

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: P843483

Luminaire Tested: **LD4C20DE010B50 EU4C20B50 4LBLWWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843483
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: LD4C20DE010B50 EU4C20B50 4LBLWWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

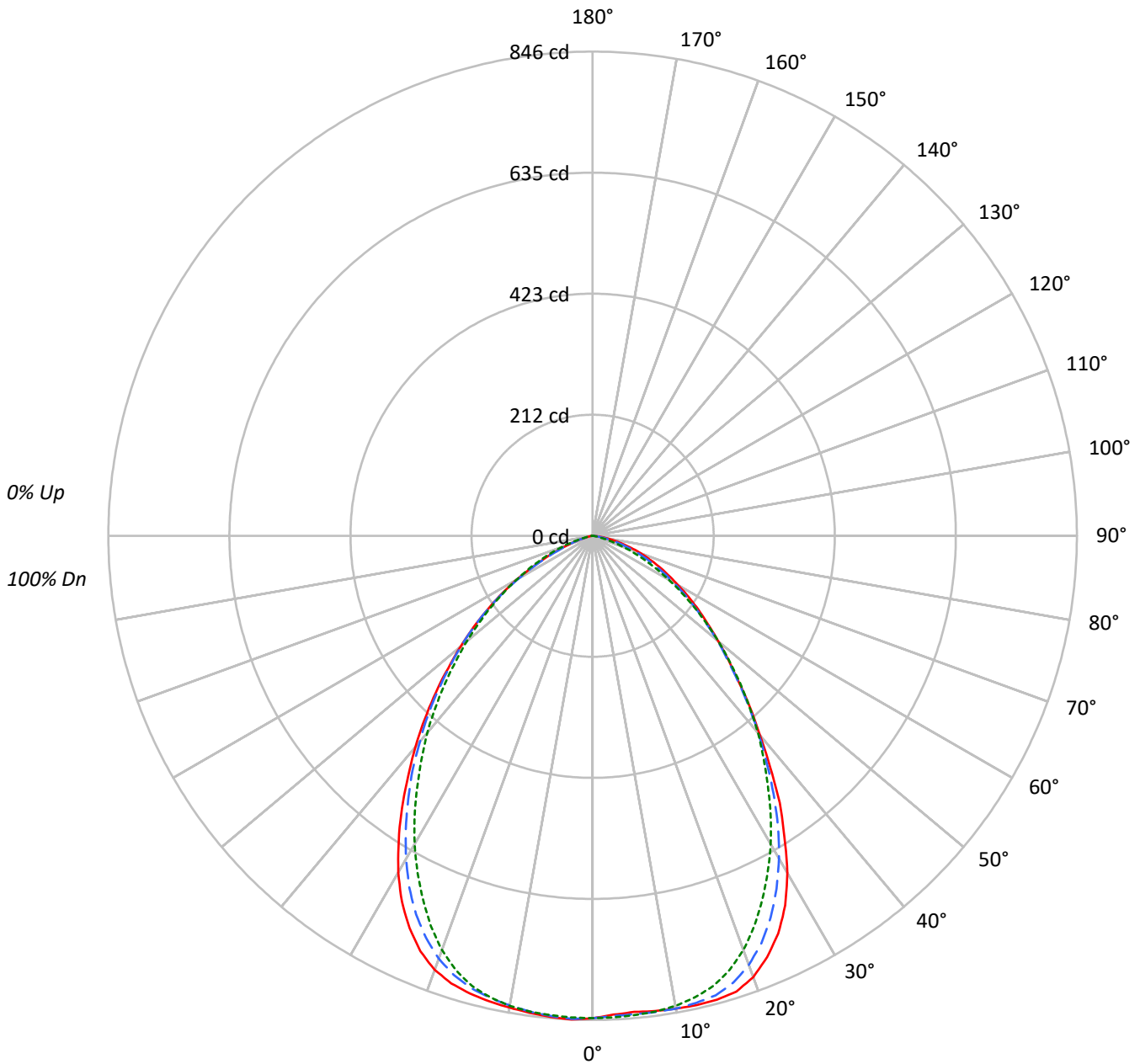
Lumens per Lamp: N/A
Luminaire Lumens: 1616.1 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89			89
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78			78
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68			68
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60			60
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54			54
6	76	65	57	51	75	64	56	51	62	56	51	61	55	50	59	54	50	48			48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43			43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39			39
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36			36
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33			33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	103553	103553	103553
5°	102975	103677	104072
10°	104677	104040	104440
15°	106723	103594	105311
20°	107270	100694	105492
25°	103970	95077	102546
30°	96507	88236	96322
35°	85442	80042	87061
40°	72858	72088	77204
45°	62582	63311	67255
50°	54643	54758	57644
55°	48278	46243	47807
60°	42311	37741	37569
65°	37442	29273	26046
70°	31933	20151	15446
75°	25869	10775	7073
80°	17687	2688	1769
85°	5356	846	846



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.1	5.0
10°-20°	231.9	14.4
20°-30°	335.1	20.7
30°-40°	346.4	21.4
40°-50°	286.2	17.7
50°-60°	197.6	12.2
60°-70°	103.4	6.4
70°-80°	32.6	2.0
80°-90°	2.8	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°	647.1	40.0
0°-40°	993.5	61.5
0°-60°	1477.3	91.4
0°-90°	1616.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1616.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	843	843	843	843	843	
5°	835	839	841	842	844	80
15°	839	831	814	818	828	237
25°	767	736	701	730	756	350
35°	570	551	534	562	580	354
45°	360	359	364	381	387	281
55°	225	218	216	222	223	202
65°	129	117	101	84	90	128
75°	54	43	23	16	15	58
85°	4	2	1	1	1	8
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°	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9
