efficacy: 82.5 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

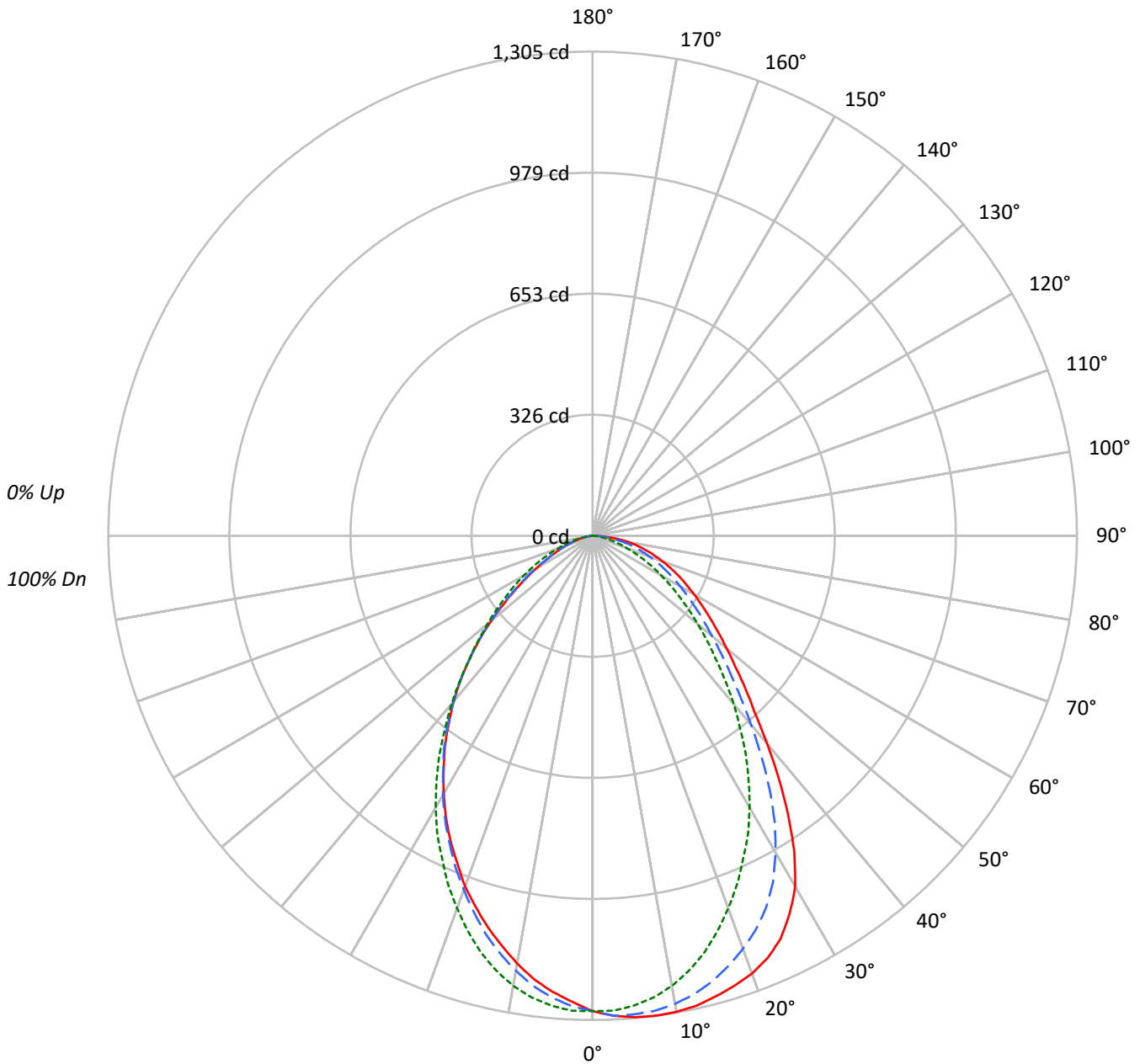
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	104	101	98	100	98	95	96	94	92	93	91	90	88				88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76				76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59				59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	124854	124854	124854
5°	127453	124372	120703
10°	128927	121901	115854
15°	129661	117332	110168
20°	130211	110786	104252
25°	128857	103210	97490
30°	122877	95148	90275
35°	109278	85590	82544
40°	93025	75227	73967
45°	80132	64654	64379
50°	71427	55886	54082
55°	65637	48221	43209
60°	61477	41498	33798
65°	59081	35006	26358
70°	56733	28067	21343
75°	54901	22254	16342
80°	55282	15490	9934
85°	46294	11070	4361



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.9	5.2
10°-20°	329.7	14.3
20°-30°	461.1	20.0
30°-40°	473.9	20.5
40°-50°	384.7	16.7
50°-60°	270.9	11.7
60°-70°	166.8	7.2
70°-80°	83.3	3.6
80°-90°	19.8	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°	910.7	39.4
0°-40°	1384.6	59.9
0°-60°	2040.2	88.3
0°-90°	2310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2310.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1281	1281	1281	1281	1281	
5°	1303	1295	1271	1250	1234	124
15°	1285	1244	1163	1112	1092	363
25°	1198	1106	960	912	907	548
35°	918	830	719	698	694	571
45°	581	524	469	469	467	452
55°	386	339	284	260	254	347
65°	256	215	152	116	114	253
75°	146	114	59	43	43	156
85°	41	28	10	6	4	48
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°	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1
2.5°	1294.9	1296.9	1291.0	1296.9	1289.0	1292.9	1294.9	1291.0	1287.0	1294.9	1294.9
5°	1302.8	1302.8	1296.9	1304.8	1294.9	1296.9	1300.8	1294.9	1289.0	1296.9	1294.9
7.5°	1304.8	1304.8	1296.9	1304.8	1294.9	1296.9	1298.8	1292.9	1287.0	1292.9	1291.0
10°	1302.8	1300.8	1294.9	1302.8	1292.9	1292.9	1294.9	1289.0	1279.1	1285.1	1281.1
12.5°	1296.9	1296.9	1289.0	1296.9	1283.1	1283.1	1285.1	1277.2	1269.3	1269.3	1265.3
15°	1285.1	1285.1	1277.2	1283.1	1271.3	1271.3	1269.3	1261.4	1251.5	1251.5	1243.7
17.5°	1271.3	1271.3	1263.4	1269.3	1255.5	1255.5	1253.5	1241.7	1227.9	1225.9	1216.1
20°	1255.5	1255.5	1245.6	1249.6	1233.8	1233.8	1231.8	1218.0	1202.3	1198.3	1184.5
