

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: P251779

Luminaire Tested: **LD4B30D010 EU4B30508035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251779
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 EU4B30508035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2287.0 lumens
Efficiency: N/A
Efficacy: 81.7 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

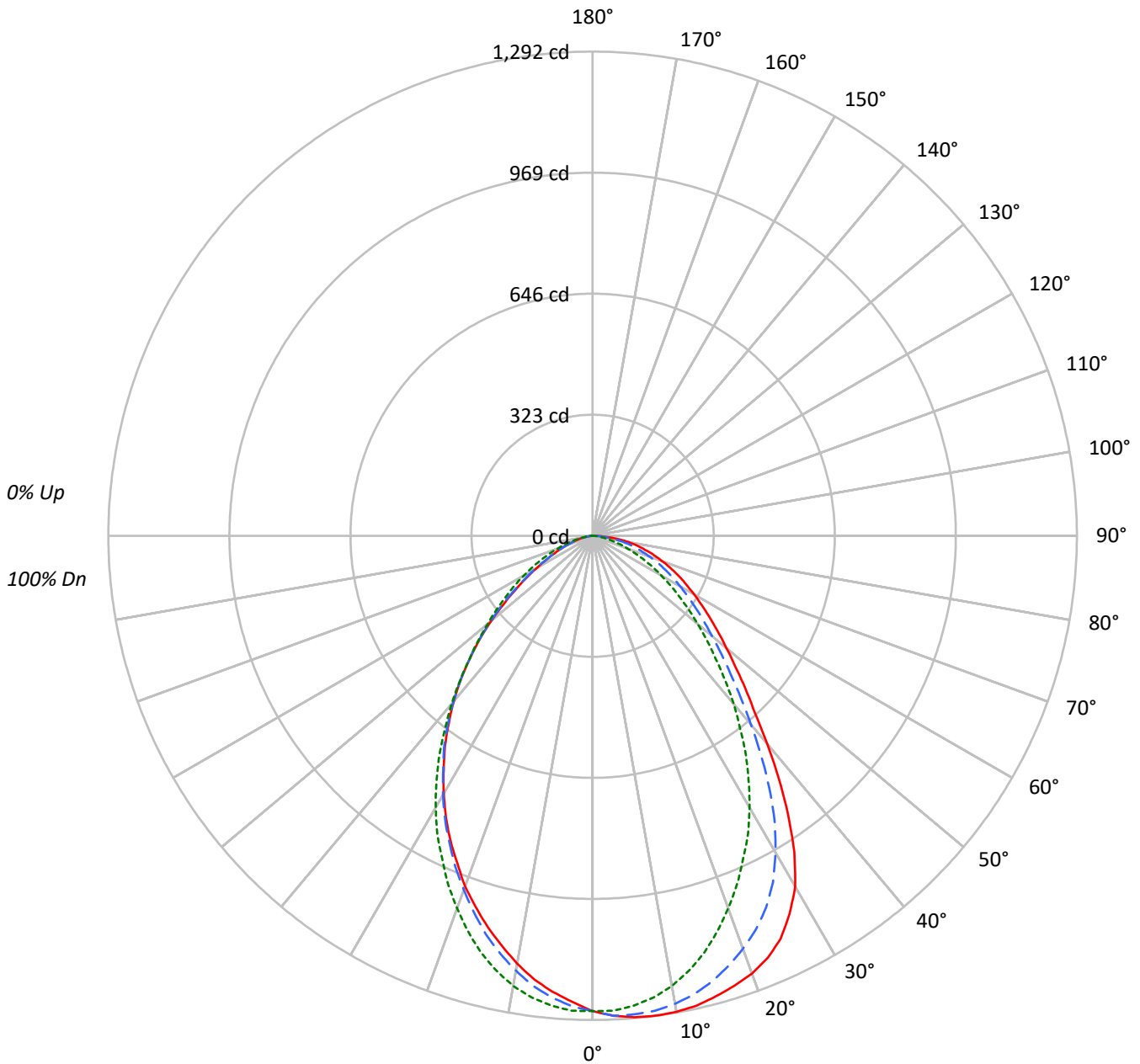
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	123616	123616	123616
5°	126182	123129	119500
10°	127641	120693	114706
15°	128370	116162	109069
20°	128915	109687	103215
25°	127577	102189	96522
30°	121650	94203	89375
35°	108183	84734	81723
40°	92096	74476	73229
45°	79333	64007	63745
50°	70715	55325	53551
55°	64992	47746	42767
60°	60853	41069	33467
65°	58505	34660	26105
70°	56163	27811	21115
75°	54374	22028	16154
80°	54777	15322	9878
85°	45846	10958	4361



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	5.2
10°-20°	326.4	14.3
20°-30°	456.5	20.0
30°-40°	469.2	20.5
40°-50°	380.8	16.7
50°-60°	268.2	11.7
60°-70°	165.1	7.2
70°-80°	82.5	3.6
80°-90°	19.6	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°	901.6	39.4
0°-40°	1370.9	59.9
0°-60°	2019.9	88.3
0°-90°	2287.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2287.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1268	1268	1268	1268	1268	
5°	1290	1282	1259	1237	1222	123
15°	1272	1231	1151	1100	1081	359
25°	1186	1095	950	904	898	542
35°	909	822	712	691	687	565
45°	576	519	464	464	462	448
55°	382	336	281	258	252	344
65°	254	213	150	115	113	251
75°	144	113	58	43	43	154
85°	41	27	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°	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4
2.5°	1282.0	1284.0	1278.1	1284.0	1276.2	1280.1	1282.0	1278.1	1274.2	1282.0	1282.0
5°	1289.8	1289.8	1284.0	1291.8	1282.0	1284.0	1287.9	1282.0	1276.2	1284.0	1282.0
7.5°	1291.8	1291.8	1284.0	1291.8	1282.0	1284.0	1285.9	1280.1	1274.2	1280.1	1278.1
10°	1289.8	1287.9	1282.0	1289.8	1280.1	1280.1	1282.0	1276.2	1266.4	1272.3	1268.4
12.5°	1284.0	1284.0	1276.2	1284.0	1270.3	1270.3	1272.3	1264.5	1256.6	1256.6	1252.7
15°	1272.3	1272.3	1264.5	1270.3	1258.6	1258.6	1256.6	1248.8	1239.1	1239.1	1231.3
17.5°	1258.6	1258.6	1250.8	1256.6	1243.0	1243.0	1241.0	1229.3	1215.7	1213.7	1204.0
