

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: P251783

Luminaire Tested: **LD4B30D010 EU4B30509027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251783
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 EU4B30509027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1833.0 lumens
Efficiency: N/A
Efficacy: 65.5 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

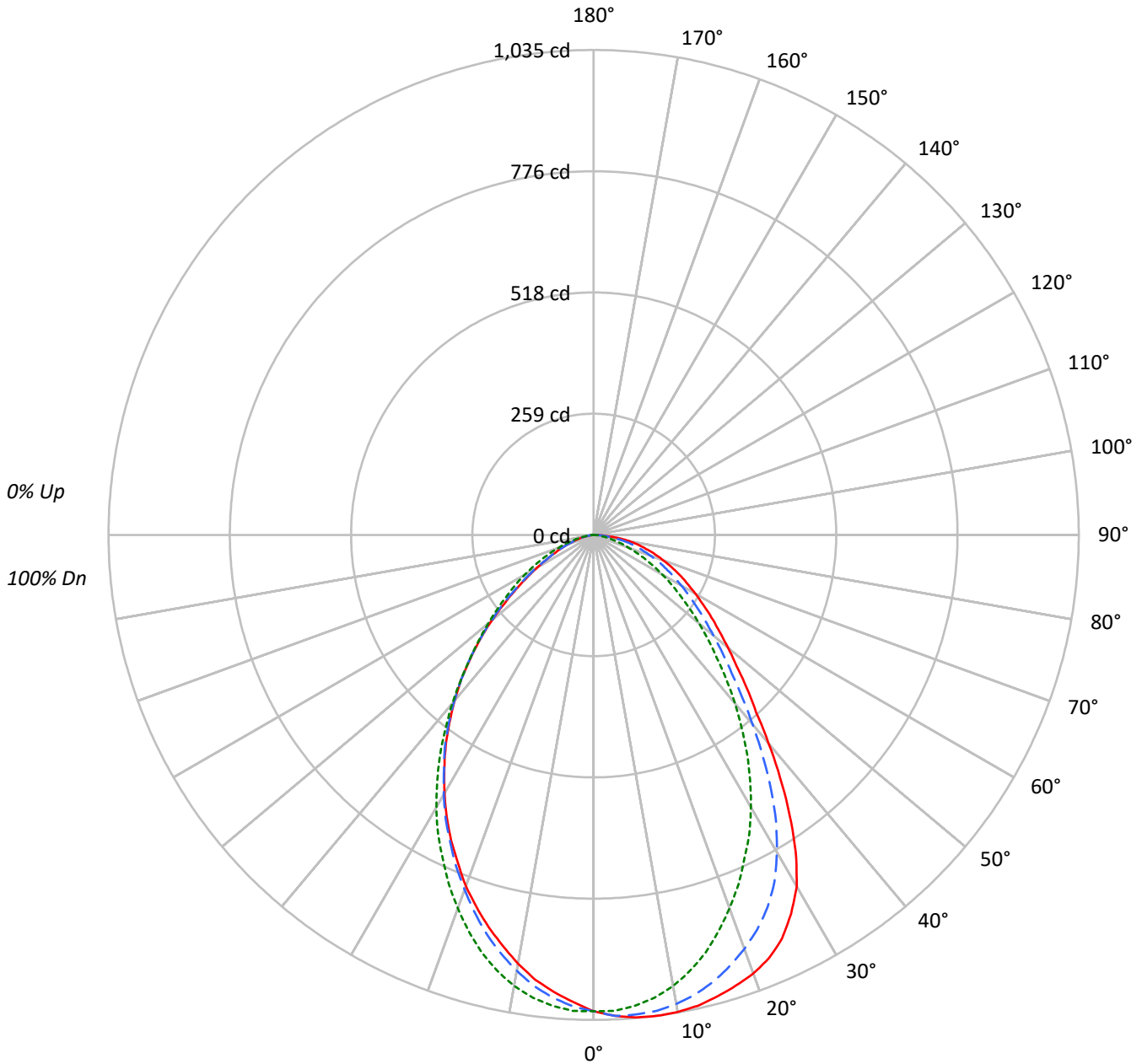
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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°	99076	99076	99076
5°	101137	98681	95776
10°	102306	96735	91935
15°	102884	93097	87416
20°	103319	87917	82721
25°	102253	81897	77359
30°	97500	75500	71628
35°	86709	67911	65495
40°	73814	59693	58700
45°	63593	51299	51092
50°	56675	44348	42923
55°	52078	38264	34271
60°	48768	32921	26820
65°	46882	27765	20916
70°	45022	22283	16926
75°	43567	17660	12953
80°	43889	12291	7913
85°	36677	8722	3466



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.2	5.2
10°-20°	261.6	14.3
20°-30°	365.9	20.0
30°-40°	376.1	20.5
40°-50°	305.2	16.7
50°-60°	214.9	11.7
60°-70°	132.3	7.2
70°-80°	66.1	3.6
80°-90°	15.7	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°	722.7	39.4
0°-40°	1098.7	59.9
0°-60°	1618.9	88.3
0°-90°	1833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1833.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1017	1017	1017	1017	1017	
5°	1034	1028	1009	992	979	99
15°	1020	987	923	882	866	288
25°	951	877	762	724	719	435
35°	729	658	571	554	550	453
45°	461	416	372	372	371	359
55°	306	269	225	206	202	276
65°	203	170	120	92	91	201
75°	116	91	47	34	34	124
85°	33	22	8	5	3	38
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°	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6
2.5°	1027.5	1029.1	1024.4	1029.1	1022.8	1026.0	1027.5	1024.4	1021.3	1027.5	1027.5
5°	1033.8	1033.8	1029.1	1035.3	1027.5	1029.1	1032.2	1027.5	1022.8	1029.1	1027.5
7.5°	1035.3	1035.3	1029.1	1035.3	1027.5	1029.1	1030.6	1026.0	1021.3	1026.0	1024.4
10°	1033.8	1032.2	1027.5	1033.8	1026.0	1026.0	1027.5	1022.8	1015.0	1019.7	1016.6
12.5°	1029.1	1029.1	1022.8	1029.1	1018.1	1018.1	1019.7	1013.4	1007.2	1007.2	1004.1
15°	1019.7	1019.7	1013.4	1018.1	1008.7	1008.7	1007.2	1000.9	993.1	993.1	986.9
