

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: P251682

Luminaire Tested: **LD4B15D010 EU4B10209040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251682
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 EU4B10209040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1050.0 lumens
Efficiency: N/A
Efficacy: 73.0 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

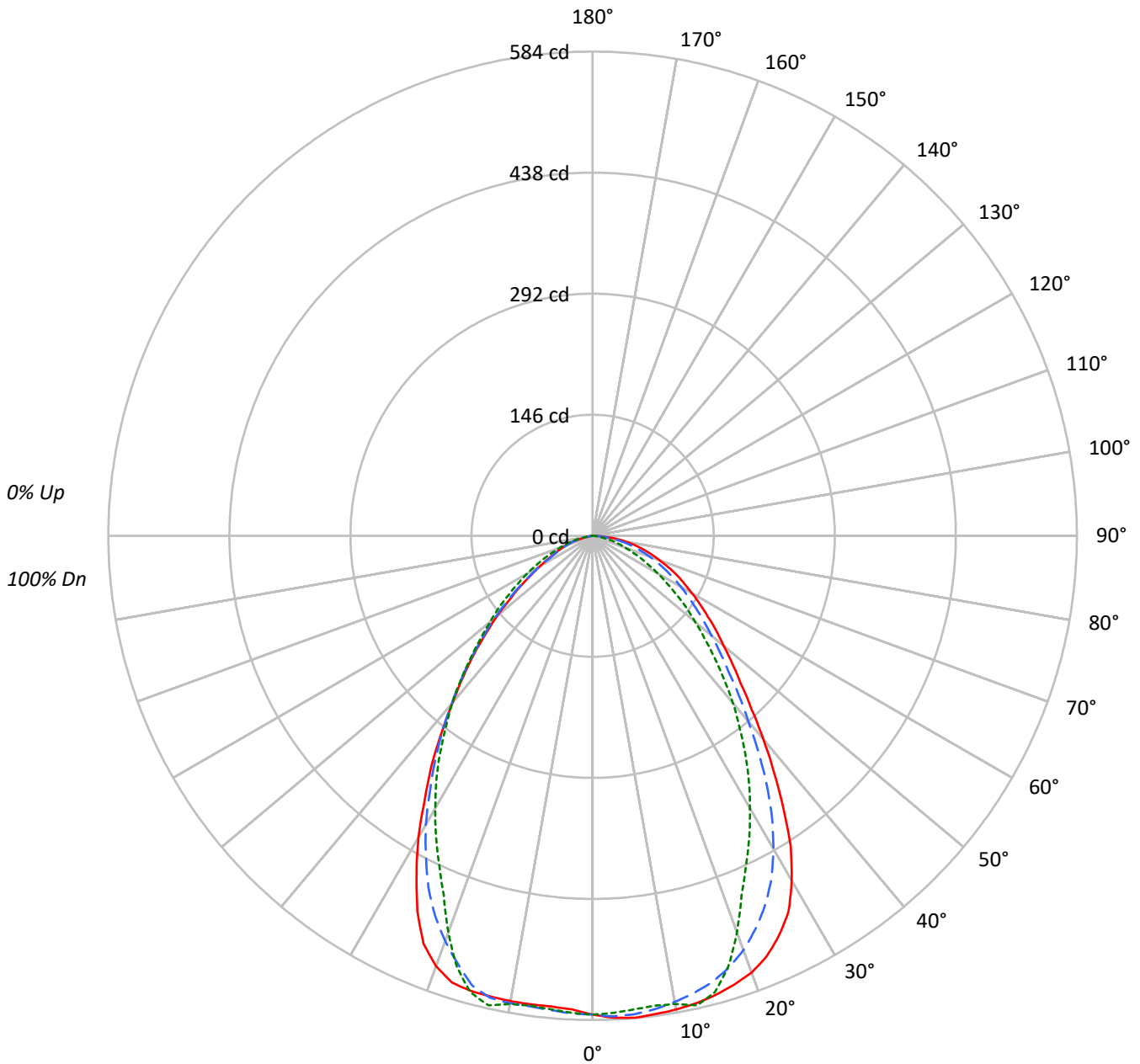
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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				100				
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88				88				
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77				
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67				
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60				
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53				
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48				
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36				
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	56292	56292	56292
5°	57094	56096	55763
10°	57417	56745	56408
15°	57854	57511	57339
20°	58152	52790	57270
25°	57197	47089	53734
30°	54039	42707	47276
35°	47661	38191	40309
40°	40737	33510	33409
45°	34898	28599	27896
50°	31203	24395	22728
55°	28783	20865	17994
60°	26918	17659	14190
65°	25782	14643	11715
70°	24363	11825	9888
75°	23610	9564	7004
80°	22842	5220	1908
85°	19904	2796	895



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.9	5.2
10°-20°	157.9	15.0
20°-30°	219.0	20.9
30°-40°	216.1	20.6
40°-50°	169.5	16.1
50°-60°	117.4	11.2
60°-70°	72.0	6.9
70°-80°	36.0	3.4
80°-90°	7.2	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°	431.8	41.1
0°-40°	647.9	61.7
0°-60°	934.9	89.0
0°-90°	1050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1050.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	578	578	578	578	578	
5°	584	579	573	574	570	56
15°	573	557	570	562	568	162
25°	532	492	438	468	500	243
35°	401	366	321	331	339	250
45°	253	232	208	205	202	198
55°	169	152	123	109	106	153
65°	112	97	64	47	51	110
75°	63	52	25	20	19	66
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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	581.9	580.2	579.3	581.9	581.0	582.7	581.9	581.0	579.3	580.2	580.2
