

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: P251518

Luminaire Tested: **LD4B15D010 EU4B10208030 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251518
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 EU4B10208030 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1379.0 lumens
Efficiency: N/A
Efficacy: 95.8 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

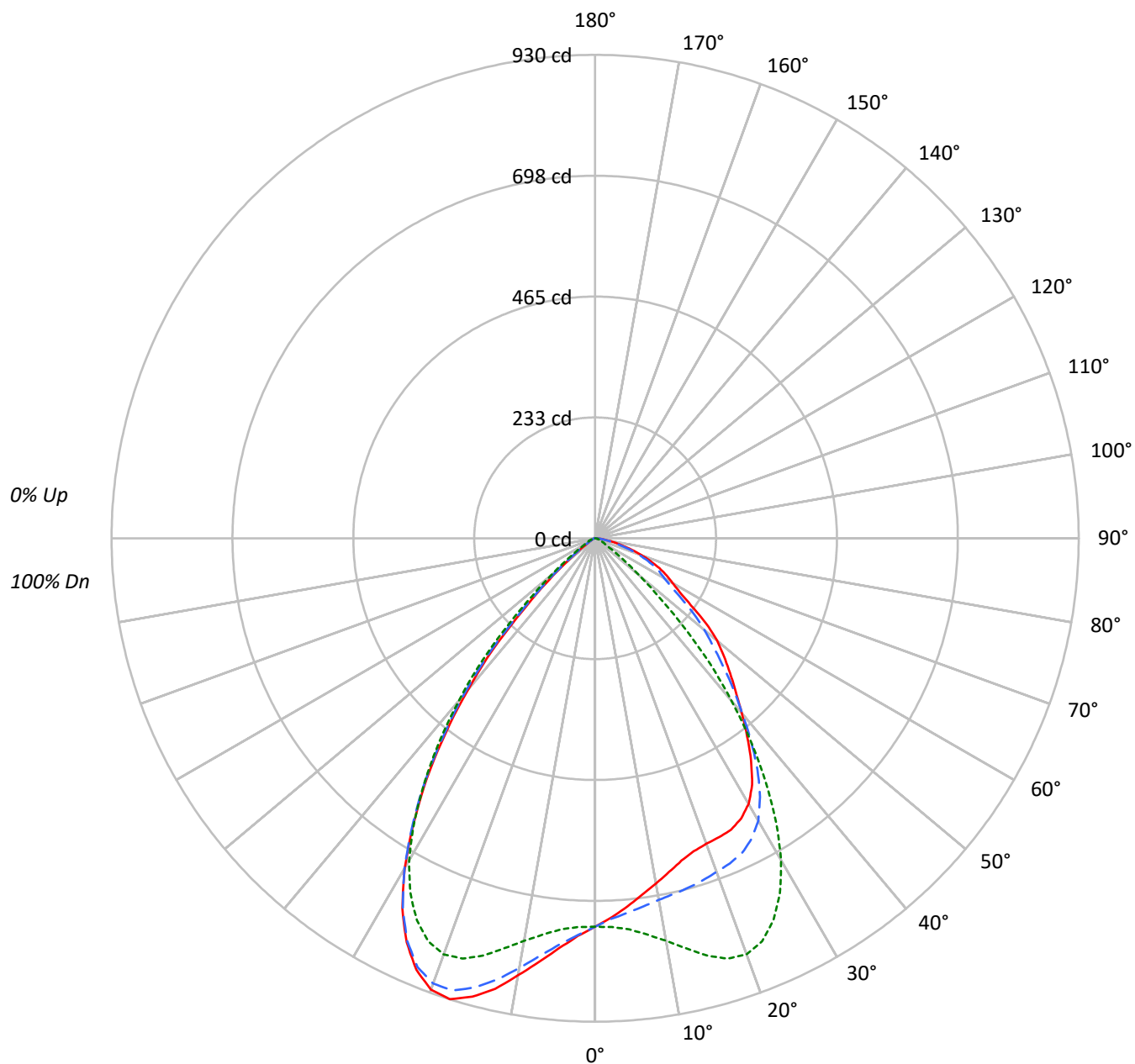
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	72830	72830	72830
5°	69577	73872	77403
10°	66710	77813	84474
15°	64765	83865	92128
20°	64852	88332	95820
25°	66509	87177	92210
30°	66418	80474	82342
35°	62212	68018	67090
40°	55723	51881	48408
45°	50555	32941	27028
50°	46441	16708	11538
55°	38128	7459	3806
60°	33467	4191	2086
65°	31501	3159	1568
70°	26956	2508	1396
75°	20560	1845	1092
80°	14761	1122	561
85°	10958	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.6	5.3
10°-20°	226.2	16.4
20°-30°	350.0	25.4
30°-40°	344.9	25.0
40°-50°	211.8	15.4
50°-60°	94.2	6.8
60°-70°	52.6	3.8
70°-80°	22.8	1.7
80°-90°	4.1	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°	648.8	47.0
0°-40°	993.7	72.1
0°-60°	1299.6	94.2
0°-90°	1379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1379.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	747	747	747	747	747	
5°	711	723	755	784	791	67
15°	642	696	831	895	913	182
25°	618	668	811	855	858	284
35°	523	544	572	570	564	325
45°	367	348	239	209	196	284
55°	224	203	44	25	22	206
65°	137	123	14	8	7	134
75°	55	47	5	3	3	60
85°	10	8	0	0	0	12
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°	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3
2.5°	729.7	729.7	729.7	729.7	731.7	728.7	731.7	731.7	734.6	735.6	732.6
5°	711.2	710.2	711.2	711.2	713.1	712.2	715.1	717.0	720.9	722.9	722.9
7.5°	691.7	691.7	691.7	693.6	696.5	695.6	698.5	701.4	707.3	711.2	714.1
10°	674.1	673.1	676.1	677.0	680.0	680.0	684.8	687.8	694.6	702.4	706.3
12.5°	657.5	656.6	658.5	661.4	666.3	666.3	670.2	675.1	684.8	693.6	700.5
15°	641.9	642.9	645.8	647.8	653.6	653.6	658.5	664.4	675.1	685.8	695.6
