

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: P251801

Luminaire Tested: **LD4B40D010 EU4B30509727 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251801
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: LD4B40D010 EU4B30509727 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2232.0 lumens
Efficiency: N/A
Efficacy: 51.9 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

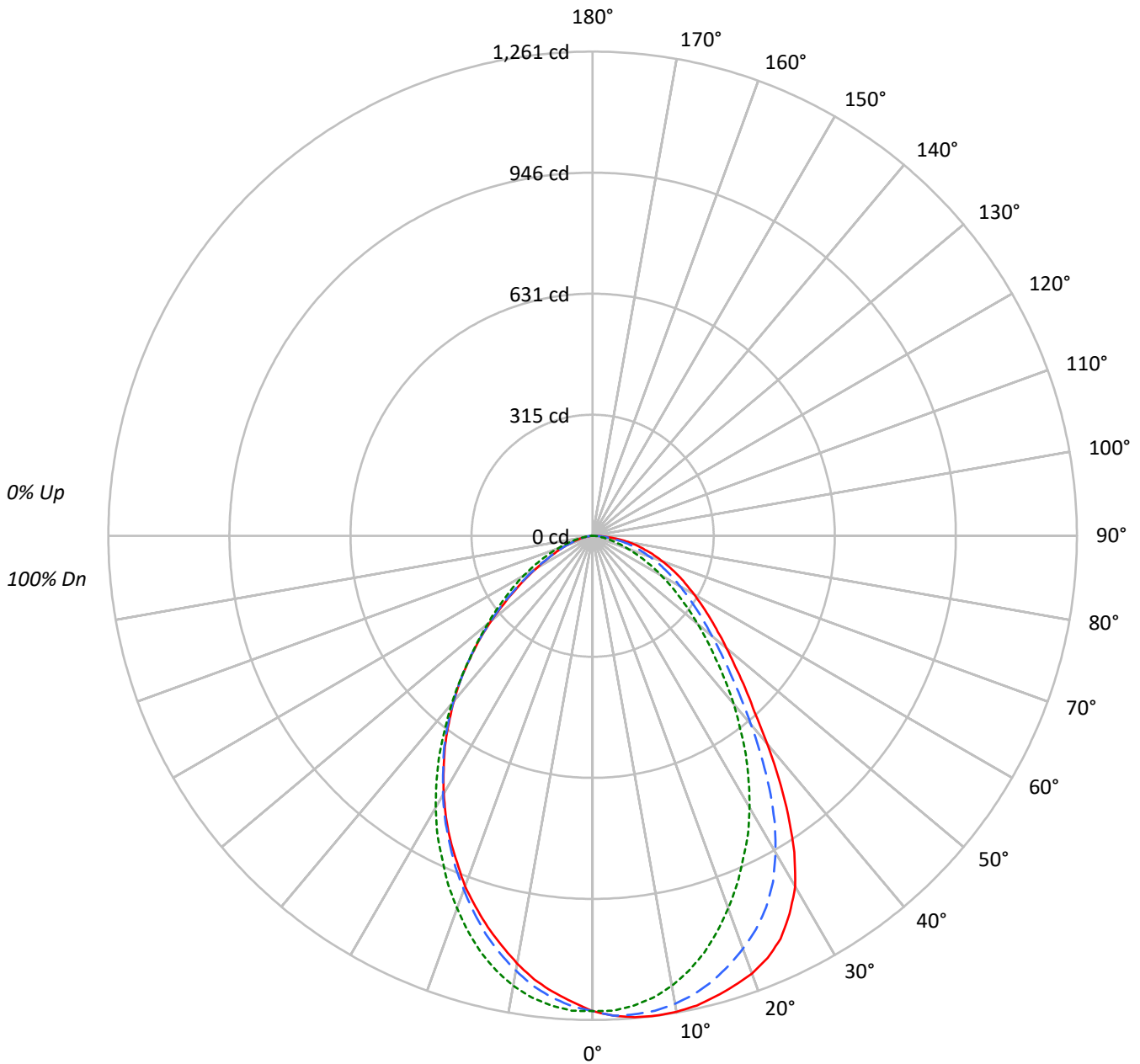
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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°	120643	120643	120643
5°	123149	120165	116624
10°	124573	117784	111945
15°	125283	113367	106445
20°	125814	107052	100726
25°	124513	99726	94199
30°	118724	91941	87226
35°	105578	82699	79749
40°	89883	72682	71474
45°	77431	62463	62201
50°	69001	53991	52263
55°	63429	46590	41748
60°	59391	40094	32668
65°	57098	33807	25482
70°	54796	27127	20630
75°	53056	21501	15777
80°	53430	14985	9597
85°	44728	10623	4249



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.9	5.2
10°-20°	318.6	14.3
20°-30°	445.5	20.0
30°-40°	457.9	20.5
40°-50°	371.7	16.7
50°-60°	261.7	11.7
60°-70°	161.1	7.2
70°-80°	80.5	3.6
80°-90°	19.1	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°	880.0	39.4
0°-40°	1337.9	59.9
0°-60°	1971.3	88.3
0°-90°	2232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2232.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1238	1238	1238	1238	1238	
5°	1259	1251	1228	1207	1192	120
15°	1242	1202	1124	1074	1055	351
25°	1158	1068	927	882	876	529
35°	887	802	695	674	670	552
45°	562	507	453	453	451	437
55°	373	328	274	251	246	336
65°	248	208	147	112	110	245
75°	141	110	57	42	42	150
85°	40	27	10	6	4	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°	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9
2.5°	1251.2	1253.1	1247.4	1253.1	1245.5	1249.3	1251.2	1247.4	1243.6	1251.2	1251.2
5°	1258.8	1258.8	1253.1	1260.7	1251.2	1253.1	1256.9	1251.2	1245.5	1253.1	1251.2
7.5°	1260.7	1260.7	1253.1	1260.7	1251.2	1253.1	1255.0	1249.3	1243.6	1249.3	1247.4
10°	1258.8	1256.9	1251.2	1258.8	1249.3	1249.3	1251.2	1245.5	1235.9	1241.7	1237.9
12.5°	1253.1	1253.1	1245.5	1253.1	1239.8	1239.8	1241.7	1234.0	1226.4	1226.4	1222.6
15°	1241.7	1241.7	1234.0	1239.8	1228.3	1228.3	1226.4	1218.8	1209.3	1209.3	1201.7
