

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251670

Luminaire Tested: **LD4B10D010 EU4B10209050 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251670  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B10D010 EU4B10209050 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 757.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

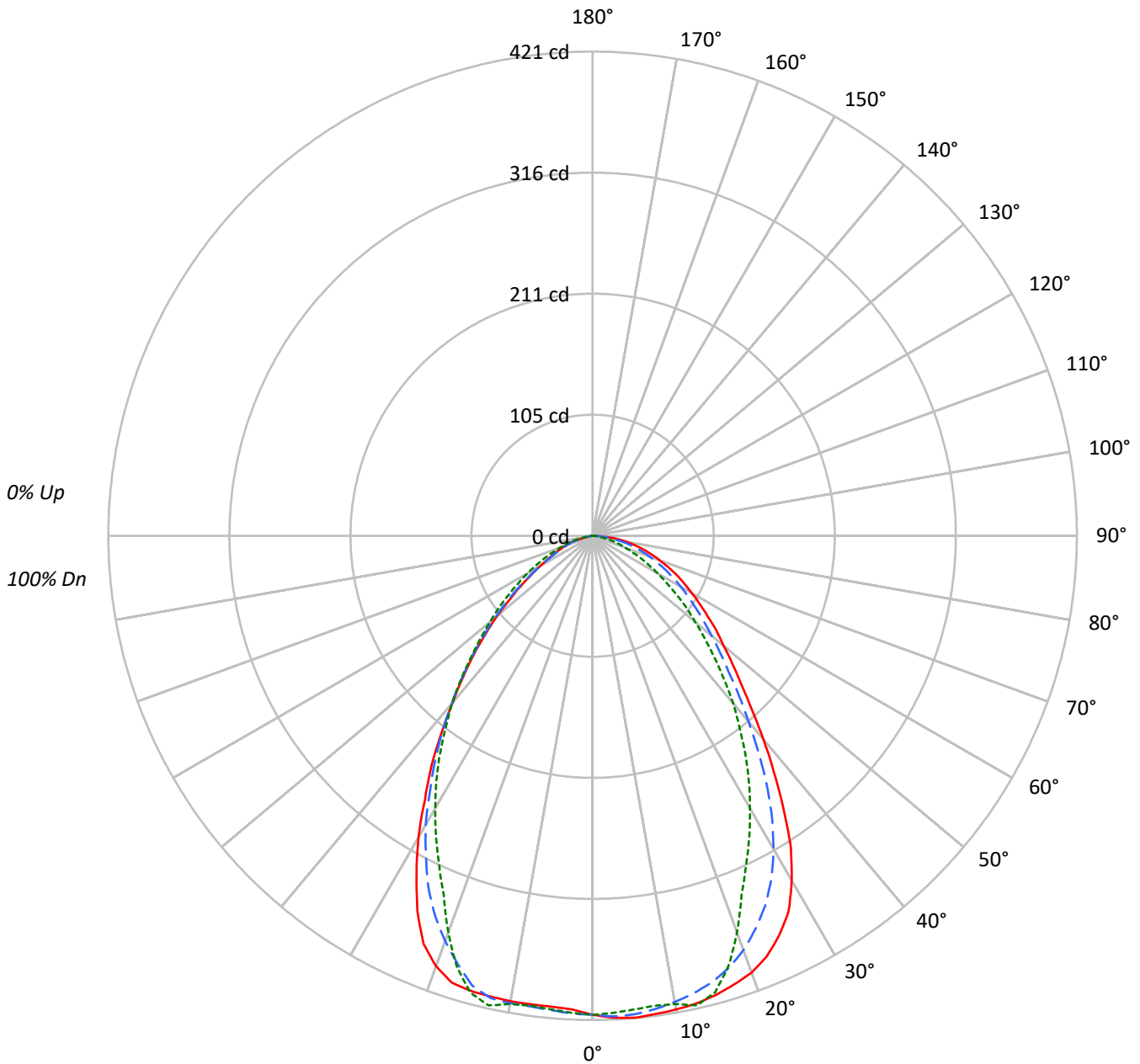
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				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	105	102	99	101	98	96	97	95	93	93	91	90	88				88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	40591	40591	40591
5°	41157	40443	40208
10°	41396	40911	40673
15°	41710	41468	41337
20°	41921	38063	41288
25°	41239	33948	38744
30°	38960	30790	34087
35°	34360	27531	29065
40°	29363	24160	24083
45°	25167	20619	20109
50°	22500	17588	16390
55°	20746	15037	12964
60°	19394	12728	10233
65°	18587	10562	8440
70°	17581	8520	7124
75°	17020	6891	5046
80°	16444	3760	1347
85°	14313	2013	671



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.6	5.2
10°-20°	113.8	15.0
20°-30°	157.9	20.9
30°-40°	155.8	20.6
40°-50°	122.2	16.1
50°-60°	84.7	11.2
60°-70°	51.9	6.9
70°-80°	25.9	3.4
80°-90°	5.2	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°	311.3	41.1
0°-40°	467.1	61.7
0°-60°	674.0	89.0
0°-90°	757.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	757.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	416	416	416	416	416	
5°	421	418	413	414	411	40
15°	413	402	411	405	410	117
25°	384	355	316	338	360	175
35°	289	264	231	239	244	180
45°	183	167	150	148	146	143
55°	122	109	88	79	76	110
65°	81	70	46	34	37	80
75°	45	38	18	14	13	48
85°	13	7	2	1	1	15
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°	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5
2.5°	419.5	418.3	417.7	419.5	418.9	420.1	419.5	418.9	417.7	418.3	418.3
5°	420.7	418.9	418.3	419.5	419.5	420.7	420.1	418.9	417.7	418.3	417.7
7.5°	419.5	418.3	418.3	418.9	418.3	419.5	418.3	417.1	415.8	416.5	415.2
10°	418.3	416.5	416.5	416.5	416.5	417.7	416.5	414.6	412.8	412.8	411.6
12.5°	416.5	414.6	414.6	415.2	414.0	415.2	414.0	411.0	409.1	408.5	407.3
