

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: P843481

Luminaire Tested: **LD4C20DE010B50 EU4C20B50 4LBLDWWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843481
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: LD4C20DE010B50 EU4C20B50 4LBLDWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

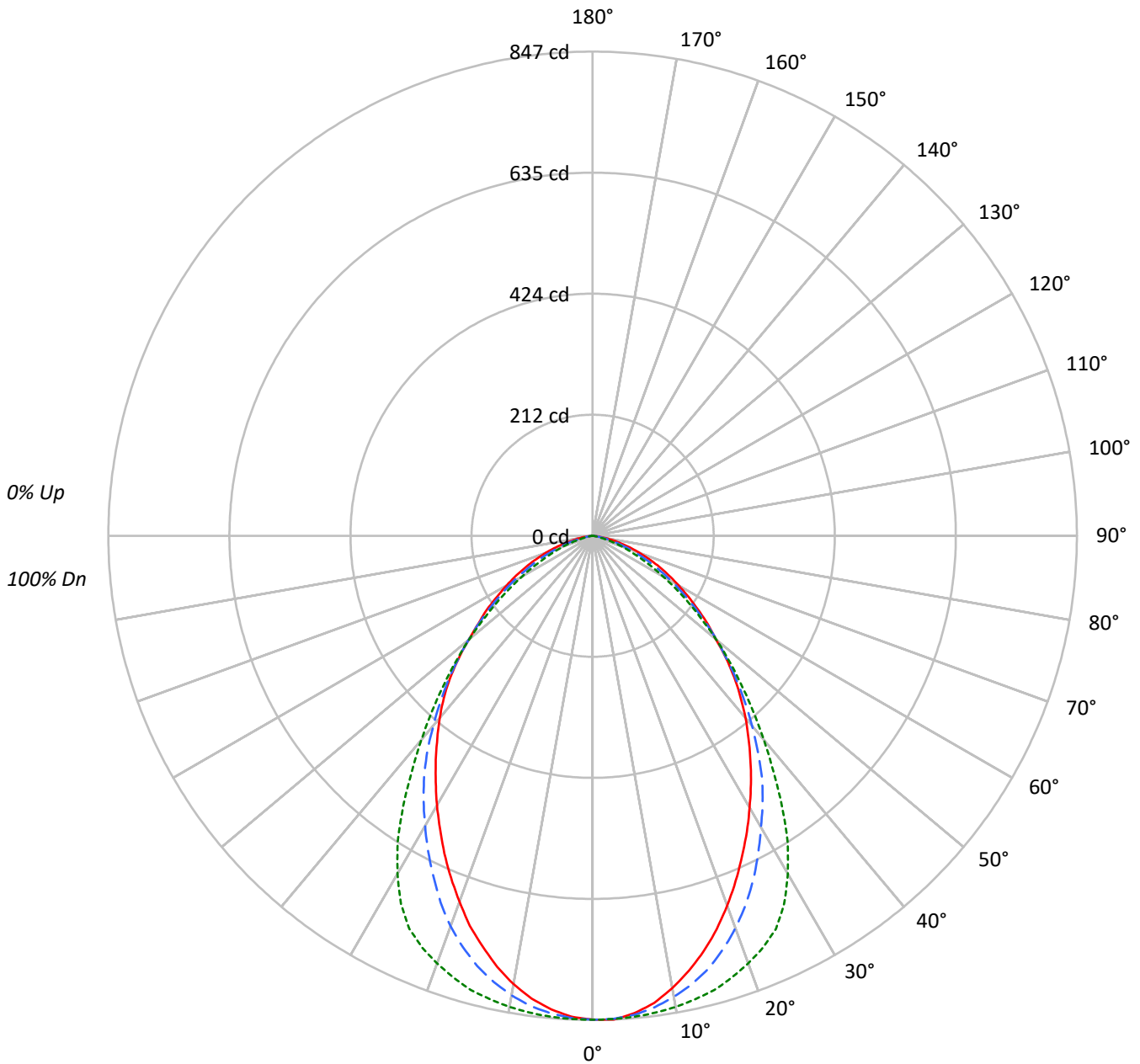
Lumens per Lamp: N/A
Luminaire Lumens: 1554.7 lumens
Efficiency: N/A
Efficacy: 71.3 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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					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	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°	103995	103995	103995
5°	103381	104158	102592
10°	100236	104415	99362
15°	95632	104650	94576
20°	89974	104054	88993
25°	83813	102818	83122
30°	77866	96833	77242
35°	72214	86611	71704
40°	66764	74686	66716
45°	60844	63746	61331
50°	53726	53917	54031
55°	48128	44080	48342
60°	42532	35013	42630
65°	37442	26686	37093
70°	31035	19109	31035
75°	24208	11012	23306
80°	15706	2688	15069
85°	5779	846	4511



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.5	5.1
10°-20°	219.9	14.1
20°-30°	307.3	19.8
30°-40°	324.2	20.9
40°-50°	275.8	17.7
50°-60°	194.6	12.5
60°-70°	110.3	7.1
70°-80°	39.4	2.5
80°-90°	3.8	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°	606.7	39.0
0°-40°	930.9	59.9
0°-60°	1401.3	90.1
0°-90°	1554.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1554.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	846	846	846	846	846	
5°	838	841	845	839	832	79
15°	752	784	823	779	744	211
25°	618	664	758	658	613	284
35°	482	516	578	514	478	301
45°	350	355	367	357	353	269
55°	225	217	206	218	226	202
65°	129	110	92	111	128	128
75°	51	35	23	34	49	55
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°	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5
2.5°	847.2	845.6	845.6	845.6	845.6	845.6	845.6	845.6	845.6	845.9	845.9
5°	838.3	837.6	837.3	837.3	837.3	837.3	837.6	838.9	839.5	840.5	841.1
7.5°	824.4	823.2	823.8	823.8	824.4	825.1	825.9	827.2	829.1	830.3	831.9
10°	803.5	802.2	803.8	804.4	806.3	807.3	808.9	810.8	814.6	816.5	819.0
12.5°	779.1	778.5	779.1	781.6	783.5	784.8	786.7	790.8	794.6	798.7	803.2
