

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: P251688

Luminaire Tested: **LD4B20D010 EU4B10208035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251688
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: LD4B20D010 EU4B10208035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1679.0 lumens
Efficiency: N/A
Efficacy: 80.7 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

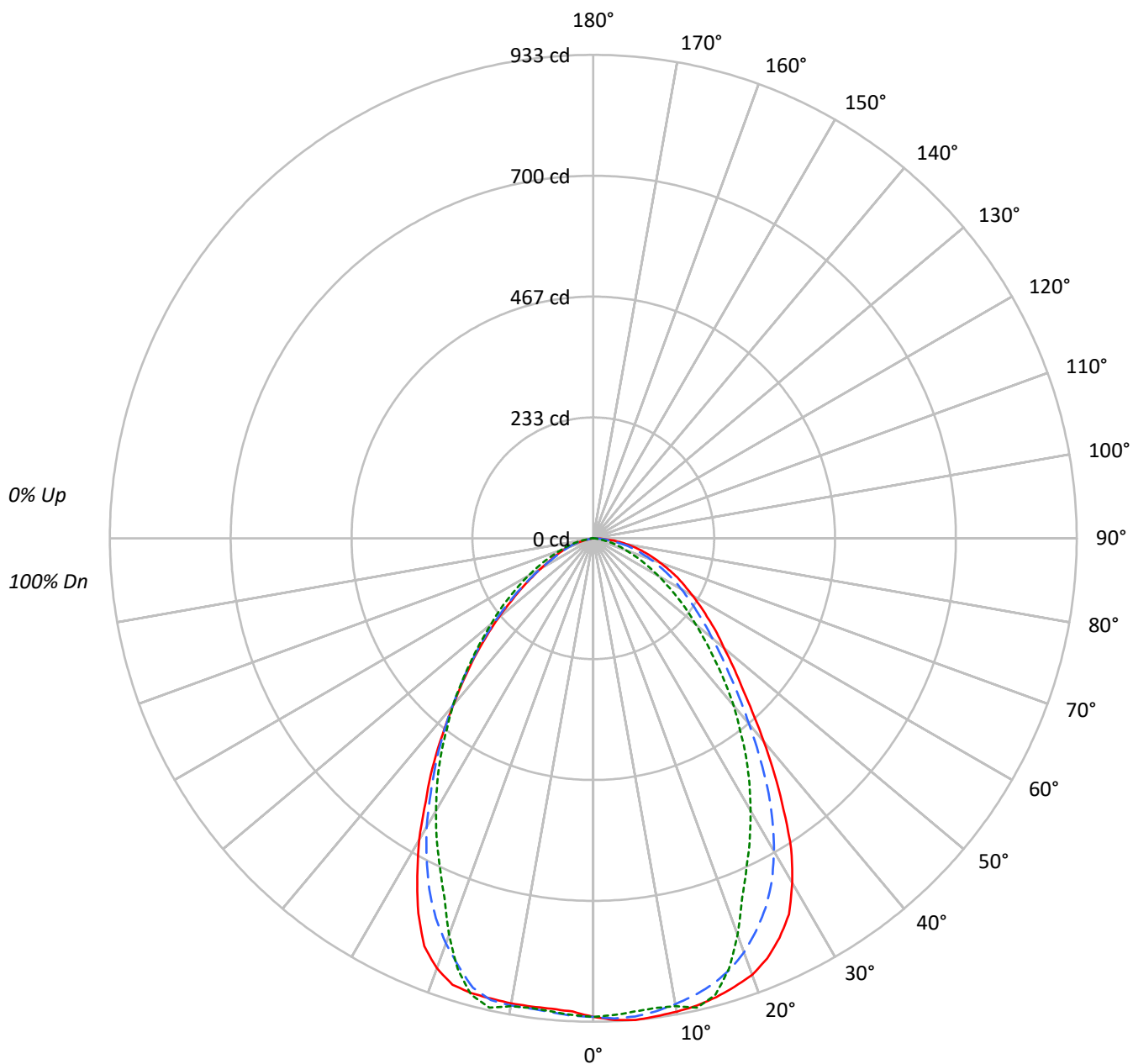
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	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°	90022	90022	90022
5°	91295	89701	89172
10°	91807	90738	90203
15°	92512	91967	91694
20°	92989	84422	91589
25°	91457	75295	85930
30°	86416	68286	75601
35°	76215	61070	64460
40°	65138	53586	53421
45°	55820	45731	44614
50°	49897	39011	36343
55°	46029	33371	28766
60°	43037	28243	22708
65°	41232	23430	18748
70°	38981	18921	15815
75°	37730	15288	11221
80°	36481	8362	3031
85°	31757	4585	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.7	5.2
10°-20°	252.5	15.0
20°-30°	350.2	20.9
30°-40°	345.6	20.6
40°-50°	271.1	16.1
50°-60°	187.8	11.2
60°-70°	115.1	6.9
70°-80°	57.5	3.4
80°-90°	11.5	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°	690.4	41.1
0°-40°	1036.0	61.7
0°-60°	1494.9	89.0
0°-90°	1679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1679.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	924	924	924	924	924	
5°	933	926	917	918	912	89
15°	917	891	912	898	909	259
25°	850	787	700	749	799	389
35°	641	585	513	530	542	400
45°	405	371	332	328	324	317
55°	271	242	196	175	169	244
65°	179	154	102	76	81	177
75°	100	84	41	31	30	106
85°	28	16	4	1	1	32
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°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	930.5	927.7	926.4	930.5	929.1	931.8	930.5	929.1	926.4	927.7	927.7
5°	933.2	929.1	927.7	930.5	930.5	933.2	931.8	929.1	926.4	927.7	926.4
7.5°	930.5	927.7	927.7	929.1	927.7	930.5	927.7	925.0	922.3	923.7	921.0
10°	927.7	923.7	923.7	923.7	923.7	926.4	923.7	919.6	915.6	915.6	912.8
12.5°	923.7	919.6	919.6	921.0	918.3	921.0	918.3	911.5	907.4	906.1	903.4
15°	916.9	912.8	912.8	912.8	910.1	911.5	907.4	900.7	895.2	895.2	891.2