15°	413.4	411.6	411.6	411.6	410.3	411.0	409.1	406.1	403.6	403.6	401.8
17.5°	409.1	407.3	406.7	406.7	404.9	405.5	403.6	400.6	396.9	395.7	393.9
20°	404.2	401.8	400.6	400.6	398.7	399.4	396.9	393.3	388.4	386.5	383.5
22.5°	395.7	394.5	392.6	392.0	390.2	389.6	387.1	382.3	378.0	374.9	370.0
25°	383.5	382.9	381.0	380.4	378.0	376.8	374.3	368.8	364.6	359.7	354.8
27.5°	368.8	366.4	365.2	363.3	360.9	360.3	357.2	352.3	345.6	342.6	336.5
30°	346.2	345.0	343.8	342.0	339.5	338.3	336.5	331.0	325.5	320.0	314.5
32.5°	320.6	318.1	316.3	316.9	313.9	312.6	309.6	304.7	299.8	296.2	290.1
35°	288.8	288.2	287.6	286.4	283.9	283.3	280.9	277.2	271.7	267.5	263.8
37.5°	258.9	257.1	255.9	255.9	253.4	253.4	251.6	247.3	244.3	241.2	236.3
40°	230.8	227.8	227.8	227.8	225.3	225.9	224.7	220.4	217.4	213.7	210.7
42.5°	204.6	203.3	202.7	201.5	200.3	200.3	199.1	196.6	193.6	191.1	188.1
45°	182.6	182.0	181.4	180.7	179.5	178.9	178.3	174.6	172.8	170.4	167.3
47.5°	164.9	163.7	163.0	162.4	161.2	160.6	159.4	156.9	155.1	152.7	150.2
50°	148.4	147.8	147.2	147.2	145.9	145.3	144.1	142.3	139.2	138.0	135.0
52.5°	135.6	134.3	133.1	133.1	131.9	131.9	130.1	128.2	125.2	124.0	121.5
55°	122.1	121.5	120.9	120.9	119.7	119.1	118.5	116.0	113.6	111.7	109.3
57.5°	110.5	109.9	109.3	109.3	108.1	107.5	106.9	105.0	102.6	101.4	98.3
60°	99.5	99.5	98.9	98.3	97.7	97.1	96.5	94.6	92.8	91.0	88.5
62.5°	89.8	89.2	88.5	87.9	87.9	87.3	86.7	84.3	83.0	81.2	78.8
65°	80.6	79.4	79.4	78.8	78.8	78.2	77.6	75.1	73.9	72.1	69.6
67.5°	70.8	70.2	69.6	69.6	69.0	69.0	68.4	66.6	64.7	63.5	61.1
70°	61.7	61.7	61.1	61.1	60.5	59.8	59.8	58.6	56.8	55.0	52.5
72.5°	53.7	53.1	52.5	52.5	51.9	51.9	51.3	50.1	48.9	47.6	44.6
75°	45.2	44.6	44.6	44.6	44.0	44.0	43.4	42.1	40.9	39.7	37.9
77.5°	37.2	37.2	36.6	36.6	36.0	36.0	36.0	34.8	33.6	32.4	29.9
80°	29.3	29.3	29.3	28.7	28.1	28.1	28.1	26.9	25.6	24.4	22.6
82.5°	21.4	20.8	20.8	20.2	19.5	19.5	19.5	18.3	17.7	15.9	14.7
85°	12.8	12.2	12.2	11.6	11.0	11.0	11.0	10.4	9.2	8.5	7.3
87.5°	4.9	4.9	4.9	4.9	4.9	4.3	4.3	3.7	3.7	3.1	3.1
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°	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5