15°	751.9	750.3	751.2	754.4	757.6	759.8	761.4	766.8	771.9	778.2	783.5
17.5°	721.5	719.3	721.8	724.4	728.5	730.4	732.5	738.5	745.5	752.5	758.5
20°	688.2	687.6	689.2	692.6	696.8	699.3	701.2	707.9	713.9	723.4	730.4
22.5°	653.7	654.4	655.6	659.4	662.3	665.8	668.6	674.7	681.6	690.4	699.3
25°	618.3	619.2	621.5	624.0	628.8	630.7	634.2	640.4	646.4	654.7	664.5
27.5°	584.1	584.4	587.0	588.3	592.6	596.7	598.3	605.0	611.9	618.3	626.9
30°	548.9	549.9	551.5	554.9	559.4	561.0	562.9	568.9	574.3	582.2	588.9
32.5°	515.4	514.8	516.7	518.6	523.6	526.5	527.4	534.4	539.2	547.0	553.4
35°	481.5	480.0	482.8	484.7	489.2	491.7	493.0	498.3	502.7	509.4	516.3
37.5°	447.7	448.9	450.1	451.7	453.9	454.6	458.4	459.6	465.4	470.4	474.2
40°	416.3	415.7	415.0	416.6	419.5	420.7	421.0	424.5	425.8	430.9	433.7
42.5°	382.8	383.1	382.8	383.1	384.7	384.7	385.6	387.8	388.8	390.4	393.9
45°	350.2	350.2	349.2	349.5	349.9	349.5	349.9	350.8	352.7	352.7	355.2
47.5°	316.2	315.6	316.9	315.9	315.3	315.0	315.9	315.0	316.9	316.9	317.5
50°	281.1	281.1	282.7	282.4	283.0	281.8	282.1	282.1	282.4	282.1	283.3
52.5°	253.9	253.3	252.7	251.1	251.7	250.4	250.4	250.8	249.8	249.5	247.9
55°	224.7	225.4	224.4	223.8	223.8	222.5	222.2	220.3	219.0	218.1	217.1
57.5°	198.5	199.2	198.8	197.2	195.3	195.7	195.0	193.1	190.3	188.4	186.8
60°	173.1	173.8	173.1	171.5	170.9	169.6	169.3	166.8	164.7	162.1	160.2
62.5°	150.4	150.4	150.1	147.9	146.3	146.6	145.0	143.1	140.2	136.8	133.9
65°	128.8	128.5	126.9	126.0	124.7	123.1	122.2	119.3	117.2	114.3	110.5
67.5°	107.3	106.4	105.8	104.8	102.0	101.6	100.4	97.8	94.7	92.4	89.3
70°	86.4	86.1	84.8	84.8	82.6	81.6	79.7	77.5	74.7	71.5	69.1
72.5°	68.4	67.8	66.5	65.3	63.4	62.7	61.1	58.9	56.4	53.2	50.0
75°	51.0	50.3	50.0	48.4	46.9	45.3	44.6	42.4	39.9	37.7	34.8
77.5°	35.7	35.1	34.2	33.2	32.3	31.3	30.4	28.5	26.2	24.3	21.9
80°	22.2	21.6	20.9	20.6	19.7	19.4	18.1	17.1	15.2	14.0	12.4
82.5°	11.4	11.4	10.8	10.5	9.8	9.5	9.2	8.2	7.3	6.3	5.4
85°	4.1	4.1	3.8	3.5	3.5	3.2	3.2	2.9	2.2	2.2	1.6
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°	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5
2.5°	846.2	845.9	846.2	846.2	846.5	846.5	846.5	846.2	846.5	846.2	846.2
