

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: P251520

Luminaire Tested: **LD4B15D010 EU4B10208040 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251520
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 EU4B10208040 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1429.0 lumens
Efficiency: N/A
Efficacy: 99.3 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

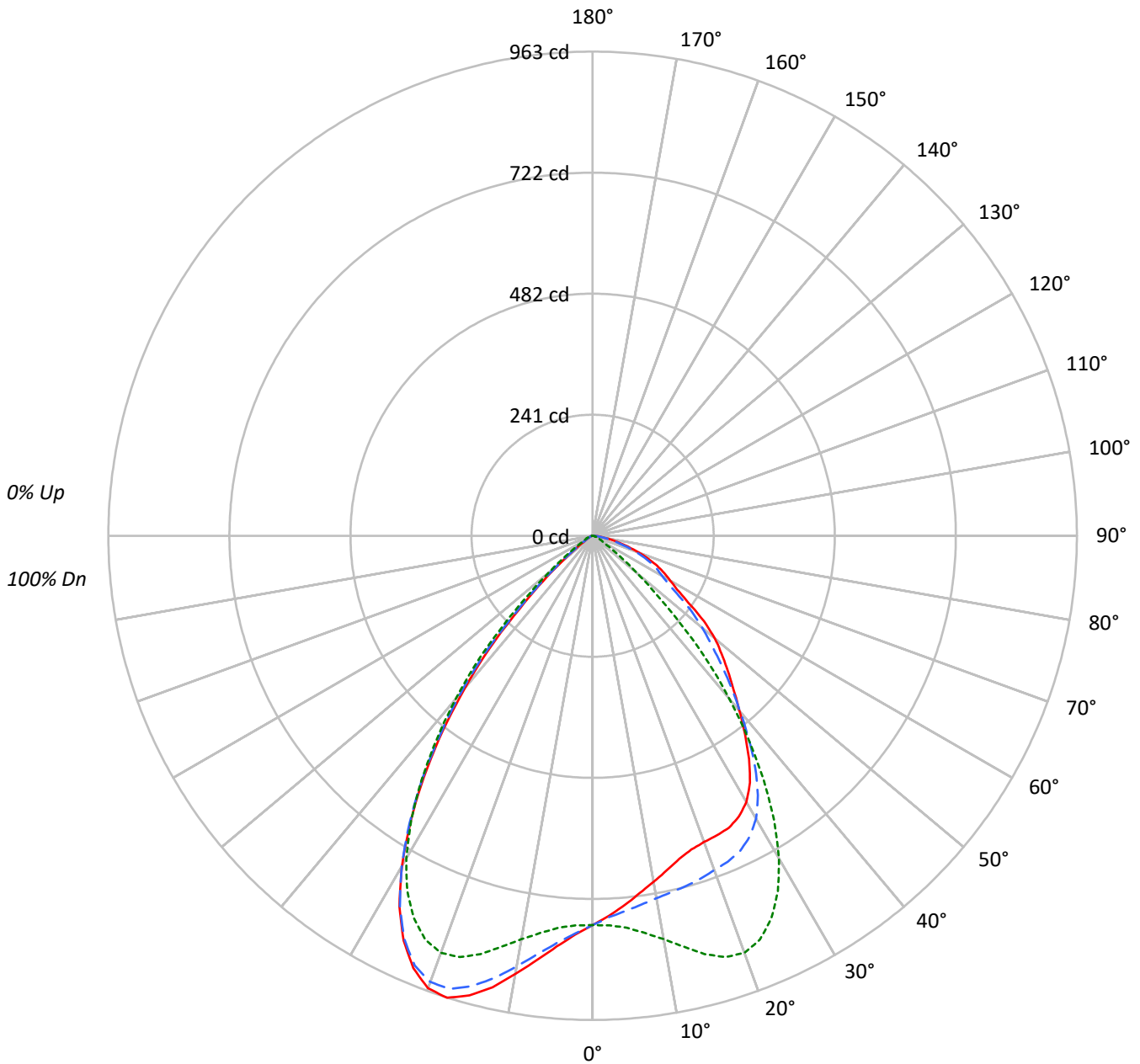
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	75472	75472	75472
5°	72101	76552	80211
10°	69135	80634	87541
15°	67116	86902	95468
20°	67206	91526	99284
25°	68918	90339	95554
30°	68826	83388	85324
35°	64472	70480	69517
40°	57746	53764	50164
45°	52388	34140	28006
50°	48124	17315	11963
55°	39505	7731	3959
60°	34676	4327	2164
65°	32631	3275	1637
70°	27953	2593	1453
75°	21313	1920	1130
80°	15322	1122	561
85°	11294	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.2	5.3
10°-20°	234.4	16.4
20°-30°	362.7	25.4
30°-40°	357.4	25.0
40°-50°	219.4	15.4
50°-60°	97.6	6.8
60°-70°	54.5	3.8
70°-80°	23.6	1.6
80°-90°	4.2	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°	672.3	47.1
0°-40°	1029.7	72.1
0°-60°	1346.7	94.2
0°-90°	1429.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1429.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	774	774	774	774	774	
5°	737	749	782	813	820	69
15°	665	721	861	927	946	189
25°	641	692	840	886	889	294
35°	542	564	592	590	584	336
45°	380	361	248	216	203	294
55°	232	210	46	26	23	214
65°	142	127	14	8	7	139
75°	57	48	5	3	3	62
85°	10	8	0	0	0	13
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°	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4
2.5°	756.2	756.2	756.2	756.2	758.2	755.2	758.2	758.2	761.2	762.2	759.2
5°	737.0	736.0	737.0	737.0	739.0	738.0	741.0	743.0	747.1	749.1	749.1
7.5°	716.7	716.7	716.7	718.8	721.8	720.8	723.8	726.9	732.9	737.0	740.0
10°	698.6	697.5	700.6	701.6	704.6	704.6	709.7	712.7	719.8	727.9	731.9
12.5°	681.4	680.4	682.4	685.4	690.5	690.5	694.5	699.6	709.7	718.8	725.8
