

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P843489

Luminaire Tested: **LD4C20DE010B50 EU4C20B50 4LBSWLI**

Issue Date: 5/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P843489  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20DE010B50 EU4C20B50 4LBSWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

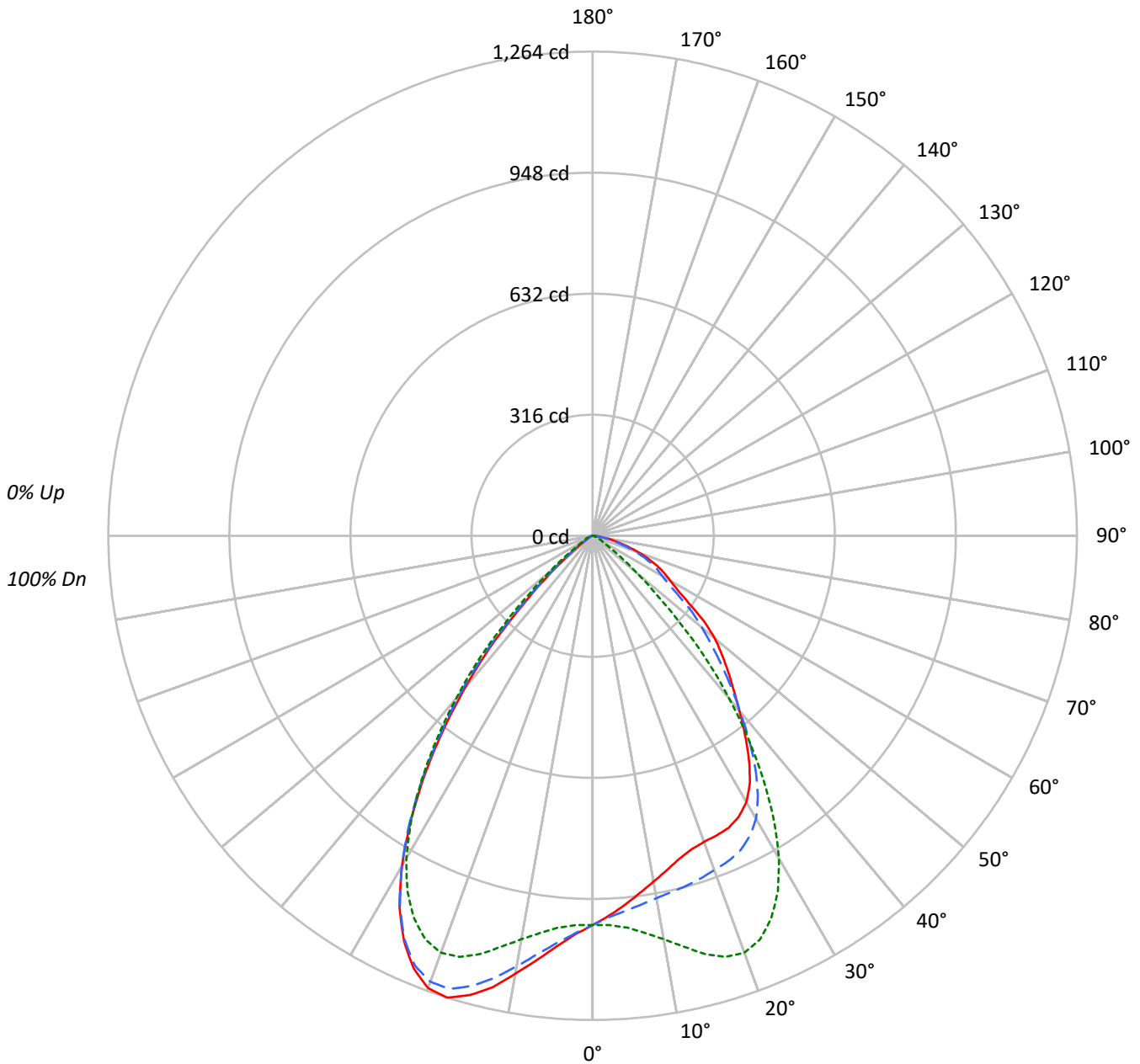
Lumens per Lamp: N/A  
Luminaire Lumens: 1875.2 lumens  
Efficiency: N/A  
Efficacy: 86.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.8  
Input Voltage (V):  
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	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°	124844	124844	124844
5°	119265	126628	132671
10°	114357	133394	144808
15°	111022	143760	157928
20°	111166	151408	164246
25°	114001	149435	158056
30°	113842	137944	141135
35°	106633	116592	115002
40°	95535	88927	82977
45°	86662	56466	46319
50°	79623	28650	19762
55°	65349	12808	6533
60°	57348	7175	3587
65°	53982	5378	2703
70°	46229	4310	2407
75°	35220	3180	1899
80°	25399	1839	990
85°	18607	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.7	5.3
10°-20°	307.6	16.4
20°-30°	475.9	25.4
30°-40°	468.9	25.0
40°-50°	287.9	15.4
50°-60°	128.0	6.8
60°-70°	71.5	3.8
70°-80°	31.0	1.7
80°-90°	5.5	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°	882.3	47.0
0°-40°	1351.2	72.1
0°-60°	1767.2	94.2
0°-90°	1875.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1875.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1016	1016	1016	1016	1016	
5°	967	983	1027	1067	1076	91
15°	873	946	1130	1216	1242	248
25°	841	909	1102	1162	1166	386
35°	711	740	777	775	767	441
45°	499	474	325	284	267	386
55°	305	276	60	34	30	280
65°	186	167	18	11	9	182
75°	74	64	7	4	4	82
85°	13	11	0	0	0	16
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°	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2
2.5°	992.3	992.3	992.3	992.3	994.9	991.0	994.9	994.9	998.9	1000.2	996.3
5°	967.1	965.7	967.1	967.1	969.7	968.4	972.4	975.0	980.3	983.0	983.0
7.5°	940.6	940.6	940.6	943.2	947.1	945.8	949.8	953.8	961.7	967.1	971.0
10°	916.7	915.4	919.3	920.7	924.6	924.6	931.2	935.3	944.5	955.1	960.4
12.5°	894.1	892.7	895.4	899.4	906.1	906.1	911.4	918.0	931.2	943.2	952.5
