

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: P251680

Luminaire Tested: **LD4B15D010 EU4B10209030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251680
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: LD4B15D010 EU4B10209030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1033.0 lumens
Efficiency: N/A
Efficacy: 71.8 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

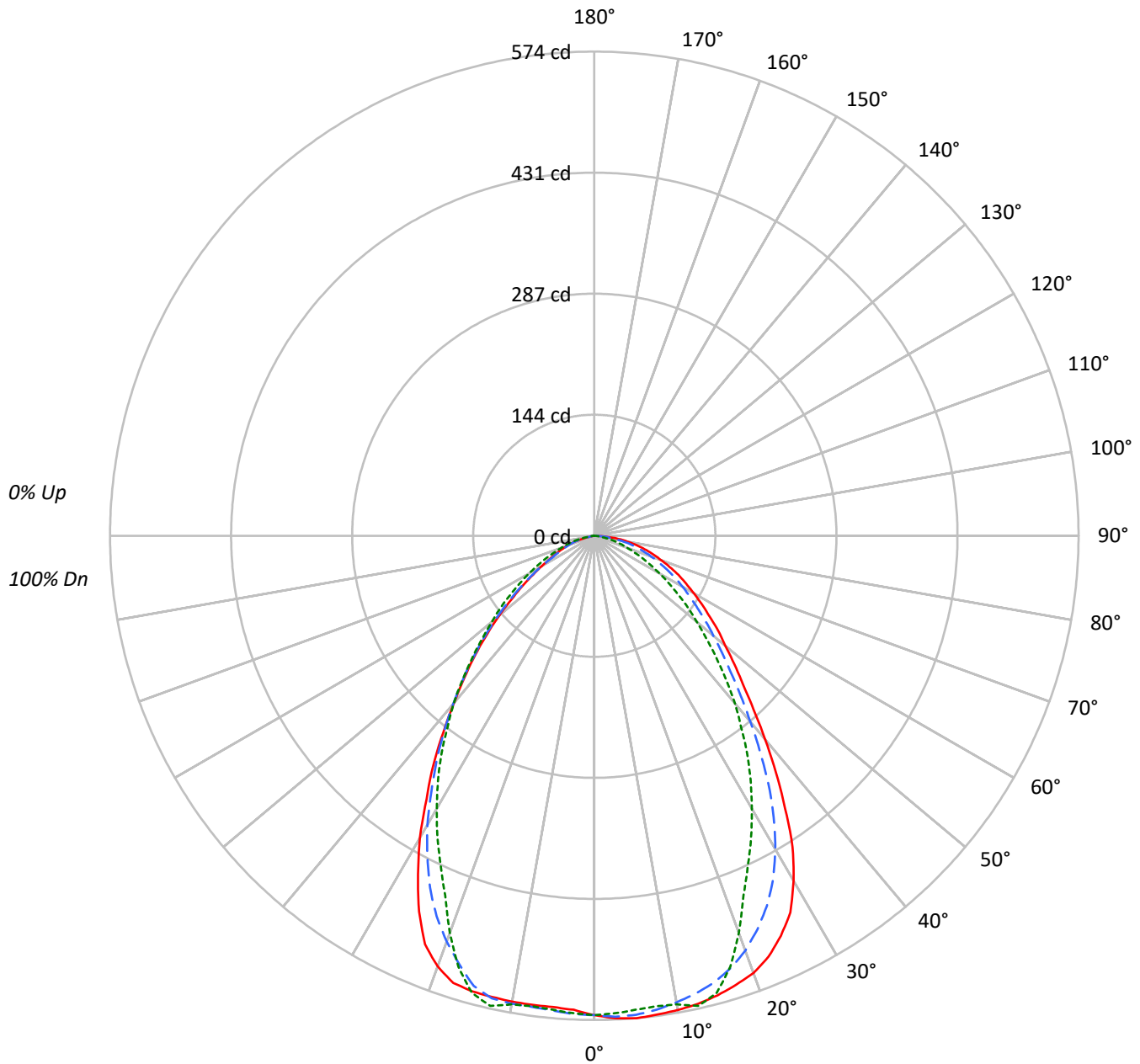
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	111	107	103	100	108	105	102	99		101	98	96		97	95	93		93	91	90
2	103	96	90	85	100	94	89	84		90	86	82		87	84	80		84	81	79
3	95	86	79	74	93	84	78	73		82	76	72		79	74	70		77	73	69
4	88	78	70	64	86	76	69	64		74	68	63		72	67	62		70	65	62
5	82	71	63	57	80	70	62	57		68	61	56		66	60	56		64	59	55
6	76	65	57	51	75	64	56	51		62	55	50		60	54	50		59	54	50
7	71	59	51	46	70	59	51	46		57	50	46		56	50	45		54	49	45
8	67	55	47	42	65	54	47	42		53	46	41		52	46	41		51	45	41
9	63	51	43	38	62	50	43	38		49	43	38		48	42	38		47	42	38
10	59	47	40	35	58	47	40	35		46	39	35		45	39	35		44	39	35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	55385	55385	55385
5°	56164	55186	54863
10°	56487	55824	55498
15°	56915	56582	56411
20°	57208	51939	56347
25°	56272	46325	52863
30°	53173	42009	46511
35°	46888	37572	39654
40°	40075	32963	32862
45°	34333	28144	27455
50°	30703	24001	22364
55°	28324	20525	17705
60°	26470	17387	13975
65°	25367	14413	11530
70°	23993	11626	9745
75°	23233	9414	6891
80°	22450	5163	1852
85°	19569	2796	895



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.0	5.2
10°-20°	155.3	15.0
20°-30°	215.4	20.9
30°-40°	212.6	20.6
40°-50°	166.8	16.1
50°-60°	115.5	11.2
60°-70°	70.8	6.9
70°-80°	35.4	3.4
80°-90°	7.1	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°	424.8	41.1
0°-40°	637.4	61.7
0°-60°	919.7	89.0
0°-90°	1033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1033.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	568	568	568	568	568	
5°	574	570	564	565	561	55
15°	564	548	561	552	559	159
25°	523	484	431	461	492	239
35°	394	360	316	326	333	246
45°	249	228	204	202	199	195
55°	167	149	121	108	104	150
65°	110	95	62	47	50	109
75°	62	52	25	19	18	65
85°	18	10	2	1	1	20
