

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: P274325

Luminaire Tested: **LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274325
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-13)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, SINGLE WALLWASH WITH HAZE FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 925.3 lumens
Efficiency: N/A
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

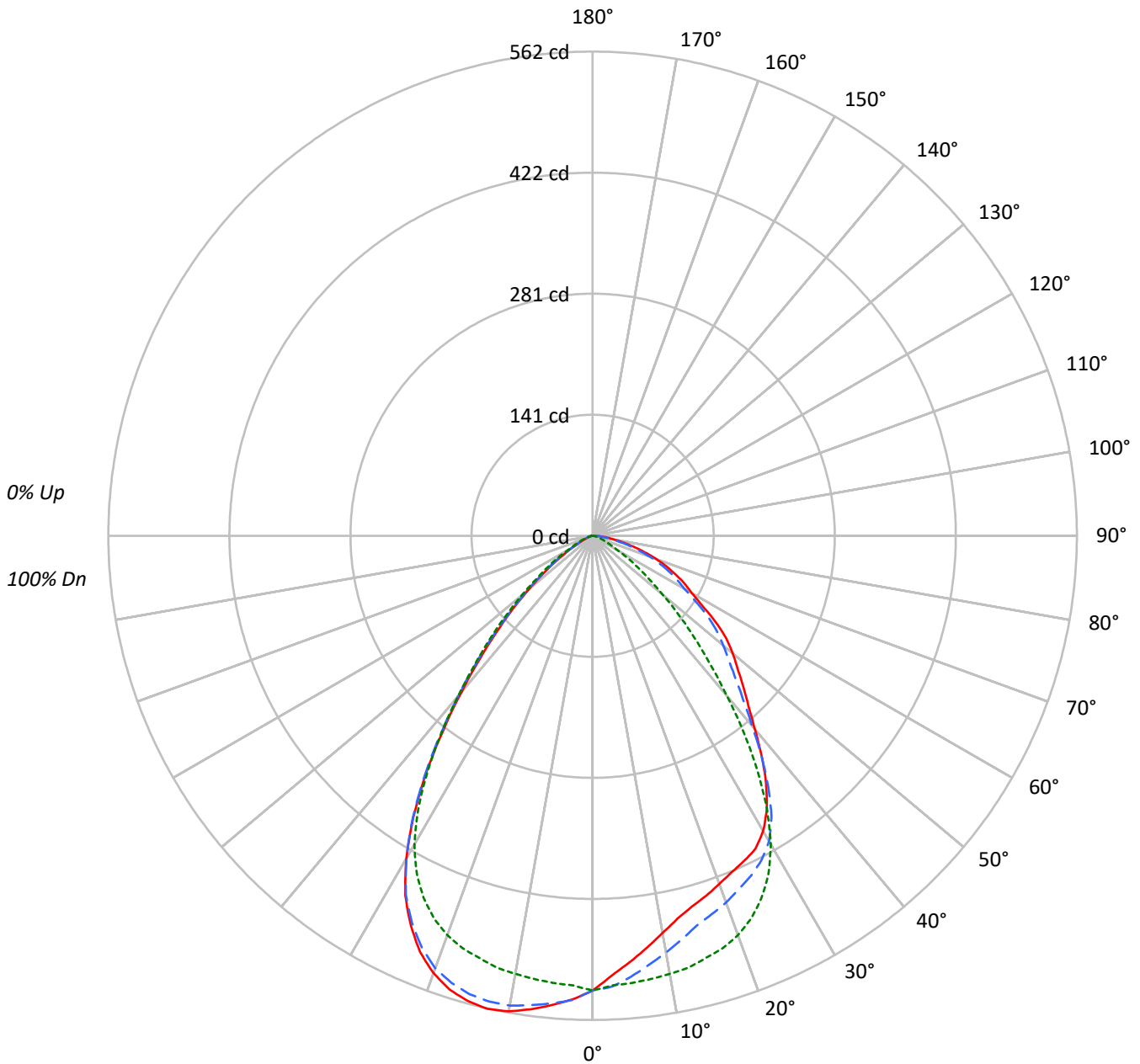
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70																			
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62																			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56																			
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50																			
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46																			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38																			
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	51438	51438	51438
5°	48583	50970	53503
10°	46314	51094	55468
15°	44949	51195	56411
20°	44586	51151	56015
25°	44766	49885	53691
30°	44553	46544	48683
35°	41760	39737	40142
40°	37213	30813	30114
45°	34029	22976	21570
50°	32173	16087	14540
55°	29582	10857	9124
60°	25846	6374	5029
65°	24467	4082	2813
70°	22283	2906	1738
75°	18451	2033	1280
80°	14480	1122	786
85°	12971	783	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.9	5.4
10°-20°	143.1	15.5
20°-30°	212.1	22.9
30°-40°	212.4	23.0
40°-50°	148.4	16.0
50°-60°	88.3	9.5
60°-70°	46.1	5.0
70°-80°	20.5	2.2
80°-90°	4.5	0.5
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°	405.1	43.8
0°-40°	617.4	66.7
0°-60°	854.2	92.3
0°-90°	925.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	925.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	528	528	528	528	528	
5°	497	514	521	545	547	47
15°	446	468	507	551	559	126
25°	416	435	464	496	499	192
35°	351	355	334	340	337	218
45°	247	235	167	161	156	192
55°	174	163	64	56	54	154
65°	106	97	18	13	12	105
75°	49	43	5	3	3	53
85°	12	9	1	1	0	13
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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	510.8	517.0	510.8	512.9	521.0	513.6	517.6	517.6	515.6	520.4	523.8
