

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: P251749

Luminaire Tested: **LD4B10D010 EU4B10209727 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251749  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B10D010 EU4B10209727 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 586.0 lumens  
Efficiency: N/A  
Efficacy: 58.3 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

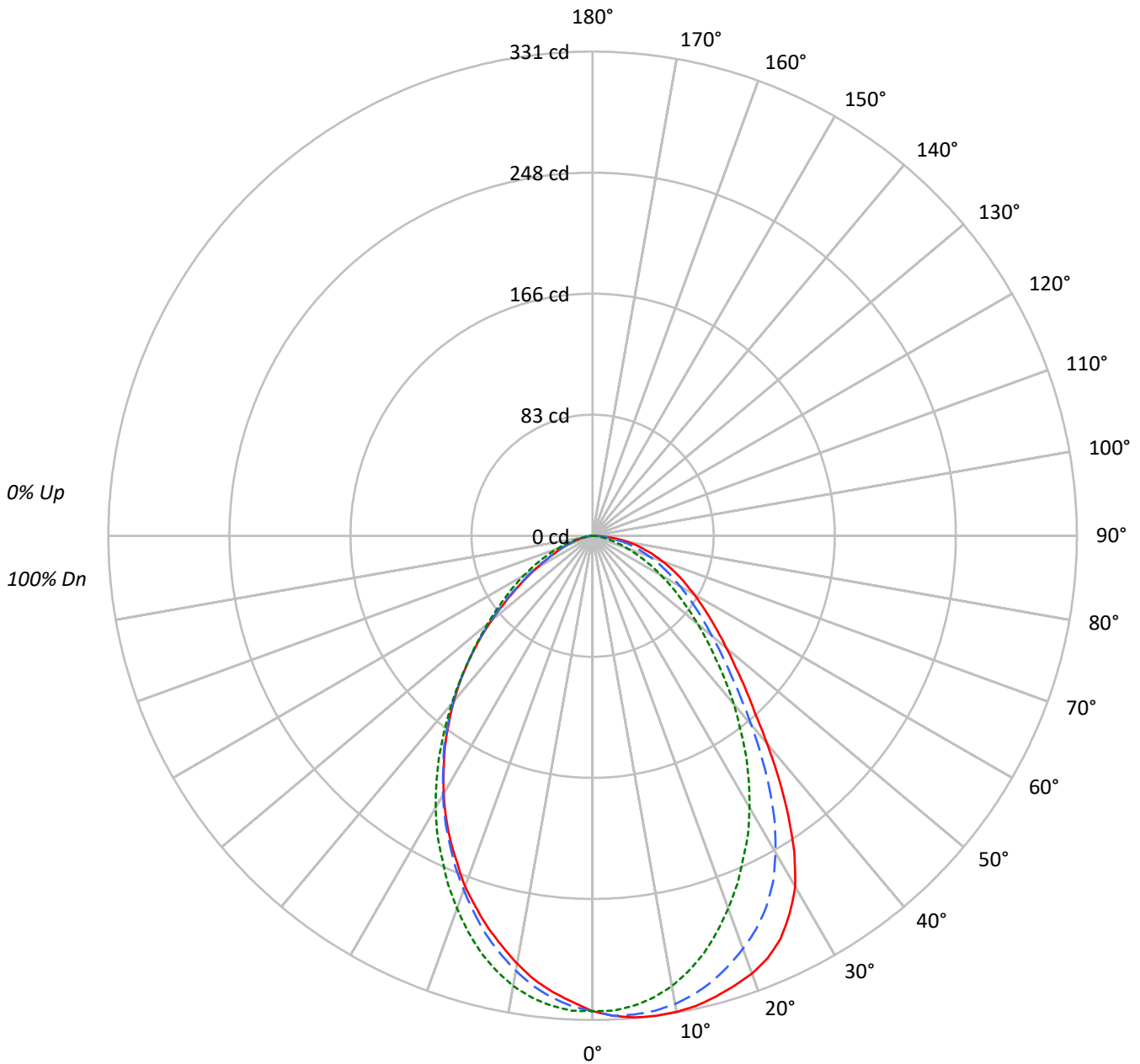
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
RC	80									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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	31674	31674	31674
5°	32333	31550	30621
10°	32707	30925	29392
15°	32892	29764	27948
20°	33033	28106	26447
25°	32690	26184	24733
30°	31172	24139	22901
35°	27721	21713	20939
40°	23600	19083	18765
45°	20329	16401	16332
50°	18118	14176	13721
55°	16651	12234	10959
60°	15593	10525	8576
65°	14989	8878	6688
70°	14390	7124	5414
75°	13932	5648	4142
80°	14031	3929	2526
85°	11741	2796	1118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.4	5.2
10°-20°	83.6	14.3
20°-30°	117.0	20.0
30°-40°	120.2	20.5
40°-50°	97.6	16.7
50°-60°	68.7	11.7
60°-70°	42.3	7.2
70°-80°	21.1	3.6
80°-90°	5.0	0.9
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°	231.0	39.4
0°-40°	351.3	59.9
0°-60°	517.6	88.3
0°-90°	586.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	586.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	325	325	325	325	325	
5°	330	328	322	317	313	32
15°	326	316	295	282	277	92
25°	304	280	244	232	230	139
35°	233	210	182	177	176	145
45°	148	133	119	119	118	115
55°	98	86	72	66	64	88
65°	65	54	38	30	29	64
75°	37	29	15	11	11	40
85°	10	7	2	2	1	12
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°	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0
2.5°	328.5	329.0	327.5	329.0	327.0	328.0	328.5	327.5	326.5	328.5	328.5
5°	330.5	330.5	329.0	331.0	328.5	329.0	330.0	328.5	327.0	329.0	328.5
7.5°	331.0	331.0	329.0	331.0	328.5	329.0	329.5	328.0	326.5	328.0	327.5
10°	330.5	330.0	328.5	330.5	328.0	328.0	328.5	327.0	324.5	326.0	325.0
12.5°	329.0	329.0	327.0	329.0	325.5	325.5	326.0	324.0	322.0	322.0	321.0
