

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: P251548

Luminaire Tested: **LD4B30D010 EU4B30509024 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251548
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 EU4B30509024 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1946.0 lumens
Efficiency: N/A
Efficacy: 69.5 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

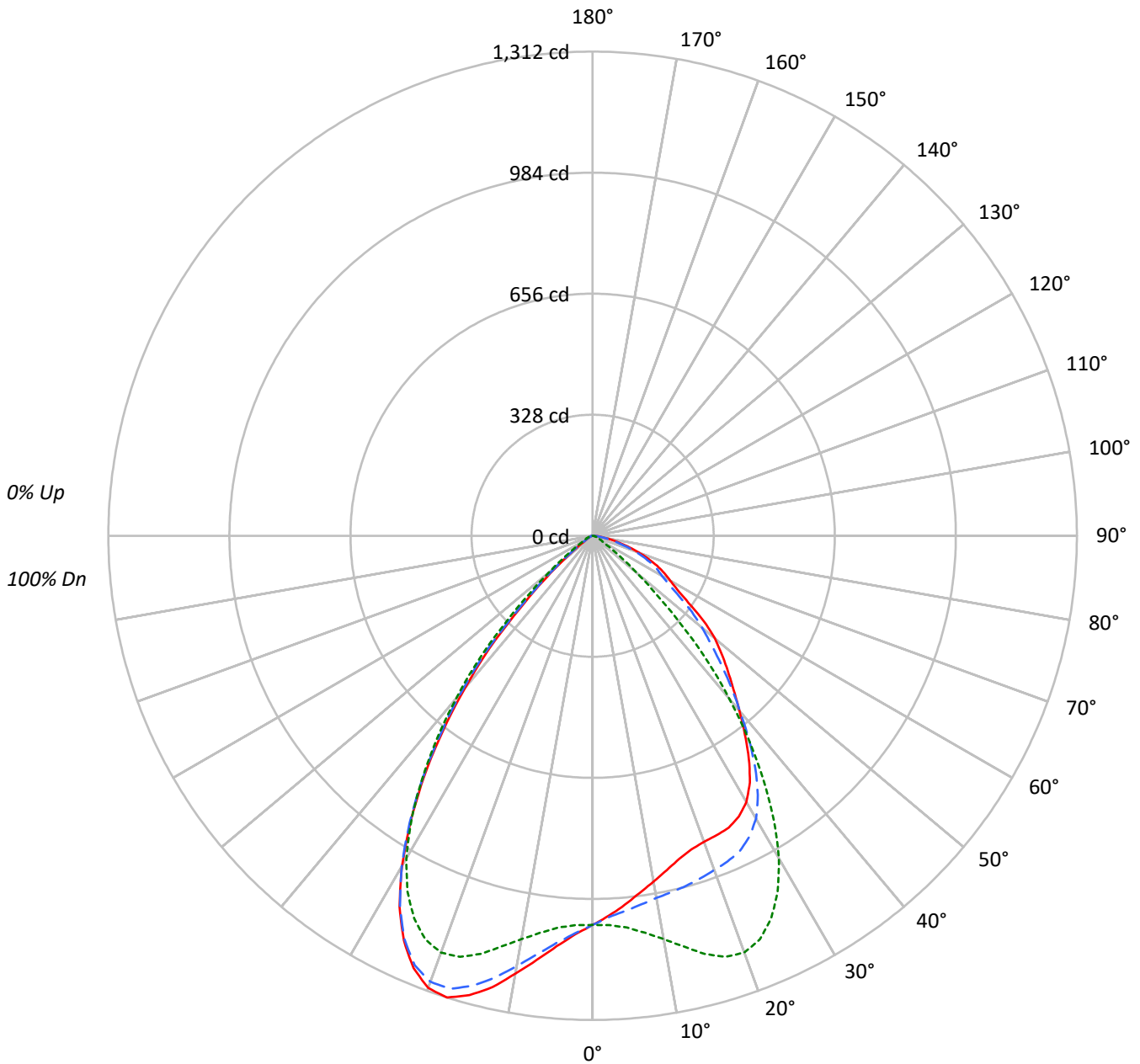
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	102770	102770	102770
5°	98183	104238	109228
10°	94142	109808	119209
15°	91402	118341	130015
20°	91516	124642	135210
25°	93855	123018	130126
30°	93730	113559	116192
35°	87791	95977	94668
40°	78636	73217	68306
45°	71339	46489	38137
50°	65544	23592	16284
55°	53794	10535	5386
60°	47228	5906	2943
65°	44438	4451	2214
70°	38041	3533	1966
75°	29032	2598	1544
80°	20878	1571	786
85°	15431	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.4	5.3
10°-20°	319.2	16.4
20°-30°	493.9	25.4
30°-40°	486.6	25.0
40°-50°	298.8	15.4
50°-60°	132.9	6.8
60°-70°	74.2	3.8
70°-80°	32.1	1.7
80°-90°	5.7	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°	915.6	47.0
0°-40°	1402.2	72.1
0°-60°	1833.9	94.2
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1054	1054	1054	1054	1054	
5°	1004	1020	1066	1107	1116	94
15°	906	982	1173	1262	1289	257
25°	873	943	1144	1206	1210	401
35°	738	768	807	804	796	458
45°	518	492	337	295	277	401
55°	317	286	62	36	32	291
65°	193	174	19	11	10	189
75°	77	66	7	4	4	85
85°	14	11	0	0	0	17
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°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5
2.5°	1029.8	1029.8	1029.8	1029.8	1032.5	1028.4	1032.5	1032.5	1036.6	1038.0	1033.9
5°	1003.6	1002.2	1003.6	1003.6	1006.3	1005.0	1009.1	1011.9	1017.4	1020.1	1020.1
7.5°	976.1	976.1	976.1	978.8	982.9	981.6	985.7	989.8	998.1	1003.6	1007.7
10°	951.3	949.9	954.0	955.4	959.5	959.5	966.4	970.6	980.2	991.2	996.7
12.5°	927.9	926.5	929.3	933.4	940.3	940.3	945.8	952.7	966.4	978.8	988.5
15°	905.9	907.2	911.4	914.1	922.4	922.4	929.3	937.5	952.7	967.8	981.6
17.5°	890.7	892.1	894.8	899.0	907.2	907.2	914.1	923.7	940.3	956.8	973.3
