

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: P843468

Luminaire Tested: **LD4C20DE010B40 EU4C20B40 4LBLWWH**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-2)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20DE010B40 EU4C20B40 4LBLWWH
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

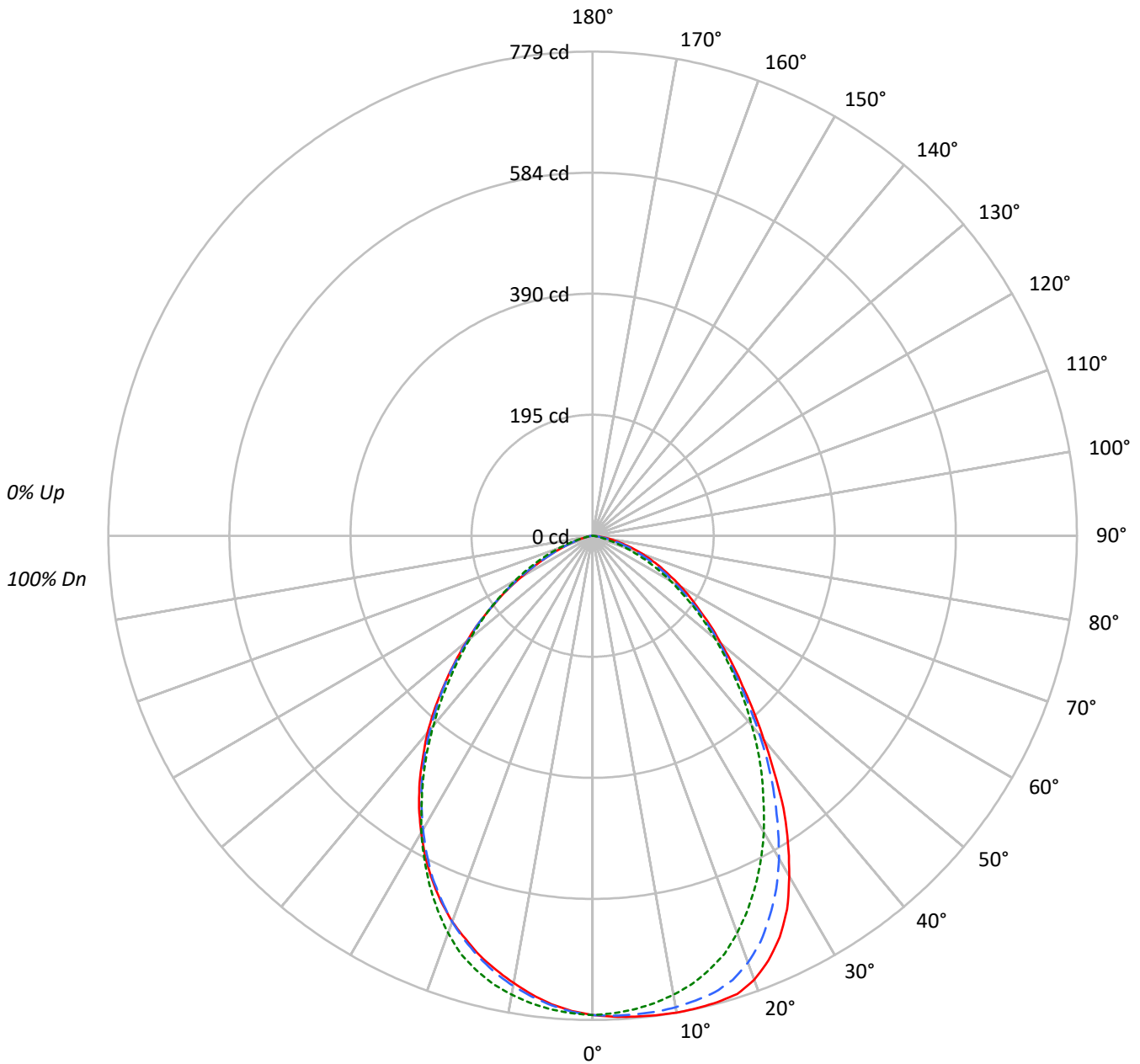
Lumens per Lamp: N/A
Luminaire Lumens: 1453.2 lumens
Efficiency: N/A
Efficacy: 66.7 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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	108	105	102	99	101	98	96	97	95	93	94	92	90	88				88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68				68
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60				60
5	82	71	63	57	80	69	62	57	67	61	56	66	60	55	64	59	55	53				53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49	47				47
7	71	59	51	46	69	58	51	45	57	50	45	55	49	45	54	49	44	43				43
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39				39
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	47	41	37	35				35
10	59	47	39	34	58	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	94732	94732	94732
5°	95785	94330	93294
10°	97192	93537	91154
15°	98786	92033	88980
20°	99413	88915	86352
25°	96569	84098	82823
30°	89740	78164	78207
35°	80327	71254	72769
40°	68784	63877	66202
45°	59211	56327	58429
50°	51470	49043	50496
55°	45279	42174	41788
60°	40296	35185	32433
65°	35349	28198	23459
70°	30352	19900	15877
75°	24635	11534	9304
80°	17687	5023	4669
85°	6766	2114	2114