15°	326.0	326.0	324.0	325.5	322.5	322.5	322.0	320.0	317.5	317.5	315.5
17.5°	322.5	322.5	320.5	322.0	318.5	318.5	318.0	315.0	311.5	311.0	308.5
20°	318.5	318.5	316.0	317.0	313.0	313.0	312.5	309.0	305.0	304.0	300.5
22.5°	312.5	312.5	310.0	310.5	306.5	306.0	305.5	301.5	297.5	296.0	291.5
25°	304.0	303.5	301.5	301.5	297.5	296.5	295.5	291.5	287.5	284.5	280.5
27.5°	291.5	292.0	289.5	290.0	285.0	284.0	283.5	278.5	274.0	271.0	267.0
30°	277.0	275.5	273.0	273.0	269.0	268.5	267.5	263.0	258.0	254.5	250.0
32.5°	256.5	256.0	253.5	253.5	249.0	249.0	247.0	242.5	238.0	236.0	231.5
35°	233.0	232.5	230.5	230.5	226.5	227.0	225.0	221.5	217.0	214.0	210.5
37.5°	209.0	208.5	206.5	207.0	203.5	203.5	202.0	198.5	195.0	193.5	189.0
40°	185.5	185.0	182.5	184.0	181.0	180.0	179.5	177.0	173.0	171.0	168.5
42.5°	164.0	164.5	162.0	163.0	160.5	159.5	159.0	157.0	154.0	152.0	149.5
45°	147.5	146.5	145.5	145.5	143.0	142.5	142.0	139.5	137.5	135.5	133.0
47.5°	132.0	131.0	130.0	130.5	128.5	128.0	127.0	125.0	122.5	121.5	119.0
50°	119.5	119.0	117.5	117.5	115.5	115.0	114.0	112.5	110.0	108.5	106.5
52.5°	108.0	108.0	106.5	106.0	104.5	104.0	103.5	101.5	99.5	97.5	95.5
55°	98.0	97.5	96.5	96.5	94.5	94.0	93.5	91.5	89.5	88.0	86.0
57.5°	88.5	88.5	87.5	87.5	86.0	85.0	85.0	83.0	80.5	79.5	77.0
60°	80.0	80.0	79.0	79.0	77.5	77.5	76.5	74.5	73.0	71.0	69.0
62.5°	72.0	72.5	71.5	71.0	69.5	69.0	69.0	67.5	65.0	63.5	61.5
65°	65.0	64.5	64.0	63.5	62.0	61.5	61.5	59.5	58.0	56.0	54.5
67.5°	57.5	57.5	56.5	56.5	55.5	55.0	54.0	52.5	51.0	49.5	48.0
70°	50.5	50.5	50.0	50.0	48.5	48.0	47.5	46.0	44.5	43.0	41.0
72.5°	44.0	43.5	43.0	43.0	42.0	41.5	41.0	39.5	38.0	36.5	35.0
75°	37.0	37.0	36.5	36.5	35.5	35.0	35.0	34.0	32.0	31.0	29.0
77.5°	31.0	31.0	30.5	30.5	29.5	29.5	29.0	27.5	26.5	25.0	24.0
80°	25.0	24.5	24.5	24.0	23.0	23.0	22.5	22.0	20.5	19.5	18.0
82.5°	17.5	17.5	17.5	17.0	16.5	16.5	16.0	15.0	14.0	13.5	12.0
85°	10.5	10.5	10.0	9.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0
87.5°	4.5	4.5	4.0	4.0	4.0	4.0	4.0	3.5	3.0	3.0	2.5
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°	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0
2.5°	325.5	327.0	326.5	326.0	325.0	325.0	325.0	324.5	325.0	325.0	324.0
