

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: P274337

Luminaire Tested: **LD4B10DE010W2N2765 EU4B1020W2N902765 4LBDW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274337
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBDW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, DOUBLE WALLWASH WITH HAZE FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 900.1 lumens
Efficiency: N/A
Efficacy: 64.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

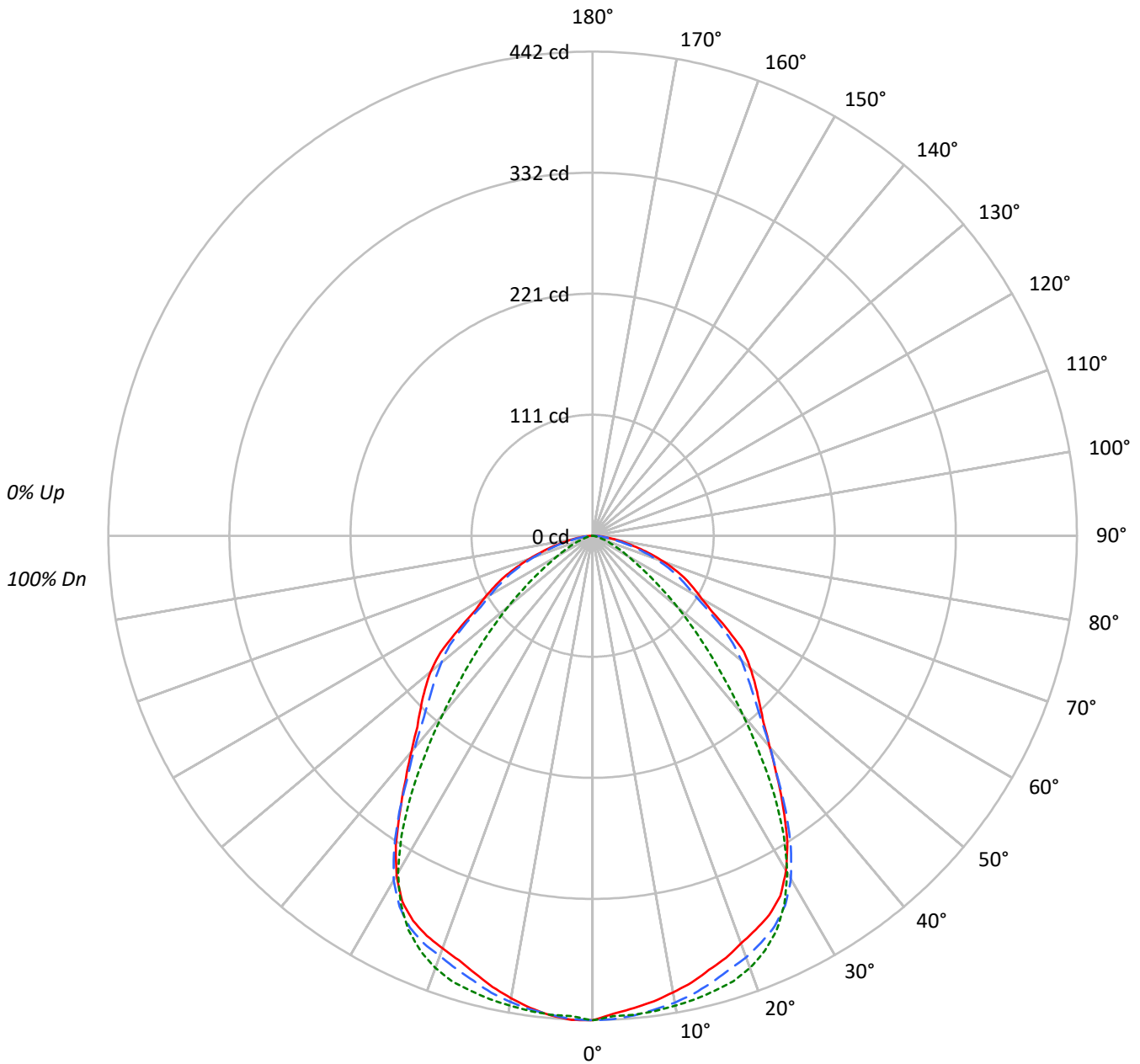
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P274337

CATALOG NUMBER: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBDW0H

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	89	88																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66																			
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41																			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	43106	43106	43106
5°	42331	42938	42996
10°	41881	43098	42425
15°	41398	43385	41741
20°	41070	43539	41568
25°	41045	42734	41701
30°	39736	39972	40276
35°	36109	34407	36430
40°	31946	27098	32722
45°	29633	20633	30570
50°	28474	15268	29293
55°	25776	10518	25436
60°	22415	7153	22279
65°	21654	5189	20547
70°	19576	3476	17439
75°	16154	2297	13819
80°	12965	1515	10327
85°	10623	783	6821



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.7	4.6
10°-20°	119.4	13.3
20°-30°	180.3	20.0
30°-40°	188.7	21.0
40°-50°	152.9	17.0
50°-60°	111.2	12.4
60°-70°	68.6	7.6
70°-80°	31.0	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°	341.5	37.9
0°-40°	530.2	58.9
0°-60°	794.2	88.2
0°-90°	900.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	900.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	442	442	442	442	442	
5°	433	440	439	439	440	41
15°	410	422	430	420	414	116
25°	382	393	397	395	388	175
35°	304	308	289	308	306	189
45°	215	208	150	211	222	167
55°	152	142	62	144	150	135
65°	94	84	22	83	89	92
75°	43	37	6	32	37	47
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°	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3
2.5°	436.8	436.8	440.9	445.7	441.6	437.5	440.2	438.9	443.6	443.6	441.6
5°	432.7	434.1	437.5	441.6	438.2	434.1	437.5	436.1	440.9	440.9	439.5