5°	496.6	502.7	496.6	499.3	508.1	500.6	505.4	504.0	504.7	508.8	513.6
7.5°	482.3	487.0	481.6	485.0	493.2	487.0	491.1	491.1	491.8	497.9	502.0
10°	468.0	472.1	468.0	470.7	479.6	474.1	476.8	477.5	479.6	485.0	491.1
12.5°	455.1	458.5	454.4	458.5	466.0	460.5	463.9	464.6	466.6	472.8	479.6
15°	445.5	448.9	444.9	448.3	455.1	451.0	453.7	455.1	456.4	461.9	468.0
17.5°	438.1	440.8	437.4	441.5	446.9	442.1	446.2	446.2	448.3	453.7	460.5
20°	429.9	432.6	429.9	433.3	439.4	435.3	438.7	438.7	440.8	446.9	453.0
22.5°	422.4	423.8	422.4	425.1	431.3	427.9	429.9	430.6	432.6	438.1	443.5
25°	416.3	419.0	417.7	420.4	424.5	421.1	423.1	423.8	425.8	430.6	435.3
27.5°	409.5	410.9	409.5	412.9	416.3	413.6	415.6	414.9	416.3	420.4	424.5
30°	395.9	397.2	397.2	399.3	402.0	400.6	402.7	400.6	402.0	405.4	409.5
32.5°	376.2	376.8	377.5	379.6	381.6	379.6	380.9	380.9	380.9	383.6	386.4
35°	351.0	352.4	351.7	353.0	355.1	354.4	354.4	353.7	352.4	353.7	355.1
37.5°	322.4	320.4	320.4	322.4	323.8	321.1	322.4	321.1	321.1	321.7	321.7
40°	292.5	290.5	292.5	293.2	293.9	292.5	291.8	290.5	288.4	289.1	287.7
42.5°	267.3	266.0	266.6	266.6	267.3	266.0	266.6	263.9	261.9	260.5	258.5
45°	246.9	244.9	246.9	245.6	245.6	244.9	244.2	242.8	240.1	238.1	234.7
47.5°	227.9	227.9	228.6	228.6	228.6	227.2	227.2	224.5	221.8	219.0	214.3
50°	212.2	210.9	213.6	213.6	211.5	210.9	211.5	208.1	206.1	202.7	197.9
52.5°	195.2	195.2	195.9	195.9	195.2	193.9	194.5	191.8	189.8	186.4	181.6
55°	174.1	172.8	174.8	174.8	174.1	173.5	174.1	172.1	170.1	167.3	163.3
57.5°	150.3	149.6	151.0	151.7	150.3	150.3	151.0	149.0	148.3	145.6	141.5
60°	132.6	132.0	133.3	134.0	132.6	132.6	132.6	129.9	128.6	125.8	123.1
62.5°	120.4	119.7	121.1	120.4	119.7	119.0	119.7	117.0	115.6	112.9	110.2
65°	106.1	106.8	107.5	107.5	106.8	106.1	106.1	104.8	103.4	100.7	97.3
67.5°	92.5	92.5	93.2	93.9	93.2	93.2	93.2	91.1	89.8	87.7	83.7
70°	78.2	77.5	79.6	79.6	78.2	78.9	78.2	77.5	76.2	73.5	70.1
72.5°	63.3	63.3	63.9	63.9	63.3	63.3	63.3	62.6	60.5	59.2	55.8
75°	49.0	49.0	49.7	50.3	49.0	49.0	49.7	48.3	46.9	44.9	42.9
77.5°	36.7	36.1	36.7	36.7	36.1	36.1	36.1	35.4	34.7	32.7	30.6
80°	25.8	25.2	25.8	25.8	25.8	25.2	25.2	24.5	24.5	23.1	21.1
