

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: P251528

Luminaire Tested: **LD4B15D010 EU4B10209727 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251528
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209727 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 985.0 lumens
Efficiency: N/A
Efficacy: 68.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

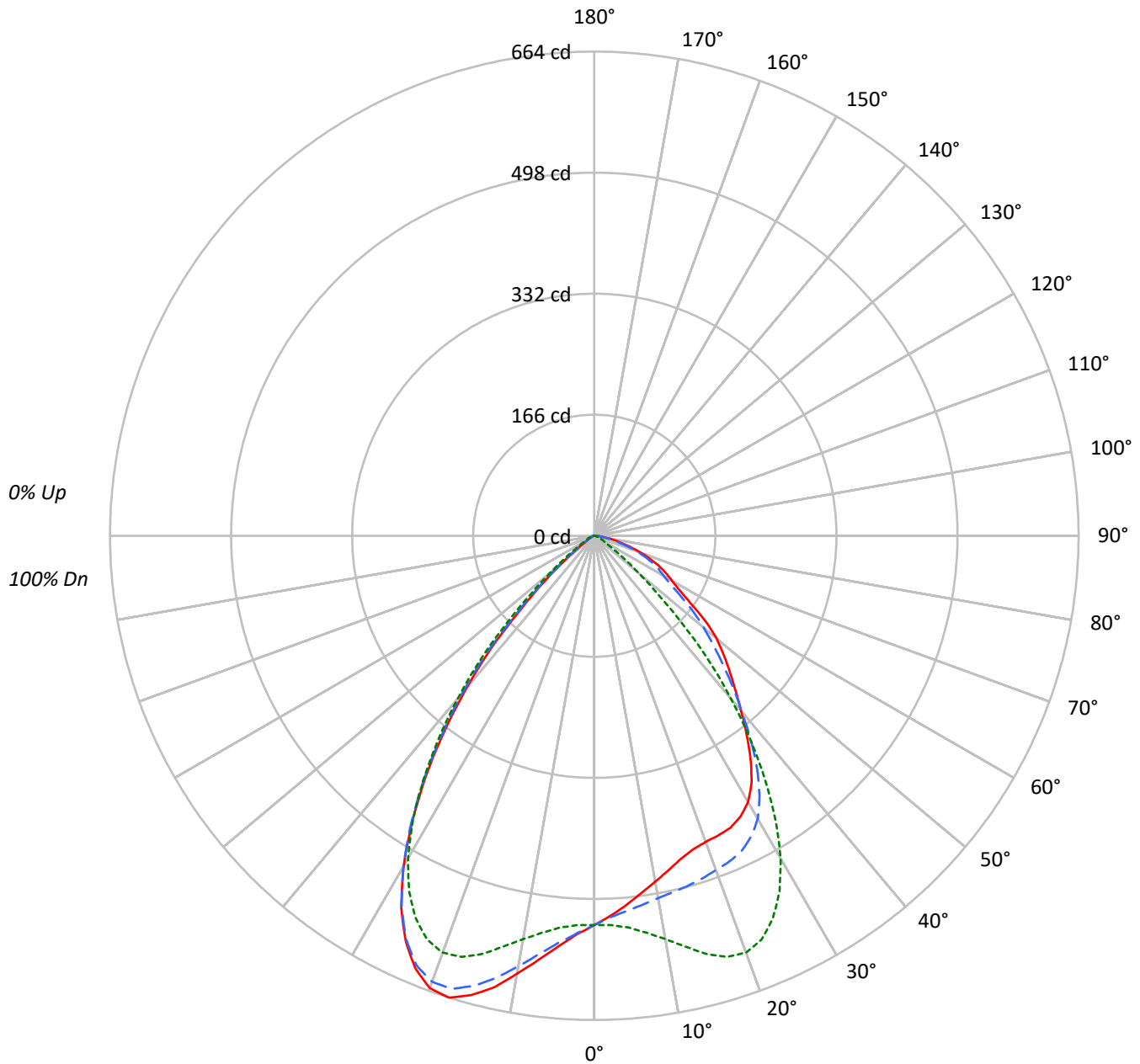
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	108	105	102	109	106	103	101		102	100	98		98	96	95		95	93	92
2	104	98	93	89	102	96	92	88		93	89	86		90	87	84		87	85	82
3	97	89	83	78	95	88	82	77		85	80	76		82	78	75		80	77	74
4	91	81	75	69	89	80	74	69		78	72	68		76	71	67		74	70	66
5	85	75	67	62	83	74	67	62		72	66	61		70	65	60		68	64	60
6	79	69	61	56	78	68	61	56		66	60	55		64	59	55		63	58	54
7	75	63	56	51	73	62	55	51		61	55	50		60	54	50		58	53	50
8	70	58	51	46	69	58	51	46		57	50	46		55	50	46		54	49	45
9	66	54	47	42	65	54	47	42		53	46	42		52	46	42		51	46	42
10	62	51	44	39	61	50	43	39		49	43	39		48	43	39		47	42	39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52023	52023	52023
5°	49698	52760	55284
10°	47650	55577	60337
15°	46261	59902	65804
20°	46328	63088	68440
25°	47508	62272	65864
30°	47445	57483	58811
35°	44437	48577	47923
40°	39808	37060	34579
45°	36111	23527	19309
50°	33174	11932	8248
55°	27237	5335	2719
60°	23897	2982	1501
65°	22507	2260	1130
70°	19263	1795	997
75°	14685	1318	791
80°	10551	786	393
85°	7827	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	5.3
10°-20°	161.6	16.4
20°-30°	250.0	25.4
30°-40°	246.3	25.0
40°-50°	151.3	15.4
50°-60°	67.3	6.8
60°-70°	37.6	3.8
70°-80°	16.3	1.7
80°-90°	2.9	0.3
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°	463.4	47.0
0°-40°	709.8	72.1
0°-60°	928.3	94.2
0°-90°	985.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	985.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	534	534	534	534	534	
5°	508	516	539	560	565	48
15°	458	497	594	639	652	130
25°	442	477	579	610	612	203
35°	374	389	408	407	403	232
45°	262	249	171	149	140	203
55°	160	145	31	18	16	147