17.5°	1228.3	1228.3	1220.7	1226.4	1213.1	1213.1	1211.2	1199.8	1186.4	1184.5	1175.0
20°	1213.1	1213.1	1203.6	1207.4	1192.1	1192.1	1190.2	1176.9	1161.7	1157.9	1144.5
22.5°	1190.2	1190.2	1180.7	1182.6	1167.4	1165.5	1163.6	1148.3	1133.1	1127.4	1110.3
25°	1157.9	1156.0	1148.3	1148.3	1133.1	1129.3	1125.5	1110.3	1095.0	1083.6	1068.4
27.5°	1110.3	1112.2	1102.6	1104.5	1085.5	1081.7	1079.8	1060.7	1043.6	1032.2	1016.9
30°	1055.0	1049.3	1039.8	1039.8	1024.6	1022.7	1018.8	1001.7	982.7	969.3	952.2
32.5°	977.0	975.0	965.5	965.5	948.4	948.4	940.8	923.6	906.5	898.9	881.7
35°	887.4	885.5	877.9	877.9	862.7	864.6	857.0	843.6	826.5	815.1	801.7
37.5°	796.0	794.1	786.5	788.4	775.1	775.1	769.4	756.0	742.7	737.0	719.9
40°	706.5	704.6	695.1	700.8	689.4	685.6	683.7	674.2	658.9	651.3	641.8
42.5°	624.6	626.5	617.0	620.8	611.3	607.5	605.6	598.0	586.6	578.9	569.4
45°	561.8	558.0	554.2	554.2	544.7	542.8	540.8	531.3	523.7	516.1	506.6
47.5°	502.8	498.9	495.1	497.0	489.4	487.5	483.7	476.1	466.6	462.8	453.2
50°	455.1	453.2	447.5	447.5	439.9	438.0	434.2	428.5	419.0	413.3	405.6
52.5°	411.3	411.3	405.6	403.7	398.0	396.1	394.2	386.6	379.0	371.4	363.7
55°	373.3	371.4	367.5	367.5	359.9	358.0	356.1	348.5	340.9	335.2	327.6
57.5°	337.1	337.1	333.3	333.3	327.6	323.7	323.7	316.1	306.6	302.8	293.3
60°	304.7	304.7	300.9	300.9	295.2	295.2	291.4	283.8	278.0	270.4	262.8
62.5°	274.2	276.1	272.3	270.4	264.7	262.8	262.8	257.1	247.6	241.9	234.2
65°	247.6	245.7	243.8	241.9	236.1	234.2	234.2	226.6	220.9	213.3	207.6
67.5°	219.0	219.0	215.2	215.2	211.4	209.5	205.7	200.0	194.2	188.5	182.8
70°	192.3	192.3	190.4	190.4	184.7	182.8	180.9	175.2	169.5	163.8	156.2
72.5°	167.6	165.7	163.8	163.8	160.0	158.1	156.2	150.4	144.7	139.0	133.3
75°	140.9	140.9	139.0	139.0	135.2	133.3	133.3	129.5	121.9	118.1	110.5
77.5°	118.1	118.1	116.2	116.2	112.4	112.4	110.5	104.7	100.9	95.2	91.4
80°	95.2	93.3	93.3	91.4	87.6	87.6	85.7	83.8	78.1	74.3	68.6
82.5°	66.7	66.7	66.7	64.7	62.8	62.8	60.9	57.1	53.3	51.4	45.7
85°	40.0	40.0	38.1	36.2	38.1	36.2	34.3	32.4	30.5	28.6	26.7
87.5°	17.1	17.1	15.2	15.2	15.2	15.2	15.2	13.3	11.4	11.4	9.5
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°	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9
2.5°	1239.8	1245.5	1243.6	1241.7	1237.9	1237.9	1237.9	1235.9	1237.9	1237.9	1234.0
5°	1239.8	1243.6	1241.7	1237.9	1234.0	1234.0	1232.1	1228.3	1228.3	1228.3	1220.7