82.5°	17.7	17.0	17.7	17.7	17.7	17.0	17.0	17.0	16.3	15.6	14.3
85°	11.6	10.9	10.9	11.6	10.9	10.9	10.9	10.9	10.2	9.5	8.8
87.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.8	4.8	4.8	4.1
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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	521.0	519.7	523.8	522.4	523.1	519.7	525.1	522.4	525.8	522.4	529.2
5°	512.2	510.8	517.0	516.3	517.0	514.2	520.4	519.7	523.8	521.0	528.5
7.5°	502.7	501.3	508.1	508.8	510.2	507.4	515.6	515.6	519.7	519.0	527.2
10°	491.8	492.5	499.3	500.6	503.4	502.0	509.5	511.5	517.0	516.3	526.5
12.5°	481.6	481.6	490.4	493.2	495.2	494.5	503.4	506.1	512.2	513.6	523.1
15°	471.4	472.1	480.2	484.3	487.0	486.4	495.9	499.3	506.8	507.4	519.0
17.5°	463.2	462.5	471.4	474.8	478.9	478.2	488.4	492.5	500.0	502.0	512.9
20°	456.4	455.7	463.9	468.0	470.7	470.0	480.2	485.0	491.8	493.2	504.0
22.5°	448.3	446.9	455.1	458.5	461.2	460.5	469.4	472.8	479.6	480.9	491.1
25°	438.7	437.4	444.9	446.9	448.9	447.6	455.1	457.1	462.5	463.9	474.1
27.5°	427.9	424.5	430.6	430.6	431.9	429.9	435.3	437.4	442.1	442.1	451.7
30°	410.9	406.1	409.5	408.8	409.5	406.8	410.2	410.9	414.3	413.6	420.4
32.5°	387.0	380.2	382.3	380.2	378.2	374.1	378.2	376.8	379.6	376.8	383.0
35°	354.4	347.6	346.9	344.2	342.2	338.7	338.7	335.3	336.0	334.0	338.1
37.5°	319.0	310.2	308.8	303.4	300.0	295.9	295.9	293.2	289.8	288.4	291.8
40°	284.3	274.8	271.4	262.6	259.2	255.1	252.4	249.0	247.6	242.2	244.9
42.5°	254.4	244.2	236.7	227.2	223.8	217.7	213.6	209.5	207.5	201.3	204.1
45°	229.2	217.0	208.8	196.6	191.8	185.0	178.9	174.1	169.4	166.7	165.3
47.5°	208.1	195.2	184.3	170.7	163.3	157.1	149.0	144.2	138.1	134.7	132.6
50°	190.5	176.2	163.9	148.3	140.8	134.0	124.5	117.0	111.6	106.1	104.8
52.5°	174.8	159.9	146.2	128.6	119.7	111.6	101.4	93.2	88.4	82.3	81.6
55°	156.5	143.5	128.6	110.2	101.4	93.2	82.3	74.1	68.0	63.9	62.6
57.5°	136.7	124.5	110.2	91.8	83.0	74.1	63.9	56.5	51.0	47.6	46.9
60°	118.4	106.8	93.2	74.8	66.0	58.5	47.6	40.1	35.4	32.7	31.3
62.5°	104.8	93.9	80.9	63.9	55.8	48.3	38.1	31.3	27.2	24.5	23.1
65°	91.8	80.9	69.4	53.7	46.9	40.1	30.6	24.5	20.4	17.7	16.3
67.5°	78.2	68.7	57.8	44.9	38.1	32.7	24.5	19.0	15.6	13.6	12.2
70°	64.6	55.8	46.9	36.1	31.3	25.8	19.0	15.0	11.6	10.2	8.8