65°	98	88	10	6	5	96
75°	39	33	4	2	2	43
85°	7	6	0	0	0	9
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°	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8
2.5°	521.2	521.2	521.2	521.2	522.6	520.5	522.6	522.6	524.7	525.4	523.3
5°	508.0	507.3	508.0	508.0	509.4	508.7	510.8	512.2	515.0	516.3	516.3
7.5°	494.1	494.1	494.1	495.4	497.5	496.8	498.9	501.0	505.2	508.0	510.1
10°	481.5	480.8	482.9	483.6	485.7	485.7	489.2	491.3	496.1	501.7	504.5
12.5°	469.7	469.0	470.4	472.4	475.9	475.9	478.7	482.2	489.2	495.4	500.3
15°	458.5	459.2	461.3	462.7	466.9	466.9	470.4	474.5	482.2	489.9	496.8
17.5°	450.8	451.5	452.9	455.0	459.2	459.2	462.7	467.6	475.9	484.3	492.7
20°	446.7	447.4	448.8	450.8	454.3	455.0	457.8	463.4	471.1	480.1	487.8
22.5°	444.6	446.0	447.4	448.8	452.2	452.2	455.7	459.9	467.6	476.6	483.6
25°	441.8	443.2	443.9	446.0	448.8	448.8	450.8	455.7	462.7	470.4	477.3
27.5°	434.1	435.5	436.2	438.3	441.1	440.4	443.2	446.7	452.9	459.9	465.5
30°	421.6	422.3	423.7	424.4	426.5	426.5	428.5	432.0	436.2	442.5	448.1
32.5°	401.4	402.8	403.5	404.2	406.2	405.6	406.2	408.3	412.5	418.1	421.6
35°	373.5	376.3	376.3	377.7	378.4	377.7	377.7	380.5	382.6	386.7	388.8
37.5°	342.8	344.9	344.2	345.6	346.3	344.2	345.6	346.3	349.1	351.2	351.9
40°	312.9	313.6	313.6	313.6	313.6	312.9	313.6	314.3	316.4	316.4	314.3
42.5°	285.7	286.4	286.4	285.0	286.4	285.7	285.7	285.7	285.7	282.9	280.8
45°	262.0	262.7	262.7	262.0	262.0	260.6	259.9	259.2	257.1	253.6	248.8
47.5°	239.7	241.1	241.8	240.4	239.7	238.3	238.3	234.1	231.3	227.2	220.2
50°	218.8	220.2	220.2	218.8	218.8	216.7	214.6	213.2	209.0	204.2	195.8
52.5°	192.3	194.4	194.4	193.7	193.7	190.9	190.2	187.4	184.0	178.4	171.4
55°	160.3	163.1	162.4	161.7	160.3	160.3	160.3	158.2	156.1	151.9	144.9
57.5°	137.3	138.0	138.0	137.3	137.3	135.9	135.9	133.8	133.1	128.9	123.3
60°	122.6	122.6	123.3	122.6	121.9	121.2	120.6	119.2	117.1	114.3	110.1
62.5°	110.8	111.5	111.5	110.8	110.1	109.4	108.7	107.3	105.9	103.8	99.6
65°	97.6	98.9	98.3	97.6	96.9	96.2	96.2	94.8	93.4	92.0	87.8
67.5°	82.9	83.6	84.3	82.9	82.9	82.2	82.2	80.8	80.1	77.3	74.6