20°	1243.0	1243.0	1233.2	1237.1	1221.5	1221.5	1219.6	1205.9	1190.3	1186.4	1172.7
22.5°	1219.6	1219.6	1209.8	1211.8	1196.2	1194.2	1192.3	1176.6	1161.0	1155.2	1137.6
25°	1186.4	1184.4	1176.6	1176.6	1161.0	1157.1	1153.2	1137.6	1122.0	1110.3	1094.7
27.5°	1137.6	1139.6	1129.8	1131.8	1112.2	1108.3	1106.4	1086.9	1069.3	1057.6	1042.0
30°	1081.0	1075.2	1065.4	1065.4	1049.8	1047.9	1044.0	1026.4	1006.9	993.2	975.7
32.5°	1001.0	999.1	989.3	989.3	971.8	971.8	963.9	946.4	928.8	921.0	903.5
35°	909.3	907.4	899.6	899.6	883.9	885.9	878.1	864.4	846.9	835.2	821.5
37.5°	815.6	813.7	805.9	807.8	794.2	794.2	788.3	774.7	761.0	755.2	737.6
40°	723.9	722.0	712.2	718.1	706.4	702.5	700.5	690.8	675.2	667.3	657.6
42.5°	640.0	642.0	632.2	636.1	626.4	622.5	620.5	612.7	601.0	593.2	583.4
45°	575.6	571.7	567.8	567.8	558.1	556.1	554.2	544.4	536.6	528.8	519.0
47.5°	515.1	511.2	507.3	509.3	501.5	499.5	495.6	487.8	478.1	474.2	464.4
50°	466.4	464.4	458.6	458.6	450.8	448.8	444.9	439.0	429.3	423.4	415.6
52.5°	421.5	421.5	415.6	413.7	407.8	405.9	403.9	396.1	388.3	380.5	372.7
55°	382.5	380.5	376.6	376.6	368.8	366.8	364.9	357.1	349.3	343.4	335.6
57.5°	345.4	345.4	341.5	341.5	335.6	331.7	331.7	323.9	314.2	310.3	300.5
60°	312.2	312.2	308.3	308.3	302.5	302.5	298.6	290.7	284.9	277.1	269.3
62.5°	281.0	282.9	279.0	277.1	271.2	269.3	269.3	263.4	253.7	247.8	240.0
65°	253.7	251.7	249.8	247.8	242.0	240.0	240.0	232.2	226.4	218.5	212.7
67.5°	224.4	224.4	220.5	220.5	216.6	214.6	210.7	204.9	199.0	193.2	187.3
70°	197.1	197.1	195.1	195.1	189.3	187.3	185.4	179.5	173.7	167.8	160.0
72.5°	171.7	169.8	167.8	167.8	163.9	162.0	160.0	154.2	148.3	142.4	136.6
75°	144.4	144.4	142.4	142.4	138.5	136.6	136.6	132.7	124.9	121.0	113.2
77.5°	121.0	121.0	119.0	119.0	115.1	115.1	113.2	107.3	103.4	97.6	93.7
80°	97.6	95.6	95.6	93.7	89.8	89.8	87.8	85.9	80.0	76.1	70.2
82.5°	68.3	68.3	68.3	66.3	64.4	64.4	62.4	58.5	54.6	52.7	46.8
85°	41.0	41.0	39.0	37.1	39.0	37.1	35.1	33.2	31.2	29.3	27.3
87.5°	17.6	17.6	15.6	15.6	15.6	15.6	15.6	13.7	11.7	11.7	9.8
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°	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4
2.5°	1270.3	1276.2	1274.2	1272.3	1268.4	1268.4	1268.4	1266.4	1268.4	1268.4	1264.5
5°	1270.3	1274.2	1272.3	1268.4	1264.5	1264.5	1262.5	1258.6	1258.6	1258.6	1250.8