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°	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3
2.5°	572.5	570.8	570.0	572.5	571.6	573.3	572.5	571.6	570.0	570.8	570.8
5°	574.1	571.6	570.8	572.5	572.5	574.1	573.3	571.6	570.0	570.8	570.0
7.5°	572.5	570.8	570.8	571.6	570.8	572.5	570.8	569.1	567.5	568.3	566.6
10°	570.8	568.3	568.3	568.3	568.3	570.0	568.3	565.8	563.3	563.3	561.6
12.5°	568.3	565.8	565.8	566.6	565.0	566.6	565.0	560.8	558.3	557.5	555.8
15°	564.1	561.6	561.6	561.6	560.0	560.8	558.3	554.1	550.8	550.8	548.3
17.5°	558.3	555.8	555.0	555.0	552.5	553.3	550.8	546.6	541.6	540.0	537.5
20°	551.6	548.3	546.6	546.6	544.1	545.0	541.6	536.6	530.0	527.5	523.3
22.5°	540.0	538.3	535.8	535.0	532.5	531.6	528.3	521.6	515.8	511.6	505.0
25°	523.3	522.5	520.0	519.1	515.8	514.1	510.8	503.3	497.5	490.8	484.1
27.5°	503.3	500.0	498.3	495.8	492.5	491.6	487.5	480.8	471.6	467.5	459.1
30°	472.5	470.8	469.1	466.6	463.3	461.6	459.1	451.6	444.1	436.6	429.1
32.5°	437.5	434.1	431.6	432.5	428.3	426.6	422.5	415.8	409.1	404.1	395.8
35°	394.1	393.3	392.5	390.8	387.5	386.6	383.3	378.3	370.8	365.0	360.0
37.5°	353.3	350.8	349.1	349.1	345.8	345.8	343.3	337.5	333.3	329.1	322.5
40°	315.0	310.8	310.8	310.8	307.5	308.3	306.6	300.8	296.6	291.6	287.5
42.5°	279.1	277.5	276.6	275.0	273.3	273.3	271.6	268.3	264.1	260.8	256.6
45°	249.1	248.3	247.5	246.6	245.0	244.1	243.3	238.3	235.8	232.5	228.3
47.5°	225.0	223.3	222.5	221.7	220.0	219.2	217.5	214.2	211.7	208.3	205.0
50°	202.5	201.7	200.8	200.8	199.2	198.3	196.7	194.2	190.0	188.3	184.2
52.5°	185.0	183.3	181.7	181.7	180.0	180.0	177.5	175.0	170.8	169.2	165.8
55°	166.7	165.8	165.0	165.0	163.3	162.5	161.7	158.3	155.0	152.5	149.2
57.5°	150.8	150.0	149.2	149.2	147.5	146.7	145.8	143.3	140.0	138.3	134.2
60°	135.8	135.8	135.0	134.2	133.3	132.5	131.7	129.2	126.7	124.2	120.8
62.5°	122.5	121.7	120.8	120.0	120.0	119.2	118.3	115.0	113.3	110.8	107.5
65°	110.0	108.3	108.3	107.5	107.5	106.7	105.8	102.5	100.8	98.3	95.0
67.5°	96.7	95.8	95.0	95.0	94.2	94.2	93.3	90.8	88.3	86.7	83.3
70°	84.2	84.2	83.3	83.3	82.5	81.7	81.7	80.0	77.5	75.0	71.7
72.5°	73.3	72.5	71.7	71.7	70.8	70.8	70.0	68.3	66.7	65.0	60.8
75°	61.7	60.8	60.8	60.8	60.0	60.0	59.2	57.5	55.8	54.2	51.7
77.5°	50.8	50.8	50.0	50.0	49.2	49.2	49.2	47.5	45.8	44.2	40.8
