

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: P563800

Luminaire Tested: **LD4C20D010 EX4C20D2W 4LBSQLWWH**

Issue Date: 2/18/2022

Test Information

Test Method: LM-79-08
Report Number: P563800
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: LD4C20D010 EX4C20D2W 4LBSQLWWH
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

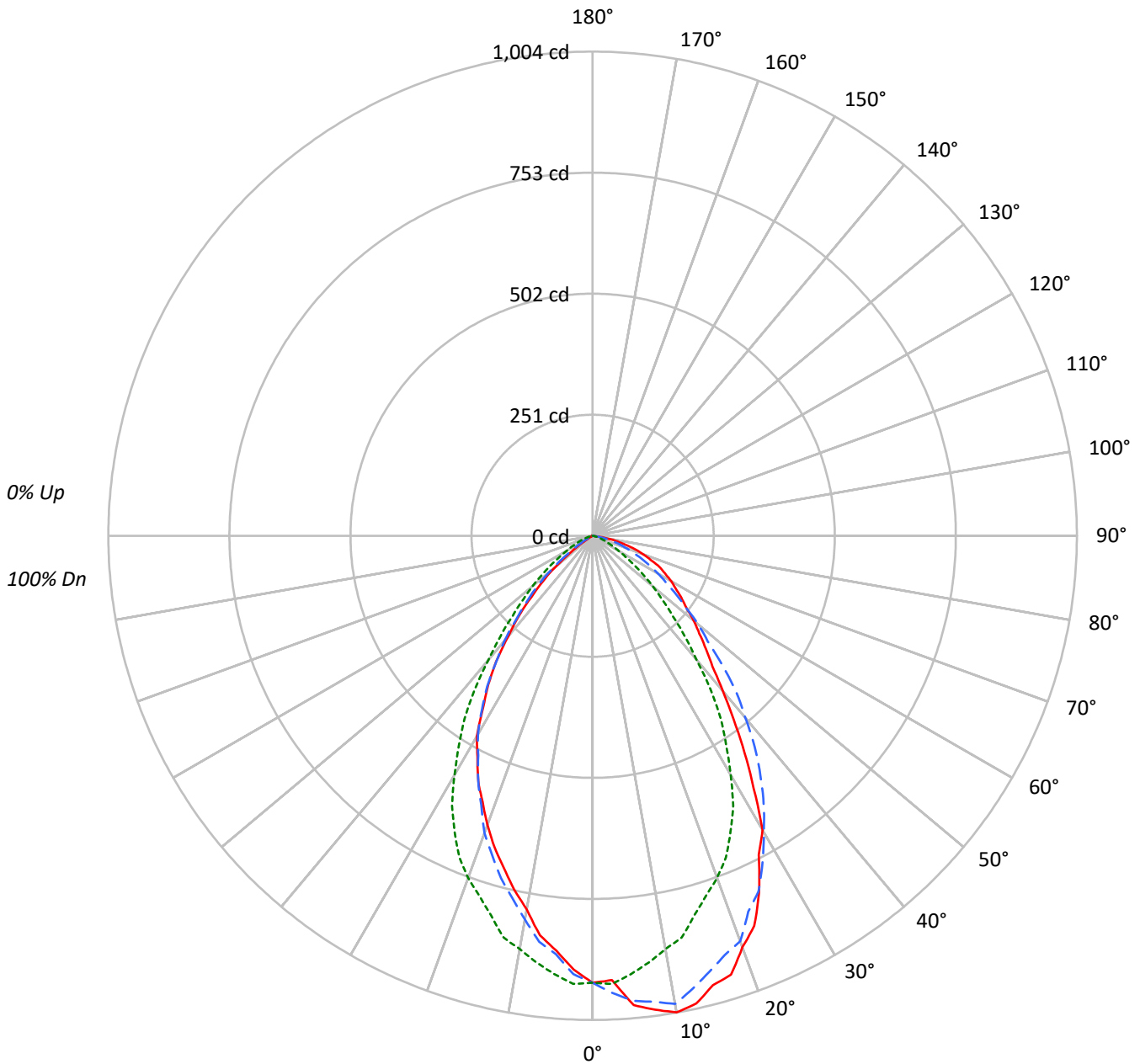
Lumens per Lamp: N/A
Luminaire Lumens: 1328.5 lumens
Efficiency: N/A
Efficacy: 60.9 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
Input Voltage (V):
Input Current (A_{in}): 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			
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°	89426	89426	89426
5°	94610	88363	83636
10°	98320	85250	77079
15°	96346	81373	71154
20°	93235	77483	65500
25°	86960	72044	59747
30°	78492	63763	53491
35°	64667	54584	44384
40°	52776	42133	34160
45°	45344	31999	24562
50°	41025	24348	15506
55°	37766	17579	5619
60°	36241	12023	868
65°	35000	8128	251
70°	31343	5614	310
75°	25724	2908	0
80°	16058	1222	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	6.5
10°-20°	233.9	17.6
20°-30°	312.4	23.5
30°-40°	296.5	22.3
40°-50°	205.0	15.4
50°-60°	113.3	8.5
60°-70°	56.2	4.2
70°-80°	22.2	1.7
80°-90°	2.1	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°	633.2	47.7
0°-40°	929.7	70.0
0°-60°	1248.0	93.9
0°-90°	1328.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1328.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	927	927	927	927	927	
5°	977	968	912	871	864	94
15°	964	936	815	734	712	273
25°	817	814	677	561	561	372
35°	549	607	463	381	377	344
45°	332	381	234	192	180	259
55°	224	211	104	53	33	202
65°	153	111	36	1	1	149
75°	69	42	8	0	0	73
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°	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8
2.5°	922.3	947.9	950.1	947.9	951.2	950.1	955.7	950.1	956.8	946.8	949.0
5°	976.8	966.7	987.9	976.8	976.8	975.7	972.3	971.2	975.7	961.3	967.9
7.5°	991.3	1005.7	1024.6	1001.2	1002.3	1002.3	995.6	993.5	993.5	966.7	974.6
10°	1003.5	994.5	1004.6	995.6	1003.5	1002.3	1006.8	992.4	1002.3	986.8	985.7