5°	325.5	326.5	326.0	325.0	324.0	324.0	323.5	322.5	322.5	322.5	320.5
7.5°	324.0	325.0	323.5	322.5	321.5	320.5	320.5	319.0	319.0	318.5	316.5
10°	321.0	321.5	319.5	318.5	317.0	316.5	315.5	313.5	313.0	312.5	310.5
12.5°	316.5	317.0	314.5	312.5	310.5	310.0	309.0	306.5	305.5	304.5	302.0
15°	310.0	310.0	307.0	304.5	302.5	302.0	299.5	297.0	296.0	295.0	291.5
17.5°	302.5	302.0	298.0	295.5	293.0	292.0	289.5	286.5	284.5	283.5	280.5
20°	294.5	293.0	288.5	286.0	283.0	281.5	279.0	275.0	273.0	271.0	268.0
22.5°	285.0	283.0	278.0	274.5	271.5	270.0	266.5	263.0	260.0	258.0	254.5
25°	273.5	271.0	265.5	261.0	258.5	257.0	253.5	249.5	246.5	243.5	240.5
27.5°	260.0	257.0	251.5	247.0	244.5	242.0	239.5	235.0	232.5	230.0	226.5
30°	243.5	240.0	235.0	231.0	228.0	226.0	223.0	219.0	216.0	214.5	211.0
32.5°	225.5	221.5	217.0	213.0	211.5	209.0	206.5	202.5	200.0	198.5	196.0
35°	205.5	202.5	197.5	194.5	192.0	191.0	189.0	185.0	184.0	182.5	179.5
37.5°	184.5	182.0	178.5	176.0	174.0	173.0	171.0	168.5	167.0	165.5	164.0
40°	165.0	163.0	160.0	158.0	155.5	154.0	154.0	151.0	150.0	150.0	148.5
42.5°	146.0	145.0	142.5	139.5	139.0	137.5	137.0	135.5	134.5	134.0	133.5
45°	130.0	128.5	126.0	124.5	123.0	123.0	121.5	120.0	119.5	119.0	118.5
47.5°	116.0	114.0	112.0	110.5	109.5	109.0	107.5	106.5	106.0	106.0	105.5
50°	103.5	102.0	100.0	98.5	97.5	96.5	95.5	94.5	94.0	93.5	93.5
52.5°	93.0	91.0	89.0	87.5	86.0	85.5	84.5	83.5	83.0	82.5	82.0
55°	83.5	82.0	79.5	78.0	76.5	76.5	75.0	73.5	72.5	72.0	71.5
57.5°	74.5	73.0	70.5	69.0	68.0	67.0	66.0	65.0	64.0	63.0	62.0
60°	66.5	65.0	62.5	60.5	60.0	59.0	58.0	56.0	55.0	54.0	53.0
62.5°	59.0	57.0	55.0	53.0	52.5	51.5	50.0	48.5	47.0	46.0	44.5
65°	52.0	50.5	48.0	46.5	45.0	44.5	43.0	41.0	39.5	38.5	37.0
67.5°	45.5	43.5	41.0	39.5	38.5	37.5	36.0	34.5	33.0	31.5	30.0
70°	39.0	37.5	35.0	33.5	32.5	31.5	30.0	28.0	26.5	25.0	24.0
72.5°	33.0	31.0	29.0	27.5	26.5	25.5	24.0	22.5	21.0	20.0	18.5
75°	27.5	25.5	24.0	22.0	21.5	20.5	19.0	17.5	16.0	15.0	14.0
77.5°	22.0	20.5	18.5	17.5	16.5	15.5	14.5	13.0	12.0	10.5	9.5
80°	16.5	15.0	13.5	12.5	11.5	11.0	10.0	9.0	8.0	7.0	6.5
82.5°	11.0	10.0	8.5	8.0	7.5	7.0	6.0	5.5	5.0	4.5	4.0
85°	6.0	5.5	5.0	4.0	4.0	3.5	3.0	3.0	2.5	2.5	2.0