7.5°	428.7	429.3	433.4	438.2	434.8	430.7	433.4	432.7	436.8	437.5	436.1
10°	423.2	423.9	428.0	432.7	429.3	425.9	428.7	428.0	433.4	433.4	432.7
12.5°	417.8	418.5	422.5	426.6	423.2	419.8	422.5	422.5	428.0	428.7	428.0
15°	410.3	411.7	415.1	419.1	417.1	413.0	415.7	415.7	420.5	421.9	421.9
17.5°	404.2	404.8	408.2	412.3	409.6	406.2	408.9	408.9	413.7	415.1	415.1
20°	396.0	397.4	400.8	404.8	402.8	400.1	402.1	402.1	407.6	408.9	409.6
22.5°	389.2	390.6	393.3	398.7	395.3	393.3	396.0	395.3	401.4	402.1	402.1
25°	381.7	383.1	386.5	389.9	387.8	385.8	387.8	387.8	392.6	393.3	393.3
27.5°	370.8	371.5	374.9	378.3	376.3	373.5	376.3	375.6	380.4	381.0	380.4
30°	353.1	354.5	355.9	360.6	358.6	356.5	359.3	357.9	362.7	362.7	362.0
32.5°	330.7	330.7	333.4	336.8	334.1	332.7	334.8	335.4	338.8	338.8	336.8
35°	303.5	304.8	306.9	308.9	306.9	305.5	307.5	306.9	310.9	309.6	307.5
37.5°	276.2	276.9	279.0	281.7	279.0	276.9	277.6	276.9	280.3	280.3	276.9
40°	251.1	252.4	253.8	256.5	253.8	252.4	253.1	251.1	255.2	253.8	251.8
42.5°	230.7	231.3	233.4	234.7	232.0	231.3	232.0	230.7	232.7	231.3	227.3
45°	215.0	215.0	215.7	217.7	215.0	214.3	214.3	213.0	215.0	212.3	208.2
47.5°	201.4	202.1	202.8	204.1	202.1	200.0	200.7	198.0	199.4	197.3	191.9
50°	187.8	189.2	189.8	191.2	189.2	187.8	188.5	185.8	185.8	182.4	177.6
52.5°	174.2	174.9	174.2	175.5	174.2	172.1	172.8	170.1	170.1	166.0	161.3
55°	151.7	152.4	153.1	154.5	153.1	151.1	152.4	150.4	150.4	147.6	142.2
57.5°	129.3	130.0	130.6	131.3	131.3	130.0	130.6	129.3	128.6	126.6	122.5
60°	115.0	115.0	115.0	115.7	115.0	114.3	114.3	112.9	112.9	110.2	106.1
62.5°	104.1	104.8	104.8	105.5	104.8	104.1	103.4	102.1	101.4	98.7	95.3
65°	93.9	93.9	93.2	94.6	93.9	93.2	93.2	91.9	90.5	87.8	84.4
67.5°	81.6	82.3	81.6	82.3	82.3	81.6	81.0	79.6	78.9	76.9	72.8
70°	68.7	68.7	68.7	69.4	68.7	68.7	69.4	67.4	66.7	64.0	60.6
72.5°	55.8	56.5	56.5	55.8	56.5	55.1	55.1	55.1	54.4	51.7	48.3
75°	42.9	43.5	43.5	44.2	43.5	42.9	42.9	42.2	41.5	39.5	36.7
77.5°	32.0	32.0	32.7	32.7	32.7	32.0	32.0	30.6	30.6	29.3	26.5
80°	23.1	23.1	22.5	23.1	23.1	22.5	22.5	21.8	21.8	20.4	18.4
82.5°	15.0	15.6	15.6	15.6	15.6	15.0	15.0	15.0	14.3	13.6	12.2
85°	9.5	9.5	9.5	9.5	10.2	9.5	10.2	9.5	9.5	8.2	7.5