80°	40.0	40.0	40.0	39.2	38.3	38.3	38.3	36.7	35.0	33.3	30.8
82.5°	29.2	28.3	28.3	27.5	26.7	26.7	26.7	25.0	24.2	21.7	20.0
85°	17.5	16.7	16.7	15.8	15.0	15.0	15.0	14.2	12.5	11.7	10.0
87.5°	6.7	6.7	6.7	6.7	6.7	5.8	5.8	5.0	5.0	4.2	4.2
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°	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3
2.5°	570.8	570.0	570.0	569.1	570.0	568.3	568.3	568.3	568.3	566.6	566.6
5°	569.1	569.1	568.3	567.5	568.3	566.6	567.5	566.6	566.6	564.1	564.1
7.5°	565.8	565.0	563.3	562.5	563.3	562.5	562.5	562.5	564.1	562.5	562.5
10°	560.0	559.1	557.5	556.6	556.6	555.8	557.5	559.1	562.5	564.1	567.5
12.5°	554.1	552.5	551.6	551.6	552.5	552.5	555.8	560.0	568.3	570.8	574.1
15°	546.6	545.8	545.8	548.3	551.6	554.1	560.8	563.3	564.1	560.8	559.1
17.5°	536.6	536.6	537.5	540.0	542.5	542.5	543.3	541.6	540.0	535.8	530.8
20°	520.0	519.1	517.5	517.5	517.5	514.1	515.8	510.0	505.8	500.8	493.3
22.5°	499.1	495.0	489.1	485.0	482.5	480.8	476.6	470.0	465.0	461.6	458.3
25°	476.6	470.0	461.6	455.0	450.8	450.0	444.1	438.3	435.0	430.8	429.1
27.5°	450.8	443.3	433.3	426.6	423.3	420.8	415.8	410.0	405.8	402.5	400.0
30°	420.8	413.3	405.0	396.6	393.3	389.1	384.1	380.0	375.8	373.3	371.6
32.5°	387.5	380.0	371.6	365.8	361.6	358.3	354.1	350.0	346.6	345.0	343.3
35°	353.3	345.8	339.1	333.3	330.0	327.5	324.1	319.1	316.6	315.8	314.1
37.5°	316.6	311.6	305.8	300.8	298.3	295.0	293.3	289.1	289.1	285.8	285.8
40°	282.5	279.1	273.3	269.1	267.5	265.0	262.5	260.8	260.0	259.1	258.3
42.5°	252.5	247.5	244.1	240.8	238.3	236.7	236.7	234.2	233.3	230.8	230.0
45°	225.0	222.5	216.7	214.2	213.3	210.8	210.0	208.3	205.8	204.2	203.3
47.5°	200.8	198.3	195.0	191.7	190.0	188.3	186.7	184.2	182.5	180.0	179.2
50°	180.8	176.7	173.3	170.8	168.3	167.5	165.8	162.5	160.8	158.3	158.3
52.5°	162.5	159.2	155.0	152.5	150.0	148.3	145.8	143.3	140.8	140.0	137.5
55°	146.7	142.5	138.3	135.0	132.5	130.0	129.2	125.8	122.5	120.8	119.2
57.5°	131.7	127.5	122.5	118.3	116.7	115.0	112.5	109.2	106.7	104.2	102.5
60°	116.7	113.3	108.3	104.2	102.5	100.0	97.5	94.2	91.7	89.2	87.5
62.5°	104.2	99.2	95.0	90.8	88.3	86.7	83.3	80.8	77.5	75.0	72.5
65°	91.7	86.7	82.5	78.3	76.7	74.2	71.7	68.3	65.0	62.5	59.2
67.5°	79.2	75.0	70.8	66.7	65.0	63.3	60.0	56.7	53.3	50.8	47.5
70°	68.3	64.2	60.0	56.7	55.0	53.3	50.0	46.7	44.2	40.8	38.3
