

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: P212724

Luminaire Tested: **LD4B20D010 EU4B10209027 4LBSWLI1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P212724
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29201)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B20D010 EU4B10209027 4LBSWL1
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1509.4 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.3 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

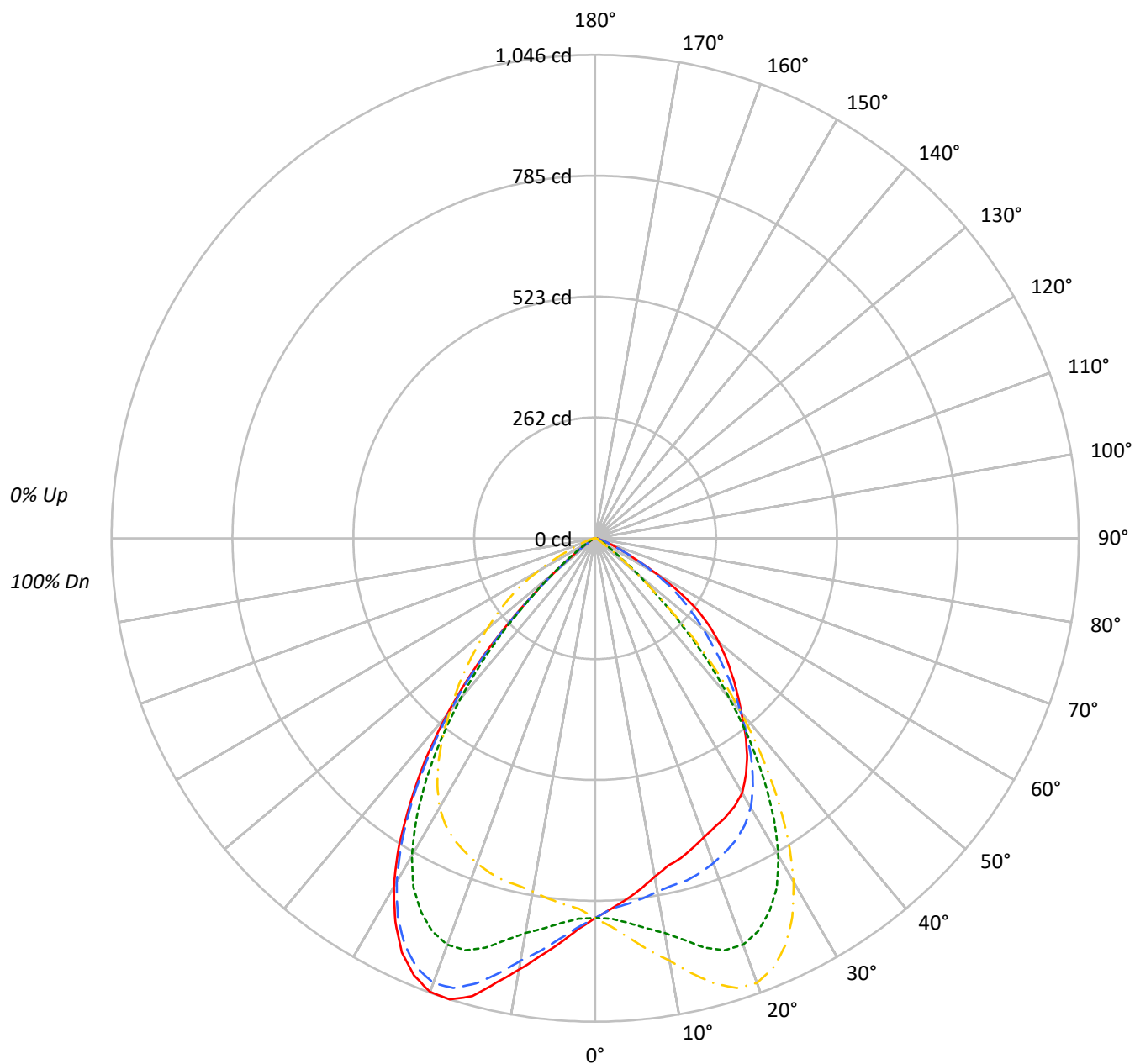
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	103	110	107	104	102	103	100	99		99	97	96		95
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		88
3	98	90	84	80	96	89	83	79	86	81	78		84	80	76		81
4	92	83	76	71	90	81	75	70	79	74	69		77	72	69		75
5	86	76	69	63	84	75	68	63	73	67	62		71	66	62		69
6	80	70	62	57	79	69	62	57	67	61	56		66	60	56		64
7	75	64	57	52	74	63	57	52	62	56	51		61	55	51		59
8	71	59	52	47	69	59	52	47	57	51	47		56	51	47		55
9	66	55	48	43	65	54	48	43	53	47	43		52	47	43		52
10	63	51	44	40	62	51	44	40	50	44	40		49	43	39		48

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	101353	101353	101353	101353
5°	97035	103486	108860	103486
10°	93122	108628	118685	108628
15°	91482	117123	130979	117123
20°	90334	122822	137063	122822
25°	90709	121290	134573	121290
30°	90598	112859	123983	112859
35°	86296	95782	104772	95782
40°	79172	72876	80395	72876
45°	73089	46383	49994	46383
50°	66855	22490	21876	22490
55°	57891	9806	7011	9806
60°	37497	4810	3207	4810
65°	19642	3181	2539	3181
70°	10567	2344	1947	2344
75°	5671	2049	1573	2049
80°	3836	1563	781	1563
85°	3114	1557	0	1557



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.1	5.3
10°-20°	250.6	16.6
20°-30°	389.6	25.8
30°-40°	393.5	26.1
40°-50°	249.2	16.5
50°-60°	104.6	6.9
60°-70°	33.1	2.2
70°-80°	7.6	0.5
80°-90°	1.1	0.1
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°	720.3	47.7
0°-40°	1113.8	73.8
0°-60°	1467.5	97.2
0°-90°	1509.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1509.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	822	822	822	822	822	
5°	784	836	879	836	784	74
15°	716	917	1026	917	716	202
25°	666	891	989	891	666	307
35°	573	636	696	636	573	356
45°	419	266	287	266	419	323
55°	269	46	33	46	269	232
65°	67	11	9	11	67	74
75°	12	4	3	4	12	15
85°	2	1	0	1	2	2
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°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	802.1	794.5	801.1	803.2	803.2	802.1	804.3	802.1	798.9	811.9	802.1
