

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: P880524

Luminaire Tested: **LD4C02D010 EU4029035 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: P880524
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 EU4029035 4LBDWNH
Description: 4 INCH 250 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

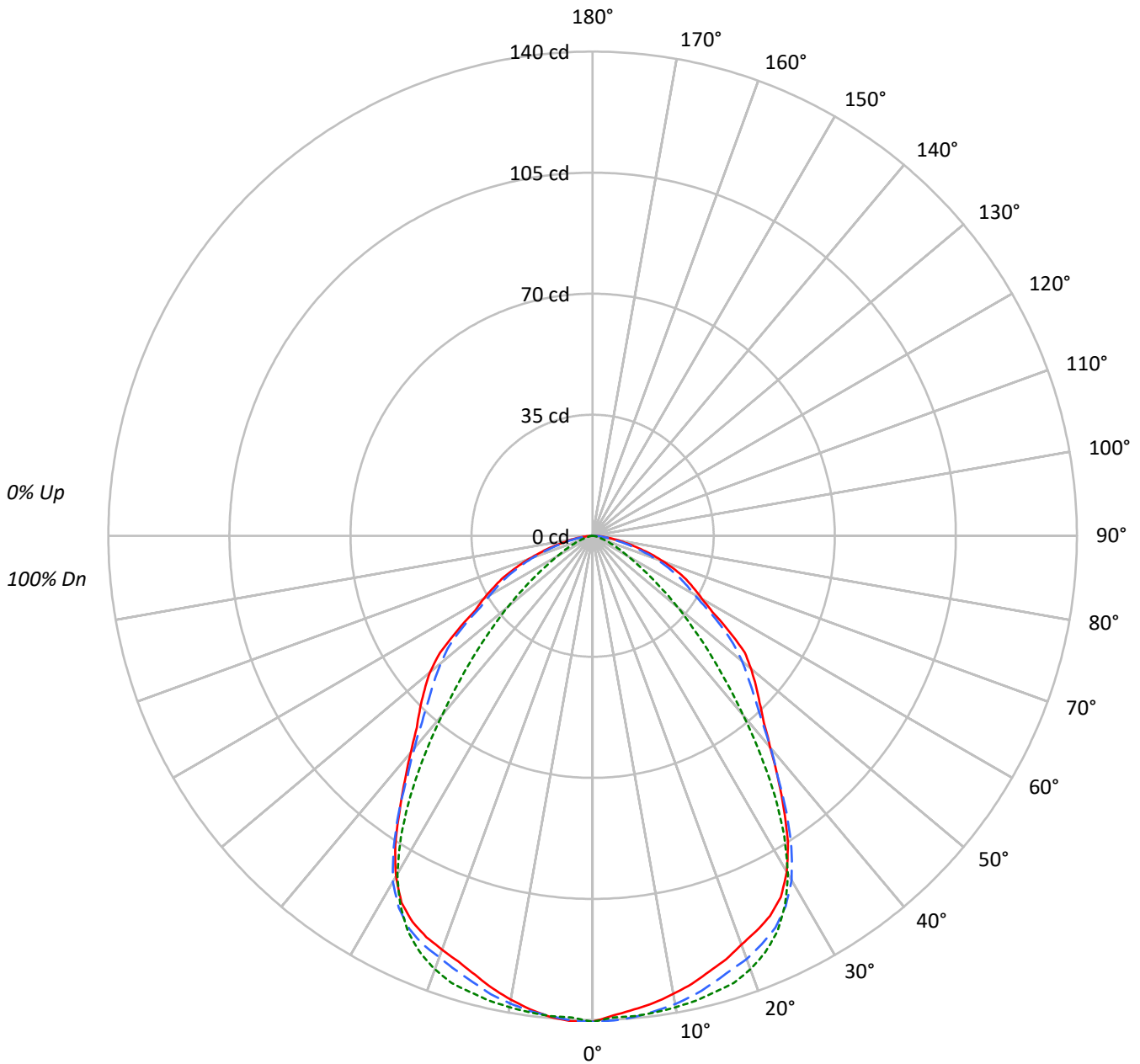
Lumens per Lamp: N/A
Luminaire Lumens: 286.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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			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°	17261	17261	17261
5°	16957	17191	17228
10°	16779	17265	16991
15°	16585	17374	16712
20°	16447	17440	16643
25°	16443	17120	16700
30°	15917	16016	16129
35°	14458	13783	14593
40°	12798	10857	13103
45°	11867	8270	12249
50°	11410	6116	11735
55°	10324	4220	10195
60°	8968	2875	8919
65°	8663	2064	8227
70°	7831	1401	7004
75°	6456	902	5554
80°	5235	637	4103
85°	4229	282	2678



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.3	4.6
10°-20°	37.9	13.3
20°-30°	57.3	20.0
30°-40°	60.0	21.0
40°-50°	48.6	17.0
50°-60°	35.3	12.4
60°-70°	21.8	7.6
70°-80°	9.8	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°	108.5	37.9
0°-40°	168.5	58.9
0°-60°	252.4	88.2
0°-90°	286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	286.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	140	140	140	140	140	
5°	138	140	139	139	140	13
15°	130	134	137	134	131	37
25°	121	125	126	125	123	56
35°	96	98	92	98	97	60
45°	68	66	48	67	70	53
55°	48	45	20	46	48	43
65°	30	27	7	26	28	29
75°	14	12	2	10	12	15
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°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
2.5°	138.8	138.8	140.1	141.6	140.3	139.0	139.9	139.4	141.0	141.0	140.3
5°	137.5	137.9	139.0	140.3	139.2	137.9	139.0	138.6	140.1	140.1	139.7
7.5°	136.2	136.4	137.7	139.2	138.1	136.9	137.7	137.5	138.8	139.0	138.6
10°	134.5	134.7	136.0	137.5	136.4	135.3	136.2	136.0	137.7	137.7	137.5
12.5°	132.7	133.0	134.3	135.6	134.5	133.4	134.3	134.3	136.0	136.2	136.0
