

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: P880523

Luminaire Tested: **LD4C02D010 EU4029030 4LBDWNH**

Issue Date: 10/4/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P880523
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)
Test Lab: INNOVATION CENTER
Issue Date: 10/4/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C02D010 EU4029030 4LBDWNH
Description: 4 INCH 250 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

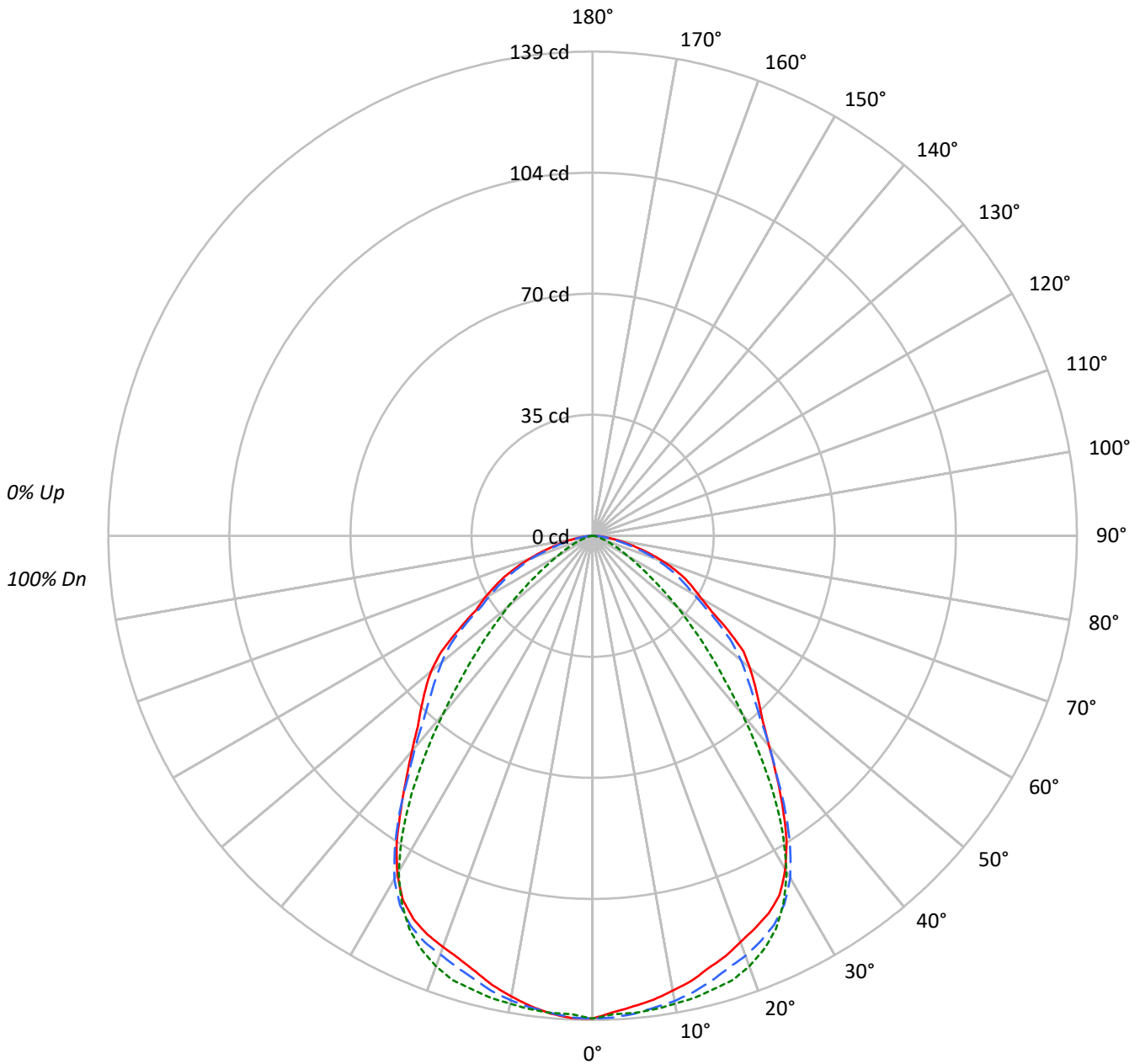
Lumens per Lamp: N/A
Luminaire Lumens: 282.0 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 3.5
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