5°	783.7	778.3	783.7	785.9	786.9	788.0	790.2	790.2	789.1	801.1	794.5
7.5°	764.2	760.9	765.2	768.5	772.8	771.8	775.0	776.1	778.3	792.4	785.9
10°	743.5	740.3	745.7	747.9	753.3	754.4	756.6	759.8	764.2	778.3	776.1
12.5°	726.2	725.1	728.3	732.7	738.1	739.2	741.4	746.8	753.3	768.5	769.6
15°	716.4	715.3	718.6	722.9	727.2	729.4	731.6	739.2	745.7	762.0	766.3
17.5°	702.3	702.3	705.5	709.9	715.3	717.5	720.7	728.3	737.0	753.3	758.7
20°	688.2	689.3	691.4	695.8	701.2	703.4	706.6	714.2	724.0	740.3	747.9
22.5°	676.2	679.5	680.6	683.8	689.3	692.5	693.6	702.3	711.0	725.1	734.8
25°	666.5	670.8	670.8	673.0	679.5	680.6	681.7	690.3	697.9	711.0	720.7
27.5°	653.4	657.8	657.8	661.0	665.4	667.5	667.5	675.1	682.7	692.5	700.1
30°	636.1	639.3	639.3	640.4	644.8	646.9	645.8	653.4	658.9	665.4	673.0
32.5°	606.8	612.2	610.0	613.3	615.4	617.6	615.4	622.0	626.3	632.8	635.0
35°	573.1	577.5	574.2	576.4	580.7	580.7	579.6	584.0	586.1	589.4	590.5
37.5°	534.0	537.3	535.1	536.2	538.4	539.5	537.3	541.6	541.6	542.7	540.6
40°	491.7	497.1	493.9	493.9	496.0	497.1	493.9	496.0	498.2	492.8	488.5
42.5°	454.8	460.2	457.0	457.0	457.0	458.1	453.7	454.8	454.8	447.2	440.7
45°	419.0	423.3	420.1	416.8	417.9	419.0	414.6	413.6	410.3	401.6	391.8
47.5°	384.2	388.6	384.2	382.1	382.1	382.1	376.6	373.4	369.1	357.1	345.2
50°	348.4	352.8	349.5	347.3	345.2	345.2	340.8	336.5	330.0	318.0	305.0
52.5°	311.5	314.8	311.5	309.4	307.2	307.2	301.8	298.5	290.9	279.0	264.8
55°	269.2	271.4	268.1	265.9	264.8	264.8	260.5	257.3	250.7	241.0	227.9
57.5°	212.7	217.1	211.7	213.8	213.8	212.7	209.5	208.4	206.2	197.6	187.8
60°	152.0	152.0	150.9	155.2	154.1	156.3	154.1	155.2	156.3	149.8	143.3
62.5°	99.9	103.1	100.9	103.1	105.3	105.3	104.2	106.4	108.5	105.3	102.0
65°	67.3	67.3	67.3	68.4	68.4	69.5	68.4	69.5	70.6	69.5	67.3
67.5°	44.5	45.6	44.5	45.6	44.5	45.6	45.6	45.6	46.7	45.6	44.5
70°	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	30.4	29.3	28.2
72.5°	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
75°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
77.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
80°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.3	5.4	4.3	4.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.1	2.2	1.1	1.1
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	807.6	804.3	820.6	806.5	814.1	813.0	814.1	820.6	820.6	823.9	822.8