20°	882.4	883.8	886.6	890.7	897.6	899.0	904.5	915.5	930.6	948.5	963.7
22.5°	878.3	881.1	883.8	886.6	893.5	893.5	900.3	908.6	923.7	941.6	955.4
25°	872.8	875.6	876.9	881.1	886.6	886.6	890.7	900.3	914.1	929.3	943.0
27.5°	857.7	860.4	861.8	865.9	871.4	870.1	875.6	882.4	894.8	908.6	919.6
30°	832.9	834.3	837.0	838.4	842.5	842.5	846.7	853.5	861.8	874.2	885.2
32.5°	793.0	795.7	797.1	798.5	802.6	801.2	802.6	806.7	815.0	826.0	832.9
35°	737.9	743.4	743.4	746.2	747.5	746.2	746.2	751.7	755.8	764.1	768.2
37.5°	677.3	681.5	680.1	682.8	684.2	680.1	682.8	684.2	689.7	693.8	695.2
40°	618.1	619.5	619.5	619.5	619.5	618.1	619.5	620.9	625.0	625.0	620.9
42.5°	564.4	565.8	565.8	563.1	565.8	564.4	564.4	564.4	564.4	558.9	554.8
45°	517.6	519.0	519.0	517.6	517.6	514.9	513.5	512.1	508.0	501.1	491.5
47.5°	473.6	476.3	477.7	475.0	473.6	470.8	470.8	462.6	457.1	448.8	435.0
50°	432.3	435.0	435.0	432.3	432.3	428.1	424.0	421.3	413.0	403.4	386.8
52.5°	380.0	384.1	384.1	382.7	382.7	377.2	375.8	370.3	363.4	352.4	338.7
55°	316.6	322.1	320.8	319.4	316.6	316.6	316.6	312.5	308.4	300.1	286.3
57.5°	271.2	272.6	272.6	271.2	271.2	268.5	268.5	264.3	262.9	254.7	243.7
60°	242.3	242.3	243.7	242.3	240.9	239.5	238.2	235.4	231.3	225.8	217.5
62.5°	218.9	220.3	220.3	218.9	217.5	216.1	214.8	212.0	209.3	205.1	196.9
65°	192.7	195.5	194.1	192.7	191.4	190.0	190.0	187.2	184.5	181.7	173.5
67.5°	163.8	165.2	166.6	163.8	163.8	162.4	162.4	159.7	158.3	152.8	147.3
70°	133.5	134.9	134.9	133.5	133.5	132.2	132.2	130.8	129.4	125.3	119.8
72.5°	104.6	106.0	104.6	103.3	103.3	103.3	101.9	100.5	99.1	96.4	92.2
75°	77.1	77.1	78.5	77.1	75.7	75.7	74.3	74.3	71.6	70.2	66.1
77.5°	55.1	56.4	55.1	55.1	53.7	52.3	52.3	50.9	50.9	49.6	46.8
80°	37.2	37.2	38.5	37.2	35.8	37.2	35.8	34.4	34.4	33.0	30.3
82.5°	23.4	24.8	23.4	23.4	23.4	23.4	23.4	22.0	22.0	20.7	19.3
85°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	12.4	12.4	12.4	11.0
87.5°	6.9	6.9	5.5	5.5	6.9	6.9	6.9	5.5	5.5	5.5	5.5
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°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5
2.5°	1039.4	1040.8	1043.5	1047.6	1047.6	1044.9	1051.8	1051.8	1054.5	1055.9	1061.4
5°	1028.4	1031.1	1036.6	1043.5	1044.9	1043.5	1053.2	1057.3	1061.4	1065.5	1073.8