72.5°	51.0	44.2	36.7	27.9	23.8	20.4	15.0	10.9	8.8	7.5	6.1
75°	38.1	33.3	27.2	21.1	17.7	15.0	10.9	8.2	6.8	5.4	4.8
77.5°	27.2	23.1	19.0	14.3	12.9	10.9	7.5	6.1	4.8	3.4	2.7
80°	18.4	16.3	12.9	10.2	8.2	7.5	5.4	4.1	2.7	2.0	2.0
82.5°	12.2	10.2	8.2	6.1	5.4	4.8	3.4	2.7	2.0	1.4	1.4
85°	7.5	6.1	4.8	3.4	3.4	2.7	2.0	1.4	0.7	0.7	0.7
87.5°	3.4	2.7	2.0	1.4	1.4	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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	534.7	530.6	527.8	531.3	532.6	530.6	532.6	536.0	539.4	540.1	530.6
5°	535.3	531.3	529.9	534.0	534.7	534.0	536.0	540.8	544.9	546.2	536.7
7.5°	535.3	532.6	531.9	536.7	537.4	536.7	540.1	545.5	549.6	552.3	542.8
10°	534.0	532.6	533.3	537.4	538.7	538.7	543.5	549.6	553.7	556.4	546.9
12.5°	531.9	531.9	531.9	536.7	538.1	538.7	542.8	551.0	553.7	557.8	548.3
15°	528.5	528.5	528.5	533.3	535.3	535.3	540.1	547.6	551.0	555.1	545.5
17.5°	522.4	522.4	523.1	527.2	529.2	529.2	534.0	542.1	544.2	548.9	539.4
20°	513.6	513.6	514.2	518.3	520.4	519.0	525.1	531.9	534.0	538.1	528.5
22.5°	500.6	500.6	500.6	504.7	506.1	505.4	511.5	517.6	517.6	523.1	512.9
25°	481.6	483.0	481.6	485.7	487.0	486.4	491.8	497.2	495.9	502.0	491.8
27.5°	458.5	457.8	457.8	461.2	461.2	460.5	464.6	470.7	469.4	473.4	463.9
30°	426.5	428.5	425.1	429.9	427.9	426.5	429.2	434.7	432.6	436.0	428.5
32.5°	389.8	387.0	387.0	387.0	388.4	385.0	387.7	390.4	388.4	391.8	383.6
35°	341.5	342.2	340.1	340.8	341.5	337.4	340.1	342.8	340.1	342.2	334.7
37.5°	293.2	293.9	289.1	291.8	289.1	287.7	290.5	291.8	289.1	291.1	283.0
40°	244.9	243.5	242.8	242.8	243.5	240.1	242.2	244.2	242.2	243.5	236.0
42.5°	202.7	202.0	200.7	201.3	199.3	198.6	199.3	201.3	199.3	200.7	195.2
45°	166.0	164.6	162.6	163.3	163.3	159.9	161.9	163.3	161.2	161.9	157.1
47.5°	132.0	129.9	129.9	129.2	129.2	127.9	129.9	129.2	127.2	128.6	123.8
50°	102.7	101.4	101.4	101.4	101.4	99.3	100.0	101.4	99.3	99.3	96.6
52.5°	80.3	78.2	76.9	76.9	76.9	76.2	76.2	76.9	74.8	74.8	74.1
55°	60.5	59.9	57.8	57.8	57.8	55.8	56.5	56.5	55.8	55.8	53.7
57.5°	44.9	42.9	41.5	41.5	40.1	40.1	39.5	40.1	38.8	38.8	37.4
60°	29.9	28.6	27.9	27.2	27.2	26.5	27.2	26.5	26.5	25.8	25.2
62.5°	21.8	20.4	19.0	19.0	19.0	18.4	18.4	18.4	18.4	18.4	17.7