2.5°	418.3	417.7	417.7	417.1	417.7	416.5	416.5	416.5	416.5	415.2	415.2
5°	417.1	417.1	416.5	415.8	416.5	415.2	415.8	415.2	415.2	413.4	413.4
7.5°	414.6	414.0	412.8	412.2	412.8	412.2	412.2	412.2	413.4	412.2	412.2
10°	410.3	409.7	408.5	407.9	407.9	407.3	408.5	409.7	412.2	413.4	415.8
12.5°	406.1	404.9	404.2	404.2	404.9	404.9	407.3	410.3	416.5	418.3	420.7
15°	400.6	400.0	400.0	401.8	404.2	406.1	411.0	412.8	413.4	411.0	409.7
17.5°	393.3	393.3	393.9	395.7	397.5	397.5	398.1	396.9	395.7	392.6	389.0
20°	381.0	380.4	379.2	379.2	379.2	376.8	378.0	373.7	370.7	367.0	361.5
22.5°	365.8	362.7	358.4	355.4	353.6	352.3	349.3	344.4	340.7	338.3	335.9
25°	349.3	344.4	338.3	333.4	330.4	329.7	325.5	321.2	318.8	315.7	314.5
27.5°	330.4	324.9	317.5	312.6	310.2	308.4	304.7	300.4	297.4	294.9	293.1
30°	308.4	302.9	296.8	290.7	288.2	285.2	281.5	278.5	275.4	273.6	272.3
32.5°	283.9	278.5	272.3	268.1	265.0	262.6	259.5	256.5	254.0	252.8	251.6
35°	258.9	253.4	248.5	244.3	241.8	240.0	237.5	233.9	232.0	231.4	230.2
37.5°	232.0	228.4	224.1	220.4	218.6	216.2	214.9	211.9	211.9	209.4	209.4
40°	207.0	204.6	200.3	197.2	196.0	194.2	192.4	191.1	190.5	189.9	189.3
42.5°	185.0	181.4	178.9	176.5	174.6	173.4	173.4	171.6	171.0	169.1	168.5
45°	164.9	163.0	158.8	156.9	156.3	154.5	153.9	152.7	150.8	149.6	149.0
47.5°	147.2	145.3	142.9	140.4	139.2	138.0	136.8	135.0	133.7	131.9	131.3
50°	132.5	129.5	127.0	125.2	123.3	122.7	121.5	119.1	117.9	116.0	116.0
52.5°	119.1	116.6	113.6	111.7	109.9	108.7	106.9	105.0	103.2	102.6	100.8
55°	107.5	104.4	101.4	98.9	97.1	95.3	94.6	92.2	89.8	88.5	87.3
57.5°	96.5	93.4	89.8	86.7	85.5	84.3	82.4	80.0	78.2	76.3	75.1
60°	85.5	83.0	79.4	76.3	75.1	73.3	71.4	69.0	67.2	65.3	64.1
62.5°	76.3	72.7	69.6	66.6	64.7	63.5	61.1	59.2	56.8	55.0	53.1
65°	67.2	63.5	60.5	57.4	56.2	54.3	52.5	50.1	47.6	45.8	43.4
67.5°	58.0	55.0	51.9	48.9	47.6	46.4	44.0	41.5	39.1	37.2	34.8
70°	50.1	47.0	44.0	41.5	40.3	39.1	36.6	34.2	32.4	29.9	28.1
72.5°	42.7	40.3	37.2	34.8	33.6	32.4	29.9	28.1	25.6	24.4	22.6
75°	35.4	33.0	30.5	28.1	26.9	25.6	23.8	22.0	20.2	18.3	17.1
77.5°	28.1	25.6	23.2	21.4	20.2	19.5	17.7	15.9	14.0	12.8	11.0
80°	20.8	18.3	16.5	14.7	13.4	12.8	11.0	9.8	8.5	6.7	6.1