TEST NUMBER: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

Luminous Intensity Polar Plot





TEST NUMBER: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

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	89	88																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66																			
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41																			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17027	17027	17027
5°	16723	16957	16982
10°	16542	17016	16754
15°	16344	17132	16483
20°	16225	17192	16421
25°	16212	16876	16470
30°	15690	15789	15902
35°	14263	13588	14383
40°	12621	10697	12926
45°	11710	8148	12075
50°	11238	6040	11563
55°	10174	4155	10045
60°	8845	2826	8796
65°	8546	2035	8110
70°	7723	1365	6897
75°	6361	902	5459
80°	5094	637	4103
85°	4229	282	2678



TEST NUMBER: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.1	4.6
10°-20°	37.4	13.3
20°-30°	56.5	20.0
30°-40°	59.1	21.0
40°-50°	47.9	17.0
50°-60°	34.8	12.4
60°-70°	21.5	7.6
70°-80°	9.7	3.4
80°-90°	2.0	0.7
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°	107.0	37.9
0°-40°	166.1	58.9
0°-60°	248.8	88.2
0°-90°	282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	282.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	139	139	139	139	139	
5°	136	138	138	138	138	13
15°	128	132	135	132	130	36
25°	120	123	124	124	122	55
35°	95	96	91	96	96	59
45°	67	65	47	66	70	52
55°	48	44	19	45	47	42
65°	29	26	7	26	28	29
75°	13	12	2	10	12	15
85°	3	2	0	2	2	3
90°	0	0	0	0	0	