5°	841.1	842.1	842.7	843.4	843.7	844.0	844.0	844.3	844.6	844.6	844.3
7.5°	833.2	835.1	837.0	838.3	838.9	839.5	840.5	841.1	841.8	841.5	841.1
10°	822.8	825.9	828.4	831.0	832.3	833.2	834.8	836.1	836.7	837.0	836.1
12.5°	807.9	812.4	816.5	820.6	822.5	823.8	826.9	829.1	830.3	830.3	829.4
15°	789.2	795.6	801.6	807.0	810.1	812.1	816.8	820.0	821.9	822.8	821.3
17.5°	766.8	774.1	781.3	788.3	791.4	794.3	800.9	805.4	809.5	810.1	808.2
20°	737.9	747.1	755.4	763.9	767.4	771.9	779.4	786.7	793.0	795.9	790.5
22.5°	705.7	715.8	723.4	733.8	738.5	743.3	753.1	762.3	773.4	779.4	770.0
25°	672.1	680.7	689.8	699.9	706.6	711.7	723.1	734.7	749.7	758.5	745.2
27.5°	636.1	643.6	654.7	665.8	670.9	677.2	690.7	703.4	717.7	725.6	715.8
30°	598.6	608.1	618.6	628.8	636.1	642.0	653.1	663.9	675.9	682.6	675.3
32.5°	561.6	570.8	579.7	590.7	594.8	600.2	610.0	619.2	628.4	634.5	625.9
35°	522.7	530.9	539.2	546.7	548.6	554.9	562.9	568.3	572.7	577.5	571.8
37.5°	480.3	486.6	490.7	498.9	502.1	503.0	509.4	513.2	517.9	518.9	518.6
40°	437.2	442.9	446.4	451.4	453.9	453.9	458.4	461.9	465.4	465.7	465.4
42.5°	397.0	399.9	402.6	405.8	405.2	409.0	410.9	412.5	415.0	415.0	415.7
45°	356.4	358.6	361.2	361.8	364.4	364.4	365.9	366.6	367.8	366.9	365.6
47.5°	318.8	319.7	320.0	322.9	323.5	321.3	323.2	323.5	323.2	323.2	322.6
50°	283.0	283.7	283.3	282.4	282.7	283.7	282.7	281.4	282.1	282.1	282.7
52.5°	248.2	247.0	246.3	246.3	245.1	245.1	243.5	242.8	242.5	241.2	242.8
55°	216.2	214.3	211.5	210.9	209.9	209.6	207.7	206.1	205.5	205.8	205.5
57.5°	185.5	182.7	180.7	180.1	179.2	177.3	175.0	173.5	173.1	172.5	172.5
60°	157.7	154.5	151.7	148.8	149.1	147.9	145.6	144.7	143.7	142.5	143.4
62.5°	132.3	128.8	125.6	122.8	120.9	119.9	118.3	116.9	115.9	115.0	116.2
65°	107.3	104.5	101.0	98.1	97.2	96.2	94.7	92.1	91.8	91.8	92.4
67.5°	84.8	81.6	78.5	76.6	75.3	74.0	73.4	72.1	71.2	70.6	70.9
70°	65.3	62.1	59.5	57.6	56.7	56.4	54.2	53.8	53.5	53.2	52.9
72.5°	47.5	44.9	42.7	41.5	40.2	39.2	38.6	37.7	37.3	37.3	37.3
75°	32.6	30.7	28.1	26.5	25.9	25.0	24.0	23.5	22.8	23.2	23.2
77.5°	19.7	17.8	16.2	14.9	14.6	13.6	12.7	12.1	11.1	11.1	11.4
80°	10.8	9.2	7.9	7.0	6.3	6.0	5.1	4.8	4.1	3.8	3.8
82.5°	4.8	3.8	3.2	2.9	2.5	2.2	1.9	1.6	1.6	1.3	1.6