65°	15.6	14.3	14.3	13.6	13.6	12.9	12.9	12.9	12.9	12.9	12.2
67.5°	10.9	10.2	9.5	9.5	9.5	9.5	9.5	9.5	8.8	8.8	8.8
70°	8.2	7.5	6.8	6.8	6.8	6.8	6.8	6.1	6.8	6.8	6.1
72.5°	5.4	5.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
75°	4.1	4.1	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
77.5°	2.7	2.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0
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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CATALOG NUMBER: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	540.8	540.1	538.7	540.8	535.3	533.3	532.6	538.7
5°	548.3	546.9	546.9	548.9	542.8	541.5	540.1	546.9
7.5°	555.1	553.7	553.7	555.7	550.3	548.9	547.6	554.4
10°	559.1	559.1	559.1	560.5	555.7	554.4	553.7	560.5
12.5°	561.2	561.2	560.5	563.2	557.1	557.1	555.7	562.5
15°	558.5	558.5	558.5	560.5	555.1	553.7	553.7	559.1
17.5°	551.7	551.7	551.0	553.0	546.9	546.9	546.2	552.3
20°	541.5	541.5	540.1	542.8	536.7	534.7	534.0	540.1
22.5°	525.1	524.4	523.8	525.1	519.7	518.3	517.6	523.1
25°	504.0	503.4	502.0	503.4	497.2	495.2	495.2	499.3
27.5°	474.1	474.1	472.1	474.1	467.3	466.6	466.0	470.7
30°	437.4	434.7	433.3	436.0	429.2	429.2	427.9	432.6
32.5°	391.8	389.1	388.4	389.8	383.6	381.6	384.3	387.0
35°	339.4	340.1	337.4	337.4	331.9	332.6	333.3	337.4
37.5°	289.1	287.7	287.1	287.7	283.7	282.3	280.9	285.0
40°	242.2	238.8	238.1	238.1	234.7	234.0	234.7	236.7
42.5°	197.9	197.3	194.5	195.9	192.5	193.9	193.2	193.2
45°	159.9	160.5	157.8	159.9	157.1	155.1	155.1	156.5
47.5°	126.5	126.5	125.8	125.8	123.8	124.5	123.1	125.2
50°	98.0	98.0	96.6	97.3	95.9	95.9	95.2	95.9
52.5°	74.8	74.1	74.1	73.5	72.1	72.8	73.5	72.1
55°	54.4	55.1	53.7	54.4	53.1	53.7	53.1	53.7
57.5°	37.4	38.1	36.7	38.1	36.7	37.4	36.7	36.7
60°	25.8	25.8	25.2	25.8	25.2	25.2	24.5	25.8
62.5°	17.7	17.7	17.7	17.7	17.7	17.0	17.7	17.7
65°	12.9	12.2	12.2	12.2	12.2	12.2	12.2	12.2
67.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
70°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
72.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
75°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.7	0.7	0.0	0.7	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)