70°	67.6	68.3	68.3	67.6	67.6	66.9	66.9	66.2	65.5	63.4	60.6
72.5°	53.0	53.7	53.0	52.3	52.3	52.3	51.6	50.9	50.2	48.8	46.7
75°	39.0	39.0	39.7	39.0	38.3	38.3	37.6	37.6	36.2	35.5	33.4
77.5°	27.9	28.6	27.9	27.9	27.2	26.5	26.5	25.8	25.8	25.1	23.7
80°	18.8	18.8	19.5	18.8	18.1	18.8	18.1	17.4	17.4	16.7	15.3
82.5°	11.8	12.5	11.8	11.8	11.8	11.8	11.8	11.1	11.1	10.5	9.8
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.3	6.3	6.3	5.6
87.5°	3.5	3.5	2.8	2.8	3.5	3.5	3.5	2.8	2.8	2.8	2.8
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8
2.5°	526.1	526.8	528.2	530.3	530.3	528.9	532.4	532.4	533.8	534.5	537.3
5°	520.5	521.9	524.7	528.2	528.9	528.2	533.1	535.2	537.3	539.3	543.5
7.5°	515.7	518.4	523.3	528.2	530.3	530.3	538.0	540.7	544.9	549.1	554.0
10°	512.9	517.0	524.0	531.7	533.8	535.9	544.9	550.5	556.1	561.6	568.6
12.5°	509.4	517.0	526.1	535.9	540.0	542.8	555.4	562.3	570.0	577.0	586.0
15°	508.7	517.7	529.6	542.1	547.7	551.9	565.8	575.6	584.6	593.7	602.8
17.5°	505.9	517.0	531.7	545.6	552.6	558.2	574.2	586.0	596.5	605.5	616.0
20°	502.4	515.0	531.0	546.3	554.0	559.6	577.0	588.1	600.0	608.3	618.1
22.5°	497.5	510.1	526.1	541.4	548.4	553.3	570.7	580.5	590.9	599.3	608.3
25°	489.2	501.0	515.0	527.5	534.5	538.6	554.0	563.0	570.7	579.1	587.4
27.5°	477.3	486.4	498.2	507.3	511.5	515.7	528.2	535.9	542.8	549.8	555.4
30°	456.4	463.4	471.8	479.4	483.6	484.3	496.1	500.3	505.9	510.8	515.0
32.5°	428.5	434.1	439.0	443.2	446.0	446.7	455.7	457.1	462.7	462.7	469.0
35°	393.0	395.8	399.3	399.3	401.4	399.3	405.6	406.9	407.6	408.3	413.2
37.5°	352.6	354.0	356.1	351.9	351.9	349.8	351.9	353.3	350.5	350.5	354.0
40°	314.3	311.5	308.7	304.5	302.4	298.2	298.2	294.8	292.7	291.3	292.0
42.5°	277.3	271.1	264.8	255.7	251.6	247.4	243.2	238.3	236.9	233.4	231.3
45°	241.8	232.7	224.4	209.7	201.4	197.2	188.1	178.4	172.1	170.7	165.1
47.5°	211.8	198.6	184.7	167.2	158.9	151.2	138.0	129.6	121.2	117.1	113.6
50°	185.4	173.5	155.4	136.6	126.1	118.5	103.8	94.1	85.0	78.7	74.6
52.5°	162.4	149.1	132.4	110.8	100.3	92.0	76.0	64.8	57.1	50.9	46.0
55°	136.6	126.1	109.4	89.2	78.7	69.0	55.0	43.2	35.5	31.4	27.9