85°	1.6	1.3	1.0	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°	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5
2.5°	845.9	845.9	845.6	845.6	845.6	844.9	844.9	844.6	844.3	844.0	843.4
5°	843.7	843.4	842.7	842.4	842.1	841.1	840.2	839.5	838.6	837.3	836.7
7.5°	840.5	839.5	838.3	837.6	836.7	834.5	832.9	831.3	829.7	827.5	825.1
10°	835.1	833.2	831.3	830.0	828.4	825.7	822.5	820.0	816.5	813.3	809.8
12.5°	827.5	825.4	821.6	819.7	817.8	813.6	809.5	804.1	799.4	794.9	790.8
15°	818.1	814.0	809.5	807.0	804.1	797.5	791.1	785.4	779.1	773.8	767.1
17.5°	804.1	798.1	791.7	788.9	785.1	777.6	770.0	762.0	754.7	748.1	739.8
20°	783.2	776.6	768.4	763.9	760.8	750.6	743.3	734.4	726.9	718.7	709.5
22.5°	758.9	749.7	740.4	734.1	730.7	720.6	710.7	702.8	694.5	685.0	678.5
25°	731.4	719.9	708.8	702.5	697.1	686.3	676.9	668.6	658.5	650.2	643.6
27.5°	700.3	687.3	674.3	668.0	662.9	651.2	641.0	632.6	622.7	615.4	608.5
30°	663.2	651.5	639.1	634.2	628.1	616.1	604.3	596.7	586.0	578.4	570.8
32.5°	617.0	609.4	599.6	592.6	589.5	578.4	568.6	559.4	550.2	544.2	536.6
35°	566.4	559.7	551.5	547.6	543.5	536.6	528.7	520.8	513.5	507.8	500.8
37.5°	515.1	508.4	503.3	499.2	496.7	490.4	485.7	479.6	474.6	469.2	465.4
40°	461.9	460.0	454.6	452.7	452.0	445.2	441.0	436.3	433.1	429.9	427.7
42.5°	414.7	411.5	407.4	407.7	405.8	402.0	399.3	396.1	393.9	392.3	390.1
45°	368.2	365.6	363.7	365.3	362.1	360.9	358.6	358.3	356.7	354.0	353.0
47.5°	323.8	323.5	323.8	322.9	322.3	321.6	321.9	320.4	318.8	317.8	316.5
50°	283.3	283.7	284.3	285.2	283.0	284.0	283.7	283.3	283.3	282.4	283.0
52.5°	244.1	244.4	245.1	246.0	246.3	246.3	247.3	247.9	249.2	250.8	250.8
55°	207.1	209.3	210.6	212.2	211.2	213.0	214.0	216.8	217.8	217.8	219.0
57.5°	174.1	176.3	177.3	179.2	179.8	181.4	183.9	185.5	187.7	189.6	191.5
60°	144.0	145.0	147.5	150.4	149.8	153.6	155.5	158.0	160.9	162.1	164.7
62.5°	117.2	118.3	120.3	121.2	123.4	125.3	129.8	132.3	134.8	138.0	140.6
65°	93.1	94.3	96.2	98.1	99.1	102.0	104.2	108.6	110.8	114.3	117.2
67.5°	71.2	73.1	74.7	75.9	76.6	79.4	82.9	84.8	88.9	92.4	94.7
70°	53.2	54.8	56.7	56.4	57.6	59.9	62.4	65.3	68.4	71.5	74.0
72.5°	37.0	38.6	39.9	40.2	41.5	43.0	44.9	47.2	49.7	52.9	56.4
