

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: P563854

Luminaire Tested: **LD4C05D010 EX4C05D2W 4LBSQLWWH**

Issue Date: 2/18/2022



**Test Information**

Test Method: LM-79-08  
Report Number: P563854  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/18/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C05D010 EX4C05D2W 4LBSQLWWH  
Description: 4 INCH 500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND 4LBSQLWW TRIM WITH H FINISH, DIM TO WARM  
Light Source: -  
Ballast/Driver: -

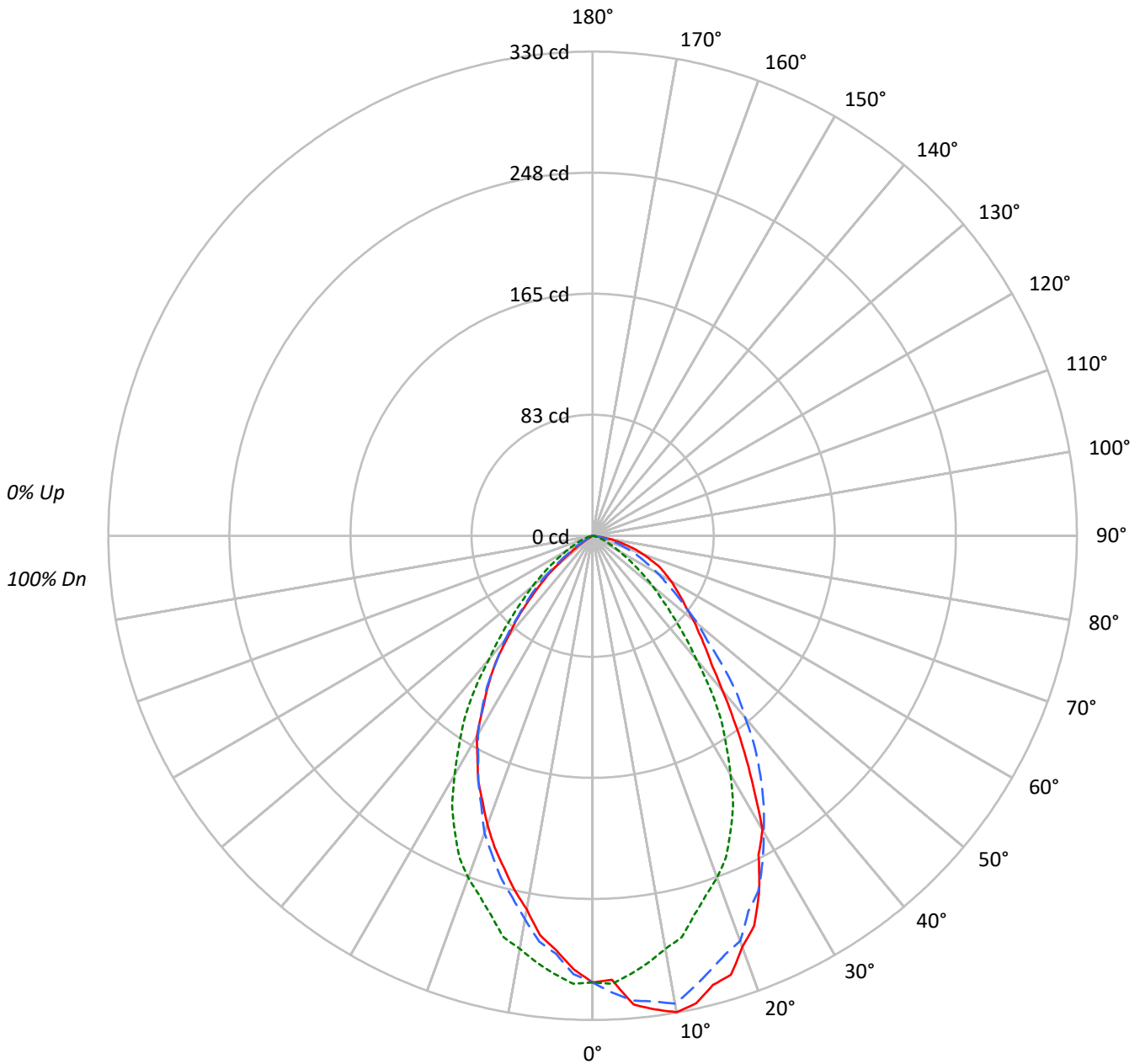
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 436.4 lumens  
Efficiency: N/A  
Efficacy: 60.6 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 7.2  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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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CATALOG NUMBER: LD4C05D010 EX4C05D2W 4LBSQLWWH