57.5°	117.8	108.7	92.7	73.2	63.4	54.4	40.4	30.7	24.4	20.2	18.1
60°	105.2	96.9	82.9	64.1	55.0	46.7	33.4	24.4	18.8	15.3	13.9
62.5°	94.8	86.4	73.9	56.4	48.8	40.4	28.6	20.2	15.3	12.5	10.5
65°	82.9	75.3	64.1	48.8	41.8	34.8	24.4	16.7	12.5	9.8	8.4
67.5°	70.4	63.4	53.7	40.4	34.8	29.3	19.5	13.9	10.5	8.4	7.0
70°	57.1	51.6	42.5	32.8	27.9	23.0	16.0	11.1	7.7	6.3	5.6
72.5°	43.9	39.0	32.8	25.1	20.9	17.4	11.8	8.4	6.3	4.9	4.2
75°	31.4	27.9	23.0	18.1	15.3	12.5	9.1	6.3	4.2	3.5	2.8
77.5°	21.6	19.5	16.0	12.5	10.5	9.1	6.3	4.2	3.5	2.8	2.1
80°	13.9	12.5	10.5	7.7	6.3	5.6	3.5	2.8	2.1	1.4	1.4
82.5°	8.4	7.7	6.3	4.2	3.5	2.8	2.1	1.4	1.4	0.7	0.7
85°	4.9	4.2	2.8	2.1	2.1	1.4	1.4	0.7	0.7	0.0	0.0
87.5°	2.1	1.4	1.4	0.7	0.7	0.7	0.7	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8
2.5°	535.9	539.3	538.6	540.7	540.0	540.0	543.5	542.1	545.6	545.6	546.3
5°	543.5	548.4	548.4	551.9	551.2	552.6	556.1	556.1	560.2	561.6	561.6
7.5°	554.7	560.9	562.3	565.8	566.5	569.3	572.1	572.8	578.4	579.8	580.5
10°	570.0	577.7	579.8	583.2	584.6	587.4	590.9	592.3	599.3	600.0	602.8
12.5°	588.8	597.2	599.3	603.5	604.1	607.6	612.5	613.9	620.9	623.0	625.1
15°	606.9	614.6	618.1	622.3	623.0	627.1	631.3	632.7	639.0	641.8	643.9
17.5°	619.5	628.5	630.6	636.2	636.2	639.7	643.9	645.3	651.5	653.6	655.0
20°	622.3	630.6	633.4	637.6	638.3	640.4	643.9	645.3	650.8	651.5	653.6
22.5°	611.8	620.2	621.6	625.8	626.4	628.5	631.3	630.6	637.6	636.9	637.6
25°	589.5	597.2	597.2	602.1	601.4	603.5	604.8	604.1	610.4	610.4	610.4
27.5°	557.5	564.4	565.1	568.6	566.5	567.2	568.6	567.9	572.1	572.1	572.1
30°	517.7	523.3	521.2	524.0	522.6	524.0	522.6	521.9	523.3	524.7	524.0
32.5°	468.3	472.4	472.4	473.1	473.1	469.0	467.6	467.6	466.9	466.2	466.2
35°	411.1	414.6	413.2	413.2	412.5	408.3	406.2	404.9	406.9	402.8	405.6
37.5°	352.6	353.3	351.2	350.5	347.0	347.0	343.5	340.7	342.1	341.4	338.7
40°	288.5	291.3	287.1	285.7	287.8	285.0	281.5	278.0	280.8	277.3	278.7
42.5°	225.8	225.1	223.7	223.7	223.7	219.5	218.8	218.1	218.8	216.0	213.9
45°	163.1	161.0	158.9	158.9	156.1	154.7	154.7	152.6	149.1	149.1	144.9
47.5°	110.1	105.2	103.8	103.1	101.7	101.7	100.3	98.9	98.3	94.8	94.8
