

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: P880546

Luminaire Tested: **LD4C10D010 EU4109050 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: P880546
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: LD4C10D010 EU4109050 4LBDWNH
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

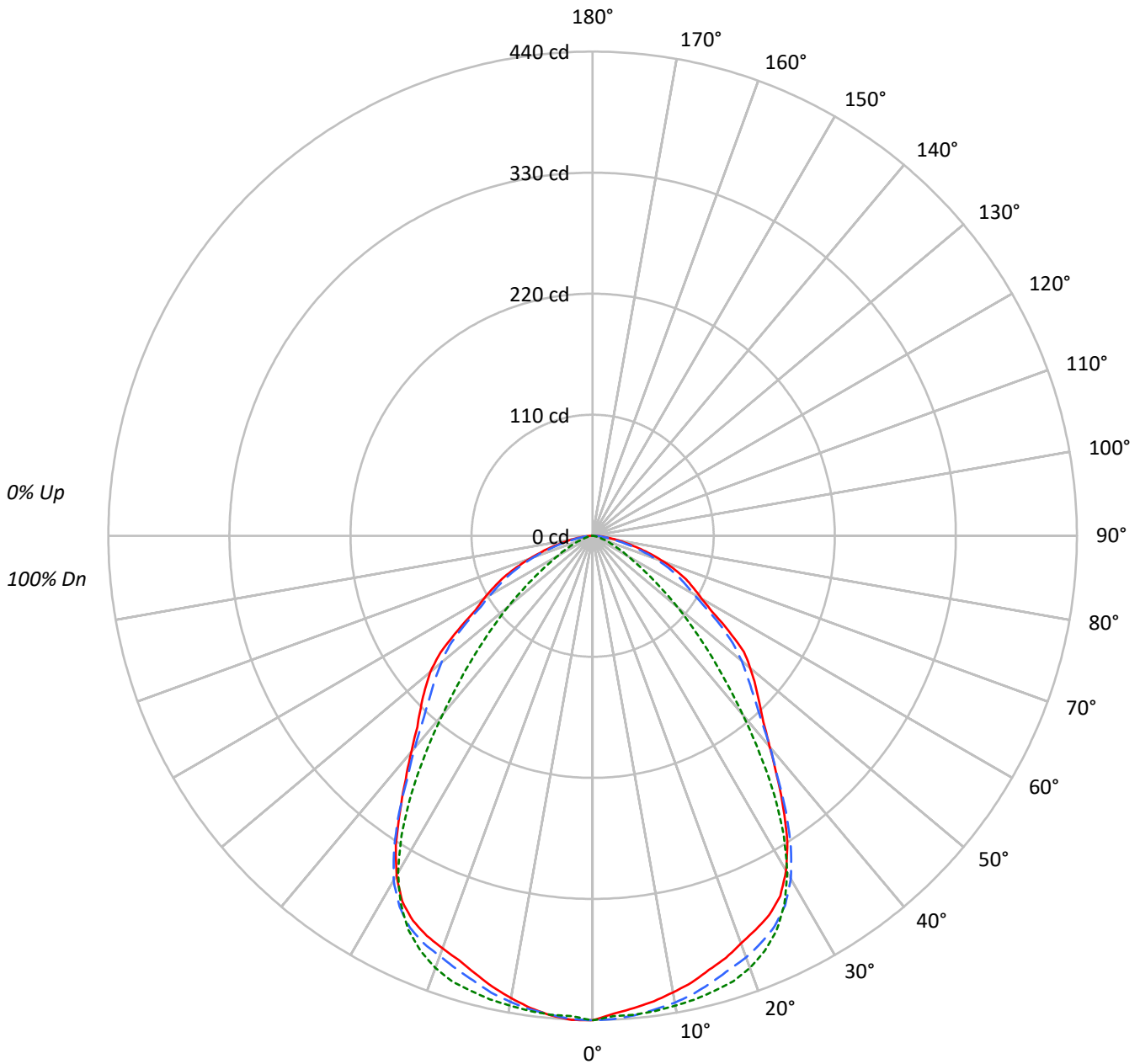
Lumens per Lamp: N/A
Luminaire Lumens: 896.0 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.75
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°	54092	54092	54092
5°	53127	53880	53954
10°	52557	54079	53230
15°	51943	54436	52376
20°	51537	54635	52151
25°	51510	53625	52337
30°	49863	50161	50544
35°	45308	43178	45713
40°	40077	33999	41056
45°	37181	25887	38362
50°	35721	19170	36773
55°	32342	13194	31914
60°	28133	8993	27961
65°	27180	6512	25785
70°	24569	4382	21875
75°	20268	2895	17373
80°	16272	1910	12947
85°	13391	987	8598



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	4.6
10°-20°	118.8	13.3
20°-30°	179.5	20.0
30°-40°	187.9	21.0
40°-50°	152.2	17.0
50°-60°	110.7	12.4
60°-70°	68.3	7.6
70°-80°	30.8	3.4
80°-90°	6.3	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°	339.9	37.9
0°-40°	527.8	58.9
0°-60°	790.6	88.2
0°-90°	896.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	896.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	440	440	440	440	440	
5°	431	438	437	437	438	41
15°	408	420	428	419	412	115
25°	380	392	396	393	386	174
35°	302	306	288	306	305	188
45°	214	207	149	210	221	166
55°	151	142	62	143	149	135
65°	94	84	22	83	89	91
75°	43	37	6	32	37	46
85°	10	8	1	5	6	11
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°	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3
2.5°	434.8	434.8	438.9	443.6	439.6	435.5	438.2	436.9	441.6	441.6	439.6
5°	430.8	432.1	435.5	439.6	436.2	432.1	435.5	434.2	438.9	438.9	437.5
7.5°	426.7	427.4	431.5	436.2	432.8	428.8	431.5	430.8	434.8	435.5	434.2
10°	421.3	422.0	426.0	430.8	427.4	424.0	426.7	426.0	431.5	431.5	430.8
12.5°	415.9	416.6	420.6	424.7	421.3	417.9	420.6	420.6	426.0	426.7	426.0
15°	408.4	409.8	413.2	417.2	415.2	411.1	413.8	413.8	418.6	419.9	419.9
