

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: P843469

Luminaire Tested: **LD4C20DE010B40 EU4C20B40 4LBLWWLI**

Issue Date: 5/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P843469  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20DE010B40 EU4C20B40 4LBLWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

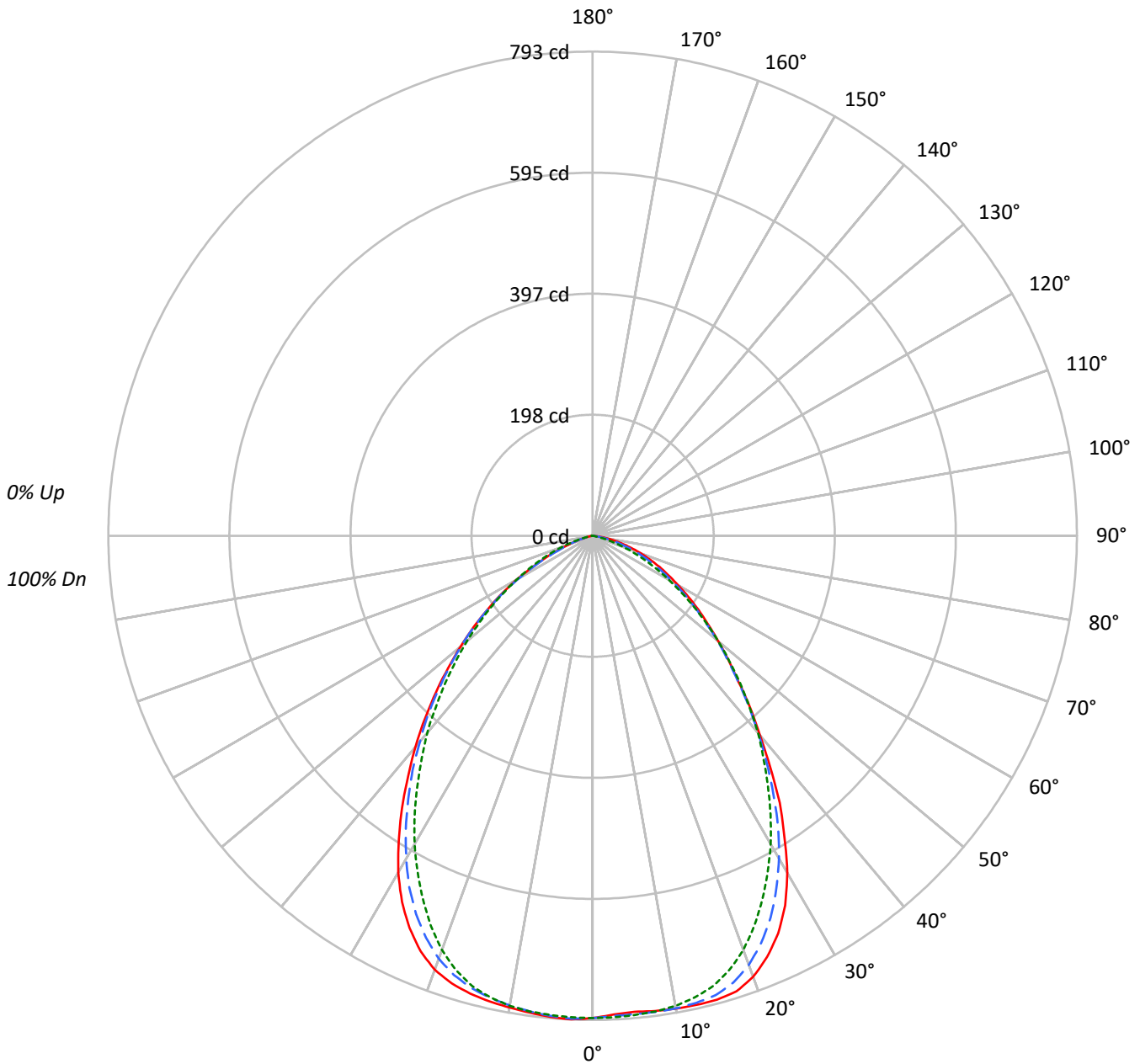
Lumens per Lamp: N/A  
Luminaire Lumens: 1514.5 lumens  
Efficiency: N/A  
Efficacy: 69.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78																			
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68																			
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60																			
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54																			
6	76	65	57	51	75	64	56	51	62	56	51	61	55	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39																			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33																			

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

	0°	90°	180°
0°	97042	97042	97042
5°	96500	97166	97536
10°	98115	97516	97890
15°	100033	97082	98697
20°	100524	94354	98864
25°	97436	89113	96108
30°	90435	82704	90265
35°	80087	75018	81587
40°	68271	67565	72361
45°	58655	59315	63033
50°	51203	51298	54031
55°	45237	43330	44787
60°	39657	35333	35210
65°	35116	27413	24418
70°	29921	18858	14476
75°	24208	10158	6645
80°	16626	2547	1627
85°	5075	846	846



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.1	5.0
10°-20°	217.3	14.4
20°-30°	314.0	20.7
30°-40°	324.7	21.4
40°-50°	268.3	17.7
50°-60°	185.1	12.2
60°-70°	96.9	6.4
70°-80°	30.5	2.0
80°-90°	2.6	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°	606.5	40.0
0°-40°	931.1	61.5
0°-60°	1384.5	91.4
0°-90°	1514.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1514.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	790	790	790	790	790	
5°	782	786	788	789	791	75
15°	786	779	763	767	776	222
25°	719	690	657	684	709	328
35°	534	516	500	526	544	331
45°	338	336	341	357	363	263
55°	211	205	202	208	209	190
65°	121	110	94	78	84	120
75°	51	40	21	14	14	55
85°	4	2	1	1	1	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°	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9