72.5°	58.3	55.0	50.8	47.5	45.8	44.2	40.8	38.3	35.0	33.3	30.8
75°	48.3	45.0	41.7	38.3	36.7	35.0	32.5	30.0	27.5	25.0	23.3
77.5°	38.3	35.0	31.7	29.2	27.5	26.7	24.2	21.7	19.2	17.5	15.0
80°	28.3	25.0	22.5	20.0	18.3	17.5	15.0	13.3	11.7	9.2	8.3
82.5°	17.5	15.0	13.3	11.7	10.8	10.0	8.3	6.7	5.8	5.0	4.2
85°	9.2	8.3	6.7	5.8	5.0	5.0	4.2	3.3	2.5	2.5	1.7
87.5°	3.3	2.5	2.5	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8
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°	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3
2.5°	565.0	565.8	566.6	567.5	566.6	566.6	568.3	565.0	567.5	567.5	564.1
5°	563.3	565.0	564.1	565.8	564.1	564.1	565.0	563.3	565.0	565.0	562.5
7.5°	561.6	563.3	563.3	564.1	563.3	563.3	564.1	561.6	563.3	563.3	560.8
10°	569.1	570.8	570.0	569.1	566.6	565.0	565.8	561.6	563.3	563.3	560.8
12.5°	571.6	570.8	567.5	565.8	564.1	562.5	563.3	560.0	561.6	561.6	560.0
15°	555.0	553.3	550.8	551.6	550.0	549.1	550.8	549.1	552.5	554.1	552.5
17.5°	526.6	525.8	524.1	524.1	524.1	525.0	527.5	527.5	532.5	535.8	537.5
20°	490.0	489.1	490.0	491.6	492.5	495.8	501.6	505.0	511.6	517.5	521.6
22.5°	456.6	458.3	460.8	464.1	465.0	469.1	476.6	480.0	488.3	495.0	499.1
25°	428.3	430.8	432.5	435.0	435.8	440.8	447.5	451.6	460.8	465.8	470.8
27.5°	400.0	403.3	404.1	407.5	407.5	412.5	418.3	422.5	428.3	433.3	437.5
30°	372.5	373.3	375.8	376.6	378.3	383.3	386.6	389.1	395.8	398.3	400.8
32.5°	342.5	345.8	347.5	348.3	347.5	351.6	355.0	356.6	359.1	362.5	364.1
35°	314.1	315.8	316.6	318.3	319.1	320.0	321.6	322.5	325.8	326.6	327.5
37.5°	285.8	288.3	287.5	288.3	288.3	289.1	290.8	290.0	292.5	293.3	292.5
40°	257.5	257.5	259.1	258.3	259.1	258.3	260.0	260.0	260.0	260.8	260.0
42.5°	229.2	230.0	229.2	230.8	229.2	230.0	230.0	229.2	230.0	229.2	229.2
45°	203.3	203.3	203.3	203.3	201.7	201.7	203.3	202.5	201.7	200.8	200.0
47.5°	178.3	179.2	177.5	178.3	177.5	176.7	175.8	175.8	175.0	173.3	172.5
50°	157.5	155.8	155.0	155.8	155.0	154.2	153.3	151.7	150.8	149.2	148.3
52.5°	136.7	135.0	133.3	133.3	132.5	130.8	130.0	128.3	127.5	125.8	125.8
55°	118.3	116.7	115.0	114.2	112.5	110.8	110.0	108.3	107.5	105.8	104.2
57.5°	100.8	98.3	96.7	95.8	95.0	92.5	91.7	90.0	88.3	86.7	85.8
60°	85.0	82.5	80.0	79.2	78.3	75.8	75.0	72.5	71.7	70.0	69.2