7.5°	1234.0	1237.9	1232.1	1228.3	1224.5	1220.7	1220.7	1215.0	1215.0	1213.1	1205.5
10°	1222.6	1224.5	1216.9	1213.1	1207.4	1205.5	1201.7	1194.1	1192.1	1190.2	1182.6
12.5°	1205.5	1207.4	1197.9	1190.2	1182.6	1180.7	1176.9	1167.4	1163.6	1159.8	1150.3
15°	1180.7	1180.7	1169.3	1159.8	1152.2	1150.3	1140.7	1131.2	1127.4	1123.6	1110.3
17.5°	1152.2	1150.3	1135.0	1125.5	1116.0	1112.2	1102.6	1091.2	1083.6	1079.8	1068.4
20°	1121.7	1116.0	1098.8	1089.3	1077.9	1072.2	1062.6	1047.4	1039.8	1032.2	1020.8
22.5°	1085.5	1077.9	1058.8	1045.5	1034.1	1028.4	1015.0	1001.7	990.3	982.7	969.3
25°	1041.7	1032.2	1011.2	994.1	984.6	978.9	965.5	950.3	938.9	927.4	916.0
27.5°	990.3	978.9	957.9	940.8	931.2	921.7	912.2	895.1	885.5	876.0	862.7
30°	927.4	914.1	895.1	879.8	868.4	860.8	849.4	834.1	822.7	817.0	803.7
32.5°	858.9	843.6	826.5	811.3	805.6	796.0	786.5	771.3	761.8	756.0	746.5
35°	782.7	771.3	752.2	740.8	731.3	727.5	719.9	704.6	700.8	695.1	683.7
37.5°	702.7	693.2	679.9	670.3	662.7	658.9	651.3	641.8	636.1	630.4	624.6
40°	628.4	620.8	609.4	601.8	592.3	586.6	586.6	575.1	571.3	571.3	565.6
42.5°	556.1	552.3	542.8	531.3	529.4	523.7	521.8	516.1	512.3	510.4	508.5
45°	495.1	489.4	479.9	474.2	468.5	468.5	462.8	457.1	455.1	453.2	451.3
47.5°	441.8	434.2	426.6	420.9	417.1	415.2	409.4	405.6	403.7	403.7	401.8
50°	394.2	388.5	380.9	375.2	371.4	367.5	363.7	359.9	358.0	356.1	356.1
52.5°	354.2	346.6	339.0	333.3	327.6	325.7	321.8	318.0	316.1	314.2	312.3
55°	318.0	312.3	302.8	297.1	291.4	291.4	285.7	279.9	276.1	274.2	272.3
57.5°	283.8	278.0	268.5	262.8	259.0	255.2	251.4	247.6	243.8	240.0	236.1
60°	253.3	247.6	238.0	230.4	228.5	224.7	220.9	213.3	209.5	205.7	201.9
62.5°	224.7	217.1	209.5	201.9	200.0	196.2	190.4	184.7	179.0	175.2	169.5
65°	198.1	192.3	182.8	177.1	171.4	169.5	163.8	156.2	150.4	146.6	140.9
67.5°	173.3	165.7	156.2	150.4	146.6	142.8	137.1	131.4	125.7	120.0	114.3
70°	148.5	142.8	133.3	127.6	123.8	120.0	114.3	106.6	100.9	95.2	91.4
72.5°	125.7	118.1	110.5	104.7	100.9	97.1	91.4	85.7	80.0	76.2	70.5
75°	104.7	97.1	91.4	83.8	81.9	78.1	72.4	66.7	60.9	57.1	53.3
77.5°	83.8	78.1	70.5	66.7	62.8	59.0	55.2	49.5	45.7	40.0	36.2
80°	62.8	57.1	51.4	47.6	43.8	41.9	38.1	34.3	30.5	26.7	24.8
82.5°	41.9	38.1	32.4	30.5	28.6	26.7	22.9	20.9	19.0	17.1	15.2
85°	22.9	20.9	19.0	15.2	15.2	13.3	11.4	11.4	9.5	9.5	7.6