12.5°	993.5	990.1	1003.5	989.0	984.5	985.7	980.2	976.8	980.2	962.4	961.3
15°	964.5	967.9	987.9	972.3	970.1	967.9	961.3	950.1	959.0	934.6	935.7
17.5°	954.5	949.0	952.4	939.0	942.3	940.1	939.0	929.0	926.8	911.2	911.2
20°	908.0	920.1	920.1	911.2	911.2	910.1	895.6	904.6	894.5	890.2	894.5
22.5°	875.6	876.8	876.8	869.0	870.1	865.6	857.9	852.3	857.9	852.3	843.5
25°	816.8	819.0	832.4	817.9	815.7	820.1	813.5	810.1	809.0	795.7	813.5
27.5°	745.6	767.9	766.8	761.2	767.9	758.9	755.7	756.8	760.2	758.9	763.4
30°	704.5	707.9	711.2	706.8	707.9	704.5	704.5	705.6	714.5	711.2	710.1
32.5°	621.2	632.3	641.2	641.2	642.3	645.6	644.5	667.9	673.4	662.3	660.1
35°	549.0	556.7	564.5	565.7	580.1	581.1	582.3	589.0	604.5	607.9	606.8
37.5°	480.1	487.8	490.1	500.1	507.9	515.6	524.6	533.4	546.7	557.8	552.3
40°	419.0	422.2	427.8	432.3	447.8	447.8	452.2	470.0	484.5	493.4	492.2
42.5°	367.8	368.9	373.4	381.1	395.6	392.2	395.6	407.9	429.0	430.1	442.3
45°	332.3	331.1	334.5	335.6	344.5	348.9	351.1	360.1	377.8	380.0	381.1
47.5°	300.1	299.0	304.4	306.7	310.0	314.4	314.4	315.6	322.2	327.8	323.4
50°	273.3	273.3	273.3	275.6	281.2	280.0	281.2	285.6	288.9	286.6	285.6
52.5°	244.4	248.9	252.3	253.4	254.5	254.5	255.6	253.4	252.3	248.9	242.2
55°	224.5	228.9	228.9	228.9	228.9	233.3	227.9	228.9	228.9	220.0	211.2
57.5°	204.5	208.9	212.3	207.8	212.3	207.8	205.6	204.5	202.2	193.4	180.0
60°	187.8	190.0	188.9	187.8	190.0	186.7	184.4	180.0	177.8	165.6	156.6
62.5°	169.0	170.0	171.1	169.0	166.7	165.6	161.1	154.5	150.0	140.0	132.2
65°	153.3	150.0	148.9	147.8	145.6	142.2	138.9	131.1	127.8	118.9	111.1
67.5°	130.0	128.9	131.1	127.8	122.3	122.3	118.9	112.2	104.5	98.9	91.1
70°	111.1	110.1	107.8	104.5	103.3	98.9	98.9	91.1	88.9	78.9	72.2
72.5°	91.1	91.1	87.8	84.4	81.1	78.9	77.8	72.2	69.0	63.4	57.8
75°	69.0	69.0	67.7	64.4	62.3	60.0	58.9	54.4	51.1	45.6	42.2
77.5°	48.9	48.9	44.5	42.2	43.3	41.1	38.9	37.8	36.6	33.4	28.9
80°	28.9	27.8	24.5	25.5	24.5	24.5	23.3	22.2	19.9	17.8	15.6
82.5°	7.8	8.8	8.8	8.8	10.0	7.8	7.8	7.8	8.8	8.8	5.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1
87.5°	1.1	2.2	4.5	4.5	4.5	4.5	4.5	3.4	3.4	3.4	2.2
