

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: P251514

Luminaire Tested: **LD4B10D010 EU4B10209050 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251514
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: LD4B10D010 EU4B10209050 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 863.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

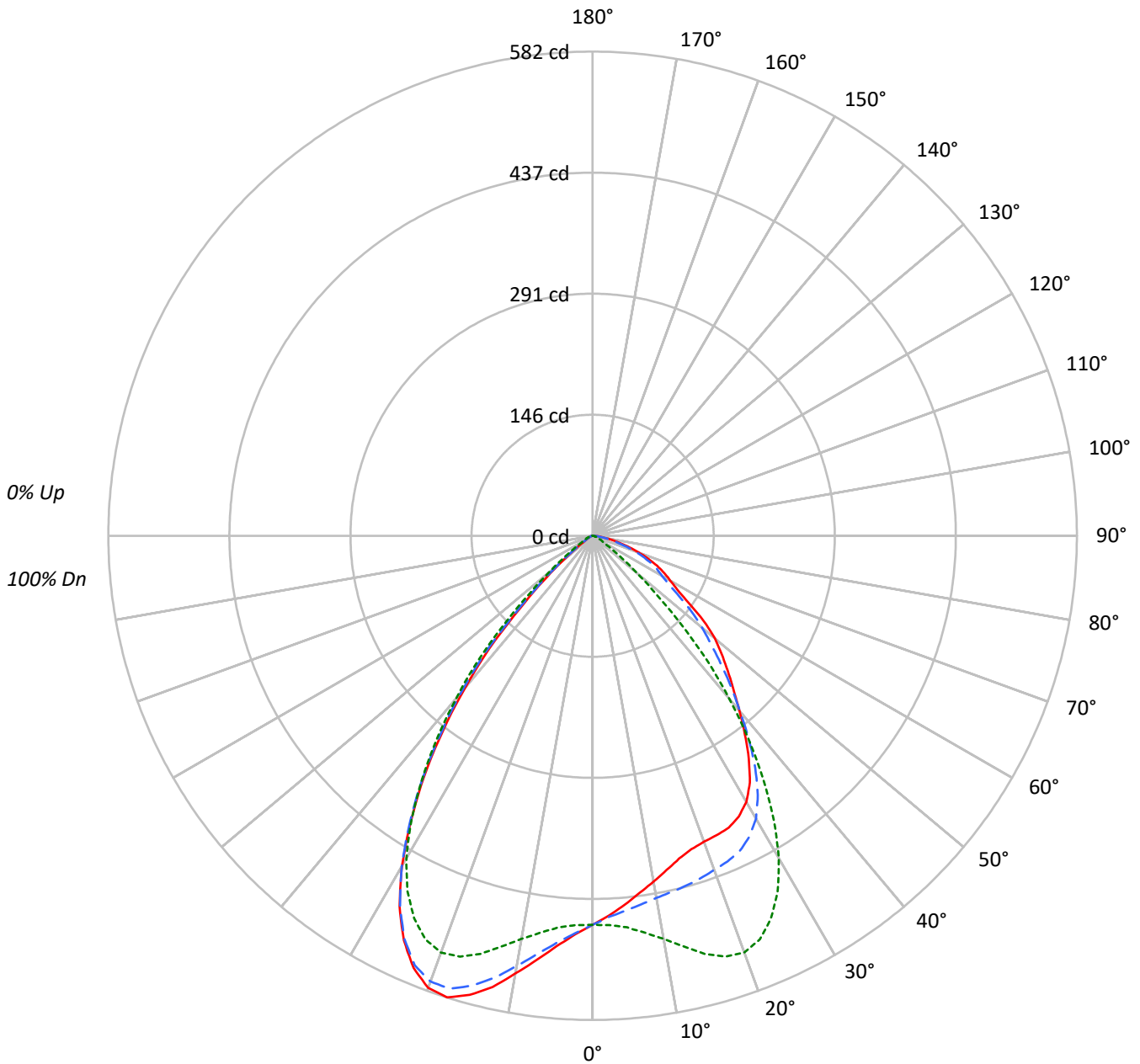
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	45581	45581	45581
5°	43544	46225	48436
10°	41752	48699	52865
15°	40530	52486	57652
20°	40583	55279	59967
25°	41626	54552	57702
30°	41570	50359	51530
35°	38928	42569	41986
40°	34872	32467	30292
45°	31645	20619	16911
50°	29065	10462	7217
55°	23856	4673	2379
60°	20953	2612	1306
65°	19717	1960	992
70°	16869	1567	883
75°	12878	1167	678
80°	9260	673	337
85°	6821	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	5.3
10°-20°	141.6	16.4
20°-30°	219.0	25.4
30°-40°	215.8	25.0
40°-50°	132.5	15.4
50°-60°	58.9	6.8
60°-70°	32.9	3.8
70°-80°	14.2	1.6
80°-90°	2.5	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°	406.0	47.0
0°-40°	621.9	72.1
0°-60°	813.3	94.2
0°-90°	863.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	863.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	468	468	468	468	468	
5°	445	452	472	491	495	42
15°	402	435	520	560	571	114
25°	387	418	507	535	537	178
35°	327	341	358	356	353	203
45°	230	218	150	131	123	178
55°	140	127	28	16	14	129
65°	86	77	8	5	4	84
75°	34	29	3	2	2	38
85°	6	5	0	0	0	8
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°	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7
2.5°	456.7	456.7	456.7	456.7	457.9	456.1	457.9	457.9	459.7	460.3	458.5
5°	445.1	444.5	445.1	445.1	446.3	445.7	447.5	448.7	451.2	452.4	452.4
7.5°	432.9	432.9	432.9	434.1	435.9	435.3	437.1	439.0	442.6	445.1	446.9
10°	421.9	421.3	423.1	423.7	425.5	425.5	428.6	430.4	434.7	439.6	442.0
12.5°	411.5	410.9	412.1	413.9	417.0	417.0	419.4	422.5	428.6	434.1	438.4
15°	401.7	402.3	404.2	405.4	409.0	409.0	412.1	415.8	422.5	429.2	435.3
17.5°	395.0	395.6	396.8	398.7	402.3	402.3	405.4	409.7	417.0	424.3	431.6
20°	391.3	392.0	393.2	395.0	398.1	398.7	401.1	406.0	412.7	420.6	427.4
22.5°	389.5	390.7	392.0	393.2	396.2	396.2	399.3	402.9	409.7	417.6	423.7
25°	387.1	388.3	388.9	390.7	393.2	393.2	395.0	399.3	405.4	412.1	418.2
27.5°	380.4	381.6	382.2	384.0	386.5	385.8	388.3	391.3	396.8	402.9	407.8
30°	369.4	370.0	371.2	371.8	373.6	373.6	375.5	378.5	382.2	387.7	392.6
32.5°	351.7	352.9	353.5	354.1	355.9	355.3	355.9	357.8	361.4	366.3	369.4