15°	665.2	666.2	669.2	671.3	677.3	677.3	682.4	688.4	699.6	710.7	720.8
17.5°	654.1	655.1	657.1	660.1	666.2	666.2	671.3	678.3	690.5	702.6	714.7
20°	648.0	649.0	651.0	654.1	659.1	660.1	664.2	672.3	683.4	696.5	707.7
22.5°	645.0	647.0	649.0	651.0	656.1	656.1	661.1	667.2	678.3	691.5	701.6
25°	640.9	643.0	644.0	647.0	651.0	651.0	654.1	661.1	671.3	682.4	692.5
27.5°	629.8	631.8	632.8	635.9	639.9	638.9	643.0	648.0	657.1	667.2	675.3
30°	611.6	612.6	614.6	615.7	618.7	618.7	621.7	626.8	632.8	641.9	650.0
32.5°	582.3	584.3	585.3	586.3	589.4	588.4	589.4	592.4	598.5	606.6	611.6
35°	541.9	545.9	545.9	547.9	548.9	547.9	547.9	552.0	555.0	561.1	564.1
37.5°	497.4	500.4	499.4	501.4	502.4	499.4	501.4	502.4	506.5	509.5	510.5
40°	453.9	454.9	454.9	454.9	454.9	453.9	454.9	455.9	459.0	459.0	455.9
42.5°	414.5	415.5	415.5	413.5	415.5	414.5	414.5	414.5	414.5	410.4	407.4
45°	380.1	381.1	381.1	380.1	380.1	378.1	377.1	376.1	373.0	368.0	360.9
47.5°	347.8	349.8	350.8	348.8	347.8	345.7	345.7	339.7	335.6	329.6	319.5
50°	317.4	319.5	319.5	317.4	317.4	314.4	311.4	309.3	303.3	296.2	284.1
52.5°	279.0	282.0	282.0	281.0	281.0	277.0	276.0	271.9	266.9	258.8	248.7
55°	232.5	236.6	235.5	234.5	232.5	232.5	232.5	229.5	226.4	220.4	210.3
57.5°	199.2	200.2	200.2	199.2	199.2	197.1	197.1	194.1	193.1	187.0	178.9
60°	177.9	177.9	178.9	177.9	176.9	175.9	174.9	172.9	169.8	165.8	159.7
62.5°	160.7	161.7	161.7	160.7	159.7	158.7	157.7	155.7	153.7	150.6	144.6
65°	141.5	143.6	142.5	141.5	140.5	139.5	139.5	137.5	135.5	133.4	127.4
67.5°	120.3	121.3	122.3	120.3	120.3	119.3	119.3	117.3	116.3	112.2	108.2
70°	98.1	99.1	99.1	98.1	98.1	97.0	97.0	96.0	95.0	92.0	88.0
72.5°	76.8	77.8	76.8	75.8	75.8	75.8	74.8	73.8	72.8	70.8	67.7
75°	56.6	56.6	57.6	56.6	55.6	55.6	54.6	54.6	52.6	51.6	48.5
77.5°	40.4	41.4	40.4	40.4	39.4	38.4	38.4	37.4	37.4	36.4	34.4
80°	27.3	27.3	28.3	27.3	26.3	27.3	26.3	25.3	25.3	24.3	22.2
82.5°	17.2	18.2	17.2	17.2	17.2	17.2	17.2	16.2	16.2	15.2	14.2
85°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	9.1	9.1	9.1	8.1
