

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: P251529

Luminaire Tested: **LD4B15D010 EU4B10209730 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251529
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 EU4B10209730 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1029.0 lumens
Efficiency: N/A
Efficacy: 71.5 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

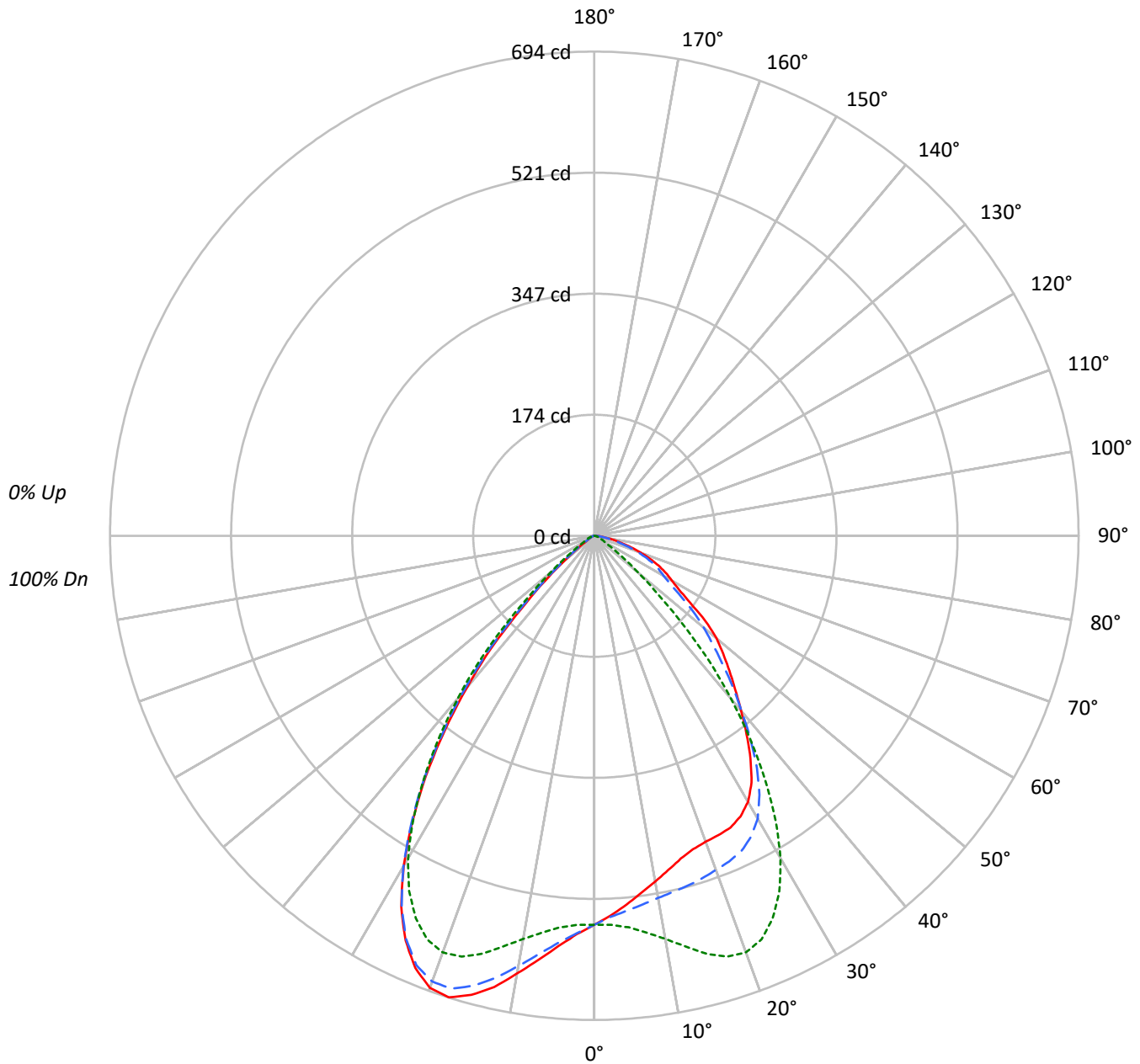
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

