

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P843419

Luminaire Tested: **LD4C15DE010B50 EU4C15B50 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C15DE010B50 EU4C15B50 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

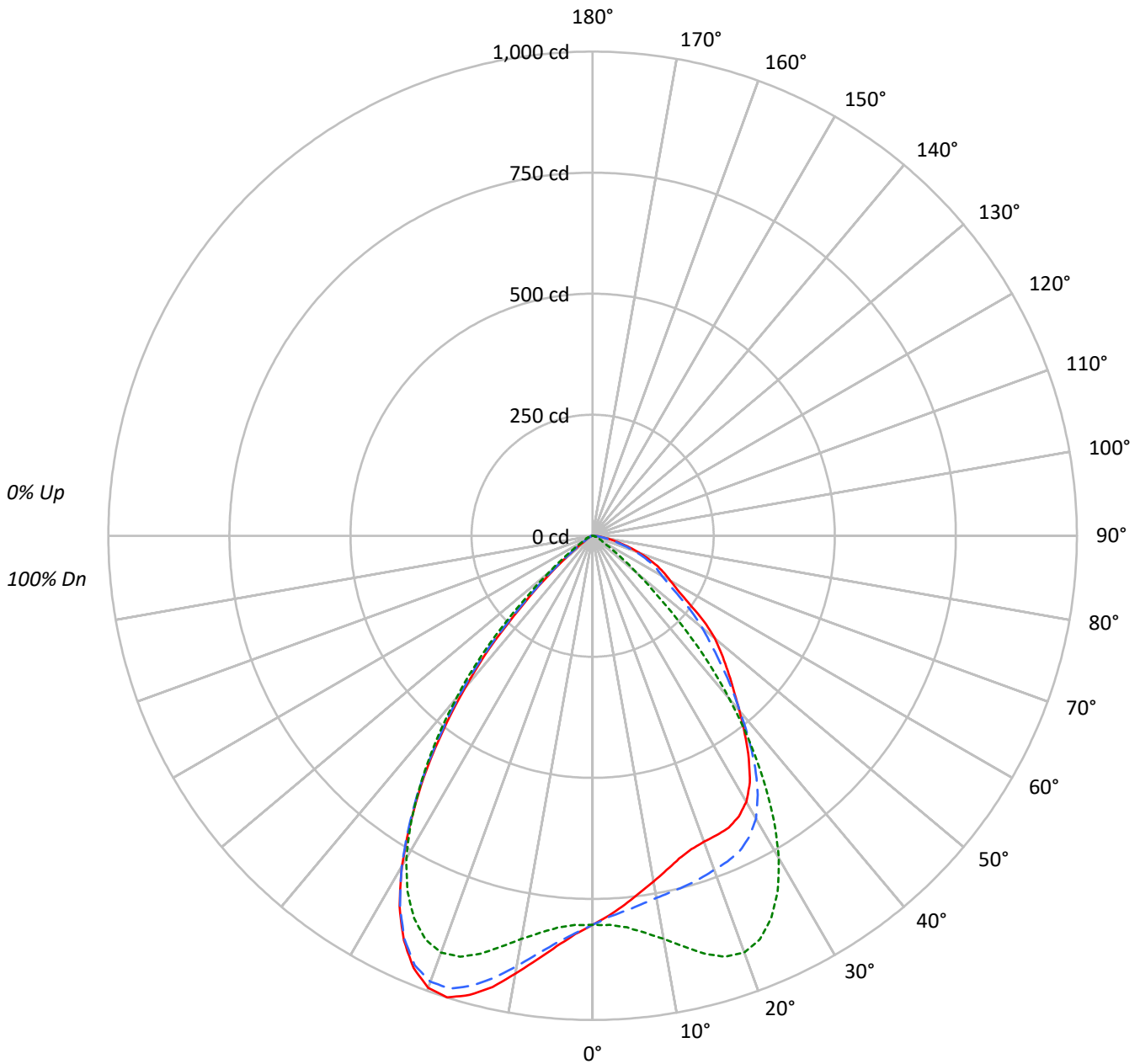
Lumens per Lamp: N/A
Luminaire Lumens: 1482.8 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 17
Input Voltage (V):
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

TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

Luminous Intensity Polar Plot





TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58				58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53				53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48				48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44				44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	98725	98725	98725
5°	94305	100126	104923
10°	90418	105475	114507
15°	87785	113667	124885
20°	87908	119730	129875
25°	90143	118162	124981
30°	90024	109075	111615
35°	84317	92190	90931
40°	75536	70324	65609
45°	68523	44651	36625
50°	62938	22668	15653
55°	51662	10110	5162
60°	45382	5676	2826
65°	42674	4273	2151
70°	36531	3376	1904
75°	27863	2516	1519
80°	20022	1486	778
85°	14801	0	0



TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.1	5.3
10°-20°	243.3	16.4
20°-30°	376.4	25.4
30°-40°	370.8	25.0
40°-50°	227.7	15.4
50°-60°	101.2	6.8
60°-70°	56.5	3.8
70°-80°	24.5	1.7
80°-90°	4.4	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°	697.7	47.0
0°-40°	1068.5	72.1
0°-60°	1397.4	94.2
0°-90°	1482.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1482.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	804	804	804	804	804	
5°	765	777	812	843	851	72
15°	690	748	894	962	982	196
25°	665	719	872	919	922	305
35°	562	585	615	613	606	349
45°	394	374	257	224	211	305
55°	241	218	47	27	24	222
65°	147	132	15	8	7	144
75°	59	50	5	3	3	65
85°	10	8	0	0	0	13
90°	0	0	0	0	0	



TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6
2.5°	784.7	784.7	784.7	784.7	786.8	783.6	786.8	786.8	789.9	790.9	787.8
5°	764.7	763.7	764.7	764.7	766.8	765.7	768.9	771.0	775.2	777.4	777.4
7.5°	743.7	743.7	743.7	745.8	748.9	748.0	751.0	754.2	760.5	764.7	767.8
10°	724.8	723.8	726.9	728.0	731.1	731.1	736.4	739.5	746.9	755.3	759.5
12.5°	707.0	706.0	708.1	711.3	716.4	716.4	720.7	725.9	736.4	745.8	753.1
15°	690.2	691.3	694.4	696.6	702.8	702.8	708.1	714.3	725.9	737.5	748.0
17.5°	678.7	679.7	681.9	684.9	691.3	691.3	696.6	703.9	716.4	729.0	741.6
20°	672.4	673.5	675.5	678.7	684.0	684.9	689.2	697.6	709.1	722.8	734.3
22.5°	669.3	671.4	673.5	675.5	680.8	680.8	686.1	692.3	703.9	717.5	728.0
25°	665.0	667.2	668.2	671.4	675.5	675.5	678.7	686.1	696.6	708.1	718.6
27.5°	653.5	655.6	656.7	659.9	664.0	662.9	667.2	672.4	681.9	692.3	700.7
30°	634.6	635.7	637.8	638.8	642.0	642.0	645.2	650.3	656.7	666.1	674.5
32.5°	604.2	606.3	607.4	608.5	611.5	610.5	611.5	614.7	620.9	629.4	634.6
35°	562.2	566.5	566.5	568.6	569.6	568.6	568.6	572.7	575.9	582.2	585.4
37.5°	516.1	519.3	518.2	520.3	521.4	518.2	520.3	521.4	525.5	528.7	529.8
40°	471.0	472.0	472.0	472.0	472.0	471.0	472.0	473.1	476.3	476.3	473.1
42.5°	430.0	431.2	431.2	429.0	431.2	430.0	430.0	430.0	430.0	425.9	422.7
45°	394.4	395.4	395.4	394.4	394.4	392.3	391.3	390.3	387.1	381.8	374.5
47.5°	360.9	363.0	364.0	361.9	360.9	358.7	358.7	352.4	348.3	341.9	331.5
50°	329.3	331.5	331.5	329.3	329.3	326.3	323.1	321.0	314.6	307.3	294.8
52.5°	289.6	292.6	292.6	291.6	291.6	287.5	286.4	282.2	276.9	268.5	258.1
55°	241.2	245.5	244.4	243.4	241.2	241.2	241.2	238.1	235.0	228.7	218.2
57.5°	206.7	207.7	207.7	206.7	206.7	204.5	204.5	201.4	200.3	194.1	185.7
60°	184.7	184.7	185.7	184.7	183.6	182.5	181.5	179.4	176.2	172.1	165.7
62.5°	166.8	167.8	167.8	166.8	165.7	164.7	163.6	161.6	159.5	156.3	150.0
65°	146.8	148.9	147.9	146.8	145.8	144.8	144.8	142.7	140.6	138.4	132.2
67.5°	124.8	125.9	126.9	124.8	124.8	123.7	123.7	121.7	120.6	116.4	112.2
70°	101.7	102.8	102.8	101.7	101.7	100.7	100.7	99.6	98.6	95.5	91.3
72.5°	79.7	80.8	79.7	78.7	78.7	78.7	77.6	76.6	75.5	73.4	70.2
75°	58.7	58.7	59.8	58.7	57.7	57.7	56.6	56.6	54.6	53.5	50.3
77.5°	42.0	42.9	42.0	42.0	40.9	39.9	39.9	38.8	38.8	37.8	35.6
80°	28.3	28.3	29.4	28.3	27.3	28.3	27.3	26.2	26.2	25.2	23.1
82.5°	17.9	18.8	17.9	17.9	17.9	17.9	17.9	16.8	16.8	15.8	14.7
85°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.4	9.4	9.4	8.4
87.5°	5.3	5.3	4.2	4.2	5.3	5.3	5.3	4.2	4.2	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



TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6
2.5°	792.0	793.0	795.1	798.3	798.3	796.2	801.5	801.5	803.6	804.5	808.8
5°	783.6	785.7	789.9	795.1	796.2	795.1	802.4	805.6	808.8	811.9	818.2
7.5°	776.3	780.4	787.8	795.1	798.3	798.3	809.8	814.1	820.3	826.6	833.9
10°	772.1	778.3	788.8	800.4	803.6	806.7	820.3	828.7	837.1	845.5	855.9
12.5°	766.8	778.3	792.0	806.7	813.0	817.1	836.1	846.5	858.1	868.5	882.2
15°	765.7	779.4	797.2	816.1	824.5	830.8	851.8	866.4	880.1	893.7	907.3
17.5°	761.6	778.3	800.4	821.4	831.8	840.3	864.4	882.2	897.9	911.6	927.3
20°	756.3	775.2	799.4	822.4	833.9	842.3	868.5	885.3	903.1	915.8	930.4
22.5°	748.9	767.8	792.0	815.0	825.6	832.9	859.1	873.8	889.6	902.2	915.8
25°	736.4	754.2	775.2	794.1	804.5	810.9	833.9	847.6	859.1	871.7	884.3
27.5°	718.6	732.2	750.1	763.7	770.0	776.3	795.1	806.7	817.1	827.7	836.1
30°	687.0	697.6	710.2	721.7	728.0	729.0	746.9	753.1	761.6	768.9	775.2
32.5°	645.2	653.5	660.8	667.2	671.4	672.4	686.1	688.1	696.6	696.6	706.0
35°	591.6	595.9	601.1	601.1	604.2	601.1	610.5	612.6	613.6	614.7	622.1
37.5°	530.8	532.8	536.0	529.8	529.8	526.6	529.8	531.9	527.7	527.7	532.8
40°	473.1	468.8	464.7	458.4	455.3	449.0	449.0	443.7	440.6	438.5	439.6
42.5°	417.6	408.0	398.6	385.0	378.6	372.4	366.0	358.7	356.6	351.5	348.3
45°	364.0	350.4	337.8	315.7	303.2	296.9	283.2	268.5	259.1	257.0	248.6
47.5°	318.9	299.0	277.9	251.7	239.2	227.6	207.7	195.1	182.5	176.2	170.9
50°	279.0	261.2	233.9	205.6	189.8	178.3	156.3	141.6	128.0	118.6	112.2
52.5°	244.4	224.4	199.4	166.8	151.0	138.4	114.3	97.5	86.0	76.6	69.3
55°	205.6	189.8	164.7	134.2	118.6	103.9	82.8	65.0	53.5	47.2	42.0
57.5°	177.3	163.6	139.5	110.1	95.5	81.9	60.8	46.1	36.7	30.5	27.3
60°	158.4	145.8	124.8	96.5	82.8	70.2	50.3	36.7	28.3	23.1	20.9
62.5°	142.7	130.1	111.2	84.9	73.4	60.8	42.9	30.5	23.1	18.8	15.8
65°	124.8	113.3	96.5	73.4	62.9	52.5	36.7	25.2	18.8	14.7	12.6
67.5°	106.0	95.5	80.8	60.8	52.5	44.1	29.4	20.9	15.8	12.6	10.5
70°	86.0	77.6	64.0	49.3	42.0	34.6	24.1	16.8	11.5	9.4	8.4
72.5°	66.1	58.7	49.3	37.8	31.5	26.2	17.9	12.6	9.4	7.4	6.2
75°	47.2	42.0	34.6	27.3	23.1	18.8	13.6	9.4	6.2	5.3	4.2
77.5°	32.5	29.4	24.1	18.8	15.8	13.6	9.4	6.2	5.3	4.2	3.2
80°	20.9	18.8	15.8	11.5	9.4	8.4	5.3	4.2	3.2	2.1	2.1
82.5°	12.6	11.5	9.4	6.2	5.3	4.2	3.2	2.1	2.1	1.1	1.1
85°	7.4	6.2	4.2	3.2	3.2	2.1	2.1	1.1	1.1	0.0	0.0
87.5°	3.2	2.1	2.1	1.1	1.1	1.1	1.1	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



TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6
2.5°	806.7	811.9	810.9	814.1	813.0	813.0	818.2	816.1	821.4	821.4	822.4
5°	818.2	825.6	825.6	830.8	829.7	831.8	837.1	837.1	843.4	845.5	845.5
7.5°	835.0	844.4	846.5	851.8	852.8	857.0	861.2	862.3	870.6	872.8	873.8
10°	858.1	869.6	872.8	878.0	880.1	884.3	889.6	891.7	902.2	903.1	907.3
12.5°	886.4	899.0	902.2	908.4	909.5	914.7	922.0	924.2	934.6	937.8	941.0
15°	913.7	925.2	930.4	936.7	937.8	944.0	950.4	952.5	961.9	966.1	969.3
17.5°	932.5	946.2	949.3	957.7	957.7	963.0	969.3	971.3	980.7	983.9	986.0
20°	936.7	949.3	953.6	959.8	960.9	964.0	969.3	971.3	979.8	980.7	983.9
22.5°	921.0	933.6	935.7	942.0	943.0	946.2	950.4	949.3	959.8	958.7	959.8
25°	887.5	899.0	899.0	906.3	905.3	908.4	910.5	909.5	918.9	918.9	918.9
27.5°	839.1	849.7	850.8	855.9	852.8	853.9	855.9	854.9	861.2	861.2	861.2
30°	779.4	787.8	784.7	788.8	786.8	788.8	786.8	785.7	787.8	789.9	788.8
32.5°	704.9	711.3	711.3	712.2	712.2	706.0	703.9	703.9	702.8	701.7	701.7
35°	618.9	624.1	622.1	622.1	620.9	614.7	611.5	609.5	612.6	606.3	610.5
37.5°	530.8	531.9	528.7	527.7	522.4	522.4	517.2	513.0	515.1	514.0	509.8
40°	434.3	438.5	432.1	430.0	433.2	429.0	423.8	418.5	422.7	417.6	419.6
42.5°	339.9	338.8	336.8	336.8	336.8	330.4	329.3	328.3	329.3	325.2	322.0
45°	245.5	242.3	239.2	239.2	235.0	232.9	232.9	229.7	224.4	224.4	218.2
47.5°	165.7	158.4	156.3	155.3	153.1	153.1	151.0	148.9	147.9	142.7	142.7
50°	108.1	100.7	98.6	97.5	98.6	96.5	94.4	92.3	90.2	89.2	87.0
52.5°	65.0	61.9	59.8	58.7	56.6	55.6	54.6	52.5	51.4	51.4	50.3
55°	38.8	35.6	31.5	31.5	31.5	30.5	29.4	28.3	27.3	27.3	26.2
57.5°	24.1	22.0	19.9	18.8	18.8	18.8	17.9	17.9	17.9	17.9	16.8
60°	17.9	15.8	14.7	14.7	14.7	13.6	13.6	13.6	13.6	12.6	12.6
62.5°	13.6	12.6	11.5	11.5	10.5	10.5	10.5	10.5	10.5	10.5	9.4
65°	11.5	9.4	9.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
67.5°	8.4	7.4	7.4	7.4	7.4	6.2	6.2	6.2	6.2	6.2	6.2
70°	6.2	6.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
72.5°	5.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
75°	4.2	4.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	3.2	3.2	3.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
80°	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	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