17.5°	907.4	903.4	902.0	902.0	898.0	899.3	895.2	888.5	880.3	877.6	873.6
20°	896.6	891.2	888.5	888.5	884.4	885.8	880.3	872.2	861.4	857.3	850.5
22.5°	877.6	874.9	870.9	869.5	865.4	864.1	858.7	847.8	838.4	831.6	820.8
25°	850.5	849.2	845.1	843.8	838.4	835.6	830.2	818.0	808.6	797.7	786.9
27.5°	818.0	812.6	809.9	805.9	800.4	799.1	792.3	781.5	766.6	759.8	746.3
30°	767.9	765.2	762.5	758.5	753.0	750.3	746.3	734.1	721.9	709.7	697.5
32.5°	711.0	705.6	701.6	702.9	696.1	693.4	686.7	675.8	665.0	656.9	643.3
35°	640.6	639.3	637.9	635.2	629.8	628.4	623.0	614.9	602.7	593.2	585.1
37.5°	574.3	570.2	567.5	567.5	562.1	562.1	558.0	548.5	541.8	535.0	524.1
40°	512.0	505.2	505.2	505.2	499.8	501.1	498.4	488.9	482.2	474.0	467.3
42.5°	453.7	451.0	449.7	446.9	444.2	444.2	441.5	436.1	429.3	423.9	417.1
45°	405.0	403.6	402.2	400.9	398.2	396.8	395.5	387.4	383.3	377.9	371.1
47.5°	365.7	363.0	361.6	360.3	357.6	356.2	353.5	348.1	344.0	338.6	333.2
50°	329.1	327.8	326.4	326.4	323.7	322.3	319.6	315.6	308.8	306.1	299.3
52.5°	300.7	298.0	295.3	295.3	292.5	292.5	288.5	284.4	277.6	274.9	269.5
55°	270.9	269.5	268.2	268.2	265.5	264.1	262.7	257.3	251.9	247.9	242.4
57.5°	245.1	243.8	242.4	242.4	239.7	238.4	237.0	233.0	227.5	224.8	218.1
60°	220.8	220.8	219.4	218.1	216.7	215.3	214.0	209.9	205.9	201.8	196.4
62.5°	199.1	197.7	196.4	195.0	195.0	193.7	192.3	186.9	184.2	180.1	174.7
65°	178.8	176.1	176.1	174.7	174.7	173.4	172.0	166.6	163.9	159.8	154.4
67.5°	157.1	155.8	154.4	154.4	153.0	153.0	151.7	147.6	143.6	140.9	135.4
70°	136.8	136.8	135.4	135.4	134.1	132.7	132.7	130.0	126.0	121.9	116.5
72.5°	119.2	117.8	116.5	116.5	115.1	115.1	113.8	111.1	108.4	105.6	98.9
75°	100.2	98.9	98.9	98.9	97.5	97.5	96.2	93.5	90.7	88.0	84.0
77.5°	82.6	82.6	81.3	81.3	79.9	79.9	79.9	77.2	74.5	71.8	66.4
80°	65.0	65.0	65.0	63.7	62.3	62.3	62.3	59.6	56.9	54.2	50.1
82.5°	47.4	46.0	46.0	44.7	43.3	43.3	43.3	40.6	39.3	35.2	32.5
85°	28.4	27.1	27.1	25.7	24.4	24.4	24.4	23.0	20.3	19.0	16.3
87.5°	10.8	10.8	10.8	10.8	10.8	9.5	9.5	8.1	8.1	6.8	6.8
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°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	927.7	926.4	926.4	925.0	926.4	923.7	923.7	923.7	923.7	921.0	921.0