### 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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	29371	29371	29371
5°	31072	29028	27469
10°	32303	28002	25327
15°	31656	26721	23375
20°	30620	25455	21512
25°	28564	23667	19621
30°	25782	20946	17570
35°	21238	17928	14583
40°	17332	13843	11223
45°	14887	10507	8065
50°	13480	8001	5104
55°	12398	5770	1850
60°	11907	3937	270
65°	11507	2671	91
70°	10297	1862	113
75°	8463	932	0
80°	5279	389	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.5	6.5
10°-20°	76.8	17.6
20°-30°	102.6	23.5
30°-40°	97.4	22.3
40°-50°	67.3	15.4
50°-60°	37.2	8.5
60°-70°	18.5	4.2
70°-80°	7.3	1.7
80°-90°	0.7	0.2
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°	208.0	47.7
0°-40°	305.4	70.0
0°-60°	409.9	93.9
0°-90°	436.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	436.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	304	304	304	304	304	
5°	321	318	300	286	284	31
15°	317	307	268	241	234	90
25°	268	267	222	184	184	122
35°	180	199	152	125	124	113
45°	109	125	77	63	59	85
55°	74	69	34	18	11	66
65°	50	36	12	0	0	49
75°	23	14	2	0	0	24
85°	0	0	0	0	0	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°	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4
2.5°	302.9	311.4	312.1	311.4	312.5	312.1	313.9	312.1	314.3	311.0	311.8
5°	320.8	317.6	324.5	320.8	320.8	320.5	319.4	319.0	320.5	315.7	318.0
7.5°	325.6	330.4	336.6	328.9	329.3	329.3	327.0	326.3	326.3	317.6	320.1
10°	329.7	326.7	330.0	327.0	329.7	329.3	330.7	326.0	329.3	324.2	323.8
12.5°	326.3	325.2	329.7	324.9	323.5	323.8	321.9	320.8	321.9	316.1	315.7
15°	316.9	318.0	324.5	319.4	318.7	318.0	315.7	312.1	315.0	307.0	307.4
17.5°	313.6	311.8	312.8	308.4	309.5	308.8	308.4	305.2	304.4	299.4	299.4
20°	298.2	302.2	302.2	299.4	299.4	299.0	294.2	297.1	293.9	292.3	293.9
22.5°	287.7	288.0	288.0	285.4	285.8	284.4	281.8	279.9	281.8	279.9	277.1
25°	268.3	269.0	273.4	268.6	267.9	269.4	267.2	266.1	265.7	261.3	267.2
27.5°	244.9	252.3	251.9	250.0	252.3	249.3	248.2	248.6	249.7	249.3	250.7
30°	231.4	232.5	233.7	232.1	232.5	231.4	231.4	231.8	234.7	233.7	233.2
32.5°	204.1	207.7	210.7	210.7	211.0	212.1	211.7	219.4	221.2	217.6	216.9
35°	180.3	182.9	185.4	185.8	190.5	190.9	191.2	193.5	198.6	199.7	199.3
37.5°	157.7	160.2	161.0	164.3	166.8	169.4	172.3	175.3	179.6	183.2	181.5
40°	137.6	138.7	140.6	142.0	147.1	147.1	148.5	154.4	159.2	162.0	161.7
42.5°	120.8	121.1	122.7	125.2	130.0	128.9	130.0	134.0	140.9	141.3	145.3
45°	109.1	108.7	109.9	110.3	113.2	114.6	115.4	118.3	124.1	124.8	125.2
47.5°	98.6	98.2	100.0	100.7	101.8	103.3	103.3	103.7	105.9	107.7	106.2
50°	89.8	89.8	89.8	90.5	92.4	92.0	92.4	93.8	94.9	94.2	93.8
52.5°	80.3	81.8	82.9	83.2	83.6	83.6	83.9	83.2	82.9	81.8	79.5
55°	73.7	75.2	75.2	75.2	75.2	76.7	74.9	75.2	75.2	72.3	69.4
57.5°	67.1	68.7	69.7	68.3	69.7	68.3	67.5	67.1	66.4	63.5	59.1
60°	61.7	62.5	62.0	61.7	62.5	61.3	60.6	59.1	58.4	54.4	51.5
62.5°	55.5	55.8	56.3	55.5	54.7	54.4	52.9	50.8	49.2	46.0	43.4