7.5°	1264.5	1268.4	1262.5	1258.6	1254.7	1250.8	1250.8	1244.9	1244.9	1243.0	1235.2
10°	1252.7	1254.7	1246.9	1243.0	1237.1	1235.2	1231.3	1223.5	1221.5	1219.6	1211.8
12.5°	1235.2	1237.1	1227.4	1219.6	1211.8	1209.8	1205.9	1196.2	1192.3	1188.4	1178.6
15°	1209.8	1209.8	1198.1	1188.4	1180.5	1178.6	1168.8	1159.1	1155.2	1151.3	1137.6
17.5°	1180.5	1178.6	1163.0	1153.2	1143.5	1139.6	1129.8	1118.1	1110.3	1106.4	1094.7
20°	1149.3	1143.5	1125.9	1116.2	1104.4	1098.6	1088.8	1073.2	1065.4	1057.6	1045.9
22.5°	1112.2	1104.4	1084.9	1071.3	1059.6	1053.7	1040.1	1026.4	1014.7	1006.9	993.2
25°	1067.4	1057.6	1036.1	1018.6	1008.8	1003.0	989.3	973.7	962.0	950.3	938.6
27.5°	1014.7	1003.0	981.5	963.9	954.2	944.4	934.7	917.1	907.4	897.6	883.9
30°	950.3	936.6	917.1	901.5	889.8	882.0	870.3	854.7	843.0	837.1	823.5
32.5°	880.0	864.4	846.9	831.3	825.4	815.6	805.9	790.3	780.5	774.7	764.9
35°	802.0	790.3	770.8	759.1	749.3	745.4	737.6	722.0	718.1	712.2	700.5
37.5°	720.0	710.3	696.6	686.9	679.1	675.2	667.3	657.6	651.7	645.9	640.0
40°	643.9	636.1	624.4	616.6	606.9	601.0	601.0	589.3	585.4	585.4	579.5
42.5°	569.8	565.9	556.1	544.4	542.5	536.6	534.7	528.8	524.9	523.0	521.0
45°	507.3	501.5	491.7	485.9	480.0	480.0	474.2	468.3	466.4	464.4	462.5
47.5°	452.7	444.9	437.1	431.2	427.3	425.4	419.5	415.6	413.7	413.7	411.7
50°	403.9	398.1	390.3	384.4	380.5	376.6	372.7	368.8	366.8	364.9	364.9
52.5°	362.9	355.1	347.3	341.5	335.6	333.7	329.8	325.9	323.9	322.0	320.0
55°	325.9	320.0	310.3	304.4	298.6	298.6	292.7	286.8	282.9	281.0	279.0
57.5°	290.7	284.9	275.1	269.3	265.4	261.5	257.6	253.7	249.8	245.9	242.0
60°	259.5	253.7	243.9	236.1	234.2	230.3	226.4	218.5	214.6	210.7	206.8
62.5°	230.3	222.4	214.6	206.8	204.9	201.0	195.1	189.3	183.4	179.5	173.7
65°	202.9	197.1	187.3	181.5	175.6	173.7	167.8	160.0	154.2	150.3	144.4
67.5°	177.6	169.8	160.0	154.2	150.3	146.3	140.5	134.6	128.8	122.9	117.1
70°	152.2	146.3	136.6	130.7	126.8	122.9	117.1	109.3	103.4	97.6	93.7
72.5°	128.8	121.0	113.2	107.3	103.4	99.5	93.7	87.8	82.0	78.1	72.2
75°	107.3	99.5	93.7	85.9	83.9	80.0	74.1	68.3	62.4	58.5	54.6
77.5°	85.9	80.0	72.2	68.3	64.4	60.5	56.6	50.7	46.8	41.0	37.1
80°	64.4	58.5	52.7	48.8	44.9	42.9	39.0	35.1	31.2	27.3	25.4
82.5°	42.9	39.0	33.2	31.2	29.3	27.3	23.4	21.5	19.5	17.6	15.6
85°	23.4	21.5	19.5	15.6	15.6	13.7	11.7	11.7	9.8	9.8	7.8