15°	130.4	130.8	131.9	133.2	132.5	131.2	132.1	132.1	133.6	134.0	134.0
17.5°	128.4	128.6	129.7	131.0	130.2	129.1	129.9	129.9	131.4	131.9	131.9
20°	125.8	126.3	127.3	128.6	128.0	127.1	127.8	127.8	129.5	129.9	130.2
22.5°	123.7	124.1	125.0	126.7	125.6	125.0	125.8	125.6	127.6	127.8	127.8
25°	121.3	121.7	122.8	123.9	123.2	122.6	123.2	123.2	124.7	125.0	125.0
27.5°	117.8	118.0	119.1	120.2	119.6	118.7	119.6	119.3	120.8	121.1	120.8
30°	112.2	112.6	113.1	114.6	113.9	113.3	114.1	113.7	115.2	115.2	115.0
32.5°	105.1	105.1	105.9	107.0	106.2	105.7	106.4	106.6	107.7	107.7	107.0
35°	96.4	96.9	97.5	98.2	97.5	97.1	97.7	97.5	98.8	98.4	97.7
37.5°	87.8	88.0	88.6	89.5	88.6	88.0	88.2	88.0	89.1	89.1	88.0
40°	79.8	80.2	80.6	81.5	80.6	80.2	80.4	79.8	81.1	80.6	80.0
42.5°	73.3	73.5	74.2	74.6	73.7	73.5	73.7	73.3	73.9	73.5	72.2
45°	68.3	68.3	68.5	69.2	68.3	68.1	68.1	67.7	68.3	67.5	66.2
47.5°	64.0	64.2	64.4	64.9	64.2	63.6	63.8	62.9	63.3	62.7	61.0
50°	59.7	60.1	60.3	60.8	60.1	59.7	59.9	59.0	59.0	57.9	56.4
52.5°	55.4	55.6	55.4	55.8	55.4	54.7	54.9	54.0	54.0	52.8	51.2
55°	48.2	48.4	48.7	49.1	48.7	48.0	48.4	47.8	47.8	46.9	45.2
57.5°	41.1	41.3	41.5	41.7	41.7	41.3	41.5	41.1	40.9	40.2	38.9
60°	36.5	36.5	36.5	36.8	36.5	36.3	36.3	35.9	35.9	35.0	33.7
62.5°	33.1	33.3	33.3	33.5	33.3	33.1	32.9	32.4	32.2	31.4	30.3
65°	29.8	29.8	29.6	30.0	29.8	29.6	29.6	29.2	28.8	27.9	26.8
67.5°	25.9	26.2	25.9	26.2	26.2	25.9	25.7	25.3	25.1	24.4	23.1
70°	21.8	21.8	21.8	22.1	21.8	21.8	22.1	21.4	21.2	20.3	19.2
72.5°	17.7	17.9	17.9	17.7	17.9	17.5	17.5	17.5	17.3	16.4	15.3
75°	13.6	13.8	13.8	14.1	13.8	13.6	13.6	13.4	13.2	12.5	11.7
77.5°	10.2	10.2	10.4	10.4	10.4	10.2	10.2	9.7	9.7	9.3	8.4
80°	7.4	7.4	7.1	7.4	7.4	7.1	7.1	6.9	6.9	6.5	5.8
82.5°	4.8	5.0	5.0	5.0	5.0	4.8	4.8	4.8	4.5	4.3	3.9
85°	3.0	3.0	3.0	3.0	3.2	3.0	3.2	3.0	3.0	2.6	2.4
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
2.5°	140.3	140.5	139.9	140.7	140.1	140.3	140.5	140.3	139.4	139.4	141.8
5°	139.4	139.9	139.2	140.3	139.9	139.9	140.3	140.1	139.2	139.4	141.6