65°	50.4	49.2	48.9	48.5	47.8	46.7	45.7	43.0	42.0	39.1	36.5
67.5°	42.7	42.3	43.0	42.0	40.2	40.2	39.1	36.8	34.3	32.4	29.9
70°	36.5	36.1	35.4	34.3	34.0	32.4	32.4	29.9	29.2	25.9	23.7
72.5°	29.9	29.9	28.8	27.8	26.7	25.9	25.5	23.7	22.7	20.9	19.0
75°	22.7	22.7	22.3	21.2	20.4	19.7	19.3	17.9	16.8	15.0	13.8
77.5°	16.1	16.1	14.6	13.8	14.2	13.5	12.8	12.4	12.0	11.0	9.5
80°	9.5	9.2	8.0	8.4	8.0	8.0	7.6	7.3	6.6	5.8	5.1
82.5°	2.5	2.9	2.9	2.9	3.3	2.5	2.5	2.5	2.9	2.9	1.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4
87.5°	0.4	0.7	1.4	1.4	1.4	1.4	1.4	1.1	1.1	1.1	0.7
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°	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4
2.5°	308.1	307.7	308.1	305.6	311.4	307.0	306.3	305.6	308.1	305.6	301.9
5°	314.6	311.0	309.9	308.8	312.1	307.0	305.9	306.3	304.4	299.7	300.1
7.5°	316.9	313.6	310.2	303.3	306.3	305.2	302.2	300.1	297.1	293.2	292.3
10°	317.6	313.9	309.1	307.0	302.6	301.2	300.1	296.4	292.8	285.8	284.0
12.5°	315.3	311.0	305.2	303.3	300.1	295.3	292.8	289.1	285.8	280.3	276.4
15°	305.9	302.2	300.4	294.2	292.8	289.8	284.7	279.6	274.8	267.5	265.4
17.5°	295.0	293.5	291.6	287.0	286.5	283.6	278.9	274.5	268.3	256.9	253.3
20°	283.6	283.6	277.8	276.0	279.6	273.7	270.2	266.1	253.3	247.9	241.3
22.5°	275.3	271.2	267.9	265.0	265.4	261.7	256.6	248.6	243.8	237.3	229.6
25°	258.8	260.3	253.0	251.9	253.0	244.5	242.0	235.5	228.5	222.3	216.5
27.5°	248.6	244.5	239.9	235.8	235.8	232.5	225.2	223.8	213.2	207.3	200.0
30°	233.2	230.3	226.3	220.5	219.7	217.2	211.4	207.7	196.7	188.0	184.0
32.5°	213.9	212.8	209.5	202.9	200.8	197.8	190.5	184.3	179.2	169.4	164.7
35°	200.0	196.0	189.1	183.6	181.8	176.7	170.8	166.4	161.0	152.2	146.0
37.5°	179.2	175.3	168.7	162.0	162.0	157.0	148.9	144.5	136.9	131.7	126.6
40°	161.0	155.8	149.3	141.6	140.6	133.3	130.0	122.7	117.9	109.9	109.1
42.5°	140.6	135.8	130.0	124.1	119.7	116.1	107.7	102.2	97.1	93.1	92.0
45°	122.0	115.8	110.6	103.3	98.9	94.5	89.1	85.4	81.4	77.0	74.5
47.5°	105.9	100.7	93.5	86.9	82.5	80.3	74.1	70.1	66.8	63.9	62.0
50°	89.4	83.2	79.2	71.9	71.2	66.1	60.9	57.7	55.8	53.3	50.8
52.5°	77.0	71.2	65.7	60.2	57.3	55.5	50.8	47.4	44.9	43.0	41.6
55°	65.0	59.9	55.5	50.0	48.2	45.7	40.2	39.5	36.8	34.3	32.4
57.5°	55.8	51.1	46.0	42.3	39.1	37.2	32.9	29.9	28.5	26.2	24.4
60°	47.4	42.3	38.3	34.0	32.4	29.9	26.7	24.1	22.3	20.4	18.6
62.5°	39.8	35.4	31.0	27.4	25.2	23.7	21.2	19.0	17.2	15.7	14.2
65°	32.9	28.8	25.2	21.6	20.4	18.6	16.8	15.0	13.5	11.7	10.3
67.5°	27.1	23.4	19.7	17.2	16.1	15.4	13.1	11.3	10.3	9.2	7.6
70°	21.2	18.6	15.7	13.5	12.4	11.3	9.9	8.7	7.3	6.6	5.5
72.5°	16.5	14.2	11.7	9.9	9.2	8.4	6.9	5.8	5.1	4.4	3.7
75°	11.7	9.9	8.4	6.6	6.2	5.8	4.8	4.1	3.3	2.5	2.2
77.5°	8.0	6.6	5.1	4.4	4.1	3.3	2.9	2.2	1.8	1.4	1.1
80°	4.4	3.3	2.5	2.2	1.8	1.4	1.4	1.1	0.7	0.7	0.4
82.5°	1.4	1.1	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4
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°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	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: P563854