22.5°	1231.8	1231.8	1222.0	1224.0	1208.2	1206.2	1204.2	1188.5	1172.7	1166.8	1149.1
25°	1198.3	1196.4	1188.5	1188.5	1172.7	1168.8	1164.8	1149.1	1133.3	1121.5	1105.7
27.5°	1149.1	1151.0	1141.2	1143.1	1123.4	1119.5	1117.5	1097.8	1080.1	1068.2	1052.5
30°	1091.9	1086.0	1076.1	1076.1	1060.4	1058.4	1054.5	1036.7	1017.0	1003.2	985.5
32.5°	1011.1	1009.1	999.3	999.3	981.5	981.5	973.6	955.9	938.2	930.3	912.5
35°	918.5	916.5	908.6	908.6	892.8	894.8	886.9	873.1	855.4	843.6	829.8
37.5°	823.9	821.9	814.0	816.0	802.2	802.2	796.3	782.5	768.7	762.8	745.0
40°	731.2	729.2	719.4	725.3	713.5	709.5	707.6	697.7	681.9	674.1	664.2
42.5°	646.5	648.4	638.6	642.5	632.7	628.7	626.8	618.9	607.0	599.2	589.3
45°	581.4	577.5	573.5	573.5	563.7	561.7	559.7	549.9	542.0	534.1	524.3
47.5°	520.3	516.4	512.4	514.4	506.5	504.6	500.6	492.7	482.9	478.9	469.1
50°	471.1	469.1	463.2	463.2	455.3	453.3	449.4	443.5	433.6	427.7	419.8
52.5°	425.7	425.7	419.8	417.8	411.9	410.0	408.0	400.1	392.2	384.3	376.4
55°	386.3	384.3	380.4	380.4	372.5	370.5	368.6	360.7	352.8	346.9	339.0
57.5°	348.9	348.9	344.9	344.9	339.0	335.1	335.1	327.2	317.3	313.4	303.5
60°	315.4	315.4	311.4	311.4	305.5	305.5	301.6	293.7	287.8	279.9	272.0
62.5°	283.8	285.8	281.8	279.9	274.0	272.0	272.0	266.1	256.2	250.3	242.4
65°	256.2	254.3	252.3	250.3	244.4	242.4	242.4	234.5	228.6	220.7	214.8
67.5°	226.7	226.7	222.7	222.7	218.8	216.8	212.9	206.9	201.0	195.1	189.2
70°	199.1	199.1	197.1	197.1	191.2	189.2	187.2	181.3	175.4	169.5	161.6
72.5°	173.4	171.5	169.5	169.5	165.6	163.6	161.6	155.7	149.8	143.9	138.0
75°	145.8	145.8	143.9	143.9	139.9	138.0	138.0	134.0	126.1	122.2	114.3
77.5°	122.2	122.2	120.2	120.2	116.3	116.3	114.3	108.4	104.5	98.5	94.6
80°	98.5	96.6	96.6	94.6	90.7	90.7	88.7	86.7	80.8	76.9	71.0
82.5°	69.0	69.0	69.0	67.0	65.0	65.0	63.1	59.1	55.2	53.2	47.3
85°	41.4	41.4	39.4	37.4	39.4	37.4	35.5	33.5	31.5	29.6	27.6
87.5°	17.7	17.7	15.8	15.8	15.8	15.8	15.8	13.8	11.8	11.8	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°	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1
2.5°	1283.1	1289.0	1287.0	1285.1	1281.1	1281.1	1281.1	1279.1	1281.1	1281.1	1277.2
5°	1283.1	1287.0	1285.1	1281.1	1277.2	1277.2	1275.2	1271.3	1271.3	1271.3	1263.4
7.5°	1277.2	1281.1	1275.2	1271.3	1267.3	1263.4	1263.4	1257.5	1257.5	1255.5	1247.6
10°	1265.3	1267.3	1259.4	1255.5	1249.6	1247.6	1243.7	1235.8	1233.8	1231.8	1224.0