7.5°	1018.7	1024.2	1033.9	1043.5	1047.6	1047.6	1062.8	1068.3	1076.6	1084.8	1094.5
10°	1013.2	1021.5	1035.3	1050.4	1054.5	1058.7	1076.6	1087.6	1098.6	1109.6	1123.4
12.5°	1006.3	1021.5	1039.4	1058.7	1066.9	1072.4	1097.2	1111.0	1126.1	1139.9	1157.8
15°	1005.0	1022.9	1046.3	1071.1	1082.1	1090.3	1117.9	1137.1	1155.0	1172.9	1190.8
17.5°	999.5	1021.5	1050.4	1077.9	1091.7	1102.7	1134.4	1157.8	1178.4	1196.3	1217.0
20°	992.6	1017.4	1049.0	1079.3	1094.5	1105.5	1139.9	1161.9	1185.3	1201.8	1221.1
22.5°	982.9	1007.7	1039.4	1069.7	1083.4	1093.1	1127.5	1146.8	1167.4	1183.9	1201.8
25°	966.4	989.8	1017.4	1042.1	1055.9	1064.2	1094.5	1112.4	1127.5	1144.0	1160.5
27.5°	943.0	960.9	984.3	1002.2	1010.5	1018.7	1043.5	1058.7	1072.4	1086.2	1097.2
30°	901.7	915.5	932.0	947.2	955.4	956.8	980.2	988.5	999.5	1009.1	1017.4
32.5°	846.7	857.7	867.3	875.6	881.1	882.4	900.3	903.1	914.1	914.1	926.5
35°	776.4	782.0	788.8	788.8	793.0	788.8	801.2	804.0	805.4	806.7	816.4
37.5°	696.6	699.4	703.5	695.2	695.2	691.1	695.2	698.0	692.5	692.5	699.4
40°	620.9	615.4	609.9	601.6	597.5	589.2	589.2	582.3	578.2	575.5	576.8
42.5°	547.9	535.5	523.1	505.2	497.0	488.7	480.5	470.8	468.1	461.2	457.1
45°	477.7	459.8	443.3	414.4	397.9	389.6	371.7	352.4	340.0	337.3	326.3
47.5°	418.5	392.4	364.8	330.4	313.9	298.7	272.6	256.1	239.5	231.3	224.4
50°	366.2	342.8	307.0	269.8	249.2	234.0	205.1	185.9	168.0	155.6	147.3
52.5°	320.8	294.6	261.6	218.9	198.2	181.7	150.1	128.0	112.9	100.5	90.9
55°	269.8	249.2	216.1	176.2	155.6	136.3	108.8	85.4	70.2	62.0	55.1
57.5°	232.7	214.8	183.1	144.6	125.3	107.4	79.8	60.6	48.2	39.9	35.8
60°	207.9	191.4	163.8	126.7	108.8	92.2	66.1	48.2	37.2	30.3	27.5
62.5°	187.2	170.7	145.9	111.5	96.4	79.8	56.4	39.9	30.3	24.8	20.7
65°	163.8	148.7	126.7	96.4	82.6	68.8	48.2	33.0	24.8	19.3	16.5
67.5°	139.0	125.3	106.0	79.8	68.8	57.8	38.5	27.5	20.7	16.5	13.8
70°	112.9	101.9	84.0	64.7	55.1	45.4	31.7	22.0	15.1	12.4	11.0
72.5°	86.7	77.1	64.7	49.6	41.3	34.4	23.4	16.5	12.4	9.6	8.3
75°	62.0	55.1	45.4	35.8	30.3	24.8	17.9	12.4	8.3	6.9	5.5
77.5°	42.7	38.5	31.7	24.8	20.7	17.9	12.4	8.3	6.9	5.5	4.1
80°	27.5	24.8	20.7	15.1	12.4	11.0	6.9	5.5	4.1	2.8	2.8