5°	583.6	581.0	580.2	581.9	581.9	583.6	582.7	581.0	579.3	580.2	579.3
7.5°	581.9	580.2	580.2	581.0	580.2	581.9	580.2	578.5	576.8	577.6	576.0
10°	580.2	577.6	577.6	577.6	577.6	579.3	577.6	575.1	572.6	572.6	570.9
12.5°	577.6	575.1	575.1	576.0	574.3	576.0	574.3	570.0	567.5	566.6	564.9
15°	573.4	570.9	570.9	570.9	569.2	570.0	567.5	563.2	559.9	559.9	557.3
17.5°	567.5	564.9	564.1	564.1	561.6	562.4	559.9	555.6	550.5	548.8	546.3
20°	560.7	557.3	555.6	555.6	553.1	553.9	550.5	545.5	538.7	536.1	531.9
22.5°	548.8	547.2	544.6	543.8	541.2	540.4	537.0	530.2	524.3	520.1	513.3
25°	531.9	531.1	528.5	527.7	524.3	522.6	519.2	511.6	505.7	498.9	492.1
27.5°	511.6	508.2	506.5	504.0	500.6	499.7	495.5	488.7	479.4	475.2	466.7
30°	480.2	478.5	476.9	474.3	470.9	469.2	466.7	459.1	451.4	443.8	436.2
32.5°	444.7	441.3	438.7	439.6	435.4	433.7	429.4	422.6	415.9	410.8	402.3
35°	400.6	399.8	398.9	397.2	393.8	393.0	389.6	384.5	376.9	371.0	365.9
37.5°	359.1	356.6	354.9	354.9	351.5	351.5	349.0	343.0	338.8	334.6	327.8
40°	320.2	315.9	315.9	315.9	312.5	313.4	311.7	305.8	301.5	296.4	292.2
42.5°	283.7	282.0	281.2	279.5	277.8	277.8	276.1	272.7	268.5	265.1	260.9
45°	253.2	252.4	251.6	250.7	249.0	248.2	247.3	242.2	239.7	236.3	232.1
47.5°	228.7	227.0	226.1	225.3	223.6	222.8	221.1	217.7	215.1	211.7	208.4
50°	205.8	205.0	204.1	204.1	202.4	201.6	199.9	197.3	193.1	191.4	187.2
52.5°	188.0	186.3	184.6	184.6	182.9	182.9	180.4	177.9	173.6	171.9	168.6
55°	169.4	168.6	167.7	167.7	166.0	165.2	164.3	160.9	157.5	155.0	151.6
57.5°	153.3	152.5	151.6	151.6	149.9	149.1	148.2	145.7	142.3	140.6	136.4
60°	138.1	138.1	137.2	136.4	135.5	134.7	133.8	131.3	128.7	126.2	122.8
62.5°	124.5	123.7	122.8	122.0	122.0	121.1	120.3	116.9	115.2	112.6	109.3
65°	111.8	110.1	110.1	109.3	109.3	108.4	107.6	104.2	102.5	99.9	96.6
67.5°	98.3	97.4	96.6	96.6	95.7	95.7	94.9	92.3	89.8	88.1	84.7
70°	85.5	85.5	84.7	84.7	83.9	83.0	83.0	81.3	78.8	76.2	72.8
72.5°	74.5	73.7	72.8	72.8	72.0	72.0	71.1	69.5	67.8	66.1	61.8
75°	62.7	61.8	61.8	61.8	61.0	61.0	60.1	58.4	56.7	55.1	52.5
77.5°	51.7	51.7	50.8	50.8	50.0	50.0	50.0	48.3	46.6	44.9	41.5
80°	40.7	40.7	40.7	39.8	39.0	39.0	39.0	37.3	35.6	33.9	31.3