15°	872.9	874.2	878.2	880.8	888.8	888.8	895.4	903.4	918.0	932.6	945.8
17.5°	858.3	859.6	862.3	866.2	874.2	874.2	880.8	890.1	906.1	921.9	937.9
20°	850.3	851.7	854.4	858.3	864.9	866.2	871.6	882.2	896.8	914.0	928.6
22.5°	846.4	849.1	851.7	854.4	860.9	860.9	867.6	875.5	890.1	907.3	920.7
25°	841.0	843.7	845.0	849.1	854.4	854.4	858.3	867.6	880.8	895.4	908.7
27.5°	826.4	829.1	830.5	834.5	839.8	838.4	843.7	850.3	862.3	875.5	886.1
30°	802.5	803.9	806.6	807.8	811.8	811.8	815.9	822.5	830.5	842.4	853.0
32.5°	764.1	766.8	768.2	769.4	773.4	772.1	773.4	777.4	785.3	796.0	802.5
35°	711.0	716.3	716.3	719.0	720.4	719.0	719.0	724.3	728.3	736.2	740.2
37.5°	652.7	656.7	655.3	658.0	659.3	655.3	658.0	659.3	664.6	668.5	669.9
40°	595.7	596.9	596.9	596.9	596.9	595.7	596.9	598.3	602.2	602.2	598.3
42.5°	543.9	545.2	545.2	542.6	545.2	543.9	543.9	543.9	543.9	538.5	534.6
45°	498.8	500.2	500.2	498.8	498.8	496.1	494.9	493.5	489.5	482.9	473.6
47.5°	456.4	459.0	460.3	457.6	456.4	453.6	453.6	445.7	440.4	432.5	419.2
50°	416.6	419.2	419.2	416.6	416.6	412.6	408.6	405.9	398.0	388.7	372.7
52.5°	366.2	370.1	370.1	368.8	368.8	363.5	362.1	356.8	350.2	339.6	326.4
55°	305.1	310.4	309.0	307.8	305.1	305.1	305.1	301.1	297.1	289.2	275.9
57.5°	261.3	262.7	262.7	261.3	261.3	258.7	258.7	254.7	253.4	245.4	234.8
60°	233.4	233.4	234.8	233.4	232.2	230.8	229.5	226.9	222.8	217.6	209.6
62.5°	210.9	212.3	212.3	210.9	209.6	208.2	207.0	204.3	201.7	197.7	189.7
65°	185.7	188.4	187.1	185.7	184.5	183.1	183.1	180.4	177.8	175.1	167.1
67.5°	157.8	159.2	160.4	157.8	157.8	156.5	156.5	153.9	152.5	147.2	141.9
70°	128.7	130.0	130.0	128.7	128.7	127.3	127.3	126.1	124.7	120.8	115.4
72.5°	100.8	102.2	100.8	99.5	99.5	99.5	98.1	96.8	95.5	92.9	88.8
75°	74.2	74.2	75.6	74.2	73.0	73.0	71.6	71.6	69.0	67.7	63.7
77.5°	53.1	54.4	53.1	53.1	51.7	50.4	50.4	49.1	49.1	47.8	45.2
80°	35.9	35.9	37.1	35.9	34.5	35.9	34.5	33.2	33.2	31.8	29.2
82.5°	22.5	23.9	22.5	22.5	22.5	22.5	22.5	21.2	21.2	19.9	18.5
85°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	12.0	12.0	12.0	10.6
87.5°	6.7	6.7	5.3	5.3	6.7	6.7	6.7	5.3	5.3	5.3	5.3
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°	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2
2.5°	1001.6	1002.8	1005.5	1009.5	1009.5	1006.9	1013.5	1013.5	1016.2	1017.4	1022.7