82.5°	16.5	15.1	12.4	8.3	6.9	5.5	4.1	2.8	2.8	1.4	1.4
85°	9.6	8.3	5.5	4.1	4.1	2.8	2.8	1.4	1.4	0.0	0.0
87.5°	4.1	2.8	2.8	1.4	1.4	1.4	1.4	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°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5
2.5°	1058.7	1065.5	1064.2	1068.3	1066.9	1066.9	1073.8	1071.1	1077.9	1077.9	1079.3
5°	1073.8	1083.4	1083.4	1090.3	1088.9	1091.7	1098.6	1098.6	1106.8	1109.6	1109.6
7.5°	1095.8	1108.2	1111.0	1117.9	1119.2	1124.7	1130.2	1131.6	1142.6	1145.4	1146.8
10°	1126.1	1141.3	1145.4	1152.3	1155.0	1160.5	1167.4	1170.2	1183.9	1185.3	1190.8
12.5°	1163.3	1179.8	1183.9	1192.2	1193.6	1200.5	1210.1	1212.9	1226.6	1230.7	1234.9
15°	1199.1	1214.2	1221.1	1229.4	1230.7	1239.0	1247.3	1250.0	1262.4	1267.9	1272.0
17.5°	1223.9	1241.8	1245.9	1256.9	1256.9	1263.8	1272.0	1274.8	1287.2	1291.3	1294.1
20°	1229.4	1245.9	1251.4	1259.7	1261.0	1265.2	1272.0	1274.8	1285.8	1287.2	1291.3
22.5°	1208.7	1225.2	1228.0	1236.3	1237.6	1241.8	1247.3	1245.9	1259.7	1258.3	1259.7
25°	1164.7	1179.8	1179.8	1189.4	1188.1	1192.2	1195.0	1193.6	1206.0	1206.0	1206.0
27.5°	1101.3	1115.1	1116.5	1123.4	1119.2	1120.6	1123.4	1122.0	1130.2	1130.2	1130.2
30°	1022.9	1033.9	1029.8	1035.3	1032.5	1035.3	1032.5	1031.1	1033.9	1036.6	1035.3
32.5°	925.1	933.4	933.4	934.8	934.8	926.5	923.7	923.7	922.4	921.0	921.0
35°	812.2	819.1	816.4	816.4	815.0	806.7	802.6	799.8	804.0	795.7	801.2
37.5°	696.6	698.0	693.8	692.5	685.6	685.6	678.7	673.2	675.9	674.6	669.1
40°	569.9	575.5	567.2	564.4	568.6	563.1	556.2	549.3	554.8	547.9	550.7
42.5°	446.0	444.7	441.9	441.9	441.9	433.7	432.3	430.9	432.3	426.8	422.6
45°	322.1	318.0	313.9	313.9	308.4	305.6	305.6	301.5	294.6	294.6	286.3
47.5°	217.5	207.9	205.1	203.7	201.0	201.0	198.2	195.5	194.1	187.2	187.2
50°	141.8	132.2	129.4	128.0	129.4	126.7	123.9	121.1	118.4	117.0	114.3
52.5°	85.4	81.2	78.5	77.1	74.3	73.0	71.6	68.8	67.5	67.5	66.1
55°	50.9	46.8	41.3	41.3	41.3	39.9	38.5	37.2	35.8	35.8	34.4
57.5°	31.7	28.9	26.2	24.8	24.8	24.8	23.4	23.4	23.4	23.4	22.0
60°	23.4	20.7	19.3	19.3	19.3	17.9	17.9	17.9	17.9	16.5	16.5
62.5°	17.9	16.5	15.1	15.1	13.8	13.8	13.8	13.8	13.8	13.8	12.4
65°	15.1	12.4	12.4	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
