

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: P843467

Luminaire Tested: **LD4C20DE010B40 EU4C20B40 4LBLDWWLI**

Issue Date: 5/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P843467  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20DE010B40 EU4C20B40 4LBDWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

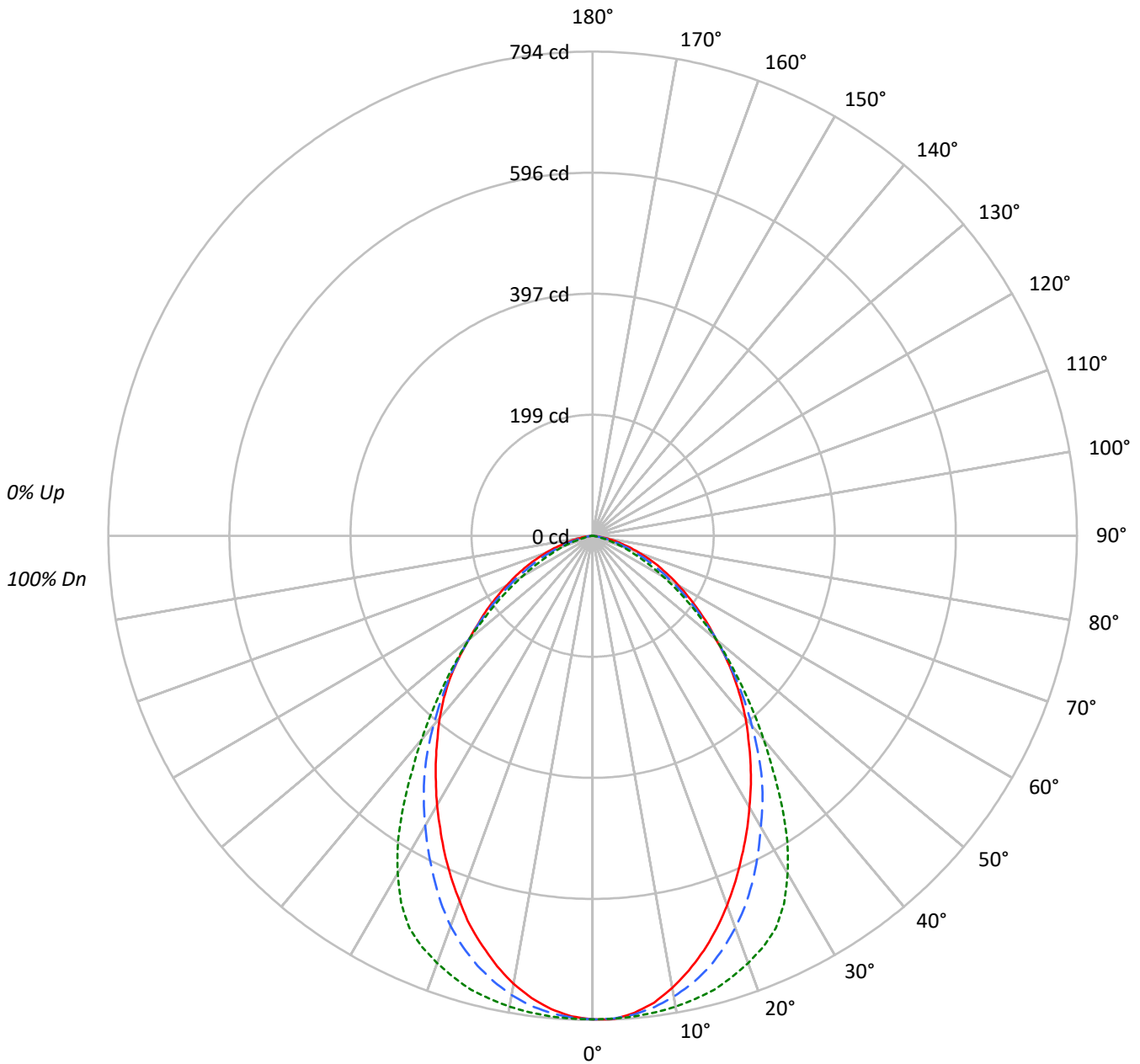
Lumens per Lamp: N/A  
Luminaire Lumens: 1456.4 lumens  
Efficiency: N/A  
Efficacy: 66.8 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.8  
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

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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	97423	97423	97423
5°	96845	97573	96118
10°	93886	97815	93087
15°	89578	98023	88599
20°	84287	97465	83345
25°	78513	96311	77862
30°	72944	90690	72362
35°	67654	81122	67159
40°	62530	69971	62482
45°	56987	59715	57439
50°	50343	50496	50610
55°	45108	41296	45279
60°	39854	32802	39952
65°	35087	25000	34738
70°	29059	17888	29059
75°	22642	10300	21835
80°	14645	2547	14079
85°	5356	846	4229



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.4	5.1
10°-20°	206.0	14.1
20°-30°	287.9	19.8
30°-40°	303.7	20.9
40°-50°	258.4	17.7
50°-60°	182.3	12.5
60°-70°	103.3	7.1
70°-80°	36.9	2.5
80°-90°	3.5	0.2
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°	568.3	39.0
0°-40°	872.0	59.9
0°-60°	1312.6	90.1
0°-90°	1456.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1456.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	793	793	793	793	793	
5°	785	788	791	786	779	74
15°	704	734	771	730	697	197
25°	579	622	710	617	574	266
35°	451	484	541	481	448	282
45°	328	333	344	334	331	252
55°	211	203	193	204	211	189
65°	121	104	86	104	120	120
75°	48	33	22	32	46	52
85°	4	2	1	2	3	7
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°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	793.5	792.1	792.1	792.1	792.1	792.1	792.1	792.1	792.1	792.4	792.4
5°	785.3	784.7	784.3	784.3	784.3	784.3	784.7	785.8	786.5	787.3	787.9
7.5°	772.2	771.0	771.6	771.6	772.2	772.8	773.7	774.9	776.6	777.9	779.4
10°	752.6	751.4	752.9	753.6	755.4	756.2	757.7	759.5	763.0	764.8	767.2