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°	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8
2.5°	938.0	936.7	938.0	930.1	947.9	934.6	932.4	930.1	938.0	930.1	919.0
5°	957.9	946.8	943.5	940.1	950.1	934.6	931.2	932.4	926.8	912.3	913.4
7.5°	964.5	954.5	944.6	923.4	932.4	929.0	920.1	913.4	904.6	892.3	890.2
10°	966.7	955.7	941.2	934.6	921.3	916.8	913.4	902.4	891.3	870.1	864.5
12.5°	960.1	946.8	929.0	923.4	913.4	899.0	891.3	880.1	870.1	853.4	841.2
15°	931.2	920.1	914.6	895.6	891.3	882.3	866.8	851.2	836.7	814.6	807.9
17.5°	897.9	893.5	887.9	873.5	872.4	863.5	849.1	835.6	816.8	782.3	771.2
20°	863.5	863.5	845.7	840.1	851.2	833.4	822.3	810.1	771.2	754.6	734.5
22.5°	837.9	825.7	815.7	806.7	807.9	796.8	781.2	756.8	742.3	722.3	699.0
25°	787.9	792.3	770.1	766.8	770.1	744.5	736.8	716.7	695.7	676.7	658.9
27.5°	756.8	744.5	730.1	717.8	717.8	707.9	685.7	681.2	649.0	631.2	609.0
30°	710.1	701.2	688.9	671.3	669.0	661.2	643.4	632.3	599.0	572.3	560.1
32.5°	651.2	647.9	637.9	617.8	611.2	602.3	580.1	561.2	545.6	515.6	501.2
35°	609.0	596.8	575.6	559.0	553.4	537.9	520.1	506.8	490.1	463.4	444.5
37.5°	545.6	533.4	513.4	493.4	493.4	477.9	453.4	440.0	416.7	401.2	385.6
40°	490.1	474.5	454.5	431.2	427.8	405.6	395.6	373.4	358.9	334.5	332.3
42.5°	427.8	413.4	395.6	377.8	364.5	353.4	327.8	311.2	295.6	283.4	280.0
45°	371.2	352.3	336.7	314.4	301.2	287.9	271.2	260.0	247.8	234.5	226.7
47.5°	322.2	306.7	284.5	264.5	251.1	244.4	225.5	213.4	203.3	194.5	188.9
50°	272.3	253.4	241.2	218.9	216.7	201.1	185.6	175.6	170.0	162.2	154.5
52.5°	234.5	216.7	200.0	183.4	174.4	169.0	154.5	144.4	136.7	131.1	126.6
55°	197.7	182.3	169.0	152.3	146.7	138.9	122.3	120.0	112.2	104.5	98.9
57.5°	170.0	155.5	140.0	128.9	118.9	113.4	100.0	91.1	86.7	80.1	74.5
60°	144.4	128.9	116.7	103.3	98.9	91.1	81.1	73.3	67.7	62.3	56.7
62.5°	121.1	107.8	94.5	83.3	76.7	72.2	64.4	57.8	52.3	47.8	43.3
65°	100.0	87.8	76.7	65.6	62.3	56.7	51.1	45.6	41.1	35.6	31.1
67.5°	82.3	71.1	60.0	52.3	48.9	46.7	40.0	34.5	31.1	27.8	23.3
70°	64.4	56.7	47.8	41.1	37.8	34.5	30.0	26.7	22.2	19.9	16.7
72.5°	50.0	43.3	35.6	30.0	27.8	25.5	21.2	17.8	15.6	13.3	11.1