17.5°	402.3	403.0	406.4	410.5	407.8	404.3	407.1	407.1	411.8	413.2	413.2
20°	394.2	395.6	398.9	403.0	401.0	398.3	400.3	400.3	405.7	407.1	407.8
22.5°	387.4	388.8	391.5	396.9	393.5	391.5	394.2	393.5	399.6	400.3	400.3
25°	380.0	381.4	384.7	388.1	386.1	384.1	386.1	386.1	390.8	391.5	391.5
27.5°	369.1	369.8	373.2	376.6	374.6	371.9	374.6	373.9	378.6	379.3	378.6
30°	351.5	352.9	354.2	359.0	356.9	354.9	357.6	356.3	361.0	361.0	360.3
32.5°	329.2	329.2	331.9	335.3	332.6	331.2	333.2	333.9	337.3	337.3	335.3
35°	302.1	303.5	305.5	307.5	305.5	304.1	306.2	305.5	309.5	308.2	306.2
37.5°	275.0	275.7	277.7	280.4	277.7	275.7	276.3	275.7	279.0	279.0	275.7
40°	249.9	251.3	252.6	255.3	252.6	251.3	252.0	249.9	254.0	252.6	250.6
42.5°	229.6	230.3	232.3	233.7	231.0	230.3	231.0	229.6	231.6	230.3	226.2
45°	214.0	214.0	214.7	216.7	214.0	213.4	213.4	212.0	214.0	211.3	207.3
47.5°	200.5	201.2	201.9	203.2	201.2	199.2	199.8	197.1	198.4	196.4	191.0
50°	186.9	188.3	189.0	190.3	188.3	186.9	187.6	184.9	184.9	181.5	176.8
52.5°	173.4	174.1	173.4	174.7	173.4	171.4	172.0	169.3	169.3	165.3	160.5
55°	151.0	151.7	152.4	153.7	152.4	150.4	151.7	149.7	149.7	147.0	141.5
57.5°	128.7	129.4	130.0	130.7	130.7	129.4	130.0	128.7	128.0	126.0	121.9
60°	114.5	114.5	114.5	115.1	114.5	113.8	113.8	112.4	112.4	109.7	105.7
62.5°	103.6	104.3	104.3	105.0	104.3	103.6	103.0	101.6	100.9	98.2	94.8
65°	93.5	93.5	92.8	94.1	93.5	92.8	92.8	91.4	90.1	87.4	84.0
67.5°	81.3	81.9	81.3	81.9	81.9	81.3	80.6	79.2	78.6	76.5	72.5
70°	68.4	68.4	68.4	69.1	68.4	68.4	69.1	67.1	66.4	63.6	60.3
72.5°	55.5	56.2	56.2	55.5	56.2	54.9	54.9	54.9	54.2	51.5	48.1
75°	42.7	43.4	43.4	44.0	43.4	42.7	42.7	42.0	41.3	39.3	36.6
77.5°	31.8	31.8	32.5	32.5	32.5	31.8	31.8	30.5	30.5	29.1	26.4
80°	23.0	23.0	22.4	23.0	23.0	22.4	22.4	21.7	21.7	20.3	18.3
82.5°	14.9	15.6	15.6	15.6	15.6	14.9	14.9	14.9	14.2	13.5	12.2
85°	9.5	9.5	9.5	9.5	10.2	9.5	10.2	9.5	9.5	8.1	7.5
87.5°	4.1	4.1	4.1	4.7	4.7	4.1	4.1	4.1	4.1	4.1	3.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3
2.5°	439.6	440.3	438.2	440.9	438.9	439.6	440.3	439.6	436.9	436.9	444.3
5°	436.9	438.2	436.2	439.6	438.2	438.2	439.6	438.9	436.2	436.9	443.6
7.5°	434.2	436.2	434.8	438.2	436.2	436.2	437.5	437.5	434.8	435.5	441.6