5°	803.2	800.0	818.4	807.6	816.3	816.3	819.5	829.3	829.3	835.8	836.9
7.5°	796.7	797.8	817.3	810.8	820.6	821.7	827.1	839.0	842.3	851.0	855.3
10°	789.1	793.5	814.1	811.9	824.9	826.0	836.9	851.0	855.3	867.3	874.9
12.5°	785.9	793.5	817.3	819.5	832.5	838.0	849.9	868.4	876.0	890.1	900.9
15°	784.8	795.6	821.7	829.3	844.5	852.1	868.4	890.1	898.7	917.2	930.2
17.5°	779.4	793.5	821.7	833.6	849.9	857.5	878.1	903.1	913.9	934.6	949.8
20°	769.6	784.8	813.0	828.2	845.6	856.4	877.0	903.1	913.9	935.7	953.0
22.5°	756.6	771.8	798.9	816.3	831.5	843.4	865.1	890.1	899.8	920.5	937.8
25°	740.3	755.5	778.3	795.6	809.7	820.6	839.0	865.1	871.6	891.2	909.6
27.5°	717.5	731.6	749.0	765.2	778.3	786.9	803.2	826.0	831.5	851.0	866.2
30°	687.1	695.8	711.0	721.8	731.6	740.3	752.2	772.8	775.0	792.4	806.5
32.5°	645.8	650.2	661.0	666.5	675.1	678.4	688.2	705.5	703.4	719.7	731.6
35°	595.9	598.1	598.1	604.6	606.8	607.8	615.4	625.2	622.0	636.1	644.8
37.5°	541.6	540.6	534.0	534.0	535.1	531.9	535.1	539.5	535.1	546.0	553.6
40°	486.3	479.8	467.8	461.3	458.1	457.0	450.5	455.9	445.0	452.6	458.1
42.5°	433.1	422.2	403.8	390.8	385.3	379.9	369.1	369.1	354.9	360.4	361.5
45°	378.8	360.4	335.4	323.5	309.4	300.7	286.6	272.4	262.7	265.9	262.7
47.5°	328.9	307.2	277.9	257.3	241.0	229.0	209.5	193.2	183.4	179.1	174.8
50°	285.5	263.8	230.1	204.1	187.8	173.7	154.1	135.7	123.7	117.2	114.0
52.5°	246.4	223.6	191.0	163.9	146.5	133.5	111.8	93.3	80.3	72.7	68.4
55°	209.5	188.9	158.5	133.5	117.2	104.2	82.5	65.1	53.2	45.6	40.2
57.5°	172.6	154.1	129.2	105.3	91.2	79.2	60.8	45.6	35.8	29.3	25.0
60°	132.4	118.3	97.7	79.2	67.3	57.5	43.4	31.5	25.0	19.5	17.4
62.5°	93.3	84.7	69.5	56.4	48.8	41.2	30.4	22.8	17.4	14.1	13.0
65°	63.0	56.4	47.8	38.0	32.6	28.2	21.7	16.3	13.0	10.9	9.8
67.5°	41.2	38.0	31.5	26.1	22.8	19.5	15.2	11.9	9.8	8.7	7.6
70°	27.1	25.0	20.6	17.4	16.3	14.1	10.9	8.7	7.6	6.5	6.5
72.5°	17.4	15.2	14.1	11.9	10.9	9.8	7.6	6.5	5.4	5.4	5.4
75°	10.9	9.8	8.7	7.6	7.6	6.5	5.4	5.4	4.3	4.3	4.3
77.5°	6.5	6.5	5.4	5.4	4.3	4.3	4.3	3.3	3.3	3.3	3.3
80°	4.3	4.3	3.3	3.3	3.3	3.3	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1	1.1	1.1
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	828.2	830.4	828.2	834.7	823.9	835.8	831.5	833.6	842.3	839.0	842.3
5°	844.5	848.8	848.8	856.4	846.6	860.8	856.4	860.8	869.4	869.4	873.8
7.5°	865.1	870.5	872.7	880.3	870.5	887.9	883.6	889.0	899.8	899.8	903.1
10°	886.8	893.3	897.7	906.3	895.5	915.0	910.7	918.3	928.1	929.1	934.6