87.5°	4.1	4.1	4.1	4.8	4.8	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°	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3
2.5°	441.6	442.3	440.2	442.9	440.9	441.6	442.3	441.6	438.9	438.9	446.4
5°	438.9	440.2	438.2	441.6	440.2	440.2	441.6	440.9	438.2	438.9	445.7
7.5°	436.1	438.2	436.8	440.2	438.2	438.2	439.5	439.5	436.8	437.5	443.6
10°	432.1	434.8	434.1	437.5	435.5	435.5	437.5	437.5	434.8	435.5	441.6
12.5°	428.7	431.4	430.7	434.1	432.7	433.4	434.1	435.5	432.1	433.4	438.9
15°	423.2	425.9	425.9	429.3	428.0	429.3	430.7	432.7	430.0	430.0	435.5
17.5°	417.1	420.5	420.5	423.2	423.2	423.9	426.6	428.7	425.9	426.6	431.4
20°	410.3	414.4	414.4	417.8	417.1	418.5	420.5	422.5	419.8	419.8	425.3
22.5°	403.5	406.9	407.6	409.6	409.6	410.3	412.3	413.7	410.3	410.3	415.7
25°	394.0	397.4	398.0	399.4	398.0	398.0	399.4	400.8	397.4	397.4	402.1
27.5°	381.0	384.4	384.4	383.8	382.4	383.1	382.4	383.1	379.7	379.0	383.8
30°	362.0	364.0	364.0	363.3	361.3	361.3	359.3	359.9	355.2	355.2	359.3
32.5°	336.1	338.2	336.8	335.4	332.7	331.4	330.0	329.3	324.6	324.6	329.3
35°	305.5	306.9	304.8	302.1	298.7	296.7	294.6	291.9	288.5	289.2	291.9
37.5°	274.2	274.2	271.5	266.0	263.3	259.9	256.5	256.5	251.1	250.4	252.4
40°	247.7	244.9	240.2	232.7	227.9	224.5	219.8	217.1	213.0	213.0	216.4
42.5°	223.9	218.4	212.3	202.1	197.3	193.2	187.1	184.4	179.6	178.9	181.0
45°	202.8	197.3	188.5	177.6	171.5	166.7	157.9	154.5	150.4	149.7	151.1
47.5°	185.8	179.6	168.7	154.5	148.3	142.2	133.4	128.6	125.2	123.2	125.2
50°	170.8	162.6	151.1	136.1	127.9	122.5	111.6	106.8	102.1	100.7	101.4
52.5°	154.5	146.3	134.0	118.4	110.9	102.7	92.5	85.7	81.6	79.6	81.6
55°	136.8	128.6	116.4	100.7	92.5	85.1	74.2	68.7	64.0	61.9	64.0
57.5°	117.7	110.2	99.3	83.7	76.2	69.4	59.2	53.8	49.0	47.6	49.0
60°	101.4	95.3	84.4	69.4	63.3	55.8	46.9	41.5	37.4	36.7	37.4
62.5°	90.5	83.7	73.5	59.2	53.1	46.9	38.8	33.3	29.9	29.3	29.9
65°	79.6	72.1	62.6	50.4	44.2	39.5	31.3	26.5	23.1	22.5	23.1
67.5°	67.4	60.6	52.4	41.5	36.7	32.0	25.2	20.4	17.7	17.0	17.7
70°	55.8	49.7	41.5	33.3	28.6	25.2	19.1	15.6	12.9	12.2	12.9
72.5°	44.2	38.8	32.0	25.2	22.5	19.1	15.0	11.6	9.5	8.8	9.5
75°	34.0	29.9	24.5	18.4	16.3	14.3	10.2	8.2	6.8	6.1	6.8
77.5°	23.8	21.1	17.0	13.6	11.6	10.2	7.5	5.4	4.8	4.1	4.8