17.5°	631.2	632.2	634.1	637.0	642.9	642.9	647.8	654.6	666.3	678.0	689.7
20°	625.3	626.3	628.3	631.2	636.1	637.0	640.9	648.7	659.5	672.2	682.9
22.5°	622.4	624.4	626.3	628.3	633.1	633.1	638.0	643.9	654.6	667.3	677.0
25°	618.5	620.5	621.4	624.4	628.3	628.3	631.2	638.0	647.8	658.5	668.3
27.5°	607.8	609.7	610.7	613.6	617.5	616.6	620.5	625.3	634.1	643.9	651.7
30°	590.2	591.2	593.1	594.1	597.0	597.0	600.0	604.8	610.7	619.5	627.3
32.5°	561.9	563.9	564.8	565.8	568.7	567.8	568.7	571.7	577.5	585.3	590.2
35°	522.9	526.8	526.8	528.8	529.7	528.8	528.8	532.7	535.6	541.4	544.4
37.5°	480.0	482.9	481.9	483.9	484.9	481.9	483.9	484.9	488.8	491.7	492.7
40°	438.0	439.0	439.0	439.0	439.0	438.0	439.0	440.0	442.9	442.9	440.0
42.5°	400.0	401.0	401.0	399.0	401.0	400.0	400.0	400.0	400.0	396.1	393.1
45°	366.8	367.8	367.8	366.8	366.8	364.9	363.9	362.9	360.0	355.1	348.3
47.5°	335.6	337.5	338.5	336.6	335.6	333.6	333.6	327.8	323.9	318.0	308.3
50°	306.3	308.3	308.3	306.3	306.3	303.4	300.5	298.5	292.7	285.8	274.1
52.5°	269.3	272.2	272.2	271.2	271.2	267.3	266.3	262.4	257.5	249.7	240.0
55°	224.4	228.3	227.3	226.3	224.4	224.4	224.4	221.5	218.5	212.7	202.9
57.5°	192.2	193.2	193.2	192.2	192.2	190.2	190.2	187.3	186.3	180.5	172.7
60°	171.7	171.7	172.7	171.7	170.7	169.7	168.8	166.8	163.9	160.0	154.1
62.5°	155.1	156.1	156.1	155.1	154.1	153.2	152.2	150.2	148.3	145.4	139.5
65°	136.6	138.5	137.6	136.6	135.6	134.6	134.6	132.7	130.7	128.8	122.9
67.5°	116.1	117.1	118.0	116.1	116.1	115.1	115.1	113.2	112.2	108.3	104.4
70°	94.6	95.6	95.6	94.6	94.6	93.7	93.7	92.7	91.7	88.8	84.9
72.5°	74.1	75.1	74.1	73.2	73.2	73.2	72.2	71.2	70.2	68.3	65.4
75°	54.6	54.6	55.6	54.6	53.7	53.7	52.7	52.7	50.7	49.8	46.8
77.5°	39.0	40.0	39.0	39.0	38.0	37.1	37.1	36.1	36.1	35.1	33.2
80°	26.3	26.3	27.3	26.3	25.4	26.3	25.4	24.4	24.4	23.4	21.5
82.5°	16.6	17.6	16.6	16.6	16.6	16.6	16.6	15.6	15.6	14.6	13.7
85°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	8.8	8.8	8.8	7.8
87.5°	4.9	4.9	3.9	3.9	4.9	4.9	4.9	3.9	3.9	3.9	3.9
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°	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3