87.5°	9.5	7.6	7.6	5.7	5.7	5.7	3.8	3.8	3.8	1.9	1.9
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9
2.5°	1235.9	1228.3	1228.3	1228.3	1222.6	1224.5	1226.4	1228.3	1226.4	1220.7	1226.4
5°	1222.6	1215.0	1215.0	1211.2	1207.4	1207.4	1207.4	1209.3	1207.4	1201.7	1203.6
7.5°	1205.5	1196.0	1194.1	1190.2	1186.4	1184.5	1184.5	1184.5	1182.6	1175.0	1178.8
10°	1178.8	1169.3	1165.5	1163.6	1157.9	1156.0	1154.1	1152.2	1150.3	1142.6	1146.4
12.5°	1146.4	1138.8	1131.2	1129.3	1123.6	1119.8	1117.9	1117.9	1114.1	1106.4	1110.3
15°	1108.4	1096.9	1091.2	1087.4	1081.7	1077.9	1074.1	1076.0	1074.1	1066.5	1068.4
17.5°	1062.6	1051.2	1045.5	1043.6	1036.0	1032.2	1030.3	1030.3	1028.4	1020.8	1022.7
20°	1013.1	1001.7	997.9	994.1	990.3	986.5	984.6	982.7	980.8	973.1	978.9
22.5°	963.6	950.3	944.6	944.6	937.0	935.1	933.1	935.1	933.1	925.5	929.3
25°	912.2	898.9	895.1	889.3	885.5	883.6	883.6	883.6	881.7	877.9	881.7
27.5°	855.1	845.5	839.8	837.9	834.1	832.2	830.3	832.2	832.2	826.5	830.3
30°	797.9	790.3	786.5	784.6	778.9	777.0	778.9	778.9	778.9	773.2	778.9
32.5°	740.8	735.1	733.2	727.5	723.7	723.7	723.7	725.6	723.7	719.9	725.6
35°	683.7	676.1	674.2	672.2	672.2	668.4	672.2	670.3	674.2	668.4	672.2
37.5°	622.7	618.9	617.0	617.0	613.2	615.1	615.1	615.1	618.9	613.2	617.0
40°	565.6	561.8	561.8	561.8	559.9	559.9	559.9	561.8	563.7	559.9	563.7
42.5°	508.5	506.6	506.6	504.7	502.8	504.7	506.6	506.6	508.5	504.7	506.6
45°	453.2	451.3	453.2	451.3	451.3	449.4	451.3	453.2	453.2	451.3	451.3
47.5°	401.8	401.8	399.9	399.9	399.9	399.9	399.9	399.9	399.9	396.1	399.9
50°	356.1	352.3	354.2	352.3	352.3	350.4	350.4	348.5	346.6	344.7	344.7
52.5°	312.3	308.5	308.5	306.6	304.7	304.7	302.8	300.9	299.0	295.2	295.2
55°	270.4	266.6	264.7	262.8	260.9	259.0	257.1	255.2	251.4	249.5	249.5
57.5°	232.3	228.5	224.7	224.7	220.9	219.0	215.2	211.4	209.5	205.7	205.7
60°	198.1	194.2	188.5	186.6	184.7	180.9	175.2	173.3	171.4	167.6	169.5
62.5°	165.7	160.0	154.3	152.4	150.4	146.6	142.8	139.0	137.1	139.0	139.0
65°	135.2	129.5	125.7	121.9	120.0	116.2	114.3	112.4	112.4	112.4	114.3
67.5°	108.6	102.8	99.0	97.1	93.3	91.4	91.4	91.4	91.4	91.4	91.4
70°	85.7	81.9	78.1	74.3	74.3	72.4	72.4	72.4	72.4	72.4	72.4
72.5°	64.7	60.9	59.0	59.0	57.1	57.1	57.1	57.1	55.2	55.2	57.1
75°	47.6	45.7	43.8	43.8	43.8	41.9	41.9	41.9	41.9	41.9	41.9
77.5°	34.3	32.4	32.4	30.5	30.5	30.5	30.5	30.5	30.5	28.6	28.6