2.5°	837.5	837.9	837.9	838.5	838.5	838.5	838.8	838.8	839.1	839.4	839.8
5°	835.0	835.0	835.6	836.0	836.6	836.9	837.5	837.9	838.5	838.8	839.1
7.5°	837.5	837.5	837.9	838.2	838.2	838.5	838.5	838.8	839.1	839.4	839.4
10°	839.1	839.1	839.1	839.1	839.4	839.4	839.4	839.1	839.1	839.1	838.8
12.5°	839.8	839.8	839.4	839.1	839.4	839.1	839.1	838.2	837.5	836.9	836.0
15°	839.1	839.1	838.8	838.5	838.2	837.5	837.2	835.6	834.4	832.5	831.2
17.5°	835.0	834.4	833.7	833.1	831.8	830.9	830.2	827.4	825.2	822.0	818.6
20°	820.5	819.9	818.9	817.3	815.8	814.5	812.6	808.5	806.2	801.5	798.0
22.5°	796.7	796.1	796.4	793.5	790.4	788.5	787.2	783.7	779.9	774.0	770.2
25°	767.0	765.1	765.1	760.7	759.1	757.8	756.2	752.1	746.4	741.0	735.9
27.5°	728.4	725.9	724.6	724.0	720.1	717.3	715.1	711.9	707.1	702.4	695.4
30°	680.3	680.0	678.4	675.5	672.7	671.4	668.8	663.5	659.0	655.5	651.1
32.5°	623.6	623.3	623.3	623.3	621.4	621.0	617.2	614.4	610.9	605.5	602.6
35°	569.7	569.4	569.7	565.0	563.7	562.8	562.4	560.5	555.8	553.4	550.8
37.5°	509.0	510.0	509.4	508.1	509.7	506.8	509.0	504.9	503.0	502.4	499.5
40°	454.3	456.8	454.3	454.6	456.2	453.3	453.3	452.7	451.4	450.8	450.1
42.5°	407.4	404.2	406.1	404.5	406.1	405.2	403.6	404.5	404.9	403.6	403.3
45°	360.2	360.9	361.5	360.5	360.5	359.6	362.1	360.5	360.5	360.9	358.6
47.5°	321.9	321.0	321.6	321.0	321.3	320.7	321.3	321.6	321.0	321.0	319.1
50°	285.9	285.2	287.5	285.6	285.6	285.2	285.6	284.9	284.0	284.0	284.6
52.5°	254.5	253.2	252.9	254.5	252.2	252.2	252.6	251.9	250.7	250.0	248.4
55°	225.4	225.1	225.4	224.1	223.5	223.5	221.9	221.3	220.9	219.4	218.4
57.5°	198.2	197.2	197.6	197.2	196.0	195.7	194.4	194.4	193.1	191.9	190.3
60°	172.2	172.2	173.1	171.9	170.9	170.3	169.6	169.0	166.8	164.6	162.7
62.5°	149.1	149.4	149.1	148.2	147.5	146.9	146.3	144.4	142.5	141.2	139.0
65°	128.8	128.5	127.6	126.9	125.3	125.3	124.1	123.1	120.9	119.0	116.8
67.5°	108.0	107.3	107.3	107.3	105.4	105.1	104.5	102.6	100.7	98.1	96.2
70°	88.9	89.6	88.6	87.7	86.7	86.4	85.5	83.6	81.3	78.8	77.2
72.5°	70.9	71.5	70.5	70.2	68.3	67.7	67.4	65.9	63.4	61.8	59.2
75°	54.5	54.8	54.2	53.5	52.2	51.9	50.3	49.1	47.5	44.9	42.7
77.5°	39.2	38.6	38.6	37.3	36.1	36.1	35.7	33.8	31.6	29.7	27.8