2.5°	736.5	737.5	739.5	742.4	742.4	740.4	745.3	745.3	747.3	748.3	752.2
5°	728.7	730.7	734.6	739.5	740.4	739.5	746.3	749.2	752.2	755.1	760.9
7.5°	721.9	725.8	732.6	739.5	742.4	742.4	753.1	757.0	762.9	768.7	775.6
10°	718.0	723.9	733.6	744.4	747.3	750.2	762.9	770.7	778.5	786.3	796.1
12.5°	713.1	723.9	736.5	750.2	756.1	760.0	777.5	787.3	798.0	807.8	820.4
15°	712.2	724.8	741.4	759.0	766.8	772.6	792.2	805.8	818.5	831.2	843.9
17.5°	708.3	723.9	744.4	763.9	773.6	781.4	803.9	820.4	835.1	847.8	862.4
20°	703.4	720.9	743.4	764.8	775.6	783.4	807.8	823.4	840.0	851.7	865.3
22.5°	696.5	714.1	736.5	758.0	767.8	774.6	799.0	812.6	827.3	839.0	851.7
25°	684.8	701.4	720.9	738.5	748.3	754.1	775.6	788.3	799.0	810.7	822.4
27.5°	668.3	680.9	697.5	710.2	716.1	721.9	739.5	750.2	760.0	769.7	777.5
30°	639.0	648.7	660.5	671.2	677.0	678.0	694.6	700.5	708.3	715.1	720.9
32.5°	600.0	607.8	614.6	620.5	624.4	625.3	638.0	640.0	647.8	647.8	656.6
35°	550.2	554.1	559.0	559.0	561.9	559.0	567.8	569.7	570.7	571.7	578.5
37.5°	493.6	495.6	498.5	492.7	492.7	489.7	492.7	494.6	490.7	490.7	495.6
40°	440.0	436.1	432.2	426.3	423.4	417.5	417.5	412.7	409.7	407.8	408.8
42.5°	388.3	379.5	370.7	358.0	352.2	346.3	340.5	333.6	331.7	326.8	323.9
45°	338.5	325.8	314.1	293.6	281.9	276.1	263.4	249.7	241.0	239.0	231.2
47.5°	296.6	278.0	258.5	234.1	222.4	211.7	193.2	181.5	169.7	163.9	159.0
50°	259.5	242.9	217.5	191.2	176.6	165.8	145.4	131.7	119.0	110.2	104.4
52.5°	227.3	208.8	185.4	155.1	140.5	128.8	106.3	90.7	80.0	71.2	64.4
55°	191.2	176.6	153.2	124.9	110.2	96.6	77.1	60.5	49.8	43.9	39.0
57.5°	164.9	152.2	129.7	102.4	88.8	76.1	56.6	42.9	34.1	28.3	25.4
60°	147.3	135.6	116.1	89.8	77.1	65.4	46.8	34.1	26.3	21.5	19.5
62.5°	132.7	121.0	103.4	79.0	68.3	56.6	40.0	28.3	21.5	17.6	14.6
65°	116.1	105.4	89.8	68.3	58.5	48.8	34.1	23.4	17.6	13.7	11.7
67.5°	98.5	88.8	75.1	56.6	48.8	41.0	27.3	19.5	14.6	11.7	9.8
70°	80.0	72.2	59.5	45.9	39.0	32.2	22.4	15.6	10.7	8.8	7.8
72.5°	61.5	54.6	45.9	35.1	29.3	24.4	16.6	11.7	8.8	6.8	5.9
75°	43.9	39.0	32.2	25.4	21.5	17.6	12.7	8.8	5.9	4.9	3.9