80°	16.3	14.3	11.6	8.8	7.5	6.1	4.8	3.4	2.7	2.7	2.7
82.5°	10.9	8.8	6.8	5.4	4.8	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°	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3
2.5°	444.3	442.3	445.0	442.3	440.9	442.3	440.9	445.0	441.6	438.9	441.6
5°	443.6	440.9	443.6	441.6	439.5	440.2	438.9	442.9	438.9	436.8	438.2
7.5°	442.3	440.2	441.6	439.5	437.5	438.2	436.8	440.2	436.1	434.1	435.5
10°	440.2	438.2	438.9	437.5	435.5	435.5	434.1	436.8	432.1	429.3	430.7
12.5°	437.5	434.8	436.1	434.1	431.4	431.4	430.0	432.1	427.3	424.6	425.3
15°	434.1	431.4	431.4	429.3	426.6	426.6	423.9	425.9	420.5	417.8	417.8
17.5°	430.0	426.6	426.6	424.6	421.2	420.5	418.5	420.5	414.4	411.7	411.7
20°	423.9	421.2	420.5	419.1	415.7	415.1	412.3	413.0	408.2	406.2	405.5
22.5°	415.7	413.0	413.7	411.7	408.9	408.2	405.5	407.6	402.8	400.8	401.4
25°	401.4	400.1	401.4	400.8	398.7	398.7	397.4	398.7	394.6	393.3	394.0
27.5°	385.1	384.4	385.1	385.1	383.8	383.8	383.8	385.8	381.7	381.0	381.0
30°	361.3	361.3	362.0	362.7	362.7	364.0	363.3	366.1	363.3	362.0	363.3
32.5°	330.0	332.7	334.8	334.8	334.8	336.1	337.5	339.5	336.8	337.5	337.5
35°	294.6	296.7	298.0	301.4	299.4	304.1	305.5	308.2	307.5	308.9	308.2
37.5°	255.2	257.9	260.6	265.4	264.7	270.1	272.8	278.3	276.9	279.6	281.0
40°	218.4	222.5	226.6	230.0	232.7	238.1	243.6	250.4	252.4	254.5	255.2
42.5°	183.0	187.1	193.9	198.7	202.8	211.6	219.1	227.3	229.3	233.4	234.7
45°	154.5	157.9	166.0	172.1	175.5	188.5	197.3	207.5	210.9	215.7	217.7
47.5°	127.9	134.0	142.2	149.7	154.5	168.1	179.6	190.5	195.3	200.7	203.4
50°	104.8	111.6	122.5	129.3	136.1	151.1	164.0	175.5	180.3	186.4	189.2
52.5°	85.7	93.2	103.4	110.9	118.4	134.0	147.6	158.5	164.7	168.7	172.8
55°	67.4	75.5	85.7	93.9	100.0	117.0	128.6	139.5	143.6	147.0	149.0
57.5°	52.4	58.5	68.7	75.5	83.0	98.0	109.5	117.7	121.1	125.2	126.6
60°	40.8	46.9	56.5	63.3	70.1	84.4	95.9	104.1	107.5	110.9	112.9
62.5°	32.7	38.8	47.6	53.8	59.9	72.8	83.0	91.2	95.3	98.7	100.7
65°	25.9	31.3	38.8	44.9	49.7	61.2	71.4	78.9	83.0	86.4	88.5
67.5°	20.4	25.2	32.0	36.1	40.8	50.4	59.2	66.0	69.4	73.5	75.5
70°	15.6	19.1	25.2	28.6	32.0	40.1	46.9	53.8	57.2	59.9	61.2
72.5°	11.6	14.3	19.1	21.8	23.8	30.6	36.1	40.8	43.5	46.3	47.6
75°	8.2	10.2	13.6	15.6	17.0	21.8	26.5	29.9	32.0	34.0	36.1