12.5°	729.8	729.2	729.8	732.2	734.0	735.2	737.0	740.8	744.4	748.2	752.4
15°	704.3	702.8	703.7	706.7	709.7	711.7	713.2	718.2	723.0	728.9	734.0
17.5°	675.8	673.8	676.1	678.5	682.4	684.2	686.2	691.9	698.4	704.9	710.5
20°	644.7	644.1	645.6	648.9	652.7	655.1	656.9	663.1	668.7	677.6	684.2
22.5°	612.4	613.0	614.2	617.8	620.4	623.7	626.3	631.9	638.5	646.7	655.1
25°	579.2	580.0	582.1	584.6	589.0	590.7	594.0	599.9	605.6	613.3	622.4
27.5°	547.1	547.4	549.8	551.0	555.2	559.0	560.4	566.7	573.2	579.2	587.2
30°	514.2	515.1	516.5	519.8	524.1	525.5	527.2	532.9	537.9	545.3	551.6
32.5°	482.8	482.2	484.0	485.8	490.5	493.2	494.0	500.6	505.0	512.4	518.3
35°	451.1	449.6	452.2	454.0	458.2	460.5	461.8	466.7	471.0	477.2	483.7
37.5°	419.4	420.5	421.7	423.2	425.3	425.8	429.4	430.6	436.0	440.7	444.2
40°	389.9	389.4	388.8	390.3	392.9	394.1	394.4	397.7	398.8	403.6	406.2
42.5°	358.5	358.9	358.5	358.9	360.3	360.3	361.2	363.3	364.1	365.6	368.9
45°	328.0	328.0	327.1	327.4	327.7	327.4	327.7	328.6	330.4	330.4	332.7
47.5°	296.2	295.7	296.9	295.9	295.4	295.1	295.9	295.1	296.9	296.9	297.4
50°	263.4	263.4	264.8	264.5	265.1	263.9	264.2	264.2	264.5	264.2	265.5
52.5°	237.9	237.2	236.7	235.2	235.7	234.6	234.6	234.9	233.9	233.6	232.2
55°	210.6	211.1	210.3	209.6	209.6	208.5	208.1	206.5	205.2	204.3	203.4
57.5°	185.9	186.6	186.2	184.8	183.0	183.3	182.7	180.9	178.2	176.4	174.9
60°	162.2	162.8	162.2	160.8	160.1	159.0	158.6	156.3	154.2	151.9	150.1
62.5°	140.9	140.9	140.6	138.4	137.0	137.3	135.8	134.0	131.4	128.1	125.4
65°	120.7	120.4	118.9	118.0	116.9	115.4	114.4	111.8	109.7	107.0	103.5
67.5°	100.6	99.6	99.1	98.1	95.5	95.2	94.0	91.6	88.6	86.6	83.7
70°	80.9	80.7	79.4	79.4	77.4	76.5	74.8	72.7	70.0	67.1	64.6
72.5°	64.1	63.5	62.3	61.1	59.3	58.7	57.2	55.2	52.8	49.8	46.9
75°	47.7	47.2	46.9	45.4	43.9	42.4	41.8	39.8	37.3	35.3	32.6
77.5°	33.5	32.9	32.0	31.1	30.2	29.4	28.5	26.7	24.6	22.8	20.4
80°	20.7	20.2	19.6	19.2	18.4	18.1	16.9	16.0	14.3	13.0	11.5
82.5°	10.7	10.7	10.0	9.8	9.2	8.9	8.6	7.7	6.8	5.9	5.1
85°	3.8	3.8	3.6	3.3	3.3	3.0	3.0	2.6	2.1	2.1	1.5
87.5°	0.3	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	792.7	792.4	792.7	792.7	793.0	793.0	793.0	792.7	793.0	792.7	792.7