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°	54343	54343	54343
5°	51919	55118	57759
10°	49778	58061	63038
15°	48329	62576	68751
20°	48392	65909	71500
25°	49627	65047	68810
30°	49560	60049	61444
35°	46424	50754	50064
40°	41589	38714	36118
45°	37723	24574	20164
50°	34660	12478	8612
55°	28443	5573	2838
60°	24969	3119	1559
65°	23499	2352	1176
70°	20117	1881	1026
75°	15363	1356	828
80°	11056	842	393
85°	8163	0	0



TEST NUMBER: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.2	5.3
10°-20°	168.8	16.4
20°-30°	261.2	25.4
30°-40°	257.3	25.0
40°-50°	158.0	15.4
50°-60°	70.3	6.8
60°-70°	39.2	3.8
70°-80°	17.0	1.7
80°-90°	3.0	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°	484.1	47.0
0°-40°	741.5	72.1
0°-60°	969.7	94.2
0°-90°	1029.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1029.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	558	558	558	558	558	
5°	531	539	563	585	590	50
15°	479	519	620	668	681	136
25°	462	499	605	638	640	212
35°	390	406	427	425	421	242
45°	274	260	178	156	146	212
55°	167	151	33	19	17	154
65°	102	92	10	6	5	100
75°	41	35	4	2	2	45
85°	7	6	0	0	0	9
90°	0	0	0	0	0	



