

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: P880522

Luminaire Tested: **LD4C02D010 EU4029027 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: P880522
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 EU4029027 4LBDWNH
Description: 4 INCH 250 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

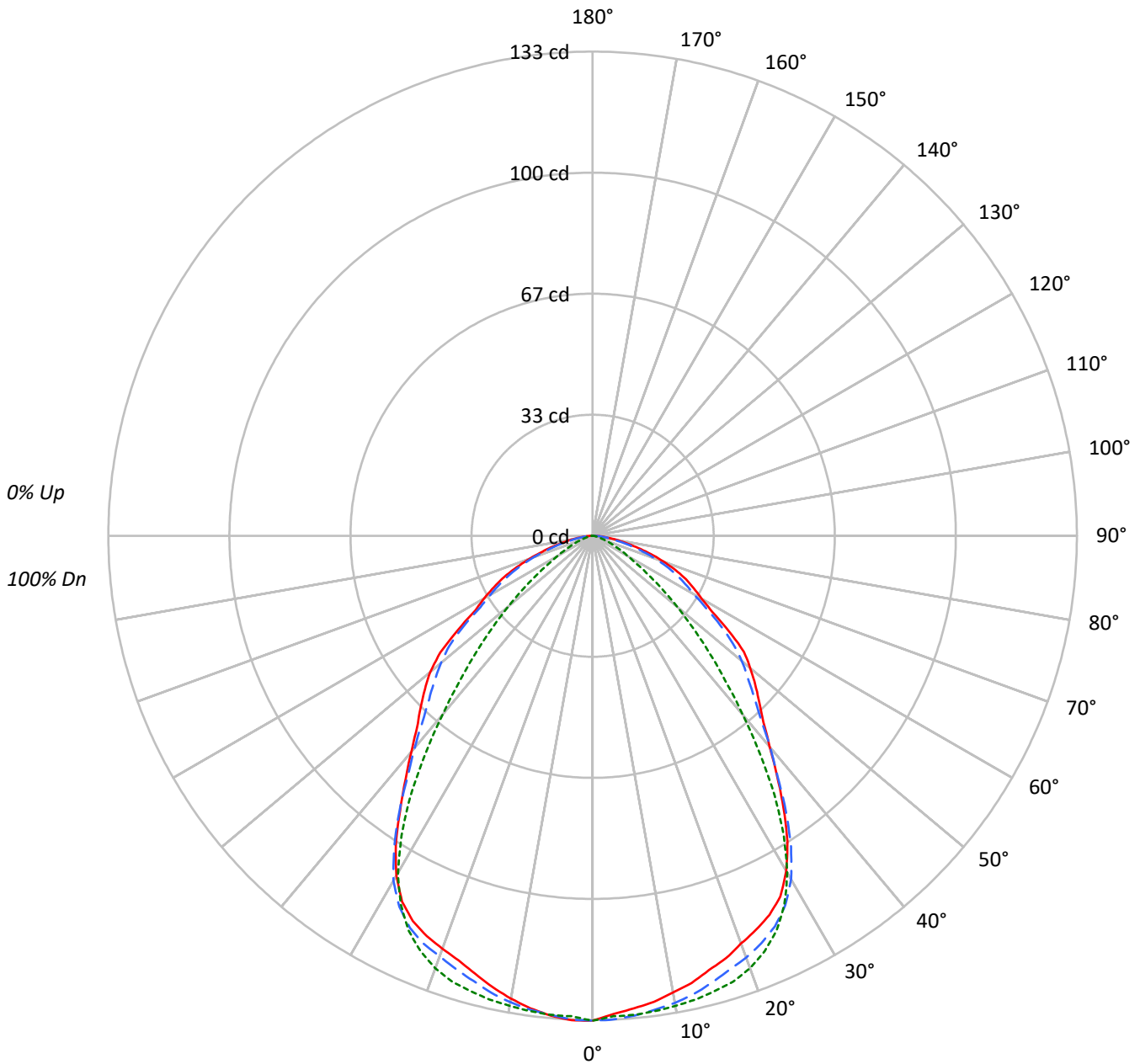
Lumens per Lamp: N/A
Luminaire Lumens: 271.0 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

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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				100															
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88															
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76															
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66															
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58															
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51															
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46															
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41															
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37															
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34															
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31															

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16364	16364	16364
5°	16069	16291	16316
10°	15893	16355	16105
15°	15708	16471	15848
20°	15584	16525	15780
25°	15575	16212	15833
30°	15080	15165	15292
35°	13708	13063	13828
40°	12124	10280	12413
45°	11241	7836	11606
50°	10799	5791	11124
55°	9788	3984	9660
60°	8501	2727	8452
65°	8227	1977	7791
70°	7435	1329	6609
75°	6123	854	5269
80°	4952	566	3891
85°	4088	282	2537



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	12.6	4.6
10°-20°	35.9	13.3
20°-30°	54.3	20.0
30°-40°	56.8	21.0
40°-50°	46.0	17.0
50°-60°	33.5	12.4
60°-70°	20.6	7.6
70°-80°	9.3	3.4
80°-90°	1.9	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°	102.8	37.9
0°-40°	159.6	58.9
0°-60°	239.1	88.2
0°-90°	271.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	271.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	133	133	133	133	133	