12.5°	1247.6	1249.6	1239.7	1231.8	1224.0	1222.0	1218.0	1208.2	1204.2	1200.3	1190.4
15°	1222.0	1222.0	1210.2	1200.3	1192.4	1190.4	1180.6	1170.7	1166.8	1162.9	1149.1
17.5°	1192.4	1190.4	1174.7	1164.8	1155.0	1151.0	1141.2	1129.3	1121.5	1117.5	1105.7
20°	1160.9	1155.0	1137.2	1127.4	1115.6	1109.6	1099.8	1084.0	1076.1	1068.2	1056.4
22.5°	1123.4	1115.6	1095.8	1082.0	1070.2	1064.3	1050.5	1036.7	1024.9	1017.0	1003.2
25°	1078.1	1068.2	1046.6	1028.8	1019.0	1013.1	999.3	983.5	971.7	959.8	948.0
27.5°	1024.9	1013.1	991.4	973.6	963.8	953.9	944.1	926.3	916.5	906.6	892.8
30°	959.8	946.1	926.3	910.6	898.7	890.9	879.0	863.3	851.4	845.5	831.7
32.5°	888.9	873.1	855.4	839.6	833.7	823.9	814.0	798.2	788.4	782.5	772.6
35°	810.1	798.2	778.5	766.7	756.8	752.9	745.0	729.2	725.3	719.4	707.6
37.5°	727.3	717.4	703.6	693.8	685.9	681.9	674.1	664.2	658.3	652.4	646.5
40°	650.4	642.5	630.7	622.8	613.0	607.0	607.0	595.2	591.3	591.3	585.4
42.5°	575.5	571.6	561.7	549.9	547.9	542.0	540.0	534.1	530.2	528.2	526.2
45°	512.4	506.5	496.7	490.8	484.9	484.9	478.9	473.0	471.1	469.1	467.1
47.5°	457.3	449.4	441.5	435.6	431.6	429.7	423.8	419.8	417.8	417.8	415.9
50°	408.0	402.1	394.2	388.3	384.3	380.4	376.4	372.5	370.5	368.6	368.6
52.5°	366.6	358.7	350.8	344.9	339.0	337.0	333.1	329.1	327.2	325.2	323.2
55°	329.1	323.2	313.4	307.5	301.6	301.6	295.6	289.7	285.8	283.8	281.8
57.5°	293.7	287.8	277.9	272.0	268.0	264.1	260.2	256.2	252.3	248.3	244.4
60°	262.1	256.2	246.4	238.5	236.5	232.6	228.6	220.7	216.8	212.9	208.9
62.5°	232.6	224.7	216.8	208.9	206.9	203.0	197.1	191.2	185.3	181.3	175.4
65°	205.0	199.1	189.2	183.3	177.4	175.4	169.5	161.6	155.7	151.8	145.8
67.5°	179.4	171.5	161.6	155.7	151.8	147.8	141.9	136.0	130.1	124.2	118.3
70°	153.7	147.8	138.0	132.1	128.1	124.2	118.3	110.4	104.5	98.5	94.6
72.5°	130.1	122.2	114.3	108.4	104.5	100.5	94.6	88.7	82.8	78.8	72.9
75°	108.4	100.5	94.6	86.7	84.8	80.8	74.9	69.0	63.1	59.1	55.2
77.5°	86.7	80.8	72.9	69.0	65.0	61.1	57.2	51.2	47.3	41.4	37.4
80°	65.0	59.1	53.2	49.3	45.3	43.4	39.4	35.5	31.5	27.6	25.6
82.5°	43.4	39.4	33.5	31.5	29.6	27.6	23.7	21.7	19.7	17.7	15.8
85°	23.7	21.7	19.7	15.8	15.8	13.8	11.8	11.8	9.9	9.9	7.9
87.5°	9.9	7.9	7.9	5.9	5.9	5.9	3.9	3.9	3.9	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°	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1