77.5°	5.4	6.8	8.8	10.2	11.6	15.0	17.7	20.4	22.5	24.5	25.2
80°	3.4	4.8	6.1	6.8	7.5	9.5	12.2	13.6	15.0	16.3	17.0
82.5°	2.0	2.7	3.4	4.1	4.8	6.1	7.5	8.8	9.5	10.9	11.6
85°	0.7	1.4	1.4	2.0	2.0	3.4	4.1	4.8	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



TEST NUMBER: P274337

CATALOG NUMBER: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBDW0H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	442.3	442.3	442.3	442.3	442.3	442.3	442.3	442.3
2.5°	444.3	442.3	440.9	440.2	445.0	438.9	441.6	442.3
5°	441.6	439.5	438.2	437.5	441.6	436.1	438.2	439.5
7.5°	437.5	436.1	434.1	433.4	437.5	431.4	434.1	434.8
10°	432.7	430.7	429.3	428.7	432.1	425.9	428.7	428.7
12.5°	426.6	425.3	422.5	422.5	425.3	419.8	421.9	421.9
15°	418.5	417.1	414.4	414.4	417.1	411.7	413.7	413.7
17.5°	411.7	410.3	408.2	407.6	410.3	404.8	406.9	406.2
20°	406.2	404.8	402.1	402.1	404.2	398.7	400.8	400.8
22.5°	401.4	400.8	398.0	398.0	400.8	395.3	396.7	395.3
25°	394.0	393.3	390.6	391.2	392.6	387.2	389.2	387.8
27.5°	381.7	381.7	379.0	378.3	380.4	375.6	376.9	376.3
30°	362.7	363.3	359.9	359.9	360.6	356.5	358.6	357.9
32.5°	336.8	337.5	334.8	334.1	336.1	332.7	334.1	334.1
35°	308.2	308.9	306.9	306.9	308.9	306.9	306.9	306.2
37.5°	279.6	281.0	279.6	280.3	281.7	279.6	281.0	280.3
40°	256.5	257.9	255.8	257.2	258.6	256.5	258.6	257.2
42.5°	235.4	237.5	236.1	237.5	238.8	237.5	238.8	236.8
45°	219.8	221.1	220.5	221.1	222.5	221.8	222.5	221.8
47.5°	204.8	207.5	206.2	207.5	209.6	208.2	209.6	207.5
50°	191.2	193.2	192.6	193.9	194.6	193.9	195.3	193.2
52.5°	173.5	175.5	174.9	174.9	176.2	174.9	176.2	174.9
55°	150.4	151.1	151.1	151.7	151.1	150.4	151.1	149.7
57.5°	127.9	129.3	127.2	129.3	128.6	127.9	127.9	126.6
60°	113.6	115.7	114.3	115.7	115.0	115.0	115.0	114.3
62.5°	102.1	103.4	102.1	102.7	102.7	102.7	102.1	101.4
65°	89.1	91.2	89.8	90.5	89.8	89.1	89.8	89.1
67.5°	76.2	76.9	76.9	76.2	76.2	76.2	76.2	74.8
70°	61.9	62.6	61.9	63.3	62.6	61.9	62.6	61.2
72.5°	48.3	49.0	48.3	49.0	48.3	48.3	48.3	48.3
75°	36.1	36.7	36.7	36.7	36.7	36.7	35.4	36.7
77.5°	25.9	25.9	25.9	26.5	25.9	25.9	25.9	25.9
80°	17.7	17.7	17.7	18.4	17.7	18.4	17.7	18.4
82.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
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)