82.5°	12.8	11.0	9.8	8.5	7.9	7.3	6.1	4.9	4.3	3.7	3.1
85°	6.7	6.1	4.9	4.3	3.7	3.7	3.1	2.4	1.8	1.8	1.2
87.5°	2.4	1.8	1.8	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6
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°	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5
2.5°	414.0	414.6	415.2	415.8	415.2	415.2	416.5	414.0	415.8	415.8	413.4
5°	412.8	414.0	413.4	414.6	413.4	413.4	414.0	412.8	414.0	414.0	412.2
7.5°	411.6	412.8	412.8	413.4	412.8	412.8	413.4	411.6	412.8	412.8	411.0
10°	417.1	418.3	417.7	417.1	415.2	414.0	414.6	411.6	412.8	412.8	411.0
12.5°	418.9	418.3	415.8	414.6	413.4	412.2	412.8	410.3	411.6	411.6	410.3
15°	406.7	405.5	403.6	404.2	403.0	402.4	403.6	402.4	404.9	406.1	404.9
17.5°	385.9	385.3	384.1	384.1	384.1	384.7	386.5	386.5	390.2	392.6	393.9
20°	359.1	358.4	359.1	360.3	360.9	363.3	367.6	370.0	374.9	379.2	382.3
22.5°	334.6	335.9	337.7	340.1	340.7	343.8	349.3	351.7	357.8	362.7	365.8
25°	313.9	315.7	316.9	318.8	319.4	323.0	327.9	331.0	337.7	341.3	345.0
27.5°	293.1	295.5	296.2	298.6	298.6	302.3	306.5	309.6	313.9	317.5	320.6
30°	273.0	273.6	275.4	276.0	277.2	280.9	283.3	285.2	290.1	291.9	293.7
32.5°	251.0	253.4	254.6	255.2	254.6	257.7	260.1	261.4	263.2	265.6	266.8
35°	230.2	231.4	232.0	233.3	233.9	234.5	235.7	236.3	238.8	239.4	240.0
37.5°	209.4	211.3	210.7	211.3	211.3	211.9	213.1	212.5	214.3	214.9	214.3
40°	188.7	188.7	189.9	189.3	189.9	189.3	190.5	190.5	190.5	191.1	190.5
42.5°	167.9	168.5	167.9	169.1	167.9	168.5	168.5	167.9	168.5	167.9	167.9
45°	149.0	149.0	149.0	149.0	147.8	147.8	149.0	148.4	147.8	147.2	146.6
47.5°	130.7	131.3	130.1	130.7	130.1	129.5	128.8	128.8	128.2	127.0	126.4
50°	115.4	114.2	113.6	114.2	113.6	113.0	112.4	111.1	110.5	109.3	108.7
52.5°	100.1	98.9	97.7	97.7	97.1	95.9	95.3	94.0	93.4	92.2	92.2
55°	86.7	85.5	84.3	83.7	82.4	81.2	80.6	79.4	78.8	77.6	76.3
57.5°	73.9	72.1	70.8	70.2	69.6	67.8	67.2	65.9	64.7	63.5	62.9
60°	62.3	60.5	58.6	58.0	57.4	55.6	55.0	53.1	52.5	51.3	50.7
62.5°	51.3	50.1	47.6	47.0	45.8	44.6	42.7	42.1	41.5	42.1	42.1
65°	41.5	39.7	37.9	37.2	36.0	34.8	34.2	33.6	34.2	34.2	34.8
67.5°	33.0	31.1	29.3	29.3	28.7	27.5	27.5	27.5	28.1	28.1	28.7