12.5°	913.9	922.6	928.1	935.7	928.1	947.6	943.3	950.9	963.9	965.0	971.5
15°	944.3	955.2	961.7	970.4	961.7	983.4	979.1	987.8	997.5	1001.9	1008.4
17.5°	963.9	976.9	982.3	992.1	983.4	1005.1	999.7	1011.6	1020.3	1022.5	1030.1
20°	967.1	979.1	986.7	994.3	986.7	1008.4	1003.0	1012.7	1023.6	1025.7	1031.2
22.5°	953.0	962.8	971.5	978.0	971.5	993.2	985.6	996.4	1006.2	1008.4	1012.7
25°	920.5	932.4	941.1	946.5	940.0	960.6	954.1	963.9	972.6	976.9	978.0
27.5°	874.9	885.7	894.4	897.7	893.3	912.9	904.2	916.1	923.7	925.9	929.1
30°	813.0	822.8	831.5	833.6	830.4	844.5	840.1	851.0	858.6	860.8	862.9
32.5°	737.0	746.8	752.2	754.4	751.1	765.2	760.9	769.6	778.3	778.3	778.3
35°	651.3	660.0	663.2	669.7	662.1	676.2	671.9	679.5	687.1	687.1	688.2
37.5°	559.0	565.5	567.7	574.2	566.6	579.6	576.4	582.9	589.4	588.3	590.5
40°	460.2	466.7	468.9	474.3	467.8	478.7	476.5	483.0	488.5	488.5	488.5
42.5°	364.7	369.1	369.1	374.5	368.0	377.7	377.7	382.1	387.5	386.4	386.4
45°	264.8	263.8	265.9	264.8	264.8	273.5	273.5	275.7	280.0	277.9	279.0
47.5°	175.8	176.9	172.6	175.8	171.5	179.1	179.1	179.1	182.4	180.2	182.4
50°	111.8	108.5	106.4	106.4	105.3	110.7	108.5	109.6	111.8	109.6	111.8
52.5°	63.0	61.9	59.7	60.8	58.6	59.7	59.7	59.7	60.8	59.7	61.9
55°	36.9	33.6	32.6	32.6	31.5	32.6	31.5	31.5	31.5	30.4	31.5
57.5°	21.7	20.6	19.5	19.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
60°	15.2	14.1	14.1	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
62.5°	11.9	10.9	10.9	10.9	9.8	9.8	9.8	9.8	9.8	10.9	9.8
65°	8.7	8.7	8.7	8.7	8.7	8.7	7.6	8.7	8.7	8.7	8.7
67.5°	7.6	7.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
70°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	0.0	1.1	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	845.6	841.2	831.5	838.0	839.0	834.7	840.1	846.6	840.1	834.7	839.0
5°	877.0	873.8	865.1	870.5	871.6	870.5	873.8	879.2	873.8	870.5	871.6
7.5°	908.5	906.3	896.6	903.1	905.3	903.1	906.3	911.8	906.3	903.1	905.3
10°	938.9	937.8	928.1	936.7	937.8	935.7	938.9	947.6	938.9	935.7	937.8
12.5°	973.6	975.8	965.0	974.7	975.8	973.6	978.0	984.5	978.0	973.6	975.8
15°	1013.8	1012.7	1004.0	1011.6	1013.8	1011.6	1017.1	1025.7	1017.1	1011.6	1013.8
17.5°	1033.3	1033.3	1026.8	1034.4	1035.5	1035.5	1039.9	1046.4	1039.9	1035.5	1035.5
20°	1034.4	1035.5	1027.9	1036.6	1036.6	1036.6	1040.9	1044.2	1040.9	1036.6	1036.6
22.5°	1017.1	1018.1	1010.6	1018.1	1018.1	1019.2	1021.4	1023.6	1021.4	1019.2	1018.1