35°	327.2	329.7	329.7	330.9	331.5	330.9	330.9	333.3	335.2	338.8	340.7
37.5°	300.4	302.2	301.6	302.8	303.4	301.6	302.8	303.4	305.9	307.7	308.3
40°	274.1	274.7	274.7	274.7	274.7	274.1	274.7	275.3	277.2	277.2	275.3
42.5°	250.3	250.9	250.9	249.7	250.9	250.3	250.3	250.3	250.3	247.9	246.0
45°	229.6	230.2	230.2	229.6	229.6	228.3	227.7	227.1	225.3	222.2	218.0
47.5°	210.0	211.2	211.9	210.6	210.0	208.8	208.8	205.1	202.7	199.0	192.9
50°	191.7	192.9	192.9	191.7	191.7	189.9	188.0	186.8	183.2	178.9	171.6
52.5°	168.5	170.3	170.3	169.7	169.7	167.3	166.7	164.2	161.2	156.3	150.2
55°	140.4	142.9	142.3	141.6	140.4	140.4	140.4	138.6	136.8	133.1	127.0
57.5°	120.3	120.9	120.9	120.3	120.3	119.1	119.1	117.2	116.6	112.9	108.1
60°	107.5	107.5	108.1	107.5	106.8	106.2	105.6	104.4	102.6	100.1	96.5
62.5°	97.1	97.7	97.7	97.1	96.5	95.9	95.2	94.0	92.8	91.0	87.3
65°	85.5	86.7	86.1	85.5	84.9	84.3	84.3	83.0	81.8	80.6	76.9
67.5°	72.7	73.3	73.9	72.7	72.7	72.0	72.0	70.8	70.2	67.8	65.3
70°	59.2	59.8	59.8	59.2	59.2	58.6	58.6	58.0	57.4	55.6	53.1
72.5°	46.4	47.0	46.4	45.8	45.8	45.8	45.2	44.6	44.0	42.7	40.9
75°	34.2	34.2	34.8	34.2	33.6	33.6	33.0	33.0	31.7	31.1	29.3
77.5°	24.4	25.0	24.4	24.4	23.8	23.2	23.2	22.6	22.6	22.0	20.8
80°	16.5	16.5	17.1	16.5	15.9	16.5	15.9	15.3	15.3	14.7	13.4
82.5°	10.4	11.0	10.4	10.4	10.4	10.4	10.4	9.8	9.8	9.2	8.5
85°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.5	5.5	5.5	4.9
87.5°	3.1	3.1	2.4	2.4	3.1	3.1	3.1	2.4	2.4	2.4	2.4
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°	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7
2.5°	460.9	461.6	462.8	464.6	464.6	463.4	466.4	466.4	467.7	468.3	470.7
5°	456.1	457.3	459.7	462.8	463.4	462.8	467.0	468.9	470.7	472.5	476.2
7.5°	451.8	454.2	458.5	462.8	464.6	464.6	471.3	473.8	477.4	481.1	485.4
10°	449.3	453.0	459.1	465.8	467.7	469.5	477.4	482.3	487.2	492.1	498.2
12.5°	446.3	453.0	460.9	469.5	473.2	475.6	486.6	492.7	499.4	505.5	513.4
15°	445.7	453.6	464.0	475.0	479.9	483.5	495.7	504.3	512.2	520.2	528.1
17.5°	443.2	453.0	465.8	478.0	484.1	489.0	503.1	513.4	522.6	530.5	539.7
20°	440.2	451.2	465.2	478.6	485.4	490.2	505.5	515.3	525.7	533.0	541.5
22.5°	435.9	446.9	460.9	474.4	480.5	484.8	500.0	508.6	517.7	525.0	533.0
25°	428.6	439.0	451.2	462.2	468.3	471.9	485.4	493.3	500.0	507.3	514.7
27.5°	418.2	426.1	436.5	444.5	448.1	451.8	462.8	469.5	475.6	481.7	486.6
30°	399.9	406.0	413.3	420.0	423.7	424.3	434.7	438.4	443.2	447.5	451.2
32.5°	375.5	380.4	384.6	388.3	390.7	391.3	399.3	400.5	405.4	405.4	410.9