CATALOG NUMBER: LD4C05D010 EX4C05D2W 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4
2.5°	304.0	300.1	301.2	301.2	300.4	300.4	299.7	298.5	299.0	296.7	292.0
5°	300.8	295.7	295.0	295.7	292.8	292.0	290.6	292.8	286.1	288.8	285.8
7.5°	291.3	286.5	285.4	288.0	284.4	282.2	281.8	284.7	278.9	276.0	272.7
10°	280.7	278.9	275.6	273.7	272.7	273.0	270.2	266.5	265.4	264.7	261.7
12.5°	271.2	267.2	264.3	262.1	261.3	261.3	256.6	255.9	252.6	251.9	247.5
15°	259.9	255.1	253.3	250.4	247.9	249.3	243.8	242.4	241.3	236.5	237.3
17.5°	250.0	244.9	240.6	238.7	236.5	234.4	229.3	230.3	227.8	227.8	221.2
20°	237.3	231.8	228.5	224.9	224.9	222.0	218.3	218.7	215.3	212.1	206.2
22.5°	223.8	217.9	213.9	212.5	208.8	208.0	203.6	202.6	198.3	198.6	193.5
25°	209.5	203.6	198.3	198.6	195.3	193.9	191.2	186.1	184.3	182.2	180.7
27.5°	192.8	188.7	184.0	183.6	177.4	177.8	174.4	173.0	168.7	169.8	166.4
30°	177.4	171.6	167.2	166.1	163.6	162.9	157.7	155.5	156.2	153.3	151.5
32.5°	161.7	153.0	151.2	148.9	147.5	145.7	142.0	143.4	140.2	140.9	137.9
35°	140.9	137.2	132.5	132.5	131.0	129.6	127.0	128.5	125.2	123.8	120.8
37.5°	123.4	120.1	115.4	116.8	114.2	112.1	109.9	110.3	107.3	106.9	104.1
40°	104.4	102.5	99.3	99.3	97.4	97.4	96.3	95.3	93.5	91.2	88.0
42.5°	86.5	85.0	83.6	83.9	81.4	83.6	80.7	82.5	76.7	76.3	74.1
45°	73.3	70.1	70.5	69.0	67.5	68.3	65.7	66.4	63.2	62.5	60.2
47.5°	59.5	58.4	56.3	55.5	55.5	54.4	53.3	52.9	51.5	49.6	46.7
50°	48.9	44.9	44.1	43.0	42.3	42.3	40.9	38.7	39.1	37.2	34.3
52.5°	38.3	35.0	33.6	33.3	31.7	31.0	29.2	27.8	26.7	25.9	24.1
55°	29.6	26.7	24.8	24.8	22.7	22.7	20.0	19.0	17.5	16.1	15.0
57.5°	22.3	20.9	19.0	17.5	16.8	15.0	13.5	11.7	10.6	8.4	6.9
60°	16.8	15.4	13.5	12.4	11.7	9.9	8.0	6.6	4.1	3.3	2.9
62.5°	12.4	11.0	9.2	8.4	7.6	6.2	4.4	2.2	1.1	1.1	1.1
65°	9.2	7.3	5.8	5.1	4.4	3.3	1.4	0.7	0.4	0.4	0.4
67.5°	6.2	4.8	3.3	2.9	2.2	1.1	0.4	0.4	0.4	0.4	0.4
70°	4.1	2.9	1.4	1.1	0.7	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	2.5	1.4	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.4	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: P563854

