

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: P#

Luminaire Tested: **LD4C15D010 EX4C159035 4LBSQLWWLI**

Issue Date: 2/18/2022

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: P#
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: LD4C15D010 EX4C159035 4LBSQLWWLI
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

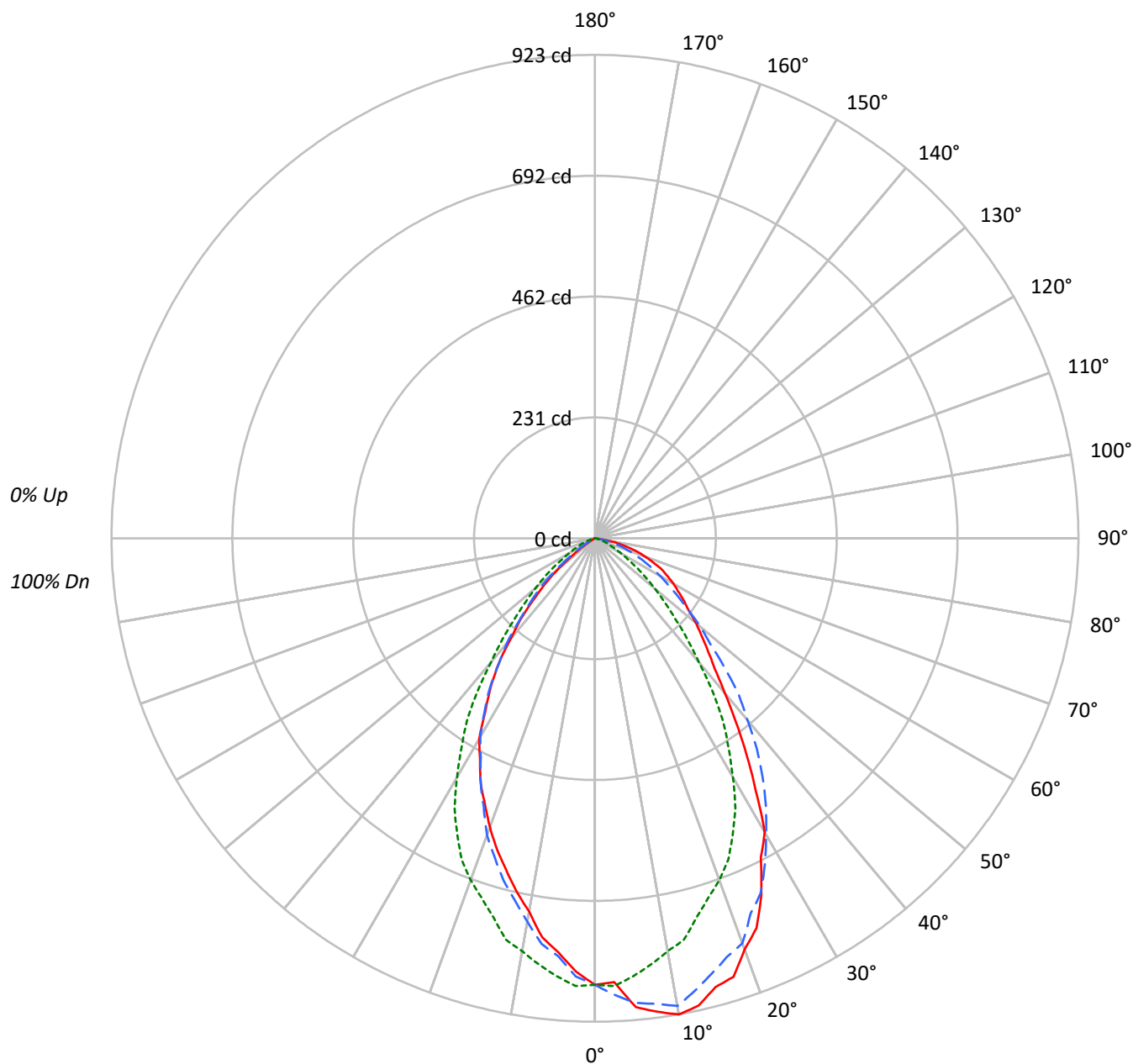
Lumens per Lamp: N/A
Luminaire Lumens: 1222.0 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 15.8
Input Voltage (V):
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	82257	82257	82257
5°	87026	81283	76934
10°	90443	78421	70906
15°	88635	74850	65450
20°	85759	71271	60243
25°	79986	66274	54957
30°	72209	58649	49201
35°	59485	50214	40815
40°	48544	38757	31414
45°	41701	29434	22597
50°	37753	22411	14275
55°	34738	16166	5164
60°	33347	11038	791
65°	32192	7466	228
70°	28832	5191	282
75°	23636	2684	0
80°	14780	1111	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.9	6.5
10°-20°	215.2	17.6
20°-30°	287.4	23.5
30°-40°	272.8	22.3
40°-50°	188.6	15.4
50°-60°	104.2	8.5
60°-70°	51.7	4.2
70°-80°	20.4	1.7
80°-90°	1.9	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°	582.4	47.7
0°-40°	855.2	70.0
0°-60°	1147.9	93.9
0°-90°	1222.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1222.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	852	852	852	852	852	
5°	898	890	839	801	794	86
15°	887	861	749	676	655	251
25°	751	748	622	516	516	343
35°	505	558	426	351	346	316
45°	306	351	216	177	166	238
55°	206	194	96	49	31	186
65°	141	102	33	1	1	137
75°	63	39	7	0	0	68
85°	0	1	0	0	0	6
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°	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5
2.5°	848.4	871.9	874.0	871.9	875.0	874.0	879.1	874.0	880.1	870.9	873.0
5°	898.5	889.3	908.7	898.5	898.5	897.5	894.4	893.4	897.5	884.2	890.3
7.5°	911.8	925.1	942.5	921.0	922.0	922.0	915.9	913.8	913.8	889.3	896.5
10°	923.1	914.8	924.1	915.9	923.1	922.0	926.1	912.8	922.0	907.7	906.7
12.5°	913.8	910.8	923.1	909.8	905.7	906.7	901.6	898.5	901.6	885.2	884.2
15°	887.3	890.3	908.7	894.4	892.4	890.3	884.2	874.0	882.2	859.7	860.7
17.5°	878.1	873.0	876.0	863.7	866.8	864.8	863.7	854.6	852.5	838.2	838.2
20°	835.2	846.4	846.4	838.2	838.2	837.2	823.9	832.1	822.9	818.8	822.9
22.5°	805.5	806.5	806.5	799.4	800.4	796.3	789.1	784.0	789.1	784.0	775.8
25°	751.3	753.4	765.6	752.3	750.3	754.4	748.3	745.2	744.2	731.9	748.3
27.5°	685.9	706.3	705.3	700.2	706.3	698.2	695.1	696.1	699.2	698.2	702.2