5°	991.0	993.6	998.9	1005.5	1006.9	1005.5	1014.8	1018.8	1022.7	1026.8	1034.7
7.5°	981.7	987.0	996.3	1005.5	1009.5	1009.5	1024.1	1029.4	1037.3	1045.4	1054.7
10°	976.4	984.3	997.6	1012.2	1016.2	1020.1	1037.3	1048.0	1058.6	1069.3	1082.5
12.5°	969.7	984.3	1001.6	1020.1	1028.1	1033.4	1057.3	1070.5	1085.1	1098.4	1115.7
15°	968.4	985.7	1008.2	1032.0	1042.7	1050.7	1077.2	1095.7	1112.9	1130.3	1147.5
17.5°	963.1	984.3	1012.2	1038.7	1052.0	1062.6	1093.1	1115.7	1135.6	1152.8	1172.7
20°	956.4	980.3	1010.9	1040.1	1054.7	1065.2	1098.4	1119.6	1142.1	1158.1	1176.6
22.5°	947.1	971.0	1001.6	1030.8	1044.0	1053.3	1086.4	1105.0	1125.0	1140.9	1158.1
25°	931.2	953.8	980.3	1004.2	1017.4	1025.4	1054.7	1071.9	1086.4	1102.4	1118.3
27.5°	908.7	926.0	948.5	965.7	973.8	981.7	1005.5	1020.1	1033.4	1046.6	1057.3
30°	868.8	882.2	898.1	912.7	920.7	921.9	944.5	952.5	963.1	972.4	980.3
32.5°	815.9	826.4	835.7	843.7	849.1	850.3	867.6	870.2	880.8	880.8	892.7
35°	748.2	753.5	760.1	760.1	764.1	760.1	772.1	774.7	776.1	777.4	786.7
37.5°	671.3	673.9	677.8	669.9	669.9	665.9	669.9	672.5	667.3	667.3	673.9
40°	598.3	592.9	587.6	579.7	575.8	567.7	567.7	561.2	557.2	554.5	555.9
42.5°	528.0	516.0	504.1	486.8	478.9	471.0	462.9	453.6	451.0	444.4	440.4
45°	460.3	443.0	427.2	399.3	383.4	375.4	358.2	339.6	327.7	325.0	314.4
47.5°	403.3	378.0	351.6	318.3	302.5	287.9	262.7	246.7	230.8	222.8	216.2
50°	352.8	330.3	295.8	260.1	240.1	225.5	197.7	179.1	161.8	149.9	141.9
52.5°	309.0	283.9	252.0	210.9	191.0	175.1	144.6	123.4	108.8	96.8	87.6
55°	260.1	240.1	208.2	169.8	149.9	131.4	104.8	82.3	67.7	59.8	53.1
57.5°	224.2	207.0	176.4	139.3	120.8	103.4	76.9	58.4	46.4	38.5	34.5
60°	200.3	184.5	157.8	122.1	104.8	88.8	63.7	46.4	35.9	29.2	26.5
62.5°	180.4	164.5	140.7	107.5	92.9	76.9	54.4	38.5	29.2	23.9	19.9
65°	157.8	143.3	122.1	92.9	79.5	66.3	46.4	31.8	23.9	18.5	15.9
67.5°	134.0	120.8	102.2	76.9	66.3	55.7	37.1	26.5	19.9	15.9	13.2
70°	108.8	98.1	80.9	62.4	53.1	43.8	30.5	21.2	14.6	12.0	10.6
72.5°	83.6	74.2	62.4	47.8	39.8	33.2	22.5	15.9	12.0	9.3	7.9
75°	59.8	53.1	43.8	34.5	29.2	23.9	17.2	12.0	7.9	6.7	5.3
77.5°	41.1	37.1	30.5	23.9	19.9	17.2	12.0	7.9	6.7	5.3	4.0
80°	26.5	23.9	19.9	14.6	12.0	10.6	6.7	5.3	4.0	2.6	2.6
82.5°	15.9	14.6	12.0	7.9	6.7	5.3	4.0	2.6	2.6	1.4	1.4