80°	22.9	20.9	20.9	20.9	20.9	19.0	19.0	19.0	19.0	19.0	19.0
82.5°	13.3	13.3	13.3	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
85°	7.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
87.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	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: P251801

CATALOG NUMBER: LD4B40D010 EU4B30509727 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9	1237.9
2.5°	1215.0	1222.6	1224.5	1218.8	1220.7	1216.9	1218.8	1215.0
5°	1194.1	1199.8	1201.7	1197.9	1197.9	1194.1	1196.0	1192.1
7.5°	1167.4	1173.1	1175.0	1171.2	1171.2	1167.4	1167.4	1165.5
10°	1136.9	1138.8	1142.6	1136.9	1138.8	1135.0	1135.0	1131.2
12.5°	1098.8	1102.6	1106.4	1100.7	1100.7	1098.8	1098.8	1093.1
15°	1058.8	1062.6	1064.6	1060.7	1060.7	1058.8	1056.9	1055.0
17.5°	1016.9	1018.8	1022.7	1016.9	1020.8	1016.9	1016.9	1013.1
20°	969.3	975.0	977.0	971.2	973.1	971.2	971.2	971.2
22.5°	923.6	927.4	929.3	925.5	927.4	923.6	925.5	921.7
25°	876.0	877.9	879.8	876.0	879.8	877.9	876.0	876.0
27.5°	826.5	828.4	830.3	826.5	830.3	828.4	830.3	826.5
30°	773.2	777.0	780.8	777.0	778.9	777.0	777.0	775.1
32.5°	719.9	723.7	727.5	723.7	727.5	723.7	725.6	721.8
35°	670.3	672.2	674.2	670.3	672.2	672.2	672.2	670.3
37.5°	615.1	618.9	618.9	617.0	620.8	618.9	618.9	615.1
40°	561.8	563.7	565.6	561.8	563.7	561.8	563.7	561.8
42.5°	506.6	510.4	512.3	508.5	508.5	508.5	506.6	508.5
45°	449.4	453.2	457.1	451.3	453.2	453.2	453.2	451.3
47.5°	398.0	398.0	399.9	398.0	399.9	396.1	399.9	398.0
50°	344.7	344.7	348.5	344.7	344.7	344.7	344.7	344.7
52.5°	293.3	295.2	295.2	291.4	293.3	291.4	293.3	291.4
55°	245.7	245.7	247.6	245.7	245.7	245.7	245.7	245.7
57.5°	203.8	205.7	205.7	203.8	205.7	203.8	203.8	203.8
60°	169.5	169.5	169.5	167.6	169.5	167.6	169.5	167.6
62.5°	137.1	139.0	139.0	137.1	139.0	137.1	137.1	137.1
65°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	110.5
67.5°	89.5	89.5	91.4	89.5	91.4	91.4	91.4	91.4
70°	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
72.5°	55.2	55.2	57.1	55.2	55.2	55.2	55.2	55.2
75°	41.9	41.9	41.9	41.9	41.9	40.0	40.0	41.9
77.5°	28.6	28.6	28.6	28.6	28.6	28.6	28.6	30.5
80°	19.0	19.0	19.0	19.0	17.1	17.1	19.0	17.1
82.5°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
85°	5.7	5.7	3.8	3.8	3.8	3.8	3.8	3.8
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)