82.5°	29.6	28.8	28.8	28.0	27.1	27.1	27.1	25.4	24.6	22.0	20.3
85°	17.8	16.9	16.9	16.1	15.2	15.2	15.2	14.4	12.7	11.9	10.2
87.5°	6.8	6.8	6.8	6.8	6.8	5.9	5.9	5.1	5.1	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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	580.2	579.3	579.3	578.5	579.3	577.6	577.6	577.6	577.6	576.0	576.0
5°	578.5	578.5	577.6	576.8	577.6	576.0	576.8	576.0	576.0	573.4	573.4
7.5°	575.1	574.3	572.6	571.7	572.6	571.7	571.7	571.7	573.4	571.7	571.7
10°	569.2	568.3	566.6	565.8	565.8	564.9	566.6	568.3	571.7	573.4	576.8
12.5°	563.2	561.6	560.7	560.7	561.6	561.6	564.9	569.2	577.6	580.2	583.6
15°	555.6	554.8	554.8	557.3	560.7	563.2	570.0	572.6	573.4	570.0	568.3
17.5°	545.5	545.5	546.3	548.8	551.4	551.4	552.2	550.5	548.8	544.6	539.5
20°	528.5	527.7	526.0	526.0	526.0	522.6	524.3	518.4	514.1	509.0	501.4
22.5°	507.3	503.1	497.2	492.9	490.4	488.7	484.5	477.7	472.6	469.2	465.8
25°	484.5	477.7	469.2	462.5	458.2	457.4	451.4	445.5	442.1	437.9	436.2
27.5°	458.2	450.6	440.4	433.7	430.3	427.7	422.6	416.7	412.5	409.1	406.6
30°	427.7	420.1	411.6	403.2	399.8	395.5	390.5	386.2	382.0	379.5	377.8
32.5°	393.8	386.2	377.8	371.8	367.6	364.2	360.0	355.7	352.3	350.7	349.0
35°	359.1	351.5	344.7	338.8	335.4	332.9	329.5	324.4	321.9	321.0	319.3
37.5°	321.9	316.8	310.8	305.8	303.2	299.8	298.1	293.9	293.9	290.5	290.5
40°	287.1	283.7	277.8	273.6	271.9	269.3	266.8	265.1	264.3	263.4	262.6
42.5°	256.6	251.6	248.2	244.8	242.2	240.5	240.5	238.0	237.2	234.6	233.8
45°	228.7	226.1	220.2	217.7	216.8	214.3	213.4	211.7	209.2	207.5	206.7
47.5°	204.1	201.6	198.2	194.8	193.1	191.4	189.7	187.2	185.5	182.9	182.1
50°	183.8	179.6	176.2	173.6	171.1	170.2	168.6	165.2	163.5	160.9	160.9
52.5°	165.2	161.8	157.5	155.0	152.5	150.8	148.2	145.7	143.1	142.3	139.8
55°	149.1	144.8	140.6	137.2	134.7	132.1	131.3	127.9	124.5	122.8	121.1
57.5°	133.8	129.6	124.5	120.3	118.6	116.9	114.3	111.0	108.4	105.9	104.2
60°	118.6	115.2	110.1	105.9	104.2	101.6	99.1	95.7	93.2	90.6	88.9
62.5°	105.9	100.8	96.6	92.3	89.8	88.1	84.7	82.2	78.8	76.2	73.7
65°	93.2	88.1	83.9	79.6	77.9	75.4	72.8	69.5	66.1	63.5	60.1
67.5°	80.5	76.2	72.0	67.8	66.1	64.4	61.0	57.6	54.2	51.7	48.3
70°	69.5	65.2	61.0	57.6	55.9	54.2	50.8	47.4	44.9	41.5	39.0