10°	430.1	432.8	432.1	435.5	433.5	433.5	435.5	435.5	432.8	433.5	439.6
12.5°	426.7	429.4	428.8	432.1	430.8	431.5	432.1	433.5	430.1	431.5	436.9
15°	421.3	424.0	424.0	427.4	426.0	427.4	428.8	430.8	428.0	428.0	433.5
17.5°	415.2	418.6	418.6	421.3	421.3	422.0	424.7	426.7	424.0	424.7	429.4
20°	408.4	412.5	412.5	415.9	415.2	416.6	418.6	420.6	417.9	417.9	423.3
22.5°	401.6	405.1	405.7	407.8	407.8	408.4	410.5	411.8	408.4	408.4	413.8
25°	392.2	395.6	396.2	397.6	396.2	396.2	397.6	398.9	395.6	395.6	400.3
27.5°	379.3	382.7	382.7	382.0	380.6	381.4	380.6	381.4	377.9	377.3	382.0
30°	360.3	362.4	362.4	361.7	359.6	359.6	357.6	358.3	353.6	353.6	357.6
32.5°	334.6	336.6	335.3	333.9	331.2	329.9	328.5	327.8	323.1	323.1	327.8
35°	304.1	305.5	303.5	300.7	297.3	295.3	293.3	290.6	287.2	287.9	290.6
37.5°	273.0	273.0	270.3	264.8	262.1	258.7	255.3	255.3	249.9	249.3	251.3
40°	246.6	243.8	239.1	231.6	226.9	223.5	218.8	216.1	212.0	212.0	215.4
42.5°	222.9	217.4	211.3	201.2	196.4	192.4	186.3	183.6	178.8	178.1	180.2
45°	201.9	196.4	187.6	176.8	170.7	166.0	157.1	153.7	149.7	149.0	150.4
47.5°	184.9	178.8	168.0	153.7	147.7	141.5	132.8	128.0	124.6	122.6	124.6
50°	170.0	161.9	150.4	135.5	127.3	121.9	111.1	106.3	101.6	100.3	100.9
52.5°	153.7	145.6	133.4	117.8	110.4	102.3	92.1	85.4	81.3	79.2	81.3
55°	136.1	128.0	115.8	100.3	92.1	84.7	73.8	68.4	63.6	61.6	63.6
57.5°	117.2	109.7	98.9	83.3	75.9	69.1	58.9	53.5	48.8	47.4	48.8
60°	100.9	94.8	84.0	69.1	63.0	55.5	46.7	41.3	37.2	36.6	37.2
62.5°	90.1	83.3	73.1	58.9	52.8	46.7	38.6	33.2	29.8	29.1	29.8
65°	79.2	71.8	62.3	50.1	44.0	39.3	31.2	26.4	23.0	22.4	23.0
67.5°	67.1	60.3	52.2	41.3	36.6	31.8	25.1	20.3	17.6	17.0	17.6
70°	55.5	49.4	41.3	33.2	28.5	25.1	19.0	15.6	12.9	12.2	12.9
72.5°	44.0	38.6	31.8	25.1	22.4	19.0	14.9	11.5	9.5	8.8	9.5
75°	33.9	29.8	24.4	18.3	16.2	14.2	10.2	8.1	6.8	6.1	6.8
77.5°	23.7	21.0	17.0	13.5	11.5	10.2	7.5	5.4	4.7	4.1	4.7
80°	16.2	14.2	11.5	8.8	7.5	6.1	4.7	3.4	2.7	2.7	2.7
82.5°	10.8	8.8	6.8	5.4	4.7	4.1	2.7	2.0	2.0	1.4	1.4
85°	6.1	5.4	4.1	3.4	2.7	2.0	1.4	1.4	0.7	0.7	0.7
87.5°	2.7	2.0	1.4	1.4	0.7	0.7	0.7	0.7	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°	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3