TEST NUMBER: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
2.5°	136.9	136.9	138.1	139.6	138.4	137.1	137.9	137.5	139.0	139.0	138.4
5°	135.6	136.0	137.1	138.4	137.3	136.0	137.1	136.6	138.1	138.1	137.7
7.5°	134.3	134.5	135.8	137.3	136.2	134.9	135.8	135.6	136.9	137.1	136.6
10°	132.6	132.8	134.1	135.6	134.5	133.4	134.3	134.1	135.8	135.8	135.6
12.5°	130.9	131.1	132.4	133.7	132.6	131.5	132.4	132.4	134.1	134.3	134.1
15°	128.5	129.0	130.0	131.3	130.7	129.4	130.2	130.2	131.7	132.2	132.2
17.5°	126.6	126.8	127.9	129.2	128.3	127.3	128.1	128.1	129.6	130.0	130.0
20°	124.1	124.5	125.6	126.8	126.2	125.3	126.0	126.0	127.7	128.1	128.3
22.5°	121.9	122.4	123.2	124.9	123.9	123.2	124.1	123.9	125.8	126.0	126.0
25°	119.6	120.0	121.1	122.1	121.5	120.9	121.5	121.5	123.0	123.2	123.2
27.5°	116.2	116.4	117.5	118.5	117.9	117.0	117.9	117.7	119.2	119.4	119.2
30°	110.6	111.1	111.5	113.0	112.3	111.7	112.6	112.1	113.6	113.6	113.4
32.5°	103.6	103.6	104.5	105.5	104.7	104.2	104.9	105.1	106.2	106.2	105.5
35°	95.1	95.5	96.1	96.8	96.1	95.7	96.4	96.1	97.4	97.0	96.4
37.5°	86.6	86.8	87.4	88.3	87.4	86.8	87.0	86.8	87.8	87.8	86.8
40°	78.7	79.1	79.5	80.4	79.5	79.1	79.3	78.7	79.9	79.5	78.9
42.5°	72.3	72.5	73.1	73.5	72.7	72.5	72.7	72.3	72.9	72.5	71.2
45°	67.4	67.4	67.6	68.2	67.4	67.2	67.2	66.7	67.4	66.5	65.2
47.5°	63.1	63.3	63.5	64.0	63.3	62.7	62.9	62.0	62.5	61.8	60.1
50°	58.8	59.3	59.5	59.9	59.3	58.8	59.0	58.2	58.2	57.1	55.6
52.5°	54.6	54.8	54.6	55.0	54.6	53.9	54.1	53.3	53.3	52.0	50.5
55°	47.5	47.7	48.0	48.4	48.0	47.3	47.7	47.1	47.1	46.3	44.5
57.5°	40.5	40.7	40.9	41.1	41.1	40.7	40.9	40.5	40.3	39.6	38.4
60°	36.0	36.0	36.0	36.2	36.0	35.8	35.8	35.4	35.4	34.5	33.3
62.5°	32.6	32.8	32.8	33.0	32.8	32.6	32.4	32.0	31.8	30.9	29.8
65°	29.4	29.4	29.2	29.6	29.4	29.2	29.2	28.8	28.4	27.5	26.4
67.5°	25.6	25.8	25.6	25.8	25.8	25.6	25.4	24.9	24.7	24.1	22.8
70°	21.5	21.5	21.5	21.7	21.5	21.5	21.7	21.1	20.9	20.0	19.0
72.5°	17.5	17.7	17.7	17.5	17.7	17.3	17.3	17.3	17.1	16.2	15.1
75°	13.4	13.6	13.6	13.9	13.6	13.4	13.4	13.2	13.0	12.4	11.5
77.5°	10.0	10.0	10.2	10.2	10.2	10.0	10.0	9.6	9.6	9.2	8.3
80°	7.2	7.2	7.0	7.2	7.2	7.0	7.0	6.8	6.8	6.4	5.8
82.5°	4.7	4.9	4.9	4.9	4.9	4.7	4.7	4.7	4.5	4.3	3.8
85°	3.0	3.0	3.0	3.0	3.2	3.0	3.2	3.0	3.0	2.6	2.3
87.5°	1.3	1.3	1.3	1.5	1.5	1.3	1.3	1.3	1.3	1.3	1.1
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: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
2.5°	138.4	138.6	137.9	138.8	138.1	138.4	138.6	138.4	137.5	137.5	139.8
5°	137.5	137.9	137.3	138.4	137.9	137.9	138.4	138.1	137.3	137.5	139.6
7.5°	136.6	137.3	136.9	137.9	137.3	137.3	137.7	137.7	136.9	137.1	139.0
10°	135.4	136.2	136.0	137.1	136.4	136.4	137.1	137.1	136.2	136.4	138.4
12.5°	134.3	135.2	134.9	136.0	135.6	135.8	136.0	136.4	135.4	135.8	137.5
15°	132.6	133.4	133.4	134.5	134.1	134.5	134.9	135.6	134.7	134.7	136.4
17.5°	130.7	131.7	131.7	132.6	132.6	132.8	133.7	134.3	133.4	133.7	135.2
20°	128.5	129.8	129.8	130.9	130.7	131.1	131.7	132.4	131.5	131.5	133.2
22.5°	126.4	127.5	127.7	128.3	128.3	128.5	129.2	129.6	128.5	128.5	130.2
25°	123.4	124.5	124.7	125.1	124.7	124.7	125.1	125.6	124.5	124.5	126.0
27.5°	119.4	120.4	120.4	120.2	119.8	120.0	119.8	120.0	118.9	118.7	120.2
30°	113.4	114.0	114.0	113.8	113.2	113.2	112.6	112.8	111.3	111.3	112.6
32.5°	105.3	105.9	105.5	105.1	104.2	103.8	103.4	103.2	101.7	101.7	103.2
35°	95.7	96.1	95.5	94.7	93.6	92.9	92.3	91.5	90.4	90.6	91.5
37.5°	85.9	85.9	85.1	83.4	82.5	81.4	80.4	80.4	78.7	78.5	79.1