85°	9.3	7.9	5.3	4.0	4.0	2.6	2.6	1.4	1.4	0.0	0.0
87.5°	4.0	2.6	2.6	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°	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2
2.5°	1020.1	1026.8	1025.4	1029.4	1028.1	1028.1	1034.7	1032.0	1038.7	1038.7	1040.1
5°	1034.7	1044.0	1044.0	1050.7	1049.4	1052.0	1058.6	1058.6	1066.6	1069.3	1069.3
7.5°	1055.9	1067.9	1070.5	1077.2	1078.5	1083.8	1089.2	1090.4	1101.0	1103.7	1105.0
10°	1085.1	1099.7	1103.7	1110.3	1112.9	1118.3	1125.0	1127.6	1140.9	1142.1	1147.5
12.5°	1121.0	1136.9	1140.9	1148.8	1150.2	1156.7	1166.0	1168.7	1182.0	1185.9	1189.9
15°	1155.5	1170.1	1176.6	1184.7	1185.9	1194.0	1201.9	1204.5	1216.5	1221.8	1225.8
17.5°	1179.4	1196.6	1200.6	1211.2	1211.2	1217.8	1225.8	1228.4	1240.3	1244.3	1247.0
20°	1184.7	1200.6	1205.9	1213.8	1215.1	1219.1	1225.8	1228.4	1239.0	1240.3	1244.3
22.5°	1164.7	1180.6	1183.3	1191.3	1192.6	1196.6	1201.9	1200.6	1213.8	1212.5	1213.8
25°	1122.3	1136.9	1136.9	1146.2	1144.9	1148.8	1151.4	1150.2	1162.0	1162.0	1162.0
27.5°	1061.2	1074.6	1075.8	1082.5	1078.5	1079.8	1082.5	1081.1	1089.2	1089.2	1089.2
30°	985.7	996.3	992.3	997.6	994.9	997.6	994.9	993.6	996.3	998.9	997.6
32.5°	891.5	899.4	899.4	900.8	900.8	892.7	890.1	890.1	888.8	887.5	887.5
35°	782.6	789.3	786.7	786.7	785.3	777.4	773.4	770.8	774.7	766.8	772.1
37.5°	671.3	672.5	668.5	667.3	660.6	660.6	654.0	648.6	651.3	650.0	644.7
40°	549.2	554.5	546.6	543.9	547.9	542.6	535.9	529.2	534.6	528.0	530.6
42.5°	429.8	428.4	425.8	425.8	425.8	417.9	416.6	415.2	416.6	411.3	407.3
45°	310.4	306.4	302.5	302.5	297.1	294.4	294.4	290.5	283.9	283.9	275.9
47.5°	209.6	200.3	197.7	196.4	193.7	193.7	191.0	188.4	187.1	180.4	180.4
50°	136.6	127.3	124.7	123.4	124.7	122.1	119.4	116.8	114.1	112.7	110.1
52.5°	82.3	78.3	75.6	74.2	71.6	70.3	69.0	66.3	65.0	65.0	63.7
55°	49.1	45.2	39.8	39.8	39.8	38.5	37.1	35.9	34.5	34.5	33.2
57.5°	30.5	27.8	25.2	23.9	23.9	23.9	22.5	22.5	22.5	22.5	21.2
60°	22.5	19.9	18.5	18.5	18.5	17.2	17.2	17.2	17.2	15.9	15.9
62.5°	17.2	15.9	14.6	14.6	13.2	13.2	13.2	13.2	13.2	13.2	12.0
65°	14.6	12.0	12.0	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
67.5°	10.6	9.3	9.3	9.3	9.3	7.9	7.9	7.9	7.9	7.9	7.9
70°	7.9	7.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