70°	26.3	25.0	23.8	23.2	23.2	22.6	23.2	23.2	23.8	23.8	23.8
72.5°	20.8	20.2	19.5	18.9	18.9	18.9	18.9	18.9	18.9	18.9	19.5
75°	15.9	15.3	14.7	14.7	14.0	14.0	14.0	14.0	14.0	14.0	13.4
77.5°	10.4	9.8	9.2	9.2	8.5	7.9	7.9	7.3	7.3	7.3	7.3
80°	5.5	4.9	4.3	3.7	3.7	3.1	3.1	3.1	3.1	2.4	2.4
82.5°	2.4	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
85°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	416.5	416.5	416.5	416.5	416.5	416.5	416.5	416.5
2.5°	414.6	413.4	414.6	415.2	414.0	413.4	414.6	412.2
5°	414.0	412.2	412.8	413.4	412.2	411.6	412.8	411.0
7.5°	412.8	412.2	412.8	413.4	411.6	411.6	412.8	411.0
10°	412.8	411.6	412.2	413.4	412.2	412.2	413.4	411.0
12.5°	412.2	410.3	412.2	412.8	411.6	411.6	412.8	410.3
15°	407.9	407.9	408.5	409.7	409.1	409.7	411.6	409.7
17.5°	398.7	400.0	402.4	404.2	405.5	406.7	408.5	407.3
20°	387.8	389.6	392.6	394.5	396.9	397.5	400.6	398.1
22.5°	370.7	374.3	376.8	378.6	380.4	382.3	384.7	384.1
25°	349.9	352.3	354.2	356.0	358.4	359.7	360.9	360.3
27.5°	324.9	326.1	328.5	329.7	331.0	332.2	334.6	331.6
30°	297.4	298.0	299.2	301.0	301.0	302.3	303.5	302.9
32.5°	269.3	269.3	270.5	271.7	271.1	271.7	274.2	271.1
35°	241.8	241.2	243.0	243.6	243.6	243.0	244.9	244.3
37.5°	214.9	215.6	216.2	216.8	215.6	216.8	216.8	215.6
40°	190.5	189.9	191.1	191.7	191.1	191.7	191.7	189.3
42.5°	168.5	167.3	167.9	168.5	167.9	168.5	167.9	166.7
45°	147.2	146.6	146.6	147.2	145.9	145.9	145.9	145.9
47.5°	127.0	126.4	127.0	127.0	125.8	125.8	126.4	125.8
50°	108.7	108.1	108.1	108.1	107.5	107.5	108.1	108.1
52.5°	92.2	91.0	91.0	91.0	91.0	91.0	91.6	90.4
55°	75.7	75.7	75.7	75.7	76.3	76.3	76.3	76.3
57.5°	62.3	62.9	62.9	63.5	62.9	63.5	63.5	62.9
60°	51.9	51.3	51.9	51.9	52.5	52.5	52.5	52.5
62.5°	42.7	42.7	42.7	43.4	43.4	43.4	44.0	43.4
65°	35.4	35.4	36.0	36.0	36.0	36.6	36.6	36.6
67.5°	29.3	29.3	29.3	29.3	29.9	29.9	30.5	29.9
70°	24.4	24.4	24.4	24.4	24.4	25.0	25.0	25.0
72.5°	19.5	19.5	19.5	19.5	20.2	20.2	20.2	20.2
75°	13.4	13.4	13.4	14.0	13.4	13.4	13.4	13.4
77.5°	6.7	6.7	6.7	6.7	6.7	6.1	6.1	6.1
80°	2.4	2.4	2.4	2.4	2.4	2.4	1.8	2.4
82.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.6
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)