80°	25.0	24.6	23.7	23.1	22.2	21.9	21.6	20.0	18.4	17.1	15.9
82.5°	12.7	12.4	12.1	11.7	11.1	10.5	10.8	9.5	8.9	7.6	6.7
85°	3.8	4.1	4.1	3.8	3.5	3.5	3.5	3.2	2.5	2.2	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9
2.5°	840.1	840.4	840.7	841.0	841.0	841.3	841.7	842.0	842.3	842.3	842.6
5°	839.4	840.1	840.1	840.4	840.4	840.4	840.7	840.7	840.7	840.7	841.0
7.5°	839.8	839.8	839.8	839.4	839.4	839.1	839.1	839.1	838.5	838.5	838.5
10°	838.2	837.9	837.5	836.9	836.6	836.3	835.6	835.0	834.4	834.0	833.4
12.5°	835.0	833.7	832.5	831.2	830.6	830.2	829.0	828.0	827.1	826.1	825.5
15°	828.7	826.8	824.5	822.0	821.5	820.8	818.6	816.7	815.4	814.5	812.9
17.5°	816.1	812.3	809.7	805.9	804.3	803.7	800.2	798.3	796.1	795.4	794.2
20°	793.5	790.1	785.3	781.8	779.9	778.0	775.2	772.7	770.2	770.2	768.6
22.5°	765.4	761.0	754.9	750.5	750.2	746.4	743.8	741.0	740.0	738.1	738.1
25°	730.0	726.2	719.5	715.7	713.8	712.8	708.7	704.9	703.0	701.4	702.7
27.5°	690.6	685.0	680.0	675.2	673.6	671.7	667.9	666.3	662.8	662.5	662.2
30°	645.7	640.1	635.0	632.8	629.6	628.0	625.2	623.3	622.0	622.0	621.4
32.5°	598.6	593.5	591.0	586.2	584.7	582.4	580.5	578.6	579.3	578.6	578.9
35°	547.6	546.4	541.6	538.8	538.8	538.4	535.3	534.0	533.4	533.7	535.3
37.5°	499.2	495.4	492.2	490.3	491.9	490.0	489.7	489.7	491.6	490.3	492.9
40°	447.6	447.3	446.0	446.6	447.0	444.7	445.4	445.7	447.0	449.5	449.8
42.5°	402.6	402.3	402.3	402.3	401.7	400.4	401.7	403.9	403.6	405.5	407.1
45°	359.3	358.6	359.9	359.0	360.9	361.5	360.5	361.2	363.1	364.4	366.9
47.5°	319.7	319.7	320.0	320.7	318.8	320.4	321.0	322.3	323.2	323.8	325.1
50°	283.0	283.0	282.4	282.4	282.4	283.3	282.1	283.7	284.0	286.5	288.1
52.5°	249.1	247.5	248.4	247.8	246.5	245.9	246.5	246.9	248.8	249.4	251.3
55°	216.8	216.8	214.3	213.6	214.6	214.3	214.0	214.0	214.9	215.9	217.4
57.5°	188.4	186.5	184.6	184.2	183.3	183.6	183.6	183.3	182.7	183.0	183.3
60°	161.4	160.1	157.3	157.3	157.0	156.6	155.2	154.8	153.3	153.6	152.3
62.5°	136.8	136.1	132.3	131.0	131.0	130.1	128.5	128.2	126.0	126.0	124.7
65°	114.5	112.6	110.5	108.3	108.3	107.0	106.1	103.2	101.6	100.7	98.8
67.5°	94.3	91.5	89.3	87.4	86.1	85.8	83.6	81.6	79.1	77.5	74.7
70°	74.7	72.4	70.2	68.3	67.1	65.9	63.7	60.8	58.9	56.1	54.2
72.5°	56.4	54.5	52.6	50.0	48.4	47.5	45.3	42.7	39.6	37.7	35.1