77.5°	30.2	27.3	22.4	17.6	14.6	12.7	8.8	5.9	4.9	3.9	2.9
80°	19.5	17.6	14.6	10.7	8.8	7.8	4.9	3.9	2.9	2.0	2.0
82.5°	11.7	10.7	8.8	5.9	4.9	3.9	2.9	2.0	2.0	1.0	1.0
85°	6.8	5.9	3.9	2.9	2.9	2.0	2.0	1.0	1.0	0.0	0.0
87.5°	2.9	2.0	2.0	1.0	1.0	1.0	1.0	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3
2.5°	750.2	755.1	754.1	757.0	756.1	756.1	760.9	759.0	763.9	763.9	764.8
5°	760.9	767.8	767.8	772.6	771.7	773.6	778.5	778.5	784.3	786.3	786.3
7.5°	776.5	785.3	787.3	792.2	793.1	797.0	800.9	801.9	809.7	811.7	812.6
10°	798.0	808.7	811.7	816.5	818.5	822.4	827.3	829.2	839.0	840.0	843.9
12.5°	824.3	836.1	839.0	844.8	845.8	850.7	857.5	859.5	869.2	872.1	875.1
15°	849.7	860.4	865.3	871.2	872.1	878.0	883.9	885.8	894.6	898.5	901.4
17.5°	867.3	880.0	882.9	890.7	890.7	895.6	901.4	903.4	912.1	915.1	917.0
20°	871.2	882.9	886.8	892.6	893.6	896.5	901.4	903.4	911.2	912.1	915.1
22.5°	856.5	868.2	870.2	876.1	877.0	880.0	883.9	882.9	892.6	891.7	892.6
25°	825.3	836.1	836.1	842.9	841.9	844.8	846.8	845.8	854.6	854.6	854.6
27.5°	780.4	790.2	791.2	796.1	793.1	794.1	796.1	795.1	800.9	800.9	800.9
30°	724.8	732.6	729.7	733.6	731.7	733.6	731.7	730.7	732.6	734.6	733.6
32.5°	655.6	661.4	661.4	662.4	662.4	656.6	654.6	654.6	653.6	652.6	652.6
35°	575.6	580.5	578.5	578.5	577.5	571.7	568.7	566.8	569.7	563.9	567.8
37.5°	493.6	494.6	491.7	490.7	485.8	485.8	480.9	477.0	479.0	478.0	474.1
40°	403.9	407.8	401.9	400.0	402.9	399.0	394.1	389.2	393.1	388.3	390.2
42.5°	316.1	315.1	313.2	313.2	313.2	307.3	306.3	305.3	306.3	302.4	299.5
45°	228.3	225.4	222.4	222.4	218.5	216.6	216.6	213.6	208.8	208.8	202.9
47.5°	154.1	147.3	145.4	144.4	142.4	142.4	140.5	138.5	137.6	132.7	132.7
50°	100.5	93.7	91.7	90.7	91.7	89.8	87.8	85.8	83.9	82.9	81.0
52.5°	60.5	57.6	55.6	54.6	52.7	51.7	50.7	48.8	47.8	47.8	46.8
55°	36.1	33.2	29.3	29.3	29.3	28.3	27.3	26.3	25.4	25.4	24.4
57.5°	22.4	20.5	18.5	17.6	17.6	17.6	16.6	16.6	16.6	16.6	15.6
60°	16.6	14.6	13.7	13.7	13.7	12.7	12.7	12.7	12.7	11.7	11.7
62.5°	12.7	11.7	10.7	10.7	9.8	9.8	9.8	9.8	9.8	9.8	8.8
65°	10.7	8.8	8.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