75°	35.6	30.0	25.5	19.9	18.9	17.8	14.4	12.2	10.0	7.8	6.6
77.5°	24.5	19.9	15.6	13.3	12.2	10.0	8.8	6.6	5.6	4.5	3.4
80°	13.3	10.0	7.8	6.6	5.6	4.5	4.5	3.4	2.2	2.2	1.1
82.5°	4.5	3.4	2.2	1.1	1.1	1.1	1.1	1.1	1.1	0.0	1.1
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°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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°	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8
2.5°	925.7	913.4	916.8	916.8	914.6	914.6	912.3	909.0	910.1	903.5	889.0
5°	915.7	900.1	897.9	900.1	891.3	889.0	884.6	891.3	871.2	879.0	870.1
7.5°	886.8	872.4	869.0	876.8	865.6	859.0	857.9	866.8	849.1	840.1	830.1
10°	854.5	849.1	839.0	833.4	830.1	831.2	822.3	811.2	807.9	805.6	796.8
12.5°	825.7	813.5	804.6	797.9	795.7	795.7	781.2	779.0	769.0	766.8	753.4
15°	791.2	776.7	771.2	762.3	754.6	758.9	742.3	737.9	734.5	720.1	722.3
17.5°	761.2	745.6	732.3	726.8	720.1	713.5	697.9	701.2	693.4	693.4	673.4
20°	722.3	705.6	695.7	684.6	684.6	675.6	664.5	665.7	655.6	645.6	627.8
22.5°	681.2	663.4	651.2	646.7	635.6	633.4	620.1	616.7	603.4	604.5	589.0
25°	637.9	620.1	603.4	604.5	594.6	590.1	582.3	566.8	561.2	554.6	550.1
27.5°	586.7	574.5	560.1	559.0	540.0	541.2	531.2	526.7	513.4	516.7	506.8
30°	540.0	522.3	508.9	505.7	497.8	495.6	480.1	473.4	475.6	466.7	461.2
32.5°	492.2	465.7	460.1	453.4	449.0	443.4	432.3	436.7	426.7	429.0	420.0
35°	429.0	417.9	403.3	403.3	398.9	394.5	386.7	391.2	381.1	376.8	367.8
37.5°	375.6	365.6	351.1	355.6	347.8	341.2	334.5	335.6	326.7	325.6	316.7
40°	317.8	312.3	302.3	302.3	296.7	296.7	293.4	290.0	284.5	277.8	267.8
42.5°	263.4	258.9	254.5	255.6	247.8	254.5	245.6	251.1	233.3	232.2	225.5
45°	223.4	213.4	214.4	210.1	205.6	207.8	200.0	202.2	192.3	190.0	183.4
47.5°	181.2	177.8	171.1	169.0	169.0	165.6	162.2	161.1	156.6	151.2	142.2
50°	148.9	136.7	134.5	131.1	128.9	128.9	124.5	117.8	118.9	113.4	104.5
52.5°	116.7	106.7	102.2	101.1	96.7	94.5	88.9	84.4	81.1	78.9	73.3
55°	90.0	81.1	75.6	75.6	69.0	69.0	61.1	57.8	53.3	48.9	45.6
57.5°	67.7	63.4	57.8	53.3	51.1	45.6	41.1	35.6	32.2	25.5	21.2