TEST NUMBER: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6
2.5°	544.5	544.5	544.5	544.5	546.0	543.8	546.0	546.0	548.1	548.9	546.7
5°	530.7	530.0	530.7	530.7	532.1	531.4	533.6	535.0	538.0	539.4	539.4
7.5°	516.1	516.1	516.1	517.6	519.8	519.0	521.2	523.4	527.8	530.7	532.9
10°	503.0	502.3	504.5	505.2	507.4	507.4	511.0	513.2	518.3	524.1	527.0
12.5°	490.6	489.9	491.4	493.6	497.2	497.2	500.1	503.7	511.0	517.6	522.7
15°	479.0	479.7	481.9	483.4	487.7	487.7	491.4	495.7	503.7	511.8	519.0
17.5°	471.0	471.7	473.2	475.4	479.7	479.7	483.4	488.5	497.2	505.9	514.7
20°	466.6	467.3	468.8	471.0	474.6	475.4	478.3	484.1	492.1	501.6	509.6
22.5°	464.4	465.9	467.3	468.8	472.4	472.4	476.1	480.4	488.5	497.9	505.2
25°	461.5	463.0	463.7	465.9	468.8	468.8	471.0	476.1	483.4	491.4	498.6
27.5°	453.5	455.0	455.7	457.9	460.8	460.1	463.0	466.6	473.2	480.4	486.3
30°	440.4	441.1	442.6	443.3	445.5	445.5	447.7	451.3	455.7	462.3	468.1
32.5°	419.3	420.8	421.5	422.2	424.4	423.7	424.4	426.6	430.9	436.8	440.4
35°	390.2	393.1	393.1	394.6	395.3	394.6	394.6	397.5	399.6	404.0	406.2
37.5°	358.2	360.3	359.6	361.1	361.8	359.6	361.1	361.8	364.7	366.9	367.6
40°	326.9	327.6	327.6	327.6	327.6	326.9	327.6	328.3	330.5	330.5	328.3
42.5°	298.5	299.2	299.2	297.7	299.2	298.5	298.5	298.5	298.5	295.5	293.4
45°	273.7	274.4	274.4	273.7	273.7	272.3	271.5	270.8	268.6	265.0	259.9
47.5°	250.4	251.9	252.6	251.1	250.4	249.0	249.0	244.6	241.7	237.3	230.0
50°	228.6	230.0	230.0	228.6	228.6	226.4	224.2	222.8	218.4	213.3	204.6
52.5°	200.9	203.1	203.1	202.4	202.4	199.5	198.7	195.8	192.2	186.4	179.1
55°	167.4	170.3	169.6	168.9	167.4	167.4	167.4	165.2	163.1	158.7	151.4
57.5°	143.4	144.1	144.1	143.4	143.4	142.0	142.0	139.8	139.0	134.7	128.8
60°	128.1	128.1	128.8	128.1	127.4	126.7	125.9	124.5	122.3	119.4	115.0
62.5°	115.7	116.5	116.5	115.7	115.0	114.3	113.6	112.1	110.6	108.5	104.1
65°	101.9	103.4	102.6	101.9	101.2	100.5	100.5	99.0	97.5	96.1	91.7
67.5°	86.6	87.4	88.1	86.6	86.6	85.9	85.9	84.4	83.7	80.8	77.9
70°	70.6	71.3	71.3	70.6	70.6	69.9	69.9	69.2	68.4	66.2	63.3
72.5°	55.3	56.1	55.3	54.6	54.6	54.6	53.9	53.1	52.4	51.0	48.8
75°	40.8	40.8	41.5	40.8	40.0	40.0	39.3	39.3	37.9	37.1	34.9
77.5°	29.1	29.8	29.1	29.1	28.4	27.7	27.7	26.9	26.9	26.2	24.8
80°	19.7	19.7	20.4	19.7	18.9	19.7	18.9	18.2	18.2	17.5	16.0
82.5°	12.4	13.1	12.4	12.4	12.4	12.4	12.4	11.6	11.6	10.9	10.2
85°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.6	6.6	6.6	5.8
87.5°	3.6	3.6	2.9	2.9	3.6	3.6	3.6	2.9	2.9	2.9	2.9
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: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6
2.5°	549.6	550.3	551.8	554.0	554.0	552.5	556.2	556.2	557.6	558.3	561.3
5°	543.8	545.2	548.1	551.8	552.5	551.8	556.9	559.1	561.3	563.4	567.8
7.5°	538.7	541.6	546.7	551.8	554.0	554.0	562.0	564.9	569.3	573.6	578.7
10°	535.8	540.1	547.4	555.4	557.6	559.8	569.3	575.1	580.9	586.7	594.0
12.5°	532.1	540.1	549.6	559.8	564.2	567.1	580.2	587.5	595.5	602.7	612.2
15°	531.4	540.9	553.2	566.3	572.2	576.5	591.1	601.3	610.8	620.2	629.7
17.5°	528.5	540.1	555.4	570.0	577.3	583.1	599.8	612.2	623.1	632.6	643.5
20°	524.9	538.0	554.7	570.7	578.7	584.5	602.7	614.4	626.8	635.5	645.7
22.5°	519.8	532.9	549.6	565.6	572.9	578.0	596.2	606.4	617.3	626.0	635.5
25°	511.0	523.4	538.0	551.1	558.3	562.7	578.7	588.2	596.2	604.9	613.7
27.5°	498.6	508.1	520.5	530.0	534.3	538.7	551.8	559.8	567.1	574.4	580.2
30°	476.8	484.1	492.8	500.8	505.2	505.9	518.3	522.7	528.5	533.6	538.0
32.5°	447.7	453.5	458.6	463.0	465.9	466.6	476.1	477.5	483.4	483.4	489.9
35°	410.6	413.5	417.1	417.1	419.3	417.1	423.7	425.1	425.9	426.6	431.7
37.5°	368.3	369.8	372.0	367.6	367.6	365.4	367.6	369.1	366.2	366.2	369.8
40°	328.3	325.4	322.5	318.1	315.9	311.6	311.6	307.9	305.7	304.3	305.0
42.5°	289.7	283.2	276.6	267.2	262.8	258.4	254.1	249.0	247.5	243.9	241.7
45°	252.6	243.1	234.4	219.1	210.4	206.0	196.5	186.4	179.8	178.3	172.5
47.5°	221.3	207.5	192.9	174.7	166.0	158.0	144.1	135.4	126.7	122.3	118.7
50°	193.6	181.3	162.3	142.7	131.8	123.8	108.5	98.3	88.8	82.3	77.9
52.5°	169.6	155.8	138.3	115.7	104.8	96.1	79.3	67.7	59.7	53.1	48.0
55°	142.7	131.8	114.3	93.2	82.3	72.1	57.5	45.1	37.1	32.8	29.1
57.5°	123.0	113.6	96.8	76.4	66.2	56.8	42.2	32.0	25.5	21.1	18.9
60°	109.9	101.2	86.6	67.0	57.5	48.8	34.9	25.5	19.7	16.0	14.6
62.5°	99.0	90.3	77.2	59.0	51.0	42.2	29.8	21.1	16.0	13.1	10.9
65°	86.6	78.6	67.0	51.0	43.7	36.4	25.5	17.5	13.1	10.2	8.7
67.5°	73.5	66.2	56.1	42.2	36.4	30.6	20.4	14.6	10.9	8.7	7.3
70°	59.7	53.9	44.4	34.2	29.1	24.0	16.7	11.6	8.0	6.6	5.8
72.5°	45.9	40.8	34.2	26.2	21.8	18.2	12.4	8.7	6.6	5.1	4.4
75°	32.8	29.1	24.0	18.9	16.0	13.1	9.5	6.6	4.4	3.6	2.9
77.5°	22.6	20.4	16.7	13.1	10.9	9.5	6.6	4.4	3.6	2.9	2.2
80°	14.6	13.1	10.9	8.0	6.6	5.8	3.6	2.9	2.2	1.5	1.5
82.5°	8.7	8.0	6.6	4.4	3.6	2.9	2.2	1.5	1.5	0.7	0.7
85°	5.1	4.4	2.9	2.2	2.2	1.5	1.5	0.7	0.7	0.0	0.0
87.5°	2.2	1.5	1.5	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