50°	71.8	66.9	65.5	64.8	65.5	64.1	62.7	61.3	59.9	59.2	57.8
52.5°	43.2	41.1	39.7	39.0	37.6	36.9	36.2	34.8	34.1	34.1	33.4
55°	25.8	23.7	20.9	20.9	20.9	20.2	19.5	18.8	18.1	18.1	17.4
57.5°	16.0	14.6	13.2	12.5	12.5	12.5	11.8	11.8	11.8	11.8	11.1
60°	11.8	10.5	9.8	9.8	9.8	9.1	9.1	9.1	9.1	8.4	8.4
62.5°	9.1	8.4	7.7	7.7	7.0	7.0	7.0	7.0	7.0	7.0	6.3
65°	7.7	6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	5.6	4.9	4.9	4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2
70°	4.2	4.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	3.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	533.8	533.8	533.8	533.8	533.8	533.8	533.8	533.8
2.5°	546.3	549.8	546.3	546.3	548.4	547.7	549.1	547.0
5°	562.3	567.2	563.7	563.0	566.5	565.8	566.5	565.1
7.5°	581.9	586.7	583.2	583.2	586.7	586.0	588.1	586.7
10°	604.1	609.7	604.8	605.5	610.4	609.7	609.7	609.7
12.5°	627.1	632.7	629.9	629.9	633.4	634.1	634.8	634.1
15°	646.0	651.5	648.0	648.0	652.9	652.2	652.9	652.2
17.5°	657.1	662.7	658.5	658.5	662.7	662.7	663.4	664.1
20°	654.3	660.6	657.1	655.7	660.6	660.6	659.9	659.9
22.5°	638.3	643.9	641.1	639.7	643.2	641.8	641.1	641.8
25°	610.4	616.0	610.4	610.4	613.2	612.5	613.2	612.5
27.5°	572.8	577.0	571.4	570.7	573.5	572.1	571.4	573.5
30°	522.6	526.8	524.0	521.9	525.4	523.3	521.9	522.6
32.5°	465.5	468.3	466.9	463.4	465.5	464.1	463.4	464.1
35°	402.8	406.2	400.7	400.0	403.5	400.7	399.3	402.8
37.5°	338.0	342.1	337.3	338.0	335.9	336.6	335.2	337.3
40°	276.6	275.9	274.5	273.9	274.5	272.5	273.9	271.8
42.5°	210.4	211.8	211.1	210.4	211.1	208.4	207.0	209.7
45°	146.3	145.6	144.2	142.8	142.8	142.2	142.2	140.1
47.5°	94.1	93.4	90.6	91.3	92.7	91.3	89.2	92.0
50°	57.1	56.4	56.4	55.7	57.1	55.7	54.4	54.4
52.5°	32.1	32.1	31.4	31.4	31.4	31.4	30.7	30.0
55°	17.4	16.7	16.7	16.7	16.0	16.0	16.0	16.0
57.5°	11.1	11.1	11.1	11.1	11.1	11.1	10.5	10.5
60°	8.4	8.4	8.4	8.4	7.7	8.4	7.7	7.7
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
65°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
67.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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)