2.5°	785.0	785.2	785.2	785.8	785.8	785.8	786.1	786.1	786.5	786.7	787.0
5°	782.5	782.5	783.2	783.5	784.0	784.3	785.0	785.2	785.8	786.1	786.5
7.5°	785.0	785.0	785.2	785.5	785.5	785.8	785.8	786.1	786.5	786.7	786.7
10°	786.5	786.5	786.5	786.5	786.7	786.7	786.7	786.5	786.5	786.5	786.1
12.5°	787.0	787.0	786.7	786.5	786.7	786.5	786.5	785.5	785.0	784.3	783.5
15°	786.5	786.5	786.1	785.8	785.5	785.0	784.7	783.2	782.0	780.2	779.1
17.5°	782.5	782.0	781.4	780.7	779.6	778.7	778.1	775.5	773.3	770.4	767.1
20°	768.9	768.4	767.4	765.9	764.5	763.3	761.5	757.7	755.6	751.1	747.9
22.5°	746.7	746.1	746.4	743.7	740.8	739.0	737.8	734.5	730.9	725.3	721.7
25°	718.8	717.0	717.0	712.8	711.4	710.2	708.7	704.8	699.5	694.4	689.7
27.5°	682.6	680.2	679.0	678.5	674.9	672.2	670.1	667.2	662.7	658.3	651.7
30°	637.5	637.2	635.7	633.1	630.3	629.2	626.9	621.8	617.7	614.4	610.3
32.5°	584.4	584.1	584.1	584.1	582.3	582.0	578.4	575.8	572.5	567.5	564.8
35°	534.0	533.7	534.0	529.6	528.3	527.4	527.1	525.3	520.9	518.6	516.1
37.5°	477.0	477.9	477.3	476.1	477.6	475.0	477.0	473.2	471.4	470.8	468.1
40°	425.7	428.0	425.7	426.0	427.5	424.9	424.9	424.2	423.1	422.4	421.8
42.5°	381.8	378.8	380.6	379.2	380.6	379.7	378.2	379.2	379.4	378.2	377.9
45°	337.6	338.2	338.8	337.9	337.9	337.0	339.4	337.9	337.9	338.2	336.1
47.5°	301.7	300.8	301.4	300.8	301.1	300.5	301.1	301.4	300.8	300.8	299.0
50°	267.9	267.3	269.4	267.6	267.6	267.3	267.6	266.9	266.1	266.1	266.7
52.5°	238.5	237.3	237.0	238.5	236.4	236.4	236.7	236.2	234.9	234.4	232.9
55°	211.2	210.9	211.2	210.0	209.4	209.4	207.9	207.4	207.1	205.6	204.7
57.5°	185.7	184.8	185.1	184.8	183.6	183.3	182.1	182.1	181.0	179.8	178.3
60°	161.4	161.4	162.2	161.1	160.2	159.6	159.0	158.4	156.3	154.3	152.5
62.5°	139.7	140.0	139.7	138.9	138.2	137.6	137.1	135.3	133.5	132.3	130.2
65°	120.8	120.5	119.5	119.0	117.5	117.5	116.2	115.4	113.3	111.6	109.5
67.5°	101.1	100.6	100.6	100.6	98.8	98.5	97.9	96.1	94.3	92.0	90.2
70°	83.3	84.0	83.0	82.2	81.3	81.0	80.1	78.3	76.3	73.8	72.3
72.5°	66.4	67.1	66.1	65.9	64.1	63.5	63.1	61.7	59.3	57.9	55.5
75°	51.0	51.3	50.8	50.1	49.0	48.7	47.2	46.0	44.5	42.1	40.1
77.5°	36.8	36.2	36.2	35.0	33.8	33.8	33.5	31.7	29.6	27.9	26.1
80°	23.5	23.2	22.2	21.7	20.7	20.5	20.2	18.7	17.2	16.0	14.8
82.5°	11.8	11.5	11.3	11.0	10.4	9.8	10.0	8.9	8.4	7.1	6.2