35°	344.3	346.8	349.8	349.8	351.7	349.8	355.3	356.5	357.2	357.8	362.0
37.5°	308.9	310.1	312.0	308.3	308.3	306.5	308.3	309.5	307.1	307.1	310.1
40°	275.3	272.9	270.5	266.8	265.0	261.3	261.3	258.2	256.4	255.2	255.8
42.5°	243.0	237.5	232.0	224.1	220.4	216.7	213.1	208.8	207.6	204.5	202.7
45°	211.9	203.9	196.6	183.8	176.4	172.8	164.8	156.3	150.8	149.6	144.7
47.5°	185.6	174.0	161.8	146.5	139.2	132.5	120.9	113.6	106.2	102.6	99.5
50°	162.4	152.0	136.1	119.7	110.5	103.8	91.0	82.4	74.5	69.0	65.3
52.5°	142.3	130.7	116.0	97.1	87.9	80.6	66.5	56.8	50.1	44.6	40.3
55°	119.7	110.5	95.9	78.1	69.0	60.4	48.2	37.9	31.1	27.5	24.4
57.5°	103.2	95.2	81.2	64.1	55.6	47.6	35.4	26.9	21.4	17.7	15.9
60°	92.2	84.9	72.7	56.2	48.2	40.9	29.3	21.4	16.5	13.4	12.2
62.5°	83.0	75.7	64.7	49.5	42.7	35.4	25.0	17.7	13.4	11.0	9.2
65°	72.7	65.9	56.2	42.7	36.6	30.5	21.4	14.7	11.0	8.5	7.3
67.5°	61.7	55.6	47.0	35.4	30.5	25.6	17.1	12.2	9.2	7.3	6.1
70°	50.1	45.2	37.2	28.7	24.4	20.1	14.0	9.8	6.7	5.5	4.9
72.5°	38.5	34.2	28.7	22.0	18.3	15.3	10.4	7.3	5.5	4.3	3.7
75°	27.5	24.4	20.1	15.9	13.4	11.0	7.9	5.5	3.7	3.1	2.4
77.5°	18.9	17.1	14.0	11.0	9.2	7.9	5.5	3.7	3.1	2.4	1.8
80°	12.2	11.0	9.2	6.7	5.5	4.9	3.1	2.4	1.8	1.2	1.2
82.5°	7.3	6.7	5.5	3.7	3.1	2.4	1.8	1.2	1.2	0.6	0.6
85°	4.3	3.7	2.4	1.8	1.8	1.2	1.2	0.6	0.6	0.0	0.0
87.5°	1.8	1.2	1.2	0.6	0.6	0.6	0.6	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°	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7
2.5°	469.5	472.5	471.9	473.8	473.2	473.2	476.2	475.0	478.0	478.0	478.6
5°	476.2	480.5	480.5	483.5	482.9	484.1	487.2	487.2	490.9	492.1	492.1
7.5°	486.0	491.5	492.7	495.7	496.4	498.8	501.2	501.8	506.7	508.0	508.6
10°	499.4	506.1	508.0	511.0	512.2	514.7	517.7	518.9	525.0	525.7	528.1
12.5°	515.9	523.2	525.0	528.7	529.3	532.4	536.6	537.9	544.0	545.8	547.6
15°	531.8	538.5	541.5	545.2	545.8	549.5	553.1	554.4	559.8	562.3	564.1
17.5°	542.8	550.7	552.5	557.4	557.4	560.5	564.1	565.3	570.8	572.7	573.9
20°	545.2	552.5	555.0	558.6	559.2	561.1	564.1	565.3	570.2	570.8	572.7
22.5°	536.0	543.4	544.6	548.2	548.9	550.7	553.1	552.5	558.6	558.0	558.6
25°	516.5	523.2	523.2	527.5	526.9	528.7	529.9	529.3	534.8	534.8	534.8
27.5°	488.4	494.5	495.1	498.2	496.4	497.0	498.2	497.6	501.2	501.2	501.2
30°	453.6	458.5	456.7	459.1	457.9	459.1	457.9	457.3	458.5	459.7	459.1
32.5°	410.3	413.9	413.9	414.5	414.5	410.9	409.7	409.7	409.0	408.4	408.4
35°	360.2	363.3	362.0	362.0	361.4	357.8	355.9	354.7	356.5	352.9	355.3
37.5°	308.9	309.5	307.7	307.1	304.0	304.0	301.0	298.5	299.8	299.2	296.7