60°	51.1	46.7	41.1	37.8	35.6	30.0	24.5	19.9	12.2	10.0	8.8
62.5°	37.8	33.4	27.8	25.5	23.3	18.9	13.3	6.6	3.4	3.4	3.4
65°	27.8	22.2	17.8	15.6	13.3	10.0	4.5	2.2	1.1	1.1	1.1
67.5°	18.9	14.4	10.0	8.8	6.6	3.4	1.1	1.1	1.1	1.1	1.1
70°	12.2	8.8	4.5	3.4	2.2	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	7.8	4.5	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.5	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.1	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	1.1	1.1	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



TEST NUMBER: P563800

CATALOG NUMBER: LD4C20D010 EX4C20D2W 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	926.8	926.8	926.8	926.8	926.8	926.8	926.8	926.8
2.5°	904.6	896.8	901.2	891.3	895.6	903.5	897.9	900.1
5°	873.5	869.0	863.5	849.1	860.1	869.0	864.5	863.5
7.5°	840.1	824.5	832.4	827.9	825.7	834.5	824.5	835.6
10°	805.6	794.5	793.4	785.7	785.7	792.3	793.4	786.7
12.5°	754.6	749.0	749.0	747.8	746.7	753.4	754.6	751.2
15°	717.8	715.7	710.1	709.0	702.4	712.3	713.5	712.3
17.5°	673.4	674.5	669.0	669.0	673.4	676.7	667.9	676.7
20°	643.4	637.9	635.6	625.6	631.2	636.8	636.8	637.9
22.5°	600.0	591.2	594.6	589.0	585.6	593.4	593.4	596.8
25°	551.2	551.2	553.4	550.1	552.3	556.7	553.4	561.2
27.5°	504.5	508.9	508.9	504.5	506.8	520.1	525.6	516.7
30°	461.2	462.3	465.7	463.4	470.0	474.5	473.4	480.1
32.5°	412.3	417.9	420.0	416.7	419.0	429.0	423.4	422.2
35°	374.5	364.5	363.4	364.5	368.9	371.2	368.9	376.8
37.5°	320.0	316.7	312.3	313.4	316.7	321.1	323.4	329.0
40°	267.8	263.4	263.4	262.2	258.9	271.2	271.2	271.2
42.5°	222.3	221.1	215.5	215.5	220.0	223.4	221.1	228.9
45°	182.3	177.8	174.4	174.4	177.8	177.8	181.2	180.0
47.5°	143.3	138.9	140.0	136.7	140.0	144.4	138.9	140.0
50°	107.8	107.8	105.6	107.8	106.7	107.8	105.6	103.3
52.5°	73.3	83.3	84.4	80.1	70.0	61.1	55.5	60.0
55°	42.2	37.8	37.8	36.6	34.5	33.4	30.0	33.4
57.5°	21.2	18.9	18.9	18.9	17.8	16.7	14.4	14.4
60°	8.8	7.8	7.8	6.6	5.6	4.5	3.4	4.5
62.5°	3.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2
65°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
67.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)