85°	3.6	3.8	3.8	3.6	3.3	3.3	3.3	3.0	2.3	2.1	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9
2.5°	787.3	787.6	787.9	788.1	788.1	788.5	788.8	789.1	789.4	789.4	789.6
5°	786.7	787.3	787.3	787.6	787.6	787.6	787.9	787.9	787.9	787.9	788.1
7.5°	787.0	787.0	787.0	786.7	786.7	786.5	786.5	786.5	785.8	785.8	785.8
10°	785.5	785.2	785.0	784.3	784.0	783.7	783.2	782.5	782.0	781.7	781.1
12.5°	782.5	781.4	780.2	779.1	778.4	778.1	776.9	776.0	775.1	774.3	773.7
15°	776.6	774.8	772.8	770.4	769.9	769.2	767.1	765.3	764.1	763.3	761.8
17.5°	764.8	761.2	758.9	755.3	753.8	753.1	750.0	748.2	746.1	745.5	744.3
20°	743.7	740.4	736.0	732.7	730.9	729.1	726.5	724.2	721.7	721.7	720.2
22.5°	717.3	713.2	707.6	703.3	703.0	699.5	697.1	694.4	693.6	691.8	691.8
25°	684.1	680.5	674.2	670.8	669.0	668.1	664.2	660.6	658.9	657.4	658.6
27.5°	647.3	642.0	637.2	632.8	631.3	629.5	625.9	624.4	621.1	620.9	620.6
30°	605.2	599.8	595.1	593.0	590.1	588.6	585.9	584.1	583.0	583.0	582.3
32.5°	561.0	556.2	553.9	549.4	548.0	545.8	544.0	542.2	542.9	542.2	542.6
35°	513.2	512.0	507.6	504.9	504.9	504.6	501.6	500.5	499.8	500.2	501.6
37.5°	467.8	464.3	461.3	459.5	461.0	459.2	458.9	458.9	460.7	459.5	461.9
40°	419.5	419.1	418.0	418.6	418.8	416.8	417.3	417.7	418.8	421.3	421.6
42.5°	377.4	377.0	377.0	377.0	376.4	375.2	376.4	378.5	378.2	380.0	381.5
45°	336.6	336.1	337.3	336.4	338.2	338.8	337.9	338.4	340.2	341.4	343.8
47.5°	299.6	299.6	299.9	300.5	298.7	300.2	300.8	302.0	302.9	303.4	304.7
50°	265.3	265.3	264.6	264.6	264.6	265.5	264.3	265.8	266.1	268.4	269.9
52.5°	233.4	231.9	232.9	232.3	231.1	230.5	231.1	231.4	233.2	233.7	235.5
55°	203.2	203.2	200.8	200.2	201.2	200.8	200.5	200.5	201.4	202.3	203.8
57.5°	176.5	174.7	172.9	172.6	171.8	172.1	172.1	171.8	171.1	171.4	171.8
60°	151.2	150.1	147.4	147.4	147.1	146.8	145.3	145.1	143.6	143.8	142.7
62.5°	128.2	127.6	124.0	122.8	122.8	121.9	120.5	120.1	118.0	118.0	116.9
65°	107.3	105.7	103.5	101.4	101.4	100.3	99.4	96.7	95.2	94.3	92.5
67.5°	88.4	85.8	83.7	81.9	80.7	80.4	78.3	76.6	74.1	72.7	70.0
70°	70.0	67.9	65.9	64.1	62.9	61.7	59.7	57.0	55.2	52.5	50.8
72.5°	52.8	51.0	49.3	46.9	45.4	44.5	42.4	40.1	37.1	35.3	32.9
75°	38.0	35.9	33.5	31.4	30.6	29.6	27.3	25.5	23.5	21.4	19.0