5°	925.0	925.0	923.7	922.3	923.7	921.0	922.3	921.0	921.0	916.9	916.9
7.5°	919.6	918.3	915.6	914.2	915.6	914.2	914.2	914.2	916.9	914.2	914.2
10°	910.1	908.8	906.1	904.7	904.7	903.4	906.1	908.8	914.2	916.9	922.3
12.5°	900.7	898.0	896.6	896.6	898.0	898.0	903.4	910.1	923.7	927.7	933.2
15°	888.5	887.1	887.1	891.2	896.6	900.7	911.5	915.6	916.9	911.5	908.8
17.5°	872.2	872.2	873.6	877.6	881.7	881.7	883.1	880.3	877.6	870.9	862.7
20°	845.1	843.8	841.1	841.1	841.1	835.6	838.4	828.9	822.1	814.0	801.8
22.5°	811.3	804.5	795.0	788.2	784.2	781.5	774.7	763.9	755.7	750.3	744.9
25°	774.7	763.9	750.3	739.5	732.7	731.4	721.9	712.4	707.0	700.2	697.5
27.5°	732.7	720.5	704.3	693.4	688.0	684.0	675.8	666.4	659.6	654.2	650.1
30°	684.0	671.8	658.2	644.7	639.3	632.5	624.4	617.6	610.8	606.8	604.1
32.5°	629.8	617.6	604.1	594.6	587.8	582.4	575.6	568.8	563.4	560.7	558.0
35°	574.3	562.1	551.2	541.8	536.3	532.3	526.9	518.7	514.7	513.3	510.6
37.5°	514.7	506.5	497.1	488.9	484.9	479.4	476.7	470.0	470.0	464.6	464.6
40°	459.1	453.7	444.2	437.5	434.8	430.7	426.6	423.9	422.6	421.2	419.9
42.5°	410.4	402.2	396.8	391.4	387.4	384.6	384.6	380.6	379.2	375.2	373.8
45°	365.7	361.6	352.1	348.1	346.7	342.7	341.3	338.6	334.5	331.8	330.5
47.5°	326.4	322.3	316.9	311.5	308.8	306.1	303.4	299.3	296.6	292.5	291.2
50°	293.9	287.1	281.7	277.6	273.6	272.2	269.5	264.1	261.4	257.3	257.3
52.5°	264.1	258.7	251.9	247.9	243.8	241.1	237.0	233.0	228.9	227.5	223.5
55°	238.4	231.6	224.8	219.4	215.3	211.3	209.9	204.5	199.1	196.4	193.7
57.5°	214.0	207.2	199.1	192.3	189.6	186.9	182.8	177.4	173.4	169.3	166.6
60°	189.6	184.2	176.1	169.3	166.6	162.5	158.5	153.0	149.0	144.9	142.2
62.5°	169.3	161.2	154.4	147.6	143.6	140.9	135.4	131.4	126.0	121.9	117.8
65°	149.0	140.9	134.1	127.3	124.6	120.5	116.5	111.1	105.6	101.6	96.2
67.5°	128.7	121.9	115.1	108.4	105.6	102.9	97.5	92.1	86.7	82.6	77.2
70°	111.1	104.3	97.5	92.1	89.4	86.7	81.3	75.8	71.8	66.4	62.3
72.5°	94.8	89.4	82.6	77.2	74.5	71.8	66.4	62.3	56.9	54.2	50.1
75°	78.6	73.1	67.7	62.3	59.6	56.9	52.8	48.8	44.7	40.6	37.9
77.5°	62.3	56.9	51.5	47.4	44.7	43.3	39.3	35.2	31.2	28.4	24.4