5°	787.9	788.8	789.4	790.1	790.3	790.6	790.6	790.9	791.2	791.2	790.9
7.5°	780.5	782.3	784.1	785.3	785.8	786.5	787.3	787.9	788.6	788.3	787.9
10°	770.7	773.7	776.1	778.4	779.7	780.5	782.0	783.2	783.8	784.1	783.2
12.5°	756.8	761.0	764.8	768.7	770.5	771.6	774.6	776.6	777.9	777.9	776.9
15°	739.3	745.2	750.9	755.9	758.9	760.7	765.1	768.1	769.9	770.7	769.2
17.5°	718.2	725.1	731.9	738.4	741.4	744.0	750.3	754.4	758.3	758.9	757.1
20°	691.3	699.8	707.6	715.6	718.9	723.0	730.1	737.0	742.9	745.5	740.4
22.5°	661.0	670.5	677.6	687.4	691.9	696.3	705.5	714.1	724.5	730.1	721.2
25°	629.6	637.5	646.2	655.6	661.9	666.6	677.3	688.3	702.3	710.5	698.0
27.5°	595.8	602.9	613.3	623.7	628.4	634.4	647.1	658.9	672.2	679.7	670.5
30°	560.8	569.6	579.5	589.0	595.8	601.4	611.7	621.9	633.1	639.3	632.6
32.5°	526.1	534.6	543.0	553.4	557.3	562.2	571.4	580.0	588.7	594.3	586.2
35°	489.6	497.3	505.0	512.1	513.9	519.8	527.2	532.3	536.4	540.9	535.6
37.5°	449.9	455.8	459.6	467.4	470.3	471.2	477.2	480.7	485.1	486.1	485.8
40°	409.5	414.9	418.2	422.8	425.3	425.3	429.4	432.7	436.0	436.3	436.0
42.5°	371.9	374.5	377.3	380.2	379.6	383.2	384.9	386.5	388.8	388.8	389.4
45°	333.9	336.0	338.3	339.0	341.3	341.3	342.8	343.4	344.6	343.7	342.6
47.5°	298.7	299.5	299.8	302.5	303.1	301.0	302.8	303.1	302.8	302.8	302.2
50°	265.1	265.7	265.5	264.5	264.8	265.7	264.8	263.7	264.2	264.2	264.8
52.5°	232.5	231.3	230.7	230.7	229.5	229.5	228.0	227.5	227.2	226.0	227.5
55°	202.5	200.7	198.1	197.5	196.6	196.3	194.5	193.0	192.5	192.8	192.5
57.5°	173.8	171.1	169.3	168.7	167.8	166.0	164.0	162.6	162.2	161.6	161.6
60°	147.6	144.7	142.0	139.4	139.7	138.4	136.4	135.5	134.6	133.5	134.3
62.5°	124.0	120.7	117.7	115.1	113.3	112.4	110.9	109.5	108.5	107.7	108.8
65°	100.6	97.8	94.6	91.9	91.1	90.1	88.6	86.3	86.0	86.0	86.6
67.5°	79.4	76.5	73.5	71.8	70.5	69.4	68.9	67.6	66.7	66.1	66.4
70°	61.1	58.2	55.7	53.9	53.1	52.8	50.7	50.4	50.1	49.8	49.5
72.5°	44.5	42.1	40.1	38.8	37.7	36.8	36.2	35.3	35.0	35.0	35.0
75°	30.6	28.8	26.4	25.0	24.3	23.5	22.5	21.9	21.4	21.7	21.7
77.5°	18.4	16.6	15.1	14.0	13.6	12.8	11.8	11.3	10.4	10.4	10.7
80°	10.0	8.6	7.4	6.6	5.9	5.6	4.8	4.4	3.8	3.6	3.6
82.5°	4.4	3.6	3.0	2.6	2.3	2.1	1.8	1.5	1.5	1.2	1.5