7.5°	138.6	139.2	138.8	139.9	139.2	139.2	139.7	139.7	138.8	139.0	141.0
10°	137.3	138.1	137.9	139.0	138.4	138.4	139.0	139.0	138.1	138.4	140.3
12.5°	136.2	137.1	136.9	137.9	137.5	137.7	137.9	138.4	137.3	137.7	139.4
15°	134.5	135.3	135.3	136.4	136.0	136.4	136.9	137.5	136.6	136.6	138.4
17.5°	132.5	133.6	133.6	134.5	134.5	134.7	135.6	136.2	135.3	135.6	137.1
20°	130.4	131.7	131.7	132.7	132.5	133.0	133.6	134.3	133.4	133.4	135.1
22.5°	128.2	129.3	129.5	130.2	130.2	130.4	131.0	131.4	130.4	130.4	132.1
25°	125.2	126.3	126.5	126.9	126.5	126.5	126.9	127.3	126.3	126.3	127.8
27.5°	121.1	122.2	122.2	121.9	121.5	121.7	121.5	121.7	120.6	120.4	121.9
30°	115.0	115.7	115.7	115.5	114.8	114.8	114.1	114.4	112.9	112.9	114.1
32.5°	106.8	107.4	107.0	106.6	105.7	105.3	104.9	104.6	103.1	103.1	104.6
35°	97.1	97.5	96.9	96.0	94.9	94.3	93.6	92.8	91.7	91.9	92.8
37.5°	87.1	87.1	86.3	84.5	83.7	82.6	81.5	81.5	79.8	79.6	80.2
40°	78.7	77.8	76.3	73.9	72.4	71.3	69.8	69.0	67.7	67.7	68.8
42.5°	71.1	69.4	67.5	64.2	62.7	61.4	59.5	58.6	57.1	56.9	57.5
45°	64.4	62.7	59.9	56.4	54.5	53.0	50.2	49.1	47.8	47.6	48.0
47.5°	59.0	57.1	53.6	49.1	47.1	45.2	42.4	40.9	39.8	39.1	39.8
50°	54.3	51.7	48.0	43.2	40.6	38.9	35.5	33.9	32.4	32.0	32.2
52.5°	49.1	46.5	42.6	37.6	35.2	32.6	29.4	27.2	25.9	25.3	25.9
55°	43.5	40.9	37.0	32.0	29.4	27.0	23.6	21.8	20.3	19.7	20.3
57.5°	37.4	35.0	31.6	26.6	24.2	22.1	18.8	17.1	15.6	15.1	15.6
60°	32.2	30.3	26.8	22.1	20.1	17.7	14.9	13.2	11.9	11.7	11.9
62.5°	28.8	26.6	23.3	18.8	16.9	14.9	12.3	10.6	9.5	9.3	9.5
65°	25.3	22.9	19.9	16.0	14.1	12.5	9.9	8.4	7.4	7.1	7.4
67.5°	21.4	19.2	16.6	13.2	11.7	10.2	8.0	6.5	5.6	5.4	5.6
70°	17.7	15.8	13.2	10.6	9.1	8.0	6.0	5.0	4.1	3.9	4.1
72.5°	14.1	12.3	10.2	8.0	7.1	6.0	4.8	3.7	3.0	2.8	3.0
75°	10.8	9.5	7.8	5.8	5.2	4.5	3.2	2.6	2.2	1.9	2.2
77.5°	7.6	6.7	5.4	4.3	3.7	3.2	2.4	1.7	1.5	1.3	1.5
80°	5.2	4.5	3.7	2.8	2.4	1.9	1.5	1.1	0.9	0.9	0.9
82.5°	3.5	2.8	2.2	1.7	1.5	1.3	0.9	0.7	0.7	0.4	0.4
85°	1.9	1.7	1.3	1.1	0.9	0.7	0.4	0.4	0.2	0.2	0.2