87.5°	5.1	5.1	4.0	4.0	5.1	5.1	5.1	4.0	4.0	4.0	4.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4
2.5°	763.3	764.3	766.3	769.3	769.3	767.3	772.3	772.3	774.4	775.4	779.4
5°	755.2	757.2	761.2	766.3	767.3	766.3	773.4	776.4	779.4	782.5	788.5
7.5°	748.1	752.1	759.2	766.3	769.3	769.3	780.4	784.5	790.5	796.6	803.7
10°	744.0	750.1	760.2	771.3	774.4	777.4	790.5	798.6	806.7	814.8	824.9
12.5°	739.0	750.1	763.3	777.4	783.5	787.5	805.7	815.8	826.9	837.0	850.2
15°	738.0	751.1	768.3	786.5	794.6	800.7	820.9	835.0	848.2	861.3	874.5
17.5°	733.9	750.1	771.3	791.6	801.7	809.8	833.0	850.2	865.4	878.5	893.7
20°	728.9	747.1	770.3	792.6	803.7	811.8	837.0	853.2	870.4	882.5	896.7
22.5°	721.8	740.0	763.3	785.5	795.6	802.7	828.0	842.1	857.3	869.4	882.5
25°	709.7	726.9	747.1	765.3	775.4	781.4	803.7	816.8	828.0	840.1	852.2
27.5°	692.5	705.6	722.8	736.0	742.0	748.1	766.3	777.4	787.5	797.6	805.7
30°	662.2	672.3	684.4	695.5	701.6	702.6	719.8	725.8	733.9	741.0	747.1
32.5°	621.7	629.8	636.9	643.0	647.0	648.0	661.1	663.2	671.3	671.3	680.4
35°	570.2	574.2	579.3	579.3	582.3	579.3	588.4	590.4	591.4	592.4	599.5
37.5°	511.5	513.6	516.6	510.5	510.5	507.5	510.5	512.5	508.5	508.5	513.6
40°	455.9	451.9	447.8	441.8	438.7	432.7	432.7	427.6	424.6	422.6	423.6
42.5°	402.3	393.3	384.2	371.0	364.9	358.9	352.8	345.7	343.7	338.7	335.6
45°	350.8	337.7	325.5	304.3	292.2	286.1	273.0	258.8	249.7	247.7	239.6
47.5°	307.3	288.1	267.9	242.6	230.5	219.4	200.2	188.0	175.9	169.8	164.8
50°	268.9	251.7	225.4	198.1	183.0	171.9	150.6	136.5	123.3	114.2	108.2
52.5°	235.5	216.3	192.1	160.7	145.6	133.4	110.2	94.0	82.9	73.8	66.7
55°	198.1	183.0	158.7	129.4	114.2	100.1	79.9	62.7	51.6	45.5	40.4
57.5°	170.8	157.7	134.5	106.1	92.0	78.9	58.6	44.5	35.4	29.3	26.3
60°	152.7	140.5	120.3	93.0	79.9	67.7	48.5	35.4	27.3	22.2	20.2
62.5°	137.5	125.4	107.2	81.9	70.8	58.6	41.4	29.3	22.2	18.2	15.2
65°	120.3	109.2	93.0	70.8	60.7	50.5	35.4	24.3	18.2	14.2	12.1
67.5°	102.1	92.0	77.8	58.6	50.5	42.5	28.3	20.2	15.2	12.1	10.1
70°	82.9	74.8	61.7	47.5	40.4	33.4	23.3	16.2	11.1	9.1	8.1