62.5°	70.0	68.3	65.0	64.2	62.5	60.8	58.3	57.5	56.7	57.5	57.5
65°	56.7	54.2	51.7	50.8	49.2	47.5	46.7	45.8	46.7	46.7	47.5
67.5°	45.0	42.5	40.0	40.0	39.2	37.5	37.5	37.5	38.3	38.3	39.2
70°	35.8	34.2	32.5	31.7	31.7	30.8	31.7	31.7	32.5	32.5	32.5
72.5°	28.3	27.5	26.7	25.8	25.8	25.8	25.8	25.8	25.8	25.8	26.7
75°	21.7	20.8	20.0	20.0	19.2	19.2	19.2	19.2	19.2	19.2	18.3
77.5°	14.2	13.3	12.5	12.5	11.7	10.8	10.8	10.0	10.0	10.0	10.0
80°	7.5	6.7	5.8	5.0	5.0	4.2	4.2	4.2	4.2	3.3	3.3
82.5°	3.3	2.5	2.5	2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	568.3	568.3	568.3	568.3	568.3	568.3	568.3	568.3
2.5°	565.8	564.1	565.8	566.6	565.0	564.1	565.8	562.5
5°	565.0	562.5	563.3	564.1	562.5	561.6	563.3	560.8
7.5°	563.3	562.5	563.3	564.1	561.6	561.6	563.3	560.8
10°	563.3	561.6	562.5	564.1	562.5	562.5	564.1	560.8
12.5°	562.5	560.0	562.5	563.3	561.6	561.6	563.3	560.0
15°	556.6	556.6	557.5	559.1	558.3	559.1	561.6	559.1
17.5°	544.1	545.8	549.1	551.6	553.3	555.0	557.5	555.8
20°	529.1	531.6	535.8	538.3	541.6	542.5	546.6	543.3
22.5°	505.8	510.8	514.1	516.6	519.1	521.6	525.0	524.1
25°	477.5	480.8	483.3	485.8	489.1	490.8	492.5	491.6
27.5°	443.3	445.0	448.3	450.0	451.6	453.3	456.6	452.5
30°	405.8	406.6	408.3	410.8	410.8	412.5	414.1	413.3
32.5°	367.5	367.5	369.1	370.8	370.0	370.8	374.1	370.0
35°	330.0	329.1	331.6	332.5	332.5	331.6	334.1	333.3
37.5°	293.3	294.1	295.0	295.8	294.1	295.8	295.8	294.1
40°	260.0	259.1	260.8	261.6	260.8	261.6	261.6	258.3
42.5°	230.0	228.3	229.2	230.0	229.2	230.0	229.2	227.5
45°	200.8	200.0	200.0	200.8	199.2	199.2	199.2	199.2
47.5°	173.3	172.5	173.3	173.3	171.7	171.7	172.5	171.7
50°	148.3	147.5	147.5	147.5	146.7	146.7	147.5	147.5
52.5°	125.8	124.2	124.2	124.2	124.2	124.2	125.0	123.3
55°	103.3	103.3	103.3	103.3	104.2	104.2	104.2	104.2
57.5°	85.0	85.8	85.8	86.7	85.8	86.7	86.7	85.8
60°	70.8	70.0	70.8	70.8	71.7	71.7	71.7	71.7
62.5°	58.3	58.3	58.3	59.2	59.2	59.2	60.0	59.2
65°	48.3	48.3	49.2	49.2	49.2	50.0	50.0	50.0
67.5°	40.0	40.0	40.0	40.0	40.8	40.8	41.7	40.8
70°	33.3	33.3	33.3	33.3	33.3	34.2	34.2	34.2
72.5°	26.7	26.7	26.7	26.7	27.5	27.5	27.5	27.5
75°	18.3	18.3	18.3	19.2	18.3	18.3	18.3	18.3
77.5°	9.2	9.2	9.2	9.2	9.2	8.3	8.3	8.3
80°	3.3	3.3	3.3	3.3	3.3	3.3	2.5	3.3
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)