87.5°	2.5	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	0.5	0.5
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°	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0
2.5°	324.5	322.5	322.5	322.5	321.0	321.5	322.0	322.5	322.0	320.5	322.0
5°	321.0	319.0	319.0	318.0	317.0	317.0	317.0	317.5	317.0	315.5	316.0
7.5°	316.5	314.0	313.5	312.5	311.5	311.0	311.0	311.0	310.5	308.5	309.5
10°	309.5	307.0	306.0	305.5	304.0	303.5	303.0	302.5	302.0	300.0	301.0
12.5°	301.0	299.0	297.0	296.5	295.0	294.0	293.5	293.5	292.5	290.5	291.5
15°	291.0	288.0	286.5	285.5	284.0	283.0	282.0	282.5	282.0	280.0	280.5
17.5°	279.0	276.0	274.5	274.0	272.0	271.0	270.5	270.5	270.0	268.0	268.5
20°	266.0	263.0	262.0	261.0	260.0	259.0	258.5	258.0	257.5	255.5	257.0
22.5°	253.0	249.5	248.0	248.0	246.0	245.5	245.0	245.5	245.0	243.0	244.0
25°	239.5	236.0	235.0	233.5	232.5	232.0	232.0	232.0	231.5	230.5	231.5
27.5°	224.5	222.0	220.5	220.0	219.0	218.5	218.0	218.5	218.5	217.0	218.0
30°	209.5	207.5	206.5	206.0	204.5	204.0	204.5	204.5	204.5	203.0	204.5
32.5°	194.5	193.0	192.5	191.0	190.0	190.0	190.0	190.5	190.0	189.0	190.5
35°	179.5	177.5	177.0	176.5	176.5	175.5	176.5	176.0	177.0	175.5	176.5
37.5°	163.5	162.5	162.0	162.0	161.0	161.5	161.5	161.5	162.5	161.0	162.0
40°	148.5	147.5	147.5	147.5	147.0	147.0	147.0	147.5	148.0	147.0	148.0
42.5°	133.5	133.0	133.0	132.5	132.0	132.5	133.0	133.0	133.5	132.5	133.0
45°	119.0	118.5	119.0	118.5	118.5	118.0	118.5	119.0	119.0	118.5	118.5
47.5°	105.5	105.5	105.0	105.0	105.0	105.0	105.0	105.0	105.0	104.0	105.0
50°	93.5	92.5	93.0	92.5	92.5	92.0	92.0	91.5	91.0	90.5	90.5
52.5°	82.0	81.0	81.0	80.5	80.0	80.0	79.5	79.0	78.5	77.5	77.5
55°	71.0	70.0	69.5	69.0	68.5	68.0	67.5	67.0	66.0	65.5	65.5
57.5°	61.0	60.0	59.0	59.0	58.0	57.5	56.5	55.5	55.0	54.0	54.0
60°	52.0	51.0	49.5	49.0	48.5	47.5	46.0	45.5	45.0	44.0	44.5
62.5°	43.5	42.0	40.5	40.0	39.5	38.5	37.5	36.5	36.0	36.5	36.5
65°	35.5	34.0	33.0	32.0	31.5	30.5	30.0	29.5	29.5	29.5	30.0
67.5°	28.5	27.0	26.0	25.5	24.5	24.0	24.0	24.0	24.0	24.0	24.0
70°	22.5	21.5	20.5	19.5	19.5	19.0	19.0	19.0	19.0	19.0	19.0
72.5°	17.0	16.0	15.5	15.5	15.0	15.0	15.0	15.0	14.5	14.5	15.0
75°	12.5	12.0	11.5	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0