72.5°	63.7	56.6	47.5	36.4	30.3	25.3	17.2	12.1	9.1	7.1	6.1
75°	45.5	40.4	33.4	26.3	22.2	18.2	13.1	9.1	6.1	5.1	4.0
77.5°	31.3	28.3	23.3	18.2	15.2	13.1	9.1	6.1	5.1	4.0	3.0
80°	20.2	18.2	15.2	11.1	9.1	8.1	5.1	4.0	3.0	2.0	2.0
82.5°	12.1	11.1	9.1	6.1	5.1	4.0	3.0	2.0	2.0	1.0	1.0
85°	7.1	6.1	4.0	3.0	3.0	2.0	2.0	1.0	1.0	0.0	0.0
87.5°	3.0	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°	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4
2.5°	777.4	782.5	781.4	784.5	783.5	783.5	788.5	786.5	791.6	791.6	792.6
5°	788.5	795.6	795.6	800.7	799.6	801.7	806.7	806.7	812.8	814.8	814.8
7.5°	804.7	813.8	815.8	820.9	821.9	825.9	830.0	831.0	839.1	841.1	842.1
10°	826.9	838.1	841.1	846.1	848.2	852.2	857.3	859.3	869.4	870.4	874.5
12.5°	854.2	866.4	869.4	875.5	876.5	881.5	888.6	890.6	900.7	903.8	906.8
15°	880.5	891.6	896.7	902.8	903.8	909.8	915.9	917.9	927.0	931.1	934.1
17.5°	898.7	911.9	914.9	923.0	923.0	928.0	934.1	936.1	945.2	948.3	950.3
20°	902.8	914.9	918.9	925.0	926.0	929.0	934.1	936.1	944.2	945.2	948.3
22.5°	887.6	899.7	901.7	907.8	908.8	911.9	915.9	914.9	925.0	924.0	925.0
25°	855.2	866.4	866.4	873.4	872.4	875.5	877.5	876.5	885.6	885.6	885.6
27.5°	808.7	818.9	819.9	824.9	821.9	822.9	824.9	823.9	830.0	830.0	830.0
30°	751.1	759.2	756.2	760.2	758.2	760.2	758.2	757.2	759.2	761.2	760.2
32.5°	679.3	685.4	685.4	686.4	686.4	680.4	678.3	678.3	677.3	676.3	676.3
35°	596.4	601.5	599.5	599.5	598.5	592.4	589.4	587.3	590.4	584.3	588.4
37.5°	511.5	512.5	509.5	508.5	503.4	503.4	498.4	494.3	496.4	495.4	491.3
40°	418.5	422.6	416.5	414.5	417.5	413.5	408.4	403.4	407.4	402.3	404.4
42.5°	327.5	326.5	324.5	324.5	324.5	318.4	317.4	316.4	317.4	313.4	310.4
45°	236.6	233.5	230.5	230.5	226.4	224.4	224.4	221.4	216.3	216.3	210.3
47.5°	159.7	152.7	150.6	149.6	147.6	147.6	145.6	143.6	142.5	137.5	137.5
50°	104.1	97.0	95.0	94.0	95.0	93.0	91.0	89.0	86.9	85.9	83.9
52.5°	62.7	59.6	57.6	56.6	54.6	53.6	52.6	50.5	49.5	49.5	48.5
55°	37.4	34.4	30.3	30.3	30.3	29.3	28.3	27.3	26.3	26.3	25.3
57.5°	23.3	21.2	19.2	18.2	18.2	18.2	17.2	17.2	17.2	17.2	16.2