87.5°	9.8	7.8	7.8	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°	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4
2.5°	1266.4	1258.6	1258.6	1258.6	1252.7	1254.7	1256.6	1258.6	1256.6	1250.8	1256.6
5°	1252.7	1244.9	1244.9	1241.0	1237.1	1237.1	1237.1	1239.1	1237.1	1231.3	1233.2
7.5°	1235.2	1225.4	1223.5	1219.6	1215.7	1213.7	1213.7	1213.7	1211.8	1204.0	1207.9
10°	1207.9	1198.1	1194.2	1192.3	1186.4	1184.4	1182.5	1180.5	1178.6	1170.8	1174.7
12.5°	1174.7	1166.9	1159.1	1157.1	1151.3	1147.4	1145.4	1145.4	1141.5	1133.7	1137.6
15°	1135.7	1124.0	1118.1	1114.2	1108.3	1104.4	1100.5	1102.5	1100.5	1092.7	1094.7
17.5°	1088.8	1077.1	1071.3	1069.3	1061.5	1057.6	1055.7	1055.7	1053.7	1045.9	1047.9
20°	1038.1	1026.4	1022.5	1018.6	1014.7	1010.8	1008.8	1006.9	1004.9	997.1	1003.0
22.5°	987.4	973.7	967.9	967.9	960.0	958.1	956.1	958.1	956.1	948.3	952.2
25°	934.7	921.0	917.1	911.3	907.4	905.4	905.4	905.4	903.5	899.6	903.5
27.5°	876.1	866.4	860.5	858.6	854.7	852.7	850.8	852.7	852.7	846.9	850.8
30°	817.6	809.8	805.9	803.9	798.1	796.1	798.1	798.1	798.1	792.2	798.1
32.5°	759.1	753.2	751.3	745.4	741.5	741.5	741.5	743.5	741.5	737.6	743.5
35°	700.5	692.7	690.8	688.8	688.8	684.9	688.8	686.9	690.8	684.9	688.8
37.5°	638.1	634.2	632.2	632.2	628.3	630.3	630.3	630.3	634.2	628.3	632.2
40°	579.5	575.6	575.6	575.6	573.7	573.7	573.7	575.6	577.6	573.7	577.6
42.5°	521.0	519.0	519.0	517.1	515.1	517.1	519.0	519.0	521.0	517.1	519.0
45°	464.4	462.5	464.4	462.5	462.5	460.5	462.5	464.4	464.4	462.5	462.5
47.5°	411.7	411.7	409.8	409.8	409.8	409.8	409.8	409.8	409.8	405.9	409.8
50°	364.9	361.0	362.9	361.0	361.0	359.0	359.0	357.1	355.1	353.2	353.2
52.5°	320.0	316.1	316.1	314.2	312.2	312.2	310.3	308.3	306.4	302.5	302.5
55°	277.1	273.2	271.2	269.3	267.3	265.4	263.4	261.5	257.6	255.6	255.6
57.5°	238.1	234.2	230.3	230.3	226.4	224.4	220.5	216.6	214.6	210.7	210.7
60°	202.9	199.0	193.2	191.2	189.3	185.4	179.5	177.6	175.6	171.7	173.7
62.5°	169.8	163.9	158.1	156.1	154.2	150.3	146.3	142.4	140.5	142.4	142.4
65°	138.5	132.7	128.8	124.9	122.9	119.0	117.1	115.1	115.1	115.1	117.1
67.5°	111.2	105.4	101.5	99.5	95.6	93.7	93.7	93.7	93.7	93.7	93.7
70°	87.8	83.9	80.0	76.1	76.1	74.1	74.1	74.1	74.1	74.1	74.1
72.5°	66.3	62.4	60.5	60.5	58.5	58.5	58.5	58.5	56.6	56.6	58.5
75°	48.8	46.8	44.9	44.9	44.9	42.9	42.9	42.9	42.9	42.9	42.9