85°	1.5	1.2	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.3	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	792.4	792.4	792.1	792.1	792.1	791.5	791.5	791.2	790.9	790.6	790.1
5°	790.3	790.1	789.4	789.1	788.8	787.9	787.1	786.5	785.6	784.3	783.8
7.5°	787.3	786.5	785.3	784.7	783.8	781.7	780.2	778.7	777.3	775.1	772.8
10°	782.3	780.5	778.7	777.6	776.1	773.4	770.5	768.1	764.8	761.8	758.5
12.5°	775.1	773.1	769.5	767.7	766.0	762.1	758.3	753.2	748.8	744.7	740.8
15°	766.3	762.4	758.3	755.9	753.2	747.0	741.1	735.8	729.8	724.8	718.6
17.5°	753.2	747.6	741.7	739.0	735.5	728.3	721.2	713.8	707.0	700.8	693.1
20°	733.7	727.4	719.7	715.6	712.6	703.1	696.3	688.0	680.9	673.2	664.6
22.5°	710.8	702.3	693.6	687.7	684.4	675.0	665.8	658.4	650.7	641.8	635.5
25°	685.0	674.3	664.0	658.1	653.0	642.9	634.1	626.3	616.8	609.1	602.9
27.5°	655.9	643.8	631.6	625.7	620.9	610.0	600.5	592.5	583.3	576.5	570.0
30°	621.3	610.3	598.7	594.0	588.4	577.0	566.2	559.0	548.9	541.8	534.6
32.5°	578.0	570.9	561.7	555.2	552.2	541.8	532.6	524.1	515.4	509.8	502.7
35°	530.5	524.3	516.5	513.1	509.1	502.7	495.3	487.8	481.0	475.6	469.2
37.5°	482.5	476.3	471.5	467.7	465.3	459.3	454.9	449.3	444.5	439.4	436.0
40°	432.7	430.9	425.8	424.1	423.5	416.9	413.1	408.7	405.7	402.7	400.6
42.5°	388.5	385.5	381.7	381.9	380.2	376.6	374.0	371.0	368.9	367.4	365.3
45°	344.9	342.6	340.8	342.3	339.3	338.0	336.0	335.7	334.2	331.6	330.6
47.5°	303.3	303.1	303.3	302.5	301.8	301.3	301.6	300.2	298.7	297.7	296.6
50°	265.5	265.7	266.3	267.2	265.1	266.0	265.7	265.5	265.5	264.5	265.1
52.5°	228.7	229.0	229.5	230.5	230.7	230.7	231.6	232.2	233.4	234.9	234.9
55°	194.0	196.0	197.2	198.7	197.8	199.6	200.4	203.2	204.0	204.0	205.2
57.5°	163.1	165.2	166.0	167.8	168.5	170.0	172.3	173.8	175.9	177.7	179.4
60°	135.0	135.8	138.2	140.9	140.2	143.8	145.6	148.0	150.6	151.9	154.2
62.5°	109.7	110.9	112.6	113.6	115.7	117.4	121.6	124.0	126.3	129.3	131.7
65°	87.1	88.4	90.1	91.9	92.9	95.5	97.5	101.7	103.8	107.0	109.7
67.5°	66.7	68.5	70.0	71.2	71.8	74.5	77.7	79.4	83.3	86.6	88.6
70°	49.8	51.3	53.1	52.8	53.9	56.1	58.4	61.1	64.1	67.1	69.4
72.5°	34.7	36.2	37.3	37.7	38.8	40.3	42.1	44.2	46.5	49.5	52.8
75°	21.9	22.2	23.5	24.0	24.6	26.4	27.9	29.9	32.0	34.4	36.5