25°	983.4	984.5	978.0	984.5	983.4	983.4	985.6	988.8	985.6	983.4	983.4
27.5°	933.5	934.6	925.9	933.5	932.4	931.3	934.6	935.7	934.6	931.3	932.4
30°	867.3	868.4	860.8	867.3	866.2	865.1	869.4	870.5	869.4	865.1	866.2
32.5°	788.0	785.9	780.4	785.9	784.8	784.8	786.9	790.2	786.9	784.8	784.8
35°	692.5	692.5	689.3	693.6	690.3	694.7	694.7	695.8	694.7	694.7	690.3
37.5°	594.8	594.8	592.7	594.8	593.7	598.1	598.1	601.3	598.1	598.1	593.7
40°	492.8	492.8	490.6	492.8	496.0	496.0	495.0	499.3	495.0	496.0	496.0
42.5°	389.7	389.7	388.6	394.0	394.0	394.0	390.8	395.1	390.8	394.0	394.0
45°	283.3	281.1	280.0	280.0	281.1	285.5	281.1	286.6	281.1	285.5	281.1
47.5°	180.2	181.3	182.4	185.6	183.4	182.4	182.4	185.6	182.4	182.4	183.4
50°	110.7	111.8	111.8	114.0	110.7	112.9	111.8	114.0	111.8	112.9	110.7
52.5°	60.8	60.8	60.8	63.0	60.8	61.9	60.8	63.0	60.8	61.9	60.8
55°	31.5	31.5	31.5	32.6	31.5	31.5	31.5	32.6	31.5	31.5	31.5
57.5°	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
60°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
62.5°	10.9	9.8	9.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
65°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
67.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
70°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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: P212724

CATALOG NUMBER: LD4B20D010 EU4B10209027 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	200°	202.5°	205°	210°	215°	220°	225°	230°	235°	240°	245°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	838.0	831.5	841.2	845.6	842.3	839.0	842.3	833.6	831.5	835.8	823.9
5°	870.5	865.1	873.8	877.0	873.8	869.4	869.4	860.8	856.4	860.8	846.6
7.5°	903.1	896.6	906.3	908.5	903.1	899.8	899.8	889.0	883.6	887.9	870.5
10°	936.7	928.1	937.8	938.9	934.6	929.1	928.1	918.3	910.7	915.0	895.5
12.5°	974.7	965.0	975.8	973.6	971.5	965.0	963.9	950.9	943.3	947.6	928.1
15°	1011.6	1004.0	1012.7	1013.8	1008.4	1001.9	997.5	987.8	979.1	983.4	961.7
17.5°	1034.4	1026.8	1033.3	1033.3	1030.1	1022.5	1020.3	1011.6	999.7	1005.1	983.4
20°	1036.6	1027.9	1035.5	1034.4	1031.2	1025.7	1023.6	1012.7	1003.0	1008.4	986.7
22.5°	1018.1	1010.6	1018.1	1017.1	1012.7	1008.4	1006.2	996.4	985.6	993.2	971.5
25°	984.5	978.0	984.5	983.4	978.0	976.9	972.6	963.9	954.1	960.6	940.0
27.5°	933.5	925.9	934.6	933.5	929.1	925.9	923.7	916.1	904.2	912.9	893.3
30°	867.3	860.8	868.4	867.3	862.9	860.8	858.6	851.0	840.1	844.5	830.4