87.5°	0.9	0.7	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°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
2.5°	141.2	140.5	141.4	140.5	140.1	140.5	140.1	141.4	140.3	139.4	140.3
5°	141.0	140.1	141.0	140.3	139.7	139.9	139.4	140.7	139.4	138.8	139.2
7.5°	140.5	139.9	140.3	139.7	139.0	139.2	138.8	139.9	138.6	137.9	138.4
10°	139.9	139.2	139.4	139.0	138.4	138.4	137.9	138.8	137.3	136.4	136.9
12.5°	139.0	138.1	138.6	137.9	137.1	137.1	136.6	137.3	135.8	134.9	135.1
15°	137.9	137.1	137.1	136.4	135.6	135.6	134.7	135.3	133.6	132.7	132.7
17.5°	136.6	135.6	135.6	134.9	133.8	133.6	133.0	133.6	131.7	130.8	130.8
20°	134.7	133.8	133.6	133.2	132.1	131.9	131.0	131.2	129.7	129.1	128.9
22.5°	132.1	131.2	131.4	130.8	129.9	129.7	128.9	129.5	128.0	127.3	127.6
25°	127.6	127.1	127.6	127.3	126.7	126.7	126.3	126.7	125.4	125.0	125.2
27.5°	122.4	122.2	122.4	122.4	121.9	121.9	121.9	122.6	121.3	121.1	121.1
30°	114.8	114.8	115.0	115.2	115.2	115.7	115.5	116.3	115.5	115.0	115.5
32.5°	104.9	105.7	106.4	106.4	106.4	106.8	107.2	107.9	107.0	107.2	107.2
35°	93.6	94.3	94.7	95.8	95.1	96.6	97.1	97.9	97.7	98.2	97.9
37.5°	81.1	81.9	82.8	84.3	84.1	85.8	86.7	88.4	88.0	88.9	89.3
40°	69.4	70.7	72.0	73.1	73.9	75.7	77.4	79.6	80.2	80.9	81.1
42.5°	58.2	59.5	61.6	63.1	64.4	67.2	69.6	72.2	72.9	74.2	74.6
45°	49.1	50.2	52.8	54.7	55.8	59.9	62.7	65.9	67.0	68.5	69.2
47.5°	40.6	42.6	45.2	47.6	49.1	53.4	57.1	60.5	62.1	63.8	64.6
50°	33.3	35.5	38.9	41.1	43.2	48.0	52.1	55.8	57.3	59.2	60.1
52.5°	27.2	29.6	32.9	35.2	37.6	42.6	46.9	50.4	52.3	53.6	54.9
55°	21.4	24.0	27.2	29.8	31.8	37.2	40.9	44.3	45.6	46.7	47.3
57.5°	16.6	18.6	21.8	24.0	26.4	31.1	34.8	37.4	38.5	39.8	40.2
60°	13.0	14.9	17.9	20.1	22.3	26.8	30.5	33.1	34.2	35.2	35.9
62.5°	10.4	12.3	15.1	17.1	19.0	23.1	26.4	29.0	30.3	31.4	32.0
65°	8.2	9.9	12.3	14.3	15.8	19.5	22.7	25.1	26.4	27.5	28.1
67.5°	6.5	8.0	10.2	11.5	13.0	16.0	18.8	21.0	22.1	23.3	24.0
70°	5.0	6.0	8.0	9.1	10.2	12.8	14.9	17.1	18.2	19.0	19.5
72.5°	3.7	4.5	6.0	6.9	7.6	9.7	11.5	13.0	13.8	14.7	15.1