72.5°	59.3	55.9	51.7	48.3	46.6	44.9	41.5	39.0	35.6	33.9	31.3
75°	49.1	45.7	42.3	39.0	37.3	35.6	33.0	30.5	28.0	25.4	23.7
77.5°	39.0	35.6	32.2	29.6	28.0	27.1	24.6	22.0	19.5	17.8	15.2
80°	28.8	25.4	22.9	20.3	18.6	17.8	15.2	13.6	11.9	9.3	8.5
82.5°	17.8	15.2	13.6	11.9	11.0	10.2	8.5	6.8	5.9	5.1	4.2
85°	9.3	8.5	6.8	5.9	5.1	5.1	4.2	3.4	2.5	2.5	1.7
87.5°	3.4	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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	574.3	575.1	576.0	576.8	576.0	576.0	577.6	574.3	576.8	576.8	573.4
5°	572.6	574.3	573.4	575.1	573.4	573.4	574.3	572.6	574.3	574.3	571.7
7.5°	570.9	572.6	572.6	573.4	572.6	572.6	573.4	570.9	572.6	572.6	570.0
10°	578.5	580.2	579.3	578.5	576.0	574.3	575.1	570.9	572.6	572.6	570.0
12.5°	581.0	580.2	576.8	575.1	573.4	571.7	572.6	569.2	570.9	570.9	569.2
15°	564.1	562.4	559.9	560.7	559.0	558.2	559.9	558.2	561.6	563.2	561.6
17.5°	535.3	534.4	532.8	532.8	532.8	533.6	536.1	536.1	541.2	544.6	546.3
20°	498.0	497.2	498.0	499.7	500.6	504.0	509.9	513.3	520.1	526.0	530.2
22.5°	464.1	465.8	468.4	471.8	472.6	476.9	484.5	487.9	496.3	503.1	507.3
25°	435.4	437.9	439.6	442.1	443.0	448.1	454.8	459.1	468.4	473.5	478.5
27.5°	406.6	409.9	410.8	414.2	414.2	419.3	425.2	429.4	435.4	440.4	444.7
30°	378.6	379.5	382.0	382.8	384.5	389.6	393.0	395.5	402.3	404.9	407.4
32.5°	348.1	351.5	353.2	354.0	353.2	357.4	360.8	362.5	365.1	368.4	370.1
35°	319.3	321.0	321.9	323.5	324.4	325.2	326.9	327.8	331.2	332.0	332.9
37.5°	290.5	293.1	292.2	293.1	293.1	293.9	295.6	294.8	297.3	298.1	297.3
40°	261.7	261.7	263.4	262.6	263.4	262.6	264.3	264.3	264.3	265.1	264.3
42.5°	232.9	233.8	232.9	234.6	232.9	233.8	233.8	232.9	233.8	232.9	232.9
45°	206.7	206.7	206.7	206.7	205.0	205.0	206.7	205.8	205.0	204.1	203.3
47.5°	181.3	182.1	180.4	181.3	180.4	179.6	178.7	178.7	177.9	176.2	175.3
50°	160.1	158.4	157.5	158.4	157.5	156.7	155.8	154.2	153.3	151.6	150.8
52.5°	138.9	137.2	135.5	135.5	134.7	133.0	132.1	130.4	129.6	127.9	127.9
55°	120.3	118.6	116.9	116.0	114.3	112.6	111.8	110.1	109.3	107.6	105.9
57.5°	102.5	99.9	98.3	97.4	96.6	94.0	93.2	91.5	89.8	88.1	87.2
60°	86.4	83.9	81.3	80.5	79.6	77.1	76.2	73.7	72.8	71.1	70.3
62.5°	71.1	69.5	66.1	65.2	63.5	61.8	59.3	58.4	57.6	58.4	58.4