17.5°	1008.7	1008.7	1002.5	1007.2	996.2	996.2	994.7	985.3	974.3	972.8	965.0
20°	996.2	996.2	988.4	991.5	979.0	979.0	977.5	966.5	954.0	950.9	939.9
22.5°	977.5	977.5	969.7	971.2	958.7	957.1	955.6	943.1	930.6	925.9	911.8
25°	950.9	949.3	943.1	943.1	930.6	927.4	924.3	911.8	899.3	889.9	877.4
27.5°	911.8	913.3	905.5	907.1	891.5	888.3	886.8	871.1	857.0	847.7	835.2
30°	866.4	861.7	853.9	853.9	841.4	839.8	836.7	822.6	807.0	796.1	782.0
32.5°	802.3	800.7	792.9	792.9	778.8	778.8	772.6	758.5	744.4	738.2	724.1
35°	728.8	727.2	721.0	721.0	708.5	710.0	703.8	692.8	678.8	669.4	658.4
37.5°	653.7	652.2	645.9	647.5	636.5	636.5	631.8	620.9	609.9	605.2	591.2
40°	580.2	578.7	570.8	575.5	566.2	563.0	561.5	553.6	541.1	534.9	527.1
42.5°	513.0	514.5	506.7	509.8	502.0	498.9	497.3	491.1	481.7	475.4	467.6
45°	461.4	458.2	455.1	455.1	447.3	445.7	444.2	436.3	430.1	423.8	416.0
47.5°	412.9	409.8	406.6	408.2	401.9	400.4	397.2	391.0	383.2	380.0	372.2
50°	373.8	372.2	367.5	367.5	361.3	359.7	356.6	351.9	344.1	339.4	333.1
52.5°	337.8	337.8	333.1	331.6	326.9	325.3	323.7	317.5	311.2	305.0	298.7
55°	306.5	305.0	301.8	301.8	295.6	294.0	292.5	286.2	279.9	275.3	269.0
57.5°	276.8	276.8	273.7	273.7	269.0	265.9	265.9	259.6	251.8	248.7	240.8
60°	250.2	250.2	247.1	247.1	242.4	242.4	239.3	233.0	228.3	222.1	215.8
62.5°	225.2	226.8	223.6	222.1	217.4	215.8	215.8	211.1	203.3	198.6	192.4
65°	203.3	201.7	200.2	198.6	193.9	192.4	192.4	186.1	181.4	175.2	170.5
67.5°	179.9	179.9	176.7	176.7	173.6	172.0	168.9	164.2	159.5	154.8	150.1
70°	158.0	158.0	156.4	156.4	151.7	150.1	148.6	143.9	139.2	134.5	128.2
72.5°	137.6	136.1	134.5	134.5	131.4	129.8	128.2	123.6	118.9	114.2	109.5
75°	115.7	115.7	114.2	114.2	111.0	109.5	109.5	106.3	100.1	97.0	90.7
77.5°	97.0	97.0	95.4	95.4	92.3	92.3	90.7	86.0	82.9	78.2	75.1
80°	78.2	76.6	76.6	75.1	71.9	71.9	70.4	68.8	64.1	61.0	56.3
82.5°	54.7	54.7	54.7	53.2	51.6	51.6	50.0	46.9	43.8	42.2	37.5
85°	32.8	32.8	31.3	29.7	31.3	29.7	28.2	26.6	25.0	23.5	21.9
87.5°	14.1	14.1	12.5	12.5	12.5	12.5	12.5	10.9	9.4	9.4	7.8
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°	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6
2.5°	1018.1	1022.8	1021.3	1019.7	1016.6	1016.6	1016.6	1015.0	1016.6	1016.6	1013.4