5°	130	132	132	132	132	12
15°	124	127	130	127	125	35
25°	115	118	120	119	117	53
35°	91	93	87	93	92	57
45°	65	63	45	64	67	50
55°	46	43	19	43	45	41
65°	28	25	7	25	27	28
75°	13	11	2	10	11	14
85°	3	2	0	2	2	3
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°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	131.5	131.5	132.8	134.2	133.0	131.7	132.5	132.1	133.6	133.6	133.0
5°	130.3	130.7	131.7	133.0	131.9	130.7	131.7	131.3	132.8	132.8	132.3
7.5°	129.1	129.3	130.5	131.9	130.9	129.7	130.5	130.3	131.5	131.7	131.3
10°	127.4	127.6	128.9	130.3	129.3	128.2	129.1	128.9	130.5	130.5	130.3
12.5°	125.8	126.0	127.2	128.4	127.4	126.4	127.2	127.2	128.9	129.1	128.9
15°	123.5	123.9	125.0	126.2	125.6	124.4	125.2	125.2	126.6	127.0	127.0
17.5°	121.7	121.9	122.9	124.1	123.3	122.3	123.1	123.1	124.6	125.0	125.0
20°	119.2	119.6	120.7	121.9	121.3	120.5	121.1	121.1	122.7	123.1	123.3
22.5°	117.2	117.6	118.4	120.1	119.0	118.4	119.2	119.0	120.9	121.1	121.1
25°	114.9	115.3	116.4	117.4	116.8	116.2	116.8	116.8	118.2	118.4	118.4
27.5°	111.7	111.9	112.9	113.9	113.3	112.5	113.3	113.1	114.5	114.7	114.5
30°	106.3	106.7	107.1	108.6	108.0	107.3	108.2	107.8	109.2	109.2	109.0
32.5°	99.6	99.6	100.4	101.4	100.6	100.2	100.8	101.0	102.0	102.0	101.4
35°	91.4	91.8	92.4	93.0	92.4	92.0	92.6	92.4	93.6	93.2	92.6
37.5°	83.2	83.4	84.0	84.8	84.0	83.4	83.6	83.4	84.4	84.4	83.4
40°	75.6	76.0	76.4	77.2	76.4	76.0	76.2	75.6	76.8	76.4	75.8
42.5°	69.4	69.6	70.3	70.7	69.9	69.6	69.9	69.4	70.1	69.6	68.4
45°	64.7	64.7	64.9	65.6	64.7	64.5	64.5	64.1	64.7	63.9	62.7
47.5°	60.6	60.8	61.1	61.5	60.8	60.2	60.4	59.6	60.0	59.4	57.8
50°	56.5	56.9	57.2	57.6	56.9	56.5	56.7	55.9	55.9	54.9	53.5
52.5°	52.4	52.7	52.4	52.9	52.4	51.8	52.0	51.2	51.2	50.0	48.6
55°	45.7	45.9	46.1	46.5	46.1	45.5	45.9	45.3	45.3	44.4	42.8
57.5°	38.9	39.1	39.3	39.5	39.5	39.1	39.3	38.9	38.7	38.1	36.9
60°	34.6	34.6	34.6	34.8	34.6	34.4	34.4	34.0	34.0	33.2	32.0
62.5°	31.3	31.5	31.5	31.7	31.5	31.3	31.1	30.7	30.5	29.7	28.7
65°	28.3	28.3	28.1	28.5	28.3	28.1	28.1	27.7	27.3	26.4	25.4
67.5°	24.6	24.8	24.6	24.8	24.8	24.6	24.4	24.0	23.8	23.1	21.9
70°	20.7	20.7	20.7	20.9	20.7	20.7	20.9	20.3	20.1	19.3	18.2