30°	648.1	651.1	654.2	650.1	651.1	648.1	648.1	649.1	657.3	654.2	653.2
32.5°	571.4	581.6	589.8	589.8	590.8	593.9	592.9	614.3	619.5	609.2	607.2
35°	505.0	512.1	519.3	520.3	533.6	534.6	535.6	541.8	556.1	559.1	558.1
37.5°	441.6	448.7	450.8	460.0	467.2	474.3	482.5	490.7	502.9	513.1	508.0
40°	385.4	388.4	393.5	397.6	411.9	411.9	416.0	432.4	445.7	453.9	452.8
42.5°	338.4	339.4	343.4	350.6	363.9	360.8	363.9	375.2	394.5	395.6	406.8
45°	305.6	304.6	307.7	308.7	316.9	321.0	323.0	331.2	347.5	349.6	350.6
47.5°	276.0	275.0	280.1	282.1	285.2	289.3	289.3	290.3	296.4	301.6	297.5
50°	251.5	251.5	251.5	253.5	258.6	257.6	258.6	262.7	265.8	263.7	262.7
52.5°	224.9	229.0	232.0	233.1	234.1	234.1	235.1	233.1	232.0	229.0	222.8
55°	206.5	210.6	210.6	210.6	210.6	214.7	209.6	210.6	210.6	202.4	194.2
57.5°	188.1	192.2	195.2	191.1	195.2	191.1	189.1	188.1	186.0	177.9	165.6
60°	172.8	174.8	173.8	172.8	174.8	171.7	169.7	165.6	163.6	152.3	144.1
62.5°	155.4	156.4	157.4	155.4	153.3	152.3	148.2	142.1	138.0	128.8	121.6
65°	141.0	138.0	137.0	136.0	133.9	130.8	127.8	120.6	117.5	109.4	102.2
67.5°	119.6	118.6	120.6	117.5	112.5	112.5	109.4	103.2	96.1	91.0	83.8
70°	102.2	101.2	99.2	96.1	95.1	91.0	91.0	83.8	81.8	72.6	66.4
72.5°	83.8	83.8	80.7	77.7	74.6	72.6	71.6	66.4	63.4	58.3	53.1
75°	63.4	63.4	62.4	59.3	57.2	55.2	54.2	50.1	47.0	41.9	38.8
77.5°	45.0	45.0	40.9	38.8	39.8	37.8	35.8	34.8	33.7	30.7	26.6
80°	26.6	25.6	22.5	23.5	22.5	22.5	21.5	20.4	18.4	16.3	14.3
82.5°	7.2	8.2	8.2	8.2	9.2	7.2	7.2	7.2	8.2	8.2	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
87.5°	1.0	2.0	4.1	4.1	4.1	4.1	4.1	3.1	3.1	3.1	2.0
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°	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5
2.5°	862.7	861.7	862.7	855.6	871.9	859.7	857.6	855.6	862.7	855.6	845.4
5°	881.1	870.9	867.8	864.8	874.0	859.7	856.6	857.6	852.5	839.2	840.2
7.5°	887.3	878.1	868.9	849.5	857.6	854.6	846.4	840.2	832.1	820.8	818.8
10°	889.3	879.1	865.8	859.7	847.4	843.3	840.2	830.0	819.8	800.4	795.3
12.5°	883.2	870.9	854.6	849.5	840.2	826.9	819.8	809.6	800.4	785.1	773.8
15°	856.6	846.4	841.3	823.9	819.8	811.6	797.3	783.0	769.7	749.3	743.1
17.5°	825.9	821.9	816.7	803.4	802.4	794.3	781.0	768.7	751.3	719.6	709.4
20°	794.3	794.3	777.9	772.8	783.0	766.6	756.4	745.2	709.4	694.1	675.7
22.5°	770.8	759.5	750.3	742.1	743.1	732.9	718.6	696.1	682.8	664.4	643.0
25°	724.7	728.8	708.4	705.3	708.4	684.9	677.7	659.3	639.9	622.5	606.2
27.5°	696.1	684.9	671.6	660.3	660.3	651.1	630.7	626.6	597.0	580.6	560.1