TEST NUMBER: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6
2.5°	559.8	563.4	562.7	564.9	564.2	564.2	567.8	566.3	570.0	570.0	570.7
5°	567.8	572.9	572.9	576.5	575.8	577.3	580.9	580.9	585.3	586.7	586.7
7.5°	579.5	586.0	587.5	591.1	591.8	594.7	597.7	598.4	604.2	605.7	606.4
10°	595.5	603.5	605.7	609.3	610.8	613.7	617.3	618.8	626.0	626.8	629.7
12.5°	615.1	623.9	626.0	630.4	631.1	634.8	639.9	641.3	648.6	650.8	653.0
15°	634.0	642.1	645.7	650.1	650.8	655.2	659.5	661.0	667.5	670.4	672.6
17.5°	647.2	656.6	658.8	664.6	664.6	668.3	672.6	674.1	680.6	682.8	684.3
20°	650.1	658.8	661.7	666.1	666.8	669.0	672.6	674.1	679.9	680.6	682.8
22.5°	639.1	647.9	649.3	653.7	654.4	656.6	659.5	658.8	666.1	665.3	666.1
25°	615.8	623.9	623.9	629.0	628.2	630.4	631.9	631.1	637.7	637.7	637.7
27.5°	582.4	589.6	590.4	594.0	591.8	592.6	594.0	593.3	597.7	597.7	597.7
30°	540.9	546.7	544.5	547.4	546.0	547.4	546.0	545.2	546.7	548.1	547.4
32.5°	489.2	493.6	493.6	494.3	494.3	489.9	488.5	488.5	487.7	487.0	487.0
35°	429.5	433.1	431.7	431.7	430.9	426.6	424.4	422.9	425.1	420.8	423.7
37.5°	368.3	369.1	366.9	366.2	362.5	362.5	358.9	356.0	357.4	356.7	353.8
40°	301.4	304.3	299.9	298.5	300.6	297.7	294.1	290.5	293.4	289.7	291.2
42.5°	235.9	235.1	233.7	233.7	233.7	229.3	228.6	227.8	228.6	225.7	223.5
45°	170.3	168.2	166.0	166.0	163.1	161.6	161.6	159.4	155.8	155.8	151.4
47.5°	115.0	109.9	108.5	107.7	106.3	106.3	104.8	103.4	102.6	99.0	99.0
50°	75.0	69.9	68.4	67.7	68.4	67.0	65.5	64.1	62.6	61.9	60.4
52.5°	45.1	42.9	41.5	40.8	39.3	38.6	37.9	36.4	35.7	35.7	34.9
55°	26.9	24.8	21.8	21.8	21.8	21.1	20.4	19.7	18.9	18.9	18.2
57.5°	16.7	15.3	13.8	13.1	13.1	13.1	12.4	12.4	12.4	12.4	11.6
60°	12.4	10.9	10.2	10.2	10.2	9.5	9.5	9.5	9.5	8.7	8.7
62.5°	9.5	8.7	8.0	8.0	7.3	7.3	7.3	7.3	7.3	7.3	6.6
65°	8.0	6.6	6.6	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
67.5°	5.8	5.1	5.1	5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4
70°	4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	3.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
75°	2.9	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	1.5	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