77.5°	24.6	22.2	20.5	18.1	17.8	17.2	14.8	13.0	11.5	10.4	8.9
80°	13.0	11.8	10.4	8.9	8.4	7.4	6.2	5.3	4.4	3.6	3.0
82.5°	5.6	4.8	3.8	3.3	3.0	2.6	2.1	1.8	1.5	1.5	1.2
85°	1.5	1.2	1.2	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9
2.5°	789.9	790.3	790.6	790.6	790.9	791.2	791.2	791.4	791.7	792.1	792.1
5°	788.5	788.5	788.5	788.8	788.8	788.8	788.8	789.4	789.4	789.6	789.9
7.5°	785.5	785.5	785.5	785.5	785.2	785.5	785.2	785.2	785.8	786.1	786.5
10°	780.7	780.5	780.5	780.2	780.2	780.2	780.5	780.7	781.1	781.4	782.2
12.5°	773.3	773.0	773.0	772.8	772.8	773.0	773.3	774.0	775.1	775.8	776.9
15°	761.5	761.2	761.5	761.8	762.3	763.3	764.1	765.1	766.9	768.4	769.9
17.5°	744.3	744.6	744.9	745.5	746.4	747.5	750.0	752.3	754.4	756.7	759.2
20°	720.6	721.7	722.0	724.2	724.7	727.3	730.1	733.6	736.9	739.8	743.1
22.5°	692.1	693.0	694.1	696.6	698.0	701.5	704.8	709.0	712.5	716.4	721.2
25°	659.8	660.1	663.6	663.6	667.2	670.1	674.0	678.5	683.8	688.8	692.1
27.5°	622.9	624.4	627.1	628.3	631.0	635.7	639.0	644.3	649.7	654.1	657.6
30°	584.4	585.6	590.1	590.6	592.7	596.8	601.3	606.3	610.5	615.5	618.8
32.5°	543.7	547.0	549.7	551.8	552.4	558.6	561.0	564.6	569.2	574.3	577.6
35°	504.3	505.8	509.7	510.8	512.6	516.1	520.9	523.8	526.3	529.6	533.4
37.5°	462.5	466.9	467.8	471.4	472.0	475.2	477.6	481.1	484.1	487.1	487.7
40°	423.6	425.1	428.3	429.3	429.8	434.3	437.2	438.2	439.7	442.3	445.9
42.5°	384.1	385.6	389.2	388.4	391.0	393.0	394.5	398.1	399.6	400.5	400.5
45°	345.3	345.8	348.3	349.4	350.9	352.1	354.8	356.5	357.2	359.8	360.8
47.5°	308.2	308.8	310.6	312.6	312.1	313.6	316.5	317.4	317.7	319.5	320.4
50°	271.7	273.2	275.6	275.0	276.8	277.6	280.4	280.9	280.9	281.2	281.5
52.5°	237.7	238.8	239.4	240.0	240.9	242.4	243.6	242.9	244.1	245.4	244.4
55°	203.8	204.7	206.1	206.8	206.8	207.1	206.5	209.1	207.9	207.6	207.9
57.5°	172.9	171.8	171.4	172.9	173.6	173.2	172.4	173.6	173.6	172.9	172.1
60°	143.0	142.1	141.8	142.1	140.9	140.0	140.6	140.0	138.6	137.9	138.2
62.5°	115.7	114.8	112.4	112.4	111.8	111.6	109.1	109.5	108.3	106.5	107.1
65°	90.4	88.1	86.9	86.6	84.5	82.8	82.2	80.1	78.3	78.1	78.3
67.5°	67.9	65.3	63.1	62.3	61.1	59.7	57.5	55.7	56.4	56.1	57.2
70°	47.2	45.4	43.4	41.8	42.4	40.6	39.4	39.4	39.8	40.1	40.6
72.5°	31.4	29.1	28.1	27.3	26.7	25.5	26.1	26.1	25.8	26.1	25.5