2.5°	442.3	440.3	443.0	440.3	438.9	440.3	438.9	443.0	439.6	436.9	439.6
5°	441.6	438.9	441.6	439.6	437.5	438.2	436.9	440.9	436.9	434.8	436.2
7.5°	440.3	438.2	439.6	437.5	435.5	436.2	434.8	438.2	434.2	432.1	433.5
10°	438.2	436.2	436.9	435.5	433.5	433.5	432.1	434.8	430.1	427.4	428.8
12.5°	435.5	432.8	434.2	432.1	429.4	429.4	428.0	430.1	425.3	422.6	423.3
15°	432.1	429.4	429.4	427.4	424.7	424.7	422.0	424.0	418.6	415.9	415.9
17.5°	428.0	424.7	424.7	422.6	419.3	418.6	416.6	418.6	412.5	409.8	409.8
20°	422.0	419.3	418.6	417.2	413.8	413.2	410.5	411.1	406.4	404.3	403.7
22.5°	413.8	411.1	411.8	409.8	407.1	406.4	403.7	405.7	401.0	398.9	399.6
25°	399.6	398.3	399.6	398.9	396.9	396.9	395.6	396.9	392.8	391.5	392.2
27.5°	383.4	382.7	383.4	383.4	382.0	382.0	382.0	384.1	380.0	379.3	379.3
30°	359.6	359.6	360.3	361.0	361.0	362.4	361.7	364.4	361.7	360.3	361.7
32.5°	328.5	331.2	333.2	333.2	333.2	334.6	335.9	338.0	335.3	335.9	335.9
35°	293.3	295.3	296.7	300.0	298.0	302.7	304.1	306.8	306.2	307.5	306.8
37.5°	254.0	256.7	259.4	264.2	263.5	268.9	271.6	277.0	275.7	278.4	279.7
40°	217.4	221.5	225.6	228.9	231.6	237.1	242.5	249.3	251.3	253.3	254.0
42.5°	182.2	186.3	193.0	197.8	201.9	210.6	218.1	226.2	228.3	232.3	233.7
45°	153.7	157.1	165.3	171.4	174.7	187.6	196.4	206.6	210.0	214.7	216.7
47.5°	127.3	133.4	141.5	149.0	153.7	167.3	178.8	189.7	194.4	199.8	202.5
50°	104.3	111.1	121.9	128.7	135.5	150.4	163.2	174.7	179.5	185.6	188.3
52.5°	85.4	92.8	103.0	110.4	117.8	133.4	147.0	157.8	163.9	168.0	172.0
55°	67.1	75.2	85.4	93.5	99.6	116.5	128.0	138.8	142.9	146.3	148.3
57.5°	52.2	58.2	68.4	75.2	82.6	97.5	109.1	117.2	120.5	124.6	126.0
60°	40.7	46.7	56.2	63.0	69.8	84.0	95.5	103.6	107.0	110.4	112.4
62.5°	32.5	38.6	47.4	53.5	59.6	72.5	82.6	90.8	94.8	98.2	100.3
65°	25.7	31.2	38.6	44.7	49.4	60.9	71.1	78.6	82.6	86.0	88.1
67.5°	20.3	25.1	31.8	35.9	40.7	50.1	58.9	65.7	69.1	73.1	75.2
70°	15.6	19.0	25.1	28.5	31.8	39.9	46.7	53.5	56.9	59.6	60.9
72.5°	11.5	14.2	19.0	21.7	23.7	30.5	35.9	40.7	43.4	46.1	47.4
75°	8.1	10.2	13.5	15.6	17.0	21.7	26.4	29.8	31.8	33.9	35.9
77.5°	5.4	6.8	8.8	10.2	11.5	14.9	17.6	20.3	22.4	24.4	25.1