32.5°	785.9	780.4	785.9	788.0	778.3	778.3	778.3	769.6	760.9	765.2	751.1
35°	693.6	689.3	692.5	692.5	688.2	687.1	687.1	679.5	671.9	676.2	662.1
37.5°	594.8	592.7	594.8	594.8	590.5	588.3	589.4	582.9	576.4	579.6	566.6
40°	492.8	490.6	492.8	492.8	488.5	488.5	488.5	483.0	476.5	478.7	467.8
42.5°	394.0	388.6	389.7	389.7	386.4	386.4	387.5	382.1	377.7	377.7	368.0
45°	280.0	280.0	281.1	283.3	279.0	277.9	280.0	275.7	273.5	273.5	264.8
47.5°	185.6	182.4	181.3	180.2	182.4	180.2	182.4	179.1	179.1	179.1	171.5
50°	114.0	111.8	111.8	110.7	111.8	109.6	111.8	109.6	108.5	110.7	105.3
52.5°	63.0	60.8	60.8	60.8	61.9	59.7	60.8	59.7	59.7	59.7	58.6
55°	32.6	31.5	31.5	31.5	31.5	30.4	31.5	31.5	31.5	32.6	31.5
57.5°	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
60°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
62.5°	10.9	9.8	9.8	10.9	9.8	10.9	9.8	9.8	9.8	9.8	9.8
65°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	7.6	8.7	8.7
67.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
70°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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



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CANDELA DISTRIBUTION (continued):

	247.5°	250°	255°	260°	265°	270°	275°	280°	285°	290°	292.5°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	834.7	828.2	830.4	828.2	822.8	823.9	820.6	820.6	814.1	813.0	814.1
5°	856.4	848.8	848.8	844.5	836.9	835.8	829.3	829.3	819.5	816.3	816.3
7.5°	880.3	872.7	870.5	865.1	855.3	851.0	842.3	839.0	827.1	821.7	820.6
10°	906.3	897.7	893.3	886.8	874.9	867.3	855.3	851.0	836.9	826.0	824.9
12.5°	935.7	928.1	922.6	913.9	900.9	890.1	876.0	868.4	849.9	838.0	832.5
15°	970.4	961.7	955.2	944.3	930.2	917.2	898.7	890.1	868.4	852.1	844.5
17.5°	992.1	982.3	976.9	963.9	949.8	934.6	913.9	903.1	878.1	857.5	849.9
20°	994.3	986.7	979.1	967.1	953.0	935.7	913.9	903.1	877.0	856.4	845.6
22.5°	978.0	971.5	962.8	953.0	937.8	920.5	899.8	890.1	865.1	843.4	831.5
25°	946.5	941.1	932.4	920.5	909.6	891.2	871.6	865.1	839.0	820.6	809.7
27.5°	897.7	894.4	885.7	874.9	866.2	851.0	831.5	826.0	803.2	786.9	778.3
30°	833.6	831.5	822.8	813.0	806.5	792.4	775.0	772.8	752.2	740.3	731.6
32.5°	754.4	752.2	746.8	737.0	731.6	719.7	703.4	705.5	688.2	678.4	675.1
35°	669.7	663.2	660.0	651.3	644.8	636.1	622.0	625.2	615.4	607.8	606.8
37.5°	574.2	567.7	565.5	559.0	553.6	546.0	535.1	539.5	535.1	531.9	535.1
40°	474.3	468.9	466.7	460.2	458.1	452.6	445.0	455.9	450.5	457.0	458.1