65°	57.6	55.1	52.5	51.7	50.0	48.3	47.4	46.6	47.4	47.4	48.3
67.5°	45.7	43.2	40.7	40.7	39.8	38.1	38.1	38.1	39.0	39.0	39.8
70°	36.4	34.7	33.0	32.2	32.2	31.3	32.2	32.2	33.0	33.0	33.0
72.5°	28.8	28.0	27.1	26.3	26.3	26.3	26.3	26.3	26.3	26.3	27.1
75°	22.0	21.2	20.3	20.3	19.5	19.5	19.5	19.5	19.5	19.5	18.6
77.5°	14.4	13.6	12.7	12.7	11.9	11.0	11.0	10.2	10.2	10.2	10.2
80°	7.6	6.8	5.9	5.1	5.1	4.2	4.2	4.2	4.2	3.4	3.4
82.5°	3.4	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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	575.1	573.4	575.1	576.0	574.3	573.4	575.1	571.7
5°	574.3	571.7	572.6	573.4	571.7	570.9	572.6	570.0
7.5°	572.6	571.7	572.6	573.4	570.9	570.9	572.6	570.0
10°	572.6	570.9	571.7	573.4	571.7	571.7	573.4	570.0
12.5°	571.7	569.2	571.7	572.6	570.9	570.9	572.6	569.2
15°	565.8	565.8	566.6	568.3	567.5	568.3	570.9	568.3
17.5°	553.1	554.8	558.2	560.7	562.4	564.1	566.6	564.9
20°	537.8	540.4	544.6	547.2	550.5	551.4	555.6	552.2
22.5°	514.1	519.2	522.6	525.1	527.7	530.2	533.6	532.8
25°	485.3	488.7	491.3	493.8	497.2	498.9	500.6	499.7
27.5°	450.6	452.3	455.7	457.4	459.1	460.8	464.1	459.9
30°	412.5	413.3	415.0	417.6	417.6	419.3	421.0	420.1
32.5°	373.5	373.5	375.2	376.9	376.1	376.9	380.3	376.1
35°	335.4	334.6	337.1	337.9	337.9	337.1	339.6	338.8
37.5°	298.1	299.0	299.8	300.7	299.0	300.7	300.7	299.0
40°	264.3	263.4	265.1	266.0	265.1	266.0	266.0	262.6
42.5°	233.8	232.1	232.9	233.8	232.9	233.8	232.9	231.2
45°	204.1	203.3	203.3	204.1	202.4	202.4	202.4	202.4
47.5°	176.2	175.3	176.2	176.2	174.5	174.5	175.3	174.5
50°	150.8	149.9	149.9	149.9	149.1	149.1	149.9	149.9
52.5°	127.9	126.2	126.2	126.2	126.2	126.2	127.0	125.4
55°	105.0	105.0	105.0	105.0	105.9	105.9	105.9	105.9
57.5°	86.4	87.2	87.2	88.1	87.2	88.1	88.1	87.2
60°	72.0	71.1	72.0	72.0	72.8	72.8	72.8	72.8
62.5°	59.3	59.3	59.3	60.1	60.1	60.1	61.0	60.1
65°	49.1	49.1	50.0	50.0	50.0	50.8	50.8	50.8
67.5°	40.7	40.7	40.7	40.7	41.5	41.5	42.3	41.5
70°	33.9	33.9	33.9	33.9	33.9	34.7	34.7	34.7
72.5°	27.1	27.1	27.1	27.1	28.0	28.0	28.0	28.0
75°	18.6	18.6	18.6	19.5	18.6	18.6	18.6	18.6
77.5°	9.3	9.3	9.3	9.3	9.3	8.5	8.5	8.5
80°	3.4	3.4	3.4	3.4	3.4	3.4	2.5	3.4
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)