5°	1018.1	1021.3	1019.7	1016.6	1013.4	1013.4	1011.9	1008.7	1008.7	1008.7	1002.5
7.5°	1013.4	1016.6	1011.9	1008.7	1005.6	1002.5	1002.5	997.8	997.8	996.2	990.0
10°	1004.1	1005.6	999.4	996.2	991.5	990.0	986.9	980.6	979.0	977.5	971.2
12.5°	990.0	991.5	983.7	977.5	971.2	969.7	966.5	958.7	955.6	952.4	944.6
15°	969.7	969.7	960.3	952.4	946.2	944.6	936.8	929.0	925.9	922.7	911.8
17.5°	946.2	944.6	932.1	924.3	916.5	913.3	905.5	896.1	889.9	886.8	877.4
20°	921.2	916.5	902.4	894.6	885.2	880.5	872.7	860.2	853.9	847.7	838.3
22.5°	891.5	885.2	869.6	858.6	849.2	844.5	833.6	822.6	813.3	807.0	796.1
25°	855.5	847.7	830.5	816.4	808.6	803.9	792.9	780.4	771.0	761.6	752.3
27.5°	813.3	803.9	786.7	772.6	764.8	757.0	749.1	735.1	727.2	719.4	708.5
30°	761.6	750.7	735.1	722.5	713.2	706.9	697.5	685.0	675.6	670.9	660.0
32.5°	705.3	692.8	678.8	666.2	661.6	653.7	645.9	633.4	625.6	620.9	613.1
35°	642.8	633.4	617.8	608.4	600.6	597.4	591.2	578.7	575.5	570.8	561.5
37.5°	577.1	569.3	558.3	550.5	544.3	541.1	534.9	527.1	522.4	517.7	513.0
40°	516.1	509.8	500.5	494.2	486.4	481.7	481.7	472.3	469.2	469.2	464.5
42.5°	456.7	453.5	445.7	436.3	434.8	430.1	428.5	423.8	420.7	419.1	417.6
45°	406.6	401.9	394.1	389.4	384.7	384.7	380.0	375.3	373.8	372.2	370.7
47.5°	362.8	356.6	350.3	345.6	342.5	340.9	336.2	333.1	331.6	331.6	330.0
50°	323.7	319.0	312.8	308.1	305.0	301.8	298.7	295.6	294.0	292.5	292.5
52.5°	290.9	284.6	278.4	273.7	269.0	267.4	264.3	261.2	259.6	258.1	256.5
55°	261.2	256.5	248.7	244.0	239.3	239.3	234.6	229.9	226.8	225.2	223.6
57.5°	233.0	228.3	220.5	215.8	212.7	209.6	206.4	203.3	200.2	197.1	193.9
60°	208.0	203.3	195.5	189.2	187.7	184.5	181.4	175.2	172.0	168.9	165.8
62.5°	184.5	178.3	172.0	165.8	164.2	161.1	156.4	151.7	147.0	143.9	139.2
65°	162.7	158.0	150.1	145.4	140.8	139.2	134.5	128.2	123.6	120.4	115.7
67.5°	142.3	136.1	128.2	123.6	120.4	117.3	112.6	107.9	103.2	98.5	93.8
70°	122.0	117.3	109.5	104.8	101.7	98.5	93.8	87.6	82.9	78.2	75.1
72.5°	103.2	97.0	90.7	86.0	82.9	79.8	75.1	70.4	65.7	62.6	57.9
75°	86.0	79.8	75.1	68.8	67.2	64.1	59.4	54.7	50.0	46.9	43.8
77.5°	68.8	64.1	57.9	54.7	51.6	48.5	45.4	40.7	37.5	32.8	29.7
80°	51.6	46.9	42.2	39.1	36.0	34.4	31.3	28.2	25.0	21.9	20.3
82.5°	34.4	31.3	26.6	25.0	23.5	21.9	18.8	17.2	15.6	14.1	12.5
85°	18.8	17.2	15.6	12.5	12.5	10.9	9.4	9.4	7.8	7.8	6.3