TEST NUMBER: P843419

CATALOG NUMBER: LD4C15DE010B50 EU4C15B50 4LBSWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	803.6	803.6	803.6	803.6	803.6	803.6	803.6	803.6
2.5°	822.4	827.7	822.4	822.4	825.6	824.5	826.6	823.5
5°	846.5	853.9	848.6	847.6	852.8	851.8	852.8	850.8
7.5°	875.9	883.2	878.0	878.0	883.2	882.2	885.3	883.2
10°	909.5	917.9	910.5	911.6	918.9	917.9	917.9	917.9
12.5°	944.0	952.5	948.3	948.3	953.6	954.6	955.7	954.6
15°	972.4	980.7	975.6	975.6	982.9	981.9	982.9	981.9
17.5°	989.2	997.6	991.3	991.3	997.6	997.6	998.6	999.7
20°	985.0	994.4	989.2	987.1	994.4	994.4	993.4	993.4
22.5°	960.9	969.3	965.1	963.0	968.3	966.1	965.1	966.1
25°	918.9	927.3	918.9	918.9	923.1	922.0	923.1	922.0
27.5°	862.3	868.5	860.2	859.1	863.3	861.2	860.2	863.3
30°	786.8	793.0	788.8	785.7	790.9	787.8	785.7	786.8
32.5°	700.7	704.9	702.8	697.6	700.7	698.6	697.6	698.6
35°	606.3	611.5	603.2	602.1	607.4	603.2	601.1	606.3
37.5°	508.7	515.1	507.8	508.7	505.7	506.6	504.6	507.8
40°	416.4	415.4	413.3	412.3	413.3	410.2	412.3	409.1
42.5°	316.8	318.9	317.8	316.8	317.8	313.7	311.6	315.7
45°	220.3	219.2	217.1	215.0	215.0	214.0	214.0	210.8
47.5°	141.6	140.6	136.3	137.4	139.5	137.4	134.2	138.4
50°	86.0	84.9	84.9	83.9	86.0	83.9	81.9	81.9
52.5°	48.2	48.2	47.2	47.2	47.2	47.2	46.1	45.2
55°	26.2	25.2	25.2	25.2	24.1	24.1	24.1	24.1
57.5°	16.8	16.8	16.8	16.8	16.8	16.8	15.8	15.8
60°	12.6	12.6	12.6	12.6	11.5	12.6	11.5	11.5
62.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
65°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
67.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
70°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
72.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
75°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)