72.5°	16.8	17.0	17.0	16.8	17.0	16.6	16.6	16.6	16.4	15.6	14.5
75°	12.9	13.1	13.1	13.3	13.1	12.9	12.9	12.7	12.5	11.9	11.1
77.5°	9.6	9.6	9.8	9.8	9.8	9.6	9.6	9.2	9.2	8.8	8.0
80°	7.0	7.0	6.8	7.0	7.0	6.8	6.8	6.6	6.6	6.1	5.5
82.5°	4.5	4.7	4.7	4.7	4.7	4.5	4.5	4.5	4.3	4.1	3.7
85°	2.9	2.9	2.9	2.9	3.1	2.9	3.1	2.9	2.9	2.5	2.3
87.5°	1.2	1.2	1.2	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.0
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°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	133.0	133.2	132.5	133.4	132.8	133.0	133.2	133.0	132.1	132.1	134.4
5°	132.1	132.5	131.9	133.0	132.5	132.5	133.0	132.8	131.9	132.1	134.2
7.5°	131.3	131.9	131.5	132.5	131.9	131.9	132.3	132.3	131.5	131.7	133.6
10°	130.1	130.9	130.7	131.7	131.1	131.1	131.7	131.7	130.9	131.1	133.0
12.5°	129.1	129.9	129.7	130.7	130.3	130.5	130.7	131.1	130.1	130.5	132.1
15°	127.4	128.2	128.2	129.3	128.9	129.3	129.7	130.3	129.5	129.5	131.1
17.5°	125.6	126.6	126.6	127.4	127.4	127.6	128.4	129.1	128.2	128.4	129.9
20°	123.5	124.8	124.8	125.8	125.6	126.0	126.6	127.2	126.4	126.4	128.0
22.5°	121.5	122.5	122.7	123.3	123.3	123.5	124.1	124.6	123.5	123.5	125.2
25°	118.6	119.6	119.8	120.3	119.8	119.8	120.3	120.7	119.6	119.6	121.1
27.5°	114.7	115.7	115.7	115.5	115.1	115.3	115.1	115.3	114.3	114.1	115.5
30°	109.0	109.6	109.6	109.4	108.8	108.8	108.2	108.4	106.9	106.9	108.2
32.5°	101.2	101.8	101.4	101.0	100.2	99.8	99.4	99.2	97.7	97.7	99.2
35°	92.0	92.4	91.8	91.0	89.9	89.3	88.7	87.9	86.9	87.1	87.9
37.5°	82.6	82.6	81.7	80.1	79.3	78.3	77.2	77.2	75.6	75.4	76.0
40°	74.6	73.8	72.3	70.1	68.6	67.6	66.2	65.3	64.1	64.1	65.1
42.5°	67.4	65.8	63.9	60.8	59.4	58.2	56.3	55.5	54.1	53.9	54.5
45°	61.1	59.4	56.7	53.5	51.6	50.2	47.5	46.5	45.3	45.1	45.5
47.5°	55.9	54.1	50.8	46.5	44.7	42.8	40.2	38.7	37.7	37.1	37.7
50°	51.4	49.0	45.5	41.0	38.5	36.9	33.6	32.2	30.7	30.3	30.5
52.5°	46.5	44.0	40.4	35.6	33.4	30.9	27.9	25.8	24.6	24.0	24.6
55°	41.2	38.7	35.0	30.3	27.9	25.6	22.3	20.7	19.3	18.6	19.3
57.5°	35.4	33.2	29.9	25.2	22.9	20.9	17.8	16.2	14.8	14.3	14.8
60°	30.5	28.7	25.4	20.9	19.0	16.8	14.1	12.5	11.3	11.1	11.3
62.5°	27.3	25.2	22.1	17.8	16.0	14.1	11.7	10.0	9.0	8.8	9.0
65°	24.0	21.7	18.8	15.2	13.3	11.9	9.4	8.0	7.0	6.8	7.0