30°	653.2	645.0	633.8	617.4	615.4	608.2	591.9	581.6	551.0	526.4	515.2
32.5°	599.0	595.9	586.7	568.4	562.2	554.0	533.6	516.2	501.9	474.3	461.0
35°	560.1	548.9	529.5	514.2	509.0	494.7	478.4	466.1	450.8	426.3	408.9
37.5°	501.9	490.7	472.2	453.9	453.9	439.6	417.1	404.8	383.3	369.0	354.7
40°	450.8	436.5	418.1	396.6	393.5	373.1	363.9	343.4	330.2	307.7	305.6
42.5°	393.5	380.3	363.9	347.5	335.3	325.1	301.6	286.2	271.9	260.7	257.6
45°	341.4	324.0	309.7	289.3	277.0	264.8	249.4	239.2	228.0	215.7	208.5
47.5°	296.4	282.1	261.7	243.3	231.0	224.9	207.5	196.3	187.1	178.9	173.8
50°	250.5	233.1	221.8	201.4	199.3	185.0	170.7	161.5	156.4	149.3	142.1
52.5°	215.7	199.3	184.0	168.7	160.5	155.4	142.1	132.9	125.7	120.6	116.5
55°	181.9	167.6	155.4	140.0	134.9	127.8	112.5	110.4	103.2	96.1	91.0
57.5°	156.4	143.1	128.8	118.6	109.4	104.3	92.0	83.8	79.7	73.6	68.5
60°	132.9	118.6	107.3	95.1	91.0	83.8	74.6	67.5	62.4	57.2	52.1
62.5°	111.4	99.2	86.9	76.7	70.5	66.4	59.3	53.1	48.1	44.0	39.8
65°	92.0	80.7	70.5	60.3	57.2	52.1	47.0	41.9	37.8	32.7	28.6
67.5°	75.7	65.4	55.2	48.1	45.0	42.9	36.8	31.7	28.6	25.6	21.5
70°	59.3	52.1	44.0	37.8	34.8	31.7	27.6	24.5	20.4	18.4	15.3
72.5°	46.0	39.8	32.7	27.6	25.6	23.5	19.4	16.3	14.3	12.3	10.2
75°	32.7	27.6	23.5	18.4	17.4	16.3	13.3	11.3	9.2	7.2	6.1
77.5°	22.5	18.4	14.3	12.3	11.3	9.2	8.2	6.1	5.1	4.1	3.1
80°	12.3	9.2	7.2	6.1	5.1	4.1	4.1	3.1	2.0	2.0	1.0
82.5°	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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°	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5
2.5°	851.5	840.2	843.3	843.3	841.3	841.3	839.2	836.2	837.2	831.0	817.8
5°	842.3	828.0	825.9	828.0	819.8	817.8	813.7	819.8	801.4	808.6	800.4
7.5°	815.7	802.4	799.4	806.5	796.3	790.1	789.1	797.3	781.0	772.8	763.6
10°	786.1	781.0	771.8	766.6	763.6	764.6	756.4	746.2	743.1	741.1	732.9
12.5°	759.5	748.3	740.1	734.0	731.9	731.9	718.6	716.6	707.4	705.3	693.1
15°	727.8	714.5	709.4	701.2	694.1	698.2	682.8	678.7	675.7	662.4	664.4
17.5°	700.2	685.9	673.6	668.5	662.4	656.3	641.9	645.0	637.8	637.8	619.5
20°	664.4	649.1	639.9	629.7	629.7	621.5	611.3	612.3	603.1	593.9	577.5
22.5°	626.6	610.2	599.0	594.9	584.7	582.7	570.4	567.3	555.1	556.1	541.8
25°	586.7	570.4	555.1	556.1	546.9	542.8	535.6	521.3	516.2	510.1	506.0
27.5°	539.7	528.5	515.2	514.2	496.8	497.8	488.6	484.5	472.2	475.3	466.1
30°	496.8	480.5	468.2	465.1	457.9	455.9	441.6	435.4	437.5	429.3	424.2
32.5°	452.8	428.3	423.2	417.1	413.0	407.8	397.6	401.7	392.5	394.5	386.4
35°	394.5	384.3	371.0	371.0	367.0	362.9	355.7	359.8	350.6	346.5	338.4