87.5°	7.8	6.3	6.3	4.7	4.7	4.7	3.1	3.1	3.1	1.6	1.6
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°	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6
2.5°	1015.0	1008.7	1008.7	1008.7	1004.1	1005.6	1007.2	1008.7	1007.2	1002.5	1007.2
5°	1004.1	997.8	997.8	994.7	991.5	991.5	991.5	993.1	991.5	986.9	988.4
7.5°	990.0	982.2	980.6	977.5	974.3	972.8	972.8	972.8	971.2	965.0	968.1
10°	968.1	960.3	957.1	955.6	950.9	949.3	947.8	946.2	944.6	938.4	941.5
12.5°	941.5	935.2	929.0	927.4	922.7	919.6	918.0	918.0	914.9	908.7	911.8
15°	910.2	900.8	896.1	893.0	888.3	885.2	882.1	883.6	882.1	875.8	877.4
17.5°	872.7	863.3	858.6	857.0	850.8	847.7	846.1	846.1	844.5	838.3	839.8
20°	832.0	822.6	819.5	816.4	813.3	810.1	808.6	807.0	805.4	799.2	803.9
22.5°	791.4	780.4	775.7	775.7	769.5	767.9	766.3	767.9	766.3	760.1	763.2
25°	749.1	738.2	735.1	730.4	727.2	725.7	725.7	725.7	724.1	721.0	724.1
27.5°	702.2	694.4	689.7	688.1	685.0	683.4	681.9	683.4	683.4	678.8	681.9
30°	655.3	649.0	645.9	644.3	639.7	638.1	639.7	639.7	639.7	635.0	639.7
32.5°	608.4	603.7	602.1	597.4	594.3	594.3	594.3	595.9	594.3	591.2	595.9
35°	561.5	555.2	553.6	552.1	552.1	548.9	552.1	550.5	553.6	548.9	552.1
37.5°	511.4	508.3	506.7	506.7	503.6	505.2	505.2	505.2	508.3	503.6	506.7
40°	464.5	461.4	461.4	461.4	459.8	459.8	459.8	461.4	462.9	459.8	462.9
42.5°	417.6	416.0	416.0	414.4	412.9	414.4	416.0	416.0	417.6	414.4	416.0
45°	372.2	370.7	372.2	370.7	370.7	369.1	370.7	372.2	372.2	370.7	370.7
47.5°	330.0	330.0	328.4	328.4	328.4	328.4	328.4	328.4	328.4	325.3	328.4
50°	292.5	289.3	290.9	289.3	289.3	287.8	287.8	286.2	284.6	283.1	283.1
52.5°	256.5	253.4	253.4	251.8	250.2	250.2	248.7	247.1	245.5	242.4	242.4
55°	222.1	219.0	217.4	215.8	214.3	212.7	211.1	209.6	206.4	204.9	204.9
57.5°	190.8	187.7	184.5	184.5	181.4	179.9	176.7	173.6	172.0	168.9	168.9
60°	162.7	159.5	154.8	153.3	151.7	148.6	143.9	142.3	140.8	137.6	139.2
62.5°	136.1	131.4	126.7	125.1	123.6	120.4	117.3	114.2	112.6	114.2	114.2
65°	111.0	106.3	103.2	100.1	98.5	95.4	93.8	92.3	92.3	92.3	93.8
67.5°	89.1	84.5	81.3	79.8	76.6	75.1	75.1	75.1	75.1	75.1	75.1
70°	70.4	67.2	64.1	61.0	61.0	59.4	59.4	59.4	59.4	59.4	59.4
72.5°	53.2	50.0	48.5	48.5	46.9	46.9	46.9	46.9	45.4	45.4	46.9