72.5°	6.7	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
75°	5.3	5.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
77.5°	4.0	4.0	4.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	2.6	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: P843489

CATALOG NUMBER: LD4C20DE010B50 EU4C20B50 4LBSWLI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2	1016.2
2.5°	1040.1	1046.6	1040.1	1040.1	1044.0	1042.7	1045.4	1041.3
5°	1070.5	1079.8	1073.2	1071.9	1078.5	1077.2	1078.5	1075.8
7.5°	1107.7	1117.0	1110.3	1110.3	1117.0	1115.7	1119.6	1117.0
10°	1150.2	1160.8	1151.4	1152.8	1162.0	1160.8	1160.8	1160.8
12.5°	1194.0	1204.5	1199.3	1199.3	1205.9	1207.2	1208.6	1207.2
15°	1229.7	1240.3	1233.7	1233.7	1242.9	1241.7	1242.9	1241.7
17.5°	1251.0	1261.5	1253.6	1253.6	1261.5	1261.5	1262.9	1264.2
20°	1245.7	1257.6	1251.0	1248.3	1257.6	1257.6	1256.3	1256.3
22.5°	1215.1	1225.8	1220.4	1217.8	1224.4	1221.8	1220.4	1221.8
25°	1162.0	1172.7	1162.0	1162.0	1167.3	1166.0	1167.3	1166.0
27.5°	1090.4	1098.4	1087.8	1086.4	1091.8	1089.2	1087.8	1091.8
30°	994.9	1002.8	997.6	993.6	1000.2	996.3	993.6	994.9
32.5°	886.1	891.5	888.8	882.2	886.1	883.4	882.2	883.4
35°	766.8	773.4	762.8	761.5	768.2	762.8	760.1	766.8
37.5°	643.4	651.3	642.1	643.4	639.4	640.7	638.1	642.1
40°	526.6	525.3	522.7	521.3	522.7	518.7	521.3	517.4
42.5°	400.6	403.3	402.0	400.6	402.0	396.6	394.0	399.3
45°	278.6	277.3	274.7	271.9	271.9	270.6	270.6	266.6
47.5°	179.1	177.8	172.4	173.8	176.4	173.8	169.8	175.1
50°	108.8	107.5	107.5	106.1	108.8	106.1	103.4	103.4
52.5°	61.0	61.0	59.8	59.8	59.8	59.8	58.4	57.1
55°	33.2	31.8	31.8	31.8	30.5	30.5	30.5	30.5
57.5°	21.2	21.2	21.2	21.2	21.2	21.2	19.9	19.9
60°	15.9	15.9	15.9	15.9	14.6	15.9	14.6	14.6
62.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
65°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
67.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
70°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
72.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
75°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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



Report Generated By 670246072 / DESKTOP-50001EG





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















(END OF REPORT)