75°	2.6	3.2	4.3	5.0	5.4	6.9	8.4	9.5	10.2	10.8	11.5
77.5°	1.7	2.2	2.8	3.2	3.7	4.8	5.6	6.5	7.1	7.8	8.0
80°	1.1	1.5	1.9	2.2	2.4	3.0	3.9	4.3	4.8	5.2	5.4
82.5°	0.7	0.9	1.1	1.3	1.5	1.9	2.4	2.8	3.0	3.5	3.7
85°	0.2	0.4	0.4	0.7	0.7	1.1	1.3	1.5	1.7	1.9	2.2
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°	140.5	140.5	140.5	140.5	140.5	140.5	140.5	140.5
2.5°	141.2	140.5	140.1	139.9	141.4	139.4	140.3	140.5
5°	140.3	139.7	139.2	139.0	140.3	138.6	139.2	139.7
7.5°	139.0	138.6	137.9	137.7	139.0	137.1	137.9	138.1
10°	137.5	136.9	136.4	136.2	137.3	135.3	136.2	136.2
12.5°	135.6	135.1	134.3	134.3	135.1	133.4	134.0	134.0
15°	133.0	132.5	131.7	131.7	132.5	130.8	131.4	131.4
17.5°	130.8	130.4	129.7	129.5	130.4	128.6	129.3	129.1
20°	129.1	128.6	127.8	127.8	128.4	126.7	127.3	127.3
22.5°	127.6	127.3	126.5	126.5	127.3	125.6	126.0	125.6
25°	125.2	125.0	124.1	124.3	124.7	123.0	123.7	123.2
27.5°	121.3	121.3	120.4	120.2	120.8	119.3	119.8	119.6
30°	115.2	115.5	114.4	114.4	114.6	113.3	113.9	113.7
32.5°	107.0	107.2	106.4	106.2	106.8	105.7	106.2	106.2
35°	97.9	98.2	97.5	97.5	98.2	97.5	97.5	97.3
37.5°	88.9	89.3	88.9	89.1	89.5	88.9	89.3	89.1
40°	81.5	81.9	81.3	81.7	82.2	81.5	82.2	81.7
42.5°	74.8	75.5	75.0	75.5	75.9	75.5	75.9	75.2
45°	69.8	70.3	70.0	70.3	70.7	70.5	70.7	70.5
47.5°	65.1	65.9	65.5	65.9	66.6	66.2	66.6	65.9
50°	60.8	61.4	61.2	61.6	61.8	61.6	62.1	61.4
52.5°	55.1	55.8	55.6	55.6	56.0	55.6	56.0	55.6
55°	47.8	48.0	48.0	48.2	48.0	47.8	48.0	47.6
57.5°	40.6	41.1	40.4	41.1	40.9	40.6	40.6	40.2
60°	36.1	36.8	36.3	36.8	36.5	36.5	36.5	36.3
62.5°	32.4	32.9	32.4	32.6	32.6	32.6	32.4	32.2
65°	28.3	29.0	28.5	28.8	28.5	28.3	28.5	28.3
67.5°	24.2	24.4	24.4	24.2	24.2	24.2	24.2	23.8
70°	19.7	19.9	19.7	20.1	19.9	19.7	19.9	19.5
72.5°	15.3	15.6	15.3	15.6	15.3	15.3	15.3	15.3
75°	11.5	11.7	11.7	11.7	11.7	11.7	11.2	11.7
77.5°	8.2	8.2	8.2	8.4	8.2	8.2	8.2	8.2
80°	5.6	5.6	5.6	5.8	5.6	5.8	5.6	5.8
82.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
85°	1.9	2.2	2.2	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)