75°	17.8	16.6	15.8	15.4	14.8	14.8	14.8	14.8	14.5	14.3	14.3
77.5°	8.0	7.4	7.1	6.9	6.9	6.9	6.6	6.2	6.2	6.2	5.9
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	1.2	1.2	1.5	1.5	1.5	1.2	1.5	1.5	1.2	1.2	1.5
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.0	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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	789.9	789.9	789.9	789.9	789.9	789.9	789.9	789.9
2.5°	792.4	792.7	792.7	792.7	792.9	792.9	792.9	792.9
5°	790.3	790.6	790.6	790.6	790.9	790.9	790.9	790.9
7.5°	786.7	787.0	787.0	787.3	787.3	787.6	787.6	787.9
10°	782.5	783.2	783.5	783.7	784.0	784.3	784.3	784.7
12.5°	778.1	778.7	779.1	779.6	780.2	780.5	780.7	781.1
15°	771.5	772.8	773.3	773.7	774.8	775.5	775.8	776.0
17.5°	761.2	763.6	764.5	765.1	766.3	767.4	768.4	768.6
20°	746.4	749.0	750.2	751.7	753.5	754.9	755.6	756.2
22.5°	725.6	728.6	730.4	732.1	733.6	735.1	737.5	736.5
25°	695.9	701.0	703.0	704.0	707.2	709.0	710.2	709.0
27.5°	662.7	665.7	667.5	669.6	671.9	673.7	674.2	676.0
30°	622.6	627.7	627.4	629.5	632.5	634.3	634.8	636.3
32.5°	581.2	583.5	585.3	585.0	586.1	589.4	588.3	590.9
35°	537.0	537.3	540.2	539.9	542.2	542.2	542.2	544.0
37.5°	489.8	493.3	491.8	495.4	494.2	495.1	495.1	495.7
40°	446.7	447.9	447.9	449.2	450.0	449.2	449.7	451.2
42.5°	402.2	403.5	403.7	403.2	404.0	406.7	404.7	406.4
45°	360.8	361.6	362.8	361.9	363.4	362.6	363.4	362.8
47.5°	321.5	321.3	321.0	323.3	321.3	321.5	322.8	320.7
50°	281.5	283.3	282.1	283.0	283.6	283.6	282.7	282.7
52.5°	245.9	245.6	244.7	245.6	245.1	245.4	245.9	245.4
55°	209.1	210.4	209.7	209.4	209.7	209.7	211.5	209.1
57.5°	172.9	172.4	173.2	175.4	173.2	174.7	175.6	175.9
60°	138.6	138.6	140.3	139.4	141.2	142.7	143.8	143.3
62.5°	105.7	107.1	107.7	108.0	109.8	110.9	110.9	110.6
65°	78.3	80.4	80.4	81.5	82.2	82.2	82.8	84.0
67.5°	57.9	57.9	58.2	58.7	58.5	58.5	59.0	59.3
70°	40.3	39.8	40.6	40.3	40.3	40.1	40.3	40.3
72.5°	25.5	25.5	25.8	25.5	25.0	25.2	25.2	25.8
75°	13.6	14.3	13.6	13.6	14.0	13.3	13.6	14.0
77.5°	5.6	5.6	5.6	5.6	5.6	5.3	5.3	5.3
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.3
82.5°	1.2	1.5	1.2	1.5	1.2	1.2	1.2	1.2
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.3	0.0	0.3	0.0	0.0	0.0	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)