42.5°	374.5	369.1	369.1	364.7	361.5	360.4	354.9	369.1	369.1	379.9	385.3
45°	264.8	265.9	263.8	264.8	262.7	265.9	262.7	272.4	286.6	300.7	309.4
47.5°	175.8	172.6	176.9	175.8	174.8	179.1	183.4	193.2	209.5	229.0	241.0
50°	106.4	106.4	108.5	111.8	114.0	117.2	123.7	135.7	154.1	173.7	187.8
52.5°	60.8	59.7	61.9	63.0	68.4	72.7	80.3	93.3	111.8	133.5	146.5
55°	32.6	32.6	33.6	36.9	40.2	45.6	53.2	65.1	82.5	104.2	117.2
57.5°	19.5	19.5	20.6	21.7	25.0	29.3	35.8	45.6	60.8	79.2	91.2
60°	13.0	14.1	14.1	15.2	17.4	19.5	25.0	31.5	43.4	57.5	67.3
62.5°	10.9	10.9	10.9	11.9	13.0	14.1	17.4	22.8	30.4	41.2	48.8
65°	8.7	8.7	8.7	8.7	9.8	10.9	13.0	16.3	21.7	28.2	32.6
67.5°	6.5	6.5	7.6	7.6	7.6	8.7	9.8	11.9	15.2	19.5	22.8
70°	5.4	5.4	5.4	5.4	6.5	6.5	7.6	8.7	10.9	14.1	16.3
72.5°	4.3	4.3	4.3	4.3	5.4	5.4	5.4	6.5	7.6	9.8	10.9
75°	3.3	3.3	3.3	3.3	4.3	4.3	4.3	5.4	5.4	6.5	7.6
77.5°	2.2	2.2	2.2	2.2	3.3	3.3	3.3	3.3	4.3	4.3	4.3
80°	1.1	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
85°	0.0	0.0	1.1	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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



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CANDELA DISTRIBUTION (continued):

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7	821.7
2.5°	806.5	820.6	804.3	807.6	802.1	811.9	798.9	802.1	804.3	802.1	803.2
5°	807.6	818.4	800.0	803.2	794.5	801.1	789.1	790.2	790.2	788.0	786.9
7.5°	810.8	817.3	797.8	796.7	785.9	792.4	778.3	776.1	775.0	771.8	772.8
10°	811.9	814.1	793.5	789.1	776.1	778.3	764.2	759.8	756.6	754.4	753.3
12.5°	819.5	817.3	793.5	785.9	769.6	768.5	753.3	746.8	741.4	739.2	738.1
15°	829.3	821.7	795.6	784.8	766.3	762.0	745.7	739.2	731.6	729.4	727.2
17.5°	833.6	821.7	793.5	779.4	758.7	753.3	737.0	728.3	720.7	717.5	715.3
20°	828.2	813.0	784.8	769.6	747.9	740.3	724.0	714.2	706.6	703.4	701.2
22.5°	816.3	798.9	771.8	756.6	734.8	725.1	711.0	702.3	693.6	692.5	689.3
25°	795.6	778.3	755.5	740.3	720.7	711.0	697.9	690.3	681.7	680.6	679.5
27.5°	765.2	749.0	731.6	717.5	700.1	692.5	682.7	675.1	667.5	667.5	665.4
30°	721.8	711.0	695.8	687.1	673.0	665.4	658.9	653.4	645.8	646.9	644.8
32.5°	666.5	661.0	650.2	645.8	635.0	632.8	626.3	622.0	615.4	617.6	615.4
35°	604.6	598.1	598.1	595.9	590.5	589.4	586.1	584.0	579.6	580.7	580.7
37.5°	534.0	534.0	540.6	541.6	540.6	542.7	541.6	541.6	537.3	539.5	538.4
40°	461.3	467.8	479.8	486.3	488.5	492.8	498.2	496.0	493.9	497.1	496.0