TEST NUMBER: P251529

CATALOG NUMBER: LD4B15D010 EU4B10209730 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	557.6	557.6	557.6	557.6	557.6	557.6	557.6	557.6
2.5°	570.7	574.4	570.7	570.7	572.9	572.2	573.6	571.4
5°	587.5	592.6	588.9	588.2	591.8	591.1	591.8	590.4
7.5°	607.8	612.9	609.3	609.3	612.9	612.2	614.4	612.9
10°	631.1	637.0	631.9	632.6	637.7	637.0	637.0	637.0
12.5°	655.2	661.0	658.1	658.1	661.7	662.4	663.2	662.4
15°	674.8	680.6	677.0	677.0	682.1	681.4	682.1	681.4
17.5°	686.5	692.3	687.9	687.9	692.3	692.3	693.0	693.7
20°	683.5	690.1	686.5	685.0	690.1	690.1	689.4	689.4
22.5°	666.8	672.6	669.7	668.3	671.9	670.4	669.7	670.4
25°	637.7	643.5	637.7	637.7	640.6	639.9	640.6	639.9
27.5°	598.4	602.7	596.9	596.2	599.1	597.7	596.9	599.1
30°	546.0	550.3	547.4	545.2	548.9	546.7	545.2	546.0
32.5°	486.3	489.2	487.7	484.1	486.3	484.8	484.1	484.8
35°	420.8	424.4	418.6	417.8	421.5	418.6	417.1	420.8
37.5°	353.1	357.4	352.3	353.1	350.9	351.6	350.1	352.3
40°	289.0	288.3	286.8	286.1	286.8	284.6	286.1	283.9
42.5°	219.8	221.3	220.6	219.8	220.6	217.7	216.2	219.1
45°	152.9	152.1	150.7	149.2	149.2	148.5	148.5	146.3
47.5°	98.3	97.5	94.6	95.4	96.8	95.4	93.2	96.1
50°	59.7	59.0	59.0	58.2	59.7	58.2	56.8	56.8
52.5°	33.5	33.5	32.8	32.8	32.8	32.8	32.0	31.3
55°	18.2	17.5	17.5	17.5	16.7	16.7	16.7	16.7
57.5°	11.6	11.6	11.6	11.6	11.6	11.6	10.9	10.9
60°	8.7	8.7	8.7	8.7	8.0	8.7	8.0	8.0
62.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
65°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
67.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)