77.5°	11.0	11.8	12.5	13.0	13.3	14.8	16.3	18.1	19.9	22.2	24.3
80°	4.1	4.4	5.3	5.6	6.2	7.1	8.4	9.2	10.7	12.5	13.6
82.5°	1.5	1.8	2.1	2.1	2.3	3.0	3.3	4.1	5.1	5.6	6.2
85°	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1.2	1.5	1.8	1.8
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°	793.0	793.0	793.0	793.0	793.0	793.0	793.0	793.0
2.5°	789.7	789.7	789.4	789.1	789.1	789.1	788.8	788.8
5°	782.6	781.7	781.4	780.9	780.5	780.2	779.4	779.4
7.5°	771.0	769.9	769.0	768.1	766.9	766.0	766.0	764.8
10°	755.6	753.2	752.1	750.9	749.4	747.6	747.0	746.2
12.5°	737.0	732.2	731.0	728.9	726.6	725.3	723.3	723.3
15°	713.8	708.7	706.1	704.9	702.0	699.8	699.0	696.6
17.5°	686.8	682.9	678.8	677.0	673.8	671.1	669.9	669.6
20°	659.5	653.3	650.7	648.0	644.1	641.8	640.0	637.5
22.5°	628.1	622.4	618.6	616.8	613.5	609.4	606.4	606.4
25°	594.9	589.8	587.7	583.9	580.0	578.5	575.0	574.4
27.5°	563.2	558.1	554.0	551.9	547.4	545.3	542.4	541.2
30°	530.2	524.3	521.3	521.0	515.7	513.6	511.3	510.1
32.5°	497.3	492.3	489.3	487.6	485.1	481.6	479.5	478.4
35°	464.7	461.4	458.8	456.7	452.9	451.1	449.3	447.8
37.5°	430.6	427.6	426.4	424.6	422.8	419.7	419.0	417.9
40°	397.7	393.9	393.9	392.6	390.9	390.6	389.6	389.6
42.5°	363.3	361.5	361.2	361.5	360.3	359.7	358.9	360.9
45°	329.1	330.1	328.6	328.9	328.3	329.5	329.5	330.6
47.5°	297.7	296.6	297.2	297.7	298.7	298.7	298.4	298.0
50°	264.2	265.5	266.6	265.1	265.7	266.0	264.5	264.8
52.5°	235.4	235.7	236.7	235.7	236.7	236.4	236.9	235.7
55°	207.6	207.6	208.8	209.1	209.4	210.3	210.6	211.4
57.5°	180.6	182.1	183.6	183.3	184.5	185.6	184.8	185.6
60°	157.2	158.3	159.8	160.4	161.3	161.9	161.9	162.6
62.5°	133.5	135.8	137.0	138.2	138.2	139.4	140.6	140.9
65°	112.1	114.8	115.7	116.6	117.2	118.3	119.8	119.5
67.5°	91.9	93.7	94.9	95.5	97.3	97.8	99.1	100.3
70°	72.0	74.5	75.3	76.5	77.9	79.2	80.4	80.9
72.5°	55.2	56.9	57.5	58.7	60.2	61.3	62.0	62.8
75°	38.6	41.6	41.8	42.7	43.9	45.4	46.2	46.0
77.5°	25.5	27.6	27.9	29.1	30.2	31.4	31.7	32.0
80°	15.1	16.3	16.6	17.2	18.1	18.7	19.2	19.9
82.5°	7.1	7.7	8.4	8.4	8.9	9.5	9.5	9.8
85°	2.3	2.3	2.6	2.6	3.0	3.0	3.3	3.0
87.5°	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3
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)