CATALOG NUMBER: LD4C05D010 EX4C05D2W 4LBSQLWWH

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	304.4	304.4	304.4	304.4	304.4	304.4	304.4	304.4
2.5°	297.1	294.6	296.0	292.8	294.2	296.7	295.0	295.7
5°	287.0	285.4	283.6	278.9	282.6	285.4	284.0	283.6
7.5°	276.0	270.9	273.4	272.0	271.2	274.1	270.9	274.5
10°	264.7	261.0	260.6	258.1	258.1	260.3	260.6	258.5
12.5°	247.9	246.1	246.1	245.7	245.2	247.5	247.9	246.8
15°	235.8	235.1	233.2	232.9	230.7	234.0	234.4	234.0
17.5°	221.2	221.5	219.7	219.7	221.2	222.3	219.4	222.3
20°	211.4	209.5	208.8	205.5	207.3	209.1	209.1	209.5
22.5°	197.1	194.2	195.3	193.5	192.4	194.9	194.9	196.0
25°	181.1	181.1	181.8	180.7	181.5	182.9	181.8	184.3
27.5°	165.7	167.2	167.2	165.7	166.4	170.8	172.6	169.8
30°	151.5	151.9	153.0	152.2	154.4	155.8	155.5	157.7
32.5°	135.4	137.2	137.9	136.9	137.6	140.9	139.1	138.7
35°	123.0	119.7	119.4	119.7	121.1	122.0	121.1	123.8
37.5°	105.1	104.1	102.5	102.9	104.1	105.5	106.2	108.0
40°	88.0	86.5	86.5	86.2	85.0	89.1	89.1	89.1
42.5°	73.0	72.6	70.8	70.8	72.3	73.3	72.6	75.2
45°	59.9	58.4	57.3	57.3	58.4	58.4	59.5	59.1
47.5°	47.1	45.7	46.0	44.9	46.0	47.4	45.7	46.0
50°	35.4	35.4	34.7	35.4	35.0	35.4	34.7	34.0
52.5°	24.1	27.4	27.8	26.2	23.0	20.0	18.2	19.7
55°	13.8	12.4	12.4	12.0	11.3	11.0	9.9	11.0
57.5°	6.9	6.2	6.2	6.2	5.8	5.5	4.8	4.8
60°	2.9	2.5	2.5	2.2	1.8	1.4	1.1	1.4
62.5°	1.1	0.7	0.7	0.7	0.7	0.7	0.7	0.7
65°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	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
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)