37.5°	345.5	336.3	323.0	327.1	319.9	313.8	307.7	308.7	300.5	299.5	291.3
40°	292.3	287.2	278.1	278.1	272.9	272.9	269.8	266.8	261.7	255.5	246.3
42.5°	242.2	238.2	234.1	235.1	228.0	234.1	225.9	231.0	214.7	213.7	207.5
45°	205.4	196.3	197.3	193.2	189.1	191.1	184.0	186.0	176.9	174.8	168.7
47.5°	166.6	163.6	157.4	155.4	155.4	152.3	149.3	148.2	144.1	139.0	130.8
50°	137.0	125.7	123.7	120.6	118.6	118.6	114.5	108.4	109.4	104.3	96.1
52.5°	107.3	98.1	94.0	93.0	88.9	86.9	81.8	77.7	74.6	72.6	67.5
55°	82.8	74.6	69.5	69.5	63.4	63.4	56.2	53.1	49.1	45.0	41.9
57.5°	62.4	58.3	53.1	49.1	47.0	41.9	37.8	32.7	29.6	23.5	19.4
60°	47.0	42.9	37.8	34.8	32.7	27.6	22.5	18.4	11.3	9.2	8.2
62.5°	34.8	30.7	25.6	23.5	21.5	17.4	12.3	6.1	3.1	3.1	3.1
65°	25.6	20.4	16.3	14.3	12.3	9.2	4.1	2.0	1.0	1.0	1.0
67.5°	17.4	13.3	9.2	8.2	6.1	3.1	1.0	1.0	1.0	1.0	1.0
70°	11.3	8.2	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	7.2	4.1	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.0	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	1.0	1.0	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



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159035 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5
2.5°	832.1	824.9	829.0	819.8	823.9	831.0	825.9	828.0
5°	803.4	799.4	794.3	781.0	791.2	799.4	795.3	794.3
7.5°	772.8	758.5	765.6	761.5	759.5	767.7	758.5	768.7
10°	741.1	730.9	729.9	722.7	722.7	728.8	729.9	723.7
12.5°	694.1	689.0	689.0	687.9	686.9	693.1	694.1	691.0
15°	660.3	658.3	653.2	652.2	646.0	655.2	656.3	655.2
17.5°	619.5	620.5	615.4	615.4	619.5	622.5	614.3	622.5
20°	591.9	586.7	584.7	575.5	580.6	585.7	585.7	586.7
22.5°	552.0	543.8	546.9	541.8	538.7	545.9	545.9	548.9
25°	507.0	507.0	509.0	506.0	508.0	512.1	509.0	516.2
27.5°	464.1	468.2	468.2	464.1	466.1	478.4	483.5	475.3
30°	424.2	425.2	428.3	426.3	432.4	436.5	435.4	441.6
32.5°	379.3	384.3	386.4	383.3	385.4	394.5	389.5	388.4
35°	344.5	335.3	334.3	335.3	339.4	341.4	339.4	346.5
37.5°	294.4	291.3	287.2	288.3	291.3	295.4	297.5	302.6
40°	246.3	242.2	242.2	241.2	238.2	249.4	249.4	249.4
42.5°	204.4	203.4	198.3	198.3	202.4	205.4	203.4	210.6
45°	167.6	163.6	160.5	160.5	163.6	163.6	166.6	165.6
47.5°	131.9	127.8	128.8	125.7	128.8	132.9	127.8	128.8
50°	99.2	99.2	97.1	99.2	98.1	99.2	97.1	95.1
52.5°	67.5	76.7	77.7	73.6	64.4	56.2	51.1	55.2
55°	38.8	34.8	34.8	33.7	31.7	30.7	27.6	30.7
57.5°	19.4	17.4	17.4	17.4	16.3	15.3	13.3	13.3
60°	8.2	7.2	7.2	6.1	5.1	4.1	3.1	4.1
62.5°	3.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)