67.5°	7.8	6.8	6.8	6.8	6.8	5.9	5.9	5.9	5.9	5.9	5.9
70°	5.9	5.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
72.5°	4.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
75°	3.9	3.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	2.9	2.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	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	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°	747.3	747.3	747.3	747.3	747.3	747.3	747.3	747.3
2.5°	764.8	769.7	764.8	764.8	767.8	766.8	768.7	765.8
5°	787.3	794.1	789.2	788.3	793.1	792.2	793.1	791.2
7.5°	814.6	821.4	816.5	816.5	821.4	820.4	823.4	821.4
10°	845.8	853.6	846.8	847.8	854.6	853.6	853.6	853.6
12.5°	878.0	885.8	881.9	881.9	886.8	887.8	888.7	887.8
15°	904.3	912.1	907.3	907.3	914.1	913.1	914.1	913.1
17.5°	920.0	927.8	921.9	921.9	927.8	927.8	928.7	929.7
20°	916.0	924.8	920.0	918.0	924.8	924.8	923.9	923.9
22.5°	893.6	901.4	897.5	895.6	900.4	898.5	897.5	898.5
25°	854.6	862.4	854.6	854.6	858.5	857.5	858.5	857.5
27.5°	801.9	807.8	800.0	799.0	802.9	800.9	800.0	802.9
30°	731.7	737.5	733.6	730.7	735.6	732.6	730.7	731.7
32.5°	651.7	655.6	653.6	648.7	651.7	649.7	648.7	649.7
35°	563.9	568.7	560.9	560.0	564.8	560.9	559.0	563.9
37.5°	473.1	479.0	472.2	473.1	470.2	471.2	469.2	472.2
40°	387.3	386.3	384.4	383.4	384.4	381.4	383.4	380.5
42.5°	294.6	296.6	295.6	294.6	295.6	291.7	289.7	293.6
45°	204.9	203.9	201.9	200.0	200.0	199.0	199.0	196.1
47.5°	131.7	130.7	126.8	127.8	129.7	127.8	124.9	128.8
50°	80.0	79.0	79.0	78.0	80.0	78.0	76.1	76.1
52.5°	44.9	44.9	43.9	43.9	43.9	43.9	42.9	41.9
55°	24.4	23.4	23.4	23.4	22.4	22.4	22.4	22.4
57.5°	15.6	15.6	15.6	15.6	15.6	15.6	14.6	14.6
60°	11.7	11.7	11.7	11.7	10.7	11.7	10.7	10.7
62.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
65°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
67.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
70°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
72.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
75°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)