75°	40.5	38.3	35.7	33.5	32.6	31.6	29.1	27.2	25.0	22.7	20.3
77.5°	26.2	23.7	21.9	19.4	19.0	18.4	15.9	14.0	12.4	11.1	9.5
80°	14.0	12.7	11.1	9.5	8.9	7.9	6.7	5.7	4.8	3.8	3.2
82.5°	6.0	5.1	4.1	3.5	3.2	2.9	2.2	1.9	1.6	1.6	1.3
85°	1.6	1.3	1.3	1.0	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°	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9
2.5°	842.9	843.3	843.6	843.6	843.9	844.2	844.2	844.5	844.8	845.2	845.2
5°	841.3	841.3	841.3	841.7	841.7	841.7	841.7	842.3	842.3	842.6	842.9
7.5°	838.2	838.2	838.2	838.2	837.9	838.2	837.9	837.9	838.5	838.8	839.1
10°	833.1	832.8	832.8	832.5	832.5	832.5	832.8	833.1	833.4	833.7	834.7
12.5°	825.2	824.8	824.8	824.5	824.5	824.8	825.2	825.8	827.1	827.7	829.0
15°	812.6	812.3	812.6	812.9	813.5	814.5	815.4	816.4	818.3	819.9	821.5
17.5°	794.2	794.5	794.8	795.4	796.4	797.7	800.2	802.7	805.0	807.5	810.0
20°	768.9	770.2	770.5	772.7	773.3	776.2	778.9	782.8	786.2	789.4	792.9
22.5°	738.4	739.4	740.7	743.2	744.8	748.6	752.1	756.5	760.3	764.5	769.5
25°	704.0	704.3	708.1	708.1	711.9	715.1	719.2	724.0	729.7	734.9	738.4
27.5°	664.7	666.3	669.2	670.4	673.3	678.4	681.9	687.6	693.2	697.9	701.7
30°	623.6	624.8	629.6	630.2	632.5	636.9	641.7	647.0	651.4	656.8	660.3
32.5°	580.2	583.7	586.6	588.8	589.4	596.1	598.6	602.3	607.4	612.8	616.3
35°	538.1	539.7	543.8	545.1	547.0	550.8	555.8	559.0	561.5	565.0	569.1
37.5°	493.5	498.3	499.2	503.0	503.6	507.1	509.7	513.4	516.5	519.7	520.4
40°	452.0	453.6	457.1	458.1	458.7	463.5	466.5	467.5	469.1	471.9	475.7
42.5°	409.9	411.5	415.3	414.4	417.2	419.5	421.0	424.7	426.3	427.3	427.3
45°	368.5	369.1	371.7	372.9	374.5	375.8	378.5	380.4	381.1	383.9	384.9
47.5°	328.9	329.6	331.5	333.6	333.0	334.5	337.7	338.7	339.0	340.9	341.8
50°	289.9	291.5	294.0	293.4	295.3	296.2	299.1	299.7	299.7	300.1	300.4
52.5°	253.5	254.8	255.4	256.1	257.0	258.6	259.9	259.2	260.5	261.8	260.8
55°	217.4	218.4	220.0	220.6	220.6	220.9	220.3	223.2	221.9	221.6	221.9
57.5°	184.6	183.3	183.0	184.6	185.2	184.9	183.9	185.2	185.2	184.6	183.6
60°	152.6	151.7	151.3	151.7	150.4	149.4	150.1	149.4	147.9	147.2	147.5
62.5°	123.4	122.5	119.9	119.9	119.3	119.0	116.4	116.8	115.5	113.6	114.2
65°	96.6	94.0	92.8	92.4	90.2	88.3	87.7	85.5	83.6	83.2	83.6