80°	3.4	4.7	6.1	6.8	7.5	9.5	12.2	13.5	14.9	16.2	17.0
82.5°	2.0	2.7	3.4	4.1	4.7	6.1	7.5	8.8	9.5	10.8	11.5
85°	0.7	1.4	1.4	2.0	2.0	3.4	4.1	4.7	5.4	6.1	6.8
87.5°	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4	1.4
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°	440.3	440.3	440.3	440.3	440.3	440.3	440.3	440.3
2.5°	442.3	440.3	438.9	438.2	443.0	436.9	439.6	440.3
5°	439.6	437.5	436.2	435.5	439.6	434.2	436.2	437.5
7.5°	435.5	434.2	432.1	431.5	435.5	429.4	432.1	432.8
10°	430.8	428.8	427.4	426.7	430.1	424.0	426.7	426.7
12.5°	424.7	423.3	420.6	420.6	423.3	417.9	419.9	419.9
15°	416.6	415.2	412.5	412.5	415.2	409.8	411.8	411.8
17.5°	409.8	408.4	406.4	405.7	408.4	403.0	405.1	404.3
20°	404.3	403.0	400.3	400.3	402.3	396.9	398.9	398.9
22.5°	399.6	398.9	396.2	396.2	398.9	393.5	394.9	393.5
25°	392.2	391.5	388.8	389.5	390.8	385.4	387.4	386.1
27.5°	380.0	380.0	377.3	376.6	378.6	373.9	375.2	374.6
30°	361.0	361.7	358.3	358.3	359.0	354.9	356.9	356.3
32.5°	335.3	335.9	333.2	332.6	334.6	331.2	332.6	332.6
35°	306.8	307.5	305.5	305.5	307.5	305.5	305.5	304.8
37.5°	278.4	279.7	278.4	279.0	280.4	278.4	279.7	279.0
40°	255.3	256.7	254.7	256.0	257.4	255.3	257.4	256.0
42.5°	234.4	236.4	235.0	236.4	237.7	236.4	237.7	235.7
45°	218.8	220.1	219.4	220.1	221.5	220.8	221.5	220.8
47.5°	203.9	206.6	205.2	206.6	208.6	207.3	208.6	206.6
50°	190.3	192.4	191.7	193.0	193.7	193.0	194.4	192.4
52.5°	172.7	174.7	174.1	174.1	175.4	174.1	175.4	174.1
55°	149.7	150.4	150.4	151.0	150.4	149.7	150.4	149.0
57.5°	127.3	128.7	126.7	128.7	128.0	127.3	127.3	126.0
60°	113.1	115.1	113.8	115.1	114.5	114.5	114.5	113.8
62.5°	101.6	103.0	101.6	102.3	102.3	102.3	101.6	100.9
65°	88.7	90.8	89.4	90.1	89.4	88.7	89.4	88.7
67.5°	75.9	76.5	76.5	75.9	75.9	75.9	75.9	74.5
70°	61.6	62.3	61.6	63.0	62.3	61.6	62.3	60.9
72.5°	48.1	48.8	48.1	48.8	48.1	48.1	48.1	48.1
75°	35.9	36.6	36.6	36.6	36.6	36.6	35.2	36.6
77.5°	25.7	25.7	25.7	26.4	25.7	25.7	25.7	25.7
80°	17.6	17.6	17.6	18.3	17.6	18.3	17.6	18.3
82.5°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
85°	6.1	6.8	6.8	6.1	6.1	6.1	6.1	6.1
87.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)