42.5°	390.8	403.8	422.2	433.1	440.7	447.2	454.8	454.8	453.7	458.1	457.0
45°	323.5	335.4	360.4	378.8	391.8	401.6	410.3	413.6	414.6	419.0	417.9
47.5°	257.3	277.9	307.2	328.9	345.2	357.1	369.1	373.4	376.6	382.1	382.1
50°	204.1	230.1	263.8	285.5	305.0	318.0	330.0	336.5	340.8	345.2	345.2
52.5°	163.9	191.0	223.6	246.4	264.8	279.0	290.9	298.5	301.8	307.2	307.2
55°	133.5	158.5	188.9	209.5	227.9	241.0	250.7	257.3	260.5	264.8	264.8
57.5°	105.3	129.2	154.1	172.6	187.8	197.6	206.2	208.4	209.5	212.7	213.8
60°	79.2	97.7	118.3	132.4	143.3	149.8	156.3	155.2	154.1	156.3	154.1
62.5°	56.4	69.5	84.7	93.3	102.0	105.3	108.5	106.4	104.2	105.3	105.3
65°	38.0	47.8	56.4	63.0	67.3	69.5	70.6	69.5	68.4	69.5	68.4
67.5°	26.1	31.5	38.0	41.2	44.5	45.6	46.7	45.6	45.6	45.6	44.5
70°	17.4	20.6	25.0	27.1	28.2	29.3	30.4	29.3	29.3	29.3	29.3
72.5°	11.9	14.1	15.2	17.4	18.5	18.5	18.5	18.5	18.5	18.5	18.5
75°	7.6	8.7	9.8	10.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
77.5°	5.4	5.4	6.5	6.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6
80°	3.3	3.3	4.3	4.3	4.3	4.3	5.4	4.3	5.4	5.4	5.4
82.5°	2.2	2.2	2.2	2.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	1.1	1.1	1.1	1.1	1.1	1.1	2.2	1.1	2.2	2.2	2.2
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



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CANDELA DISTRIBUTION (continued):

	345°	350°	355°	360°
0°	821.7	821.7	821.7	821.7
2.5°	803.2	801.1	794.5	802.1
5°	785.9	783.7	778.3	783.7
7.5°	768.5	765.2	760.9	764.2
10°	747.9	745.7	740.3	743.5
12.5°	732.7	728.3	725.1	726.2
15°	722.9	718.6	715.3	716.4
17.5°	709.9	705.5	702.3	702.3
20°	695.8	691.4	689.3	688.2
22.5°	683.8	680.6	679.5	676.2
25°	673.0	670.8	670.8	666.5
27.5°	661.0	657.8	657.8	653.4
30°	640.4	639.3	639.3	636.1
32.5°	613.3	610.0	612.2	606.8
35°	576.4	574.2	577.5	573.1
37.5°	536.2	535.1	537.3	534.0
40°	493.9	493.9	497.1	491.7
42.5°	457.0	457.0	460.2	454.8
45°	416.8	420.1	423.3	419.0
47.5°	382.1	384.2	388.6	384.2
50°	347.3	349.5	352.8	348.4
52.5°	309.4	311.5	314.8	311.5
55°	265.9	268.1	271.4	269.2
57.5°	213.8	211.7	217.1	212.7
60°	155.2	150.9	152.0	152.0
62.5°	103.1	100.9	103.1	99.9
65°	68.4	67.3	67.3	67.3
67.5°	45.6	44.5	45.6	44.5
70°	29.3	29.3	29.3	29.3
72.5°	18.5	18.5	18.5	18.5
75°	11.9	11.9	11.9	11.9
77.5°	7.6	7.6	7.6	7.6
80°	5.4	5.4	5.4	5.4
82.5°	3.3	3.3	3.3	3.3
85°	2.2	2.2	2.2	2.2
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°





















(END OF REPORT)