75°	23.5	23.7	25.0	25.6	26.2	28.1	29.7	31.9	34.2	36.7	38.9
77.5°	11.7	12.7	13.3	14.0	14.3	15.9	17.5	19.4	21.3	23.7	25.9
80°	4.4	4.8	5.7	6.0	6.7	7.6	8.9	9.8	11.4	13.3	14.6
82.5°	1.6	1.9	2.2	2.2	2.5	3.2	3.5	4.4	5.4	6.0	6.7
85°	0.6	0.6	0.6	0.6	0.6	1.0	1.0	1.3	1.6	1.9	1.9
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°	846.5	846.5	846.5	846.5	846.5	846.5	846.5	846.5
2.5°	843.0	843.0	842.7	842.4	842.4	842.4	842.1	842.1
5°	835.4	834.5	834.2	833.5	833.2	832.9	831.9	831.9
7.5°	823.2	821.9	820.9	820.0	818.7	817.8	817.8	816.5
10°	806.7	804.1	802.8	801.6	800.0	798.1	797.5	796.5
12.5°	786.7	781.6	780.3	778.2	775.7	774.4	772.2	772.2
15°	762.0	756.6	753.8	752.5	749.3	747.1	746.2	743.6
17.5°	733.2	729.1	724.7	722.8	719.3	716.4	715.2	714.9
20°	704.1	697.4	694.5	691.7	687.6	685.0	683.2	680.7
22.5°	670.5	664.5	660.4	658.5	655.0	650.6	647.4	647.4
25°	635.1	629.7	627.5	623.4	619.2	617.7	613.9	613.2
27.5°	601.2	595.8	591.3	589.2	584.4	582.2	579.1	577.8
30°	566.0	559.7	556.5	556.2	550.5	548.3	545.7	544.5
32.5°	530.9	525.5	522.4	520.5	517.9	514.1	511.9	510.6
35°	496.0	492.6	489.8	487.6	483.4	481.5	479.6	478.1
37.5°	459.6	456.5	455.2	453.3	451.4	448.0	447.4	446.1
40°	424.5	420.4	420.4	419.1	417.2	416.9	416.0	416.0
42.5°	387.8	385.9	385.6	385.9	384.7	384.0	383.1	385.3
45°	351.5	352.4	350.8	351.1	350.5	351.8	351.8	353.0
47.5°	317.8	316.5	317.2	317.8	318.8	318.8	318.5	318.1
50°	282.1	283.3	284.6	283.0	283.7	284.0	282.4	282.7
52.5°	251.4	251.7	252.7	251.7	252.7	252.4	253.0	251.7
55°	221.6	221.6	222.8	223.2	223.5	224.4	224.7	225.7
57.5°	192.8	194.4	196.0	195.7	196.9	198.2	197.2	198.2
60°	167.7	169.0	170.6	171.2	172.2	172.8	172.8	173.5
62.5°	142.5	145.0	146.3	147.5	147.5	148.8	150.1	150.4
65°	119.6	122.5	123.4	124.4	125.0	126.3	127.9	127.6
67.5°	98.1	100.1	101.3	102.0	103.9	104.5	105.8	107.0
70°	76.9	79.4	80.4	81.6	83.2	84.5	85.8	86.4
72.5°	58.9	60.8	61.4	62.7	64.3	65.6	66.2	67.2
75°	41.1	44.3	44.6	45.6	46.9	48.4	49.4	49.1
77.5°	27.2	29.4	29.7	31.0	32.3	33.5	33.8	34.2
80°	16.2	17.5	17.8	18.4	19.4	20.0	20.6	21.3
82.5°	7.6	8.2	8.9	8.9	9.5	10.2	10.2	10.5
85°	2.5	2.5	2.9	2.9	3.2	3.2	3.5	3.2
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)