2.5°	1279.1	1271.3	1271.3	1271.3	1265.3	1267.3	1269.3	1271.3	1269.3	1263.4	1269.3
5°	1265.3	1257.5	1257.5	1253.5	1249.6	1249.6	1249.6	1251.5	1249.6	1243.7	1245.6
7.5°	1247.6	1237.7	1235.8	1231.8	1227.9	1225.9	1225.9	1225.9	1224.0	1216.1	1220.0
10°	1220.0	1210.2	1206.2	1204.2	1198.3	1196.4	1194.4	1192.4	1190.4	1182.6	1186.5
12.5°	1186.5	1178.6	1170.7	1168.8	1162.9	1158.9	1156.9	1156.9	1153.0	1145.1	1149.1
15°	1147.1	1135.3	1129.3	1125.4	1119.5	1115.6	1111.6	1113.6	1111.6	1103.7	1105.7
17.5°	1099.8	1088.0	1082.0	1080.1	1072.2	1068.2	1066.3	1066.3	1064.3	1056.4	1058.4
20°	1048.5	1036.7	1032.8	1028.8	1024.9	1020.9	1019.0	1017.0	1015.0	1007.1	1013.1
22.5°	997.3	983.5	977.6	977.6	969.7	967.7	965.8	967.7	965.8	957.9	961.8
25°	944.1	930.3	926.3	920.4	916.5	914.5	914.5	914.5	912.5	908.6	912.5
27.5°	885.0	875.1	869.2	867.2	863.3	861.3	859.3	861.3	861.3	855.4	859.3
30°	825.8	817.9	814.0	812.0	806.1	804.1	806.1	806.1	806.1	800.2	806.1
32.5°	766.7	760.8	758.8	752.9	749.0	749.0	749.0	750.9	749.0	745.0	750.9
35°	707.6	699.7	697.7	695.7	695.7	691.8	695.7	693.8	697.7	691.8	695.7
37.5°	644.5	640.6	638.6	638.6	634.6	636.6	636.6	636.6	640.6	634.6	638.6
40°	585.4	581.4	581.4	581.4	579.5	579.5	579.5	581.4	583.4	579.5	583.4
42.5°	526.2	524.3	524.3	522.3	520.3	522.3	524.3	524.3	526.2	522.3	524.3
45°	469.1	467.1	469.1	467.1	467.1	465.1	467.1	469.1	469.1	467.1	467.1
47.5°	415.9	415.9	413.9	413.9	413.9	413.9	413.9	413.9	413.9	410.0	413.9
50°	368.6	364.6	366.6	364.6	364.6	362.7	362.7	360.7	358.7	356.7	356.7
52.5°	323.2	319.3	319.3	317.3	315.4	315.4	313.4	311.4	309.4	305.5	305.5
55°	279.9	275.9	274.0	272.0	270.0	268.0	266.1	264.1	260.2	258.2	258.2
57.5°	240.5	236.5	232.6	232.6	228.6	226.7	222.7	218.8	216.8	212.9	212.9
60°	205.0	201.0	195.1	193.2	191.2	187.2	181.3	179.4	177.4	173.4	175.4
62.5°	171.5	165.6	159.6	157.7	155.7	151.8	147.8	143.9	141.9	143.9	143.9
65°	139.9	134.0	130.1	126.1	124.2	120.2	118.3	116.3	116.3	116.3	118.3
67.5°	112.3	106.4	102.5	100.5	96.6	94.6	94.6	94.6	94.6	94.6	94.6
70°	88.7	84.8	80.8	76.9	76.9	74.9	74.9	74.9	74.9	74.9	74.9
72.5°	67.0	63.1	61.1	61.1	59.1	59.1	59.1	59.1	57.2	57.2	59.1
75°	49.3	47.3	45.3	45.3	45.3	43.4	43.4	43.4	43.4	43.4	43.4
77.5°	35.5	33.5	33.5	31.5	31.5	31.5	31.5	31.5	31.5	29.6	29.6