67.5°	20.3	18.2	15.8	12.5	11.1	9.6	7.6	6.1	5.3	5.1	5.3
70°	16.8	15.0	12.5	10.0	8.6	7.6	5.7	4.7	3.9	3.7	3.9
72.5°	13.3	11.7	9.6	7.6	6.8	5.7	4.5	3.5	2.9	2.7	2.9
75°	10.2	9.0	7.4	5.5	4.9	4.3	3.1	2.5	2.1	1.8	2.1
77.5°	7.2	6.3	5.1	4.1	3.5	3.1	2.3	1.6	1.4	1.2	1.4
80°	4.9	4.3	3.5	2.7	2.3	1.8	1.4	1.0	0.8	0.8	0.8
82.5°	3.3	2.7	2.1	1.6	1.4	1.2	0.8	0.6	0.6	0.4	0.4
85°	1.8	1.6	1.2	1.0	0.8	0.6	0.4	0.4	0.2	0.2	0.2
87.5°	0.8	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	133.8	133.2	134.0	133.2	132.8	133.2	132.8	134.0	133.0	132.1	133.0
5°	133.6	132.8	133.6	133.0	132.3	132.5	132.1	133.4	132.1	131.5	131.9
7.5°	133.2	132.5	133.0	132.3	131.7	131.9	131.5	132.5	131.3	130.7	131.1
10°	132.5	131.9	132.1	131.7	131.1	131.1	130.7	131.5	130.1	129.3	129.7
12.5°	131.7	130.9	131.3	130.7	129.9	129.9	129.5	130.1	128.6	127.8	128.0
15°	130.7	129.9	129.9	129.3	128.4	128.4	127.6	128.2	126.6	125.8	125.8
17.5°	129.5	128.4	128.4	127.8	126.8	126.6	126.0	126.6	124.8	123.9	123.9
20°	127.6	126.8	126.6	126.2	125.2	125.0	124.1	124.4	122.9	122.3	122.1
22.5°	125.2	124.4	124.6	123.9	123.1	122.9	122.1	122.7	121.3	120.7	120.9
25°	120.9	120.5	120.9	120.7	120.1	120.1	119.6	120.1	118.8	118.4	118.6
27.5°	115.9	115.7	115.9	115.9	115.5	115.5	115.5	116.2	114.9	114.7	114.7
30°	108.8	108.8	109.0	109.2	109.2	109.6	109.4	110.2	109.4	109.0	109.4
32.5°	99.4	100.2	100.8	100.8	100.8	101.2	101.6	102.2	101.4	101.6	101.6
35°	88.7	89.3	89.7	90.7	90.1	91.6	92.0	92.8	92.6	93.0	92.8
37.5°	76.8	77.6	78.5	79.9	79.7	81.3	82.1	83.8	83.4	84.2	84.6
40°	65.8	67.0	68.2	69.2	70.1	71.7	73.3	75.4	76.0	76.6	76.8
42.5°	55.1	56.3	58.4	59.8	61.1	63.7	66.0	68.4	69.0	70.3	70.7
45°	46.5	47.5	50.0	51.8	52.9	56.7	59.4	62.5	63.5	64.9	65.6
47.5°	38.5	40.4	42.8	45.1	46.5	50.6	54.1	57.4	58.8	60.4	61.3
50°	31.5	33.6	36.9	38.9	41.0	45.5	49.4	52.9	54.3	56.1	56.9
52.5°	25.8	28.1	31.1	33.4	35.6	40.4	44.4	47.7	49.6	50.8	52.0
55°	20.3	22.7	25.8	28.3	30.1	35.2	38.7	42.0	43.2	44.2	44.9
57.5°	15.8	17.6	20.7	22.7	25.0	29.5	33.0	35.4	36.5	37.7	38.1
60°	12.3	14.1	17.0	19.0	21.1	25.4	28.9	31.3	32.4	33.4	34.0
62.5°	9.8	11.7	14.3	16.2	18.0	21.9	25.0	27.5	28.7	29.7	30.3