67.5°	11.0	9.6	9.6	9.6	9.6	8.3	8.3	8.3	8.3	8.3	8.3
70°	8.3	8.3	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
72.5°	6.9	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
75°	5.5	5.5	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
77.5°	4.1	4.1	4.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	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: P251548

CATALOG NUMBER: LD4B30D010 EU4B30509024 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5
2.5°	1079.3	1086.2	1079.3	1079.3	1083.4	1082.1	1084.8	1080.7
5°	1111.0	1120.6	1113.7	1112.4	1119.2	1117.9	1119.2	1116.5
7.5°	1149.5	1159.2	1152.3	1152.3	1159.2	1157.8	1161.9	1159.2
10°	1193.6	1204.6	1195.0	1196.3	1206.0	1204.6	1204.6	1204.6
12.5°	1239.0	1250.0	1244.5	1244.5	1251.4	1252.8	1254.2	1252.8
15°	1276.2	1287.2	1280.3	1280.3	1289.9	1288.6	1289.9	1288.6
17.5°	1298.2	1309.2	1301.0	1301.0	1309.2	1309.2	1310.6	1312.0
20°	1292.7	1305.1	1298.2	1295.5	1305.1	1305.1	1303.7	1303.7
22.5°	1261.0	1272.0	1266.5	1263.8	1270.7	1267.9	1266.5	1267.9
25°	1206.0	1217.0	1206.0	1206.0	1211.5	1210.1	1211.5	1210.1
27.5°	1131.6	1139.9	1128.9	1127.5	1133.0	1130.2	1128.9	1133.0
30°	1032.5	1040.8	1035.3	1031.1	1038.0	1033.9	1031.1	1032.5
32.5°	919.6	925.1	922.4	915.5	919.6	916.9	915.5	916.9
35°	795.7	802.6	791.6	790.2	797.1	791.6	788.8	795.7
37.5°	667.7	675.9	666.3	667.7	663.6	664.9	662.2	666.3
40°	546.5	545.2	542.4	541.0	542.4	538.3	541.0	536.9
42.5°	415.8	418.5	417.1	415.8	417.1	411.6	408.9	414.4
45°	289.1	287.7	285.0	282.2	282.2	280.8	280.8	276.7
47.5°	185.9	184.5	179.0	180.3	183.1	180.3	176.2	181.7
50°	112.9	111.5	111.5	110.1	112.9	110.1	107.4	107.4
52.5°	63.3	63.3	62.0	62.0	62.0	62.0	60.6	59.2
55°	34.4	33.0	33.0	33.0	31.7	31.7	31.7	31.7
57.5°	22.0	22.0	22.0	22.0	22.0	22.0	20.7	20.7
60°	16.5	16.5	16.5	16.5	15.1	16.5	15.1	15.1
62.5°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
65°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
67.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
70°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
72.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
75°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)