67.5°	72.4	69.6	67.4	66.5	65.3	63.7	61.4	59.5	60.2	59.9	61.1
70°	50.3	48.4	46.2	44.6	45.3	43.4	42.1	42.1	42.4	42.7	43.4
72.5°	33.5	31.0	30.0	29.1	28.5	27.2	27.8	27.8	27.5	27.8	27.2
75°	19.0	17.8	16.8	16.5	15.9	15.9	15.9	15.9	15.5	15.2	15.2
77.5°	8.6	7.9	7.6	7.3	7.3	7.3	7.0	6.7	6.7	6.7	6.3
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
82.5°	1.3	1.3	1.6	1.6	1.6	1.3	1.6	1.6	1.3	1.3	1.6
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°	842.9	842.9	842.9	842.9	842.9	842.9	842.9	842.9
2.5°	845.5	845.8	845.8	845.8	846.1	846.1	846.1	846.1
5°	843.3	843.6	843.6	843.6	843.9	843.9	843.9	843.9
7.5°	839.4	839.8	839.8	840.1	840.1	840.4	840.4	840.7
10°	835.0	835.6	836.0	836.3	836.6	836.9	836.9	837.2
12.5°	830.2	830.9	831.2	831.8	832.5	832.8	833.1	833.4
15°	823.3	824.5	825.2	825.5	826.8	827.4	827.7	828.0
17.5°	812.3	814.8	815.8	816.4	817.7	818.9	819.9	820.2
20°	796.4	799.3	800.5	802.1	804.0	805.6	806.2	806.9
22.5°	774.3	777.4	779.3	781.2	782.8	784.3	786.9	785.9
25°	742.6	748.0	750.2	751.1	754.6	756.5	757.8	756.5
27.5°	707.1	710.3	712.2	714.4	717.0	718.9	719.5	721.4
30°	664.4	669.8	669.5	671.7	674.9	676.8	677.4	679.0
32.5°	620.1	622.6	624.5	624.2	625.5	629.0	627.7	630.6
35°	572.9	573.2	576.4	576.1	578.6	578.6	578.6	580.5
37.5°	522.6	526.4	524.8	528.6	527.3	528.3	528.3	528.9
40°	476.7	477.9	477.9	479.2	480.2	479.2	479.8	481.4
42.5°	429.2	430.5	430.8	430.1	431.1	433.9	431.7	433.6
45°	384.9	385.8	387.1	386.1	387.7	386.8	387.7	387.1
47.5°	343.1	342.8	342.5	345.0	342.8	343.1	344.4	342.1
50°	300.4	302.3	301.0	302.0	302.6	302.6	301.6	301.6
52.5°	262.4	262.1	261.1	262.1	261.4	261.8	262.4	261.8
55°	223.2	224.4	223.8	223.5	223.8	223.8	225.7	223.2
57.5°	184.6	183.9	184.9	187.1	184.9	186.5	187.4	187.7
60°	147.9	147.9	149.8	148.8	150.7	152.3	153.6	152.9
62.5°	112.6	114.2	114.9	115.2	117.1	118.3	118.3	118.0
65°	83.6	85.8	85.8	87.0	87.7	87.7	88.3	89.6
67.5°	61.8	61.8	62.1	62.7	62.4	62.4	63.0	63.4
70°	43.0	42.4	43.4	43.0	43.0	42.7	43.0	43.0
72.5°	27.2	27.2	27.5	27.2	26.5	26.9	26.9	27.5
75°	14.6	15.2	14.6	14.6	14.9	14.3	14.6	14.9
77.5°	6.0	6.0	6.0	6.0	6.0	5.7	5.7	5.7
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.5	2.5
82.5°	1.3	1.6	1.3	1.6	1.3	1.3	1.3	1.3
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)