80°	23.7	21.7	21.7	21.7	21.7	19.7	19.7	19.7	19.7	19.7	19.7
82.5°	13.8	13.8	13.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
85°	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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: P251781

CATALOG NUMBER: LD4B30D010 EU4B30508050 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1	1281.1
2.5°	1257.5	1265.3	1267.3	1261.4	1263.4	1259.4	1261.4	1257.5
5°	1235.8	1241.7	1243.7	1239.7	1239.7	1235.8	1237.7	1233.8
7.5°	1208.2	1214.1	1216.1	1212.1	1212.1	1208.2	1208.2	1206.2
10°	1176.7	1178.6	1182.6	1176.7	1178.6	1174.7	1174.7	1170.7
12.5°	1137.2	1141.2	1145.1	1139.2	1139.2	1137.2	1137.2	1131.3
15°	1095.8	1099.8	1101.8	1097.8	1097.8	1095.8	1093.9	1091.9
17.5°	1052.5	1054.5	1058.4	1052.5	1056.4	1052.5	1052.5	1048.5
20°	1003.2	1009.1	1011.1	1005.2	1007.1	1005.2	1005.2	1005.2
22.5°	955.9	959.8	961.8	957.9	959.8	955.9	957.9	953.9
25°	906.6	908.6	910.6	906.6	910.6	908.6	906.6	906.6
27.5°	855.4	857.4	859.3	855.4	859.3	857.4	859.3	855.4
30°	800.2	804.1	808.1	804.1	806.1	804.1	804.1	802.2
32.5°	745.0	749.0	752.9	749.0	752.9	749.0	750.9	747.0
35°	693.8	695.7	697.7	693.8	695.7	695.7	695.7	693.8
37.5°	636.6	640.6	640.6	638.6	642.5	640.6	640.6	636.6
40°	581.4	583.4	585.4	581.4	583.4	581.4	583.4	581.4
42.5°	524.3	528.2	530.2	526.2	526.2	526.2	524.3	526.2
45°	465.1	469.1	473.0	467.1	469.1	469.1	469.1	467.1
47.5°	411.9	411.9	413.9	411.9	413.9	410.0	413.9	411.9
50°	356.7	356.7	360.7	356.7	356.7	356.7	356.7	356.7
52.5°	303.5	305.5	305.5	301.6	303.5	301.6	303.5	301.6
55°	254.3	254.3	256.2	254.3	254.3	254.3	254.3	254.3
57.5°	210.9	212.9	212.9	210.9	212.9	210.9	210.9	210.9
60°	175.4	175.4	175.4	173.4	175.4	173.4	175.4	173.4
62.5°	141.9	143.9	143.9	141.9	143.9	141.9	141.9	141.9
65°	116.3	116.3	116.3	116.3	116.3	116.3	116.3	114.3
67.5°	92.6	92.6	94.6	92.6	94.6	94.6	94.6	94.6
70°	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
72.5°	57.2	57.2	59.1	57.2	57.2	57.2	57.2	57.2
75°	43.4	43.4	43.4	43.4	43.4	41.4	41.4	43.4
77.5°	29.6	29.6	29.6	29.6	29.6	29.6	29.6	31.5
80°	19.7	19.7	19.7	19.7	17.7	17.7	19.7	17.7
82.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
85°	5.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9
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



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)