80°	46.0	40.6	36.6	32.5	29.8	28.4	24.4	21.7	19.0	14.9	13.5
82.5°	28.4	24.4	21.7	19.0	17.6	16.3	13.5	10.8	9.5	8.1	6.8
85°	14.9	13.5	10.8	9.5	8.1	8.1	6.8	5.4	4.1	4.1	2.7
87.5°	5.4	4.1	4.1	2.7	2.7	2.7	2.7	1.4	1.4	1.4	1.4
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	918.3	919.6	921.0	922.3	921.0	921.0	923.7	918.3	922.3	922.3	916.9
5°	915.6	918.3	916.9	919.6	916.9	916.9	918.3	915.6	918.3	918.3	914.2
7.5°	912.8	915.6	915.6	916.9	915.6	915.6	916.9	912.8	915.6	915.6	911.5
10°	925.0	927.7	926.4	925.0	921.0	918.3	919.6	912.8	915.6	915.6	911.5
12.5°	929.1	927.7	922.3	919.6	916.9	914.2	915.6	910.1	912.8	912.8	910.1
15°	902.0	899.3	895.2	896.6	893.9	892.5	895.2	892.5	898.0	900.7	898.0
17.5°	856.0	854.6	851.9	851.9	851.9	853.3	857.3	857.3	865.4	870.9	873.6
20°	796.4	795.0	796.4	799.1	800.4	805.9	815.3	820.8	831.6	841.1	847.8
22.5°	742.2	744.9	749.0	754.4	755.7	762.5	774.7	780.1	793.7	804.5	811.3
25°	696.1	700.2	702.9	707.0	708.3	716.5	727.3	734.1	749.0	757.1	765.2
27.5°	650.1	655.5	656.9	662.3	662.3	670.4	679.9	686.7	696.1	704.3	711.0
30°	605.4	606.8	610.8	612.2	614.9	623.0	628.4	632.5	643.3	647.4	651.5
32.5°	556.6	562.1	564.8	566.1	564.8	571.5	577.0	579.7	583.7	589.2	591.9
35°	510.6	513.3	514.7	517.4	518.7	520.1	522.8	524.1	529.6	530.9	532.3
37.5°	464.6	468.6	467.3	468.6	468.6	470.0	472.7	471.3	475.4	476.7	475.4
40°	418.5	418.5	421.2	419.9	421.2	419.9	422.6	422.6	422.6	423.9	422.6
42.5°	372.5	373.8	372.5	375.2	372.5	373.8	373.8	372.5	373.8	372.5	372.5
45°	330.5	330.5	330.5	330.5	327.8	327.8	330.5	329.1	327.8	326.4	325.1
47.5°	289.8	291.2	288.5	289.8	288.5	287.1	285.8	285.8	284.4	281.7	280.4
50°	256.0	253.3	251.9	253.3	251.9	250.6	249.2	246.5	245.1	242.4	241.1
52.5°	222.1	219.4	216.7	216.7	215.3	212.6	211.3	208.6	207.2	204.5	204.5
55°	192.3	189.6	186.9	185.5	182.8	180.1	178.8	176.1	174.7	172.0	169.3
57.5°	163.9	159.8	157.1	155.8	154.4	150.3	149.0	146.3	143.6	140.9	139.5
60°	138.1	134.1	130.0	128.7	127.3	123.2	121.9	117.8	116.5	113.8	112.4
62.5°	113.8	111.1	105.6	104.3	101.6	98.9	94.8	93.5	92.1	93.5	93.5
65°	92.1	88.0	84.0	82.6	79.9	77.2	75.8	74.5	75.8	75.8	77.2
67.5°	73.1	69.1	65.0	65.0	63.7	60.9	60.9	60.9	62.3	62.3	63.7