60°	17.2	15.2	14.2	14.2	14.2	13.1	13.1	13.1	13.1	12.1	12.1
62.5°	13.1	12.1	11.1	11.1	10.1	10.1	10.1	10.1	10.1	10.1	9.1
65°	11.1	9.1	9.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
67.5°	8.1	7.1	7.1	7.1	7.1	6.1	6.1	6.1	6.1	6.1	6.1
70°	6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
72.5°	5.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	3.0	3.0	3.0	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°	774.4	774.4	774.4	774.4	774.4	774.4	774.4	774.4
2.5°	792.6	797.6	792.6	792.6	795.6	794.6	796.6	793.6
5°	815.8	822.9	817.8	816.8	821.9	820.9	821.9	819.9
7.5°	844.1	851.2	846.1	846.1	851.2	850.2	853.2	851.2
10°	876.5	884.6	877.5	878.5	885.6	884.6	884.6	884.6
12.5°	909.8	917.9	913.9	913.9	918.9	919.9	921.0	919.9
15°	937.1	945.2	940.2	940.2	947.2	946.2	947.2	946.2
17.5°	953.3	961.4	955.3	955.3	961.4	961.4	962.4	963.4
20°	949.3	958.4	953.3	951.3	958.4	958.4	957.3	957.3
22.5°	926.0	934.1	930.1	928.0	933.1	931.1	930.1	931.1
25°	885.6	893.7	885.6	885.6	889.6	888.6	889.6	888.6
27.5°	831.0	837.0	829.0	828.0	832.0	830.0	829.0	832.0
30°	758.2	764.3	760.2	757.2	762.2	759.2	757.2	758.2
32.5°	675.3	679.3	677.3	672.3	675.3	673.3	672.3	673.3
35°	584.3	589.4	581.3	580.3	585.3	581.3	579.3	584.3
37.5°	490.3	496.4	489.3	490.3	487.3	488.3	486.3	489.3
40°	401.3	400.3	398.3	397.3	398.3	395.3	397.3	394.3
42.5°	305.3	307.3	306.3	305.3	306.3	302.3	300.2	304.3
45°	212.3	211.3	209.3	207.2	207.2	206.2	206.2	203.2
47.5°	136.5	135.5	131.4	132.4	134.5	132.4	129.4	133.4
50°	82.9	81.9	81.9	80.9	82.9	80.9	78.9	78.9
52.5°	46.5	46.5	45.5	45.5	45.5	45.5	44.5	43.5
55°	25.3	24.3	24.3	24.3	23.3	23.3	23.3	23.3
57.5°	16.2	16.2	16.2	16.2	16.2	16.2	15.2	15.2
60°	12.1	12.1	12.1	12.1	11.1	12.1	11.1	11.1
62.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
65°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
67.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
70°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
72.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)