40°	77.6	76.7	75.3	72.9	71.4	70.3	68.9	68.0	66.7	66.7	67.8
42.5°	70.1	68.4	66.5	63.3	61.8	60.5	58.6	57.8	56.3	56.1	56.7
45°	63.5	61.8	59.0	55.6	53.7	52.2	49.5	48.4	47.1	46.9	47.3
47.5°	58.2	56.3	52.9	48.4	46.5	44.5	41.8	40.3	39.2	38.6	39.2
50°	53.5	50.9	47.3	42.6	40.1	38.4	35.0	33.5	32.0	31.6	31.8
52.5°	48.4	45.8	42.0	37.1	34.7	32.2	29.0	26.9	25.6	24.9	25.6
55°	42.8	40.3	36.5	31.6	29.0	26.7	23.2	21.5	20.0	19.4	20.0
57.5°	36.9	34.5	31.1	26.2	23.9	21.7	18.6	16.8	15.4	14.9	15.4
60°	31.8	29.8	26.4	21.7	19.8	17.5	14.7	13.0	11.7	11.5	11.7
62.5°	28.4	26.2	23.0	18.6	16.6	14.7	12.2	10.4	9.4	9.2	9.4
65°	24.9	22.6	19.6	15.8	13.9	12.4	9.8	8.3	7.2	7.0	7.2
67.5°	21.1	19.0	16.4	13.0	11.5	10.0	7.9	6.4	5.5	5.3	5.5
70°	17.5	15.6	13.0	10.4	9.0	7.9	6.0	4.9	4.1	3.8	4.1
72.5°	13.9	12.2	10.0	7.9	7.0	6.0	4.7	3.6	3.0	2.8	3.0
75°	10.7	9.4	7.7	5.8	5.1	4.5	3.2	2.6	2.1	1.9	2.1
77.5°	7.5	6.6	5.3	4.3	3.6	3.2	2.3	1.7	1.5	1.3	1.5
80°	5.1	4.5	3.6	2.8	2.3	1.9	1.5	1.1	0.9	0.9	0.9
82.5°	3.4	2.8	2.1	1.7	1.5	1.3	0.9	0.6	0.6	0.4	0.4
85°	1.9	1.7	1.3	1.1	0.9	0.6	0.4	0.4	0.2	0.2	0.2
87.5°	0.9	0.6	0.4	0.4	0.2	0.2	0.2	0.2	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: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
2.5°	139.2	138.6	139.4	138.6	138.1	138.6	138.1	139.4	138.4	137.5	138.4
5°	139.0	138.1	139.0	138.4	137.7	137.9	137.5	138.8	137.5	136.9	137.3
7.5°	138.6	137.9	138.4	137.7	137.1	137.3	136.9	137.9	136.6	136.0	136.4
10°	137.9	137.3	137.5	137.1	136.4	136.4	136.0	136.9	135.4	134.5	134.9
12.5°	137.1	136.2	136.6	136.0	135.2	135.2	134.7	135.4	133.9	133.0	133.2
15°	136.0	135.2	135.2	134.5	133.7	133.7	132.8	133.4	131.7	130.9	130.9
17.5°	134.7	133.7	133.7	133.0	132.0	131.7	131.1	131.7	129.8	129.0	129.0
20°	132.8	132.0	131.7	131.3	130.2	130.0	129.2	129.4	127.9	127.3	127.1
22.5°	130.2	129.4	129.6	129.0	128.1	127.9	127.1	127.7	126.2	125.6	125.8
25°	125.8	125.3	125.8	125.6	124.9	124.9	124.5	124.9	123.6	123.2	123.4
27.5°	120.7	120.4	120.7	120.7	120.2	120.2	120.2	120.9	119.6	119.4	119.4
30°	113.2	113.2	113.4	113.6	113.6	114.0	113.8	114.7	113.8	113.4	113.8
32.5°	103.4	104.2	104.9	104.9	104.9	105.3	105.7	106.4	105.5	105.7	105.7
35°	92.3	92.9	93.4	94.4	93.8	95.3	95.7	96.6	96.4	96.8	96.6
37.5°	79.9	80.8	81.7	83.1	82.9	84.6	85.5	87.2	86.8	87.6	88.0
40°	68.4	69.7	71.0	72.1	72.9	74.6	76.3	78.5	79.1	79.7	79.9
42.5°	57.3	58.6	60.8	62.2	63.5	66.3	68.6	71.2	71.8	73.1	73.5
45°	48.4	49.5	52.0	53.9	55.0	59.0	61.8	65.0	66.1	67.6	68.2
47.5°	40.1	42.0	44.5	46.9	48.4	52.7	56.3	59.7	61.2	62.9	63.7
50°	32.8	35.0	38.4	40.5	42.6	47.3	51.4	55.0	56.5	58.4	59.3
52.5°	26.9	29.2	32.4	34.7	37.1	42.0	46.3	49.7	51.6	52.9	54.1
55°	21.1	23.7	26.9	29.4	31.3	36.7	40.3	43.7	45.0	46.0	46.7
57.5°	16.4	18.3	21.5	23.7	26.0	30.7	34.3	36.9	37.9	39.2	39.6
60°	12.8	14.7	17.7	19.8	22.0	26.4	30.1	32.6	33.7	34.7	35.4
62.5°	10.2	12.2	14.9	16.8	18.8	22.8	26.0	28.6	29.8	30.9	31.6
65°	8.1	9.8	12.2	14.1	15.6	19.2	22.4	24.7	26.0	27.1	27.7
67.5°	6.4	7.9	10.0	11.3	12.8	15.8	18.6	20.7	21.7	23.0	23.7
70°	4.9	6.0	7.9	9.0	10.0	12.6	14.7	16.8	17.9	18.8	19.2
72.5°	3.6	4.5	6.0	6.8	7.5	9.6	11.3	12.8	13.6	14.5	14.9
75°	2.6	3.2	4.3	4.9	5.3	6.8	8.3	9.4	10.0	10.7	11.3
77.5°	1.7	2.1	2.8	3.2	3.6	4.7	5.5	6.4	7.0	7.7	7.9
80°	1.1	1.5	1.9	2.1	2.3	3.0	3.8	4.3	4.7	5.1	5.3
82.5°	0.6	0.9	1.1	1.3	1.5	1.9	2.3	2.8	3.0	3.4	3.6
85°	0.2	0.4	0.4	0.6	0.6	1.1	1.3	1.5	1.7	1.9	2.1
87.5°	0.0	0.0	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4
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: P880523