70°	58.2	55.5	52.8	51.5	51.5	50.1	51.5	51.5	52.8	52.8	52.8
72.5°	46.0	44.7	43.3	42.0	42.0	42.0	42.0	42.0	42.0	42.0	43.3
75°	35.2	33.9	32.5	32.5	31.2	31.2	31.2	31.2	31.2	31.2	29.8
77.5°	23.0	21.7	20.3	20.3	19.0	17.6	17.6	16.3	16.3	16.3	16.3
80°	12.2	10.8	9.5	8.1	8.1	6.8	6.8	6.8	6.8	5.4	5.4
82.5°	5.4	4.1	4.1	4.1	4.1	2.7	2.7	2.7	2.7	2.7	2.7
85°	2.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
2.5°	919.6	916.9	919.6	921.0	918.3	916.9	919.6	914.2
5°	918.3	914.2	915.6	916.9	914.2	912.8	915.6	911.5
7.5°	915.6	914.2	915.6	916.9	912.8	912.8	915.6	911.5
10°	915.6	912.8	914.2	916.9	914.2	914.2	916.9	911.5
12.5°	914.2	910.1	914.2	915.6	912.8	912.8	915.6	910.1
15°	904.7	904.7	906.1	908.8	907.4	908.8	912.8	908.8
17.5°	884.4	887.1	892.5	896.6	899.3	902.0	906.1	903.4
20°	860.0	864.1	870.9	874.9	880.3	881.7	888.5	883.1
22.5°	822.1	830.2	835.6	839.7	843.8	847.8	853.3	851.9
25°	776.1	781.5	785.5	789.6	795.0	797.7	800.4	799.1
27.5°	720.5	723.2	728.7	731.4	734.1	736.8	742.2	735.4
30°	659.6	660.9	663.6	667.7	667.7	670.4	673.1	671.8
32.5°	597.3	597.3	600.0	602.7	601.3	602.7	608.1	601.3
35°	536.3	535.0	539.0	540.4	540.4	539.0	543.1	541.8
37.5°	476.7	478.1	479.4	480.8	478.1	480.8	480.8	478.1
40°	422.6	421.2	423.9	425.3	423.9	425.3	425.3	419.9
42.5°	373.8	371.1	372.5	373.8	372.5	373.8	372.5	369.7
45°	326.4	325.1	325.1	326.4	323.7	323.7	323.7	323.7
47.5°	281.7	280.4	281.7	281.7	279.0	279.0	280.4	279.0
50°	241.1	239.7	239.7	239.7	238.4	238.4	239.7	239.7
52.5°	204.5	201.8	201.8	201.8	201.8	201.8	203.2	200.4
55°	167.9	167.9	167.9	167.9	169.3	169.3	169.3	169.3
57.5°	138.1	139.5	139.5	140.9	139.5	140.9	140.9	139.5
60°	115.1	113.8	115.1	115.1	116.5	116.5	116.5	116.5
62.5°	94.8	94.8	94.8	96.2	96.2	96.2	97.5	96.2
65°	78.6	78.6	79.9	79.9	79.9	81.3	81.3	81.3
67.5°	65.0	65.0	65.0	65.0	66.4	66.4	67.7	66.4
70°	54.2	54.2	54.2	54.2	54.2	55.5	55.5	55.5
72.5°	43.3	43.3	43.3	43.3	44.7	44.7	44.7	44.7
75°	29.8	29.8	29.8	31.2	29.8	29.8	29.8	29.8
77.5°	14.9	14.9	14.9	14.9	14.9	13.5	13.5	13.5
80°	5.4	5.4	5.4	5.4	5.4	5.4	4.1	5.4
82.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.4
85°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)