40°	252.8	255.2	251.5	250.3	252.1	249.7	246.6	243.6	246.0	243.0	244.2
42.5°	197.8	197.2	196.0	196.0	196.0	192.3	191.7	191.1	191.7	189.3	187.4
45°	142.9	141.0	139.2	139.2	136.8	135.5	135.5	133.7	130.7	130.7	127.0
47.5°	96.5	92.2	91.0	90.4	89.1	89.1	87.9	86.7	86.1	83.0	83.0
50°	62.9	58.6	57.4	56.8	57.4	56.2	54.9	53.7	52.5	51.9	50.7
52.5°	37.9	36.0	34.8	34.2	33.0	32.4	31.7	30.5	29.9	29.9	29.3
55°	22.6	20.8	18.3	18.3	18.3	17.7	17.1	16.5	15.9	15.9	15.3
57.5°	14.0	12.8	11.6	11.0	11.0	11.0	10.4	10.4	10.4	10.4	9.8
60°	10.4	9.2	8.5	8.5	8.5	7.9	7.9	7.9	7.9	7.3	7.3
62.5°	7.9	7.3	6.7	6.7	6.1	6.1	6.1	6.1	6.1	6.1	5.5
65°	6.7	5.5	5.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
67.5°	4.9	4.3	4.3	4.3	4.3	3.7	3.7	3.7	3.7	3.7	3.7
70°	3.7	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	3.1	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
75°	2.4	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.6	0.6	0.6	0.6	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°	467.7	467.7	467.7	467.7	467.7	467.7	467.7	467.7
2.5°	478.6	481.7	478.6	478.6	480.5	479.9	481.1	479.3
5°	492.7	497.0	493.9	493.3	496.4	495.7	496.4	495.1
7.5°	509.8	514.1	511.0	511.0	514.1	513.4	515.3	514.1
10°	529.3	534.2	529.9	530.5	534.8	534.2	534.2	534.2
12.5°	549.5	554.4	551.9	551.9	555.0	555.6	556.2	555.6
15°	566.0	570.8	567.8	567.8	572.1	571.4	572.1	571.4
17.5°	575.7	580.6	576.9	576.9	580.6	580.6	581.2	581.8
20°	573.3	578.8	575.7	574.5	578.8	578.8	578.2	578.2
22.5°	559.2	564.1	561.7	560.5	563.5	562.3	561.7	562.3
25°	534.8	539.7	534.8	534.8	537.3	536.6	537.3	536.6
27.5°	501.8	505.5	500.6	500.0	502.5	501.2	500.6	502.5
30°	457.9	461.6	459.1	457.3	460.3	458.5	457.3	457.9
32.5°	407.8	410.3	409.0	406.0	407.8	406.6	406.0	406.6
35°	352.9	355.9	351.0	350.4	353.5	351.0	349.8	352.9
37.5°	296.1	299.8	295.5	296.1	294.3	294.9	293.7	295.5
40°	242.4	241.8	240.5	239.9	240.5	238.7	239.9	238.1
42.5°	184.4	185.6	185.0	184.4	185.0	182.5	181.3	183.8
45°	128.2	127.6	126.4	125.2	125.2	124.5	124.5	122.7
47.5°	82.4	81.8	79.4	80.0	81.2	80.0	78.1	80.6
50°	50.1	49.5	49.5	48.8	50.1	48.8	47.6	47.6
52.5°	28.1	28.1	27.5	27.5	27.5	27.5	26.9	26.3
55°	15.3	14.7	14.7	14.7	14.0	14.0	14.0	14.0
57.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.2	9.2
60°	7.3	7.3	7.3	7.3	6.7	7.3	6.7	6.7
62.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
65°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
67.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
75°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)