75°	39.1	37.5	36.0	36.0	36.0	34.4	34.4	34.4	34.4	34.4	34.4
77.5°	28.2	26.6	26.6	25.0	25.0	25.0	25.0	25.0	25.0	23.5	23.5
80°	18.8	17.2	17.2	17.2	17.2	15.6	15.6	15.6	15.6	15.6	15.6
82.5°	10.9	10.9	10.9	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
85°	6.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	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°
0°	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6	1016.6
2.5°	997.8	1004.1	1005.6	1000.9	1002.5	999.4	1000.9	997.8
5°	980.6	985.3	986.9	983.7	983.7	980.6	982.2	979.0
7.5°	958.7	963.4	965.0	961.8	961.8	958.7	958.7	957.1
10°	933.7	935.2	938.4	933.7	935.2	932.1	932.1	929.0
12.5°	902.4	905.5	908.7	904.0	904.0	902.4	902.4	897.7
15°	869.6	872.7	874.2	871.1	871.1	869.6	868.0	866.4
17.5°	835.2	836.7	839.8	835.2	838.3	835.2	835.2	832.0
20°	796.1	800.7	802.3	797.6	799.2	797.6	797.6	797.6
22.5°	758.5	761.6	763.2	760.1	761.6	758.5	760.1	757.0
25°	719.4	721.0	722.5	719.4	722.5	721.0	719.4	719.4
27.5°	678.8	680.3	681.9	678.8	681.9	680.3	681.9	678.8
30°	635.0	638.1	641.2	638.1	639.7	638.1	638.1	636.5
32.5°	591.2	594.3	597.4	594.3	597.4	594.3	595.9	592.7
35°	550.5	552.1	553.6	550.5	552.1	552.1	552.1	550.5
37.5°	505.2	508.3	508.3	506.7	509.8	508.3	508.3	505.2
40°	461.4	462.9	464.5	461.4	462.9	461.4	462.9	461.4
42.5°	416.0	419.1	420.7	417.6	417.6	417.6	416.0	417.6
45°	369.1	372.2	375.3	370.7	372.2	372.2	372.2	370.7
47.5°	326.9	326.9	328.4	326.9	328.4	325.3	328.4	326.9
50°	283.1	283.1	286.2	283.1	283.1	283.1	283.1	283.1
52.5°	240.8	242.4	242.4	239.3	240.8	239.3	240.8	239.3
55°	201.7	201.7	203.3	201.7	201.7	201.7	201.7	201.7
57.5°	167.3	168.9	168.9	167.3	168.9	167.3	167.3	167.3
60°	139.2	139.2	139.2	137.6	139.2	137.6	139.2	137.6
62.5°	112.6	114.2	114.2	112.6	114.2	112.6	112.6	112.6
65°	92.3	92.3	92.3	92.3	92.3	92.3	92.3	90.7
67.5°	73.5	73.5	75.1	73.5	75.1	75.1	75.1	75.1
70°	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4
72.5°	45.4	45.4	46.9	45.4	45.4	45.4	45.4	45.4
75°	34.4	34.4	34.4	34.4	34.4	32.8	32.8	34.4
77.5°	23.5	23.5	23.5	23.5	23.5	23.5	23.5	25.0
80°	15.6	15.6	15.6	15.6	14.1	14.1	15.6	14.1
82.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
85°	4.7	4.7	3.1	3.1	3.1	3.1	3.1	3.1
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)