65°	7.8	9.4	11.7	13.5	15.0	18.4	21.5	23.8	25.0	26.0	26.6
67.5°	6.1	7.6	9.6	10.9	12.3	15.2	17.8	19.9	20.9	22.1	22.7
70°	4.7	5.7	7.6	8.6	9.6	12.1	14.1	16.2	17.2	18.0	18.4
72.5°	3.5	4.3	5.7	6.6	7.2	9.2	10.9	12.3	13.1	13.9	14.3
75°	2.5	3.1	4.1	4.7	5.1	6.6	8.0	9.0	9.6	10.2	10.9
77.5°	1.6	2.1	2.7	3.1	3.5	4.5	5.3	6.1	6.8	7.4	7.6
80°	1.0	1.4	1.8	2.1	2.3	2.9	3.7	4.1	4.5	4.9	5.1
82.5°	0.6	0.8	1.0	1.2	1.4	1.8	2.3	2.7	2.9	3.3	3.5
85°	0.2	0.4	0.4	0.6	0.6	1.0	1.2	1.4	1.6	1.8	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	133.8	133.2	132.8	132.5	134.0	132.1	133.0	133.2
5°	133.0	132.3	131.9	131.7	133.0	131.3	131.9	132.3
7.5°	131.7	131.3	130.7	130.5	131.7	129.9	130.7	130.9
10°	130.3	129.7	129.3	129.1	130.1	128.2	129.1	129.1
12.5°	128.4	128.0	127.2	127.2	128.0	126.4	127.0	127.0
15°	126.0	125.6	124.8	124.8	125.6	123.9	124.6	124.6
17.5°	123.9	123.5	122.9	122.7	123.5	121.9	122.5	122.3
20°	122.3	121.9	121.1	121.1	121.7	120.1	120.7	120.7
22.5°	120.9	120.7	119.8	119.8	120.7	119.0	119.4	119.0
25°	118.6	118.4	117.6	117.8	118.2	116.6	117.2	116.8
27.5°	114.9	114.9	114.1	113.9	114.5	113.1	113.5	113.3
30°	109.2	109.4	108.4	108.4	108.6	107.3	108.0	107.8
32.5°	101.4	101.6	100.8	100.6	101.2	100.2	100.6	100.6
35°	92.8	93.0	92.4	92.4	93.0	92.4	92.4	92.2
37.5°	84.2	84.6	84.2	84.4	84.8	84.2	84.6	84.4
40°	77.2	77.6	77.0	77.4	77.8	77.2	77.8	77.4
42.5°	70.9	71.5	71.1	71.5	71.9	71.5	71.9	71.3
45°	66.2	66.6	66.4	66.6	67.0	66.8	67.0	66.8
47.5°	61.7	62.5	62.1	62.5	63.1	62.7	63.1	62.5
50°	57.6	58.2	58.0	58.4	58.6	58.4	58.8	58.2
52.5°	52.2	52.9	52.7	52.7	53.1	52.7	53.1	52.7
55°	45.3	45.5	45.5	45.7	45.5	45.3	45.5	45.1
57.5°	38.5	38.9	38.3	38.9	38.7	38.5	38.5	38.1
60°	34.2	34.8	34.4	34.8	34.6	34.6	34.6	34.4
62.5°	30.7	31.1	30.7	30.9	30.9	30.9	30.7	30.5
65°	26.8	27.5	27.0	27.3	27.0	26.8	27.0	26.8
67.5°	22.9	23.1	23.1	22.9	22.9	22.9	22.9	22.5
70°	18.6	18.8	18.6	19.0	18.8	18.6	18.8	18.4
72.5°	14.5	14.8	14.5	14.8	14.5	14.5	14.5	14.5
75°	10.9	11.1	11.1	11.1	11.1	11.1	10.7	11.1
77.5°	7.8	7.8	7.8	8.0	7.8	7.8	7.8	7.8
80°	5.3	5.3	5.3	5.5	5.3	5.5	5.3	5.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	1.8	2.1	2.1	1.8	1.8	1.8	1.8	1.8
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)