77.5°	9.0	8.5	8.5	8.0	8.0	8.0	8.0	8.0	8.0	7.5	7.5
80°	6.0	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0
82.5°	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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





TEST NUMBER: P251749

CATALOG NUMBER: LD4B10D010 EU4B10209727 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	325.0	325.0	325.0	325.0	325.0	325.0	325.0	325.0
2.5°	319.0	321.0	321.5	320.0	320.5	319.5	320.0	319.0
5°	313.5	315.0	315.5	314.5	314.5	313.5	314.0	313.0
7.5°	306.5	308.0	308.5	307.5	307.5	306.5	306.5	306.0
10°	298.5	299.0	300.0	298.5	299.0	298.0	298.0	297.0
12.5°	288.5	289.5	290.5	289.0	289.0	288.5	288.5	287.0
15°	278.0	279.0	279.5	278.5	278.5	278.0	277.5	277.0
17.5°	267.0	267.5	268.5	267.0	268.0	267.0	267.0	266.0
20°	254.5	256.0	256.5	255.0	255.5	255.0	255.0	255.0
22.5°	242.5	243.5	244.0	243.0	243.5	242.5	243.0	242.0
25°	230.0	230.5	231.0	230.0	231.0	230.5	230.0	230.0
27.5°	217.0	217.5	218.0	217.0	218.0	217.5	218.0	217.0
30°	203.0	204.0	205.0	204.0	204.5	204.0	204.0	203.5
32.5°	189.0	190.0	191.0	190.0	191.0	190.0	190.5	189.5
35°	176.0	176.5	177.0	176.0	176.5	176.5	176.5	176.0
37.5°	161.5	162.5	162.5	162.0	163.0	162.5	162.5	161.5
40°	147.5	148.0	148.5	147.5	148.0	147.5	148.0	147.5
42.5°	133.0	134.0	134.5	133.5	133.5	133.5	133.0	133.5
45°	118.0	119.0	120.0	118.5	119.0	119.0	119.0	118.5
47.5°	104.5	104.5	105.0	104.5	105.0	104.0	105.0	104.5
50°	90.5	90.5	91.5	90.5	90.5	90.5	90.5	90.5
52.5°	77.0	77.5	77.5	76.5	77.0	76.5	77.0	76.5
55°	64.5	64.5	65.0	64.5	64.5	64.5	64.5	64.5
57.5°	53.5	54.0	54.0	53.5	54.0	53.5	53.5	53.5
60°	44.5	44.5	44.5	44.0	44.5	44.0	44.5	44.0
62.5°	36.0	36.5	36.5	36.0	36.5	36.0	36.0	36.0
65°	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.0
67.5°	23.5	23.5	24.0	23.5	24.0	24.0	24.0	24.0
70°	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
72.5°	14.5	14.5	15.0	14.5	14.5	14.5	14.5	14.5
75°	11.0	11.0	11.0	11.0	11.0	10.5	10.5	11.0
77.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	8.0
80°	5.0	5.0	5.0	5.0	4.5	4.5	5.0	4.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0
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)