77.5°	35.1	33.2	33.2	31.2	31.2	31.2	31.2	31.2	31.2	29.3	29.3
80°	23.4	21.5	21.5	21.5	21.5	19.5	19.5	19.5	19.5	19.5	19.5
82.5°	13.7	13.7	13.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
85°	7.8	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: P251779

CATALOG NUMBER: LD4B30D010 EU4B30508035 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4	1268.4
2.5°	1244.9	1252.7	1254.7	1248.8	1250.8	1246.9	1248.8	1244.9
5°	1223.5	1229.3	1231.3	1227.4	1227.4	1223.5	1225.4	1221.5
7.5°	1196.2	1202.0	1204.0	1200.1	1200.1	1196.2	1196.2	1194.2
10°	1164.9	1166.9	1170.8	1164.9	1166.9	1163.0	1163.0	1159.1
12.5°	1125.9	1129.8	1133.7	1127.9	1127.9	1125.9	1125.9	1120.1
15°	1084.9	1088.8	1090.8	1086.9	1086.9	1084.9	1083.0	1081.0
17.5°	1042.0	1044.0	1047.9	1042.0	1045.9	1042.0	1042.0	1038.1
20°	993.2	999.1	1001.0	995.2	997.1	995.2	995.2	995.2
22.5°	946.4	950.3	952.2	948.3	950.3	946.4	948.3	944.4
25°	897.6	899.6	901.5	897.6	901.5	899.6	897.6	897.6
27.5°	846.9	848.8	850.8	846.9	850.8	848.8	850.8	846.9
30°	792.2	796.1	800.0	796.1	798.1	796.1	796.1	794.2
32.5°	737.6	741.5	745.4	741.5	745.4	741.5	743.5	739.5
35°	686.9	688.8	690.8	686.9	688.8	688.8	688.8	686.9
37.5°	630.3	634.2	634.2	632.2	636.1	634.2	634.2	630.3
40°	575.6	577.6	579.5	575.6	577.6	575.6	577.6	575.6
42.5°	519.0	523.0	524.9	521.0	521.0	521.0	519.0	521.0
45°	460.5	464.4	468.3	462.5	464.4	464.4	464.4	462.5
47.5°	407.8	407.8	409.8	407.8	409.8	405.9	409.8	407.8
50°	353.2	353.2	357.1	353.2	353.2	353.2	353.2	353.2
52.5°	300.5	302.5	302.5	298.6	300.5	298.6	300.5	298.6
55°	251.7	251.7	253.7	251.7	251.7	251.7	251.7	251.7
57.5°	208.8	210.7	210.7	208.8	210.7	208.8	208.8	208.8
60°	173.7	173.7	173.7	171.7	173.7	171.7	173.7	171.7
62.5°	140.5	142.4	142.4	140.5	142.4	140.5	140.5	140.5
65°	115.1	115.1	115.1	115.1	115.1	115.1	115.1	113.2
67.5°	91.7	91.7	93.7	91.7	93.7	93.7	93.7	93.7
70°	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
72.5°	56.6	56.6	58.5	56.6	56.6	56.6	56.6	56.6
75°	42.9	42.9	42.9	42.9	42.9	41.0	41.0	42.9
77.5°	29.3	29.3	29.3	29.3	29.3	29.3	29.3	31.2
80°	19.5	19.5	19.5	19.5	17.6	17.6	19.5	17.6
82.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
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



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













(END OF REPORT)