CATALOG NUMBER: LD4C02D010 EU4029030 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
2.5°	139.2	138.6	138.1	137.9	139.4	137.5	138.4	138.6
5°	138.4	137.7	137.3	137.1	138.4	136.6	137.3	137.7
7.5°	137.1	136.6	136.0	135.8	137.1	135.2	136.0	136.2
10°	135.6	134.9	134.5	134.3	135.4	133.4	134.3	134.3
12.5°	133.7	133.2	132.4	132.4	133.2	131.5	132.2	132.2
15°	131.1	130.7	129.8	129.8	130.7	129.0	129.6	129.6
17.5°	129.0	128.5	127.9	127.7	128.5	126.8	127.5	127.3
20°	127.3	126.8	126.0	126.0	126.6	124.9	125.6	125.6
22.5°	125.8	125.6	124.7	124.7	125.6	123.9	124.3	123.9
25°	123.4	123.2	122.4	122.6	123.0	121.3	121.9	121.5
27.5°	119.6	119.6	118.7	118.5	119.2	117.7	118.1	117.9
30°	113.6	113.8	112.8	112.8	113.0	111.7	112.3	112.1
32.5°	105.5	105.7	104.9	104.7	105.3	104.2	104.7	104.7
35°	96.6	96.8	96.1	96.1	96.8	96.1	96.1	95.9
37.5°	87.6	88.0	87.6	87.8	88.3	87.6	88.0	87.8
40°	80.4	80.8	80.2	80.6	81.0	80.4	81.0	80.6
42.5°	73.8	74.4	74.0	74.4	74.8	74.4	74.8	74.2
45°	68.9	69.3	69.1	69.3	69.7	69.5	69.7	69.5
47.5°	64.2	65.0	64.6	65.0	65.7	65.2	65.7	65.0
50°	59.9	60.5	60.3	60.8	61.0	60.8	61.2	60.5
52.5°	54.4	55.0	54.8	54.8	55.2	54.8	55.2	54.8
55°	47.1	47.3	47.3	47.5	47.3	47.1	47.3	46.9
57.5°	40.1	40.5	39.9	40.5	40.3	40.1	40.1	39.6
60°	35.6	36.2	35.8	36.2	36.0	36.0	36.0	35.8
62.5°	32.0	32.4	32.0	32.2	32.2	32.2	32.0	31.8
65°	27.9	28.6	28.1	28.4	28.1	27.9	28.1	27.9
67.5°	23.9	24.1	24.1	23.9	23.9	23.9	23.9	23.5
70°	19.4	19.6	19.4	19.8	19.6	19.4	19.6	19.2
72.5°	15.1	15.4	15.1	15.4	15.1	15.1	15.1	15.1
75°	11.3	11.5	11.5	11.5	11.5	11.5	11.1	11.5
77.5°	8.1	8.1	8.1	8.3	8.1	8.1	8.1	8.1
80°	5.5	5.5	5.5	5.8	5.5	5.8	5.5	5.8
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	1.9	2.1	2.1	1.9	1.9	1.9	1.9	1.9
87.5°	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2
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)