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.7	5.0
10°-20°	205.7	14.2
20°-30°	293.7	20.2
30°-40°	307.3	21.1
40°-50°	257.5	17.7
50°-60°	180.2	12.4
60°-70°	98.1	6.8
70°-80°	34.1	2.3
80°-90°	3.9	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°	572.1	39.4
0°-40°	879.4	60.5
0°-60°	1317.1	90.6
0°-90°	1453.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1453.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	771	771	771	771	771	
5°	777	773	765	758	756	74
15°	777	760	724	703	700	219
25°	712	674	620	608	611	325
35°	536	509	475	479	485	332
45°	341	333	324	335	336	265
55°	211	204	197	197	195	191
65°	122	111	97	82	81	121
75°	52	42	24	20	20	56
85°	5	3	2	2	2	9
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°	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1
2.5°	774.6	773.8	774.1	774.1	774.1	773.8	774.1	773.8	773.8	773.4	772.9
5°	776.7	776.1	776.1	776.1	775.9	775.6	775.6	775.2	774.6	774.4	773.1
7.5°	778.2	777.6	777.6	777.4	777.0	776.7	776.4	775.6	774.6	774.1	772.6
10°	779.1	778.2	778.2	777.6	777.0	776.7	776.1	774.9	773.8	772.3	770.2
12.5°	778.5	777.6	777.4	776.7	775.6	774.9	774.4	772.9	770.8	768.7	766.0
15°	776.7	776.1	775.6	774.6	773.1	772.3	771.6	769.3	766.7	763.7	760.4
17.5°	773.1	772.3	771.1	770.0	767.8	767.0	765.5	762.4	758.6	754.5	749.4
20°	760.4	759.8	758.6	756.5	753.4	752.1	750.1	746.2	741.2	736.1	730.7
22.5°	739.4	738.4	736.6	734.9	732.0	729.9	728.1	722.8	717.1	711.8	706.7
25°	712.4	711.5	709.1	706.7	703.7	700.3	698.5	694.3	688.6	681.9	674.5
27.5°	677.6	674.7	673.8	671.2	666.7	665.6	662.8	657.5	652.1	646.2	640.0
30°	632.6	632.6	630.8	629.6	625.5	624.3	621.4	615.6	612.7	604.4	599.7
32.5°	584.9	584.2	582.8	581.9	579.5	577.5	574.5	571.5	565.0	560.9	554.3
35°	535.6	532.1	532.6	530.8	529.3	527.0	526.7	523.4	517.5	515.2	509.3
37.5°	479.5	478.1	480.2	477.5	476.0	476.3	473.9	471.8	469.5	465.4	464.1
40°	428.9	430.0	429.7	427.4	428.6	427.1	424.7	422.6	421.5	418.7	417.9
42.5°	383.5	381.7	381.1	381.1	381.4	381.4	380.2	378.7	378.7	376.1	373.3
45°	340.8	340.8	340.1	341.9	339.3	339.3	338.4	338.1	337.0	336.3	333.0
47.5°	304.0	303.6	303.4	303.1	302.8	302.8	301.0	299.5	299.2	297.5	295.7
50°	269.3	271.1	270.4	269.0	268.4	268.7	267.5	266.6	266.3	263.4	263.7
52.5°	240.2	240.0	240.5	239.7	238.2	238.5	237.2	236.1	234.9	233.4	232.3
55°	211.4	212.9	212.4	211.4	211.2	210.6	209.7	208.2	207.9	204.7	204.3
57.5°	187.4	187.1	186.6	185.1	184.8	183.9	183.9	182.7	181.0	179.2	177.7
60°	164.0	164.0	163.1	162.8	161.6	161.3	161.1	159.8	157.8	156.3	153.9
62.5°	141.5	142.0	141.5	140.6	139.7	138.6	137.9	137.1	135.3	133.8	131.7
65°	121.6	121.3	121.0	119.8	119.5	118.3	118.0	116.2	114.4	113.3	110.9
67.5°	102.6	101.7	101.7	101.1	100.6	99.6	99.1	97.3	95.2	94.0	91.6
70°	84.5	84.0	84.0	84.0	82.5	81.5	81.2	80.4	77.4	76.3	73.8
72.5°	67.9	67.6	67.4	66.4	65.6	65.6	64.3	62.6	61.1	59.7	57.9
75°	51.9	52.5	51.9	50.8	50.4	49.8	49.0	47.5	46.0	44.2	42.1
77.5°	38.0	37.3	36.8	36.8	36.2	35.0	34.7	33.5	31.7	30.6	28.5
80°	25.0	24.6	24.0	23.5	23.2	22.8	22.5	21.4	19.6	18.7	16.9
82.5°	13.6	13.3	13.3	13.0	12.2	12.2	11.8	10.7	9.8	9.2	8.4
85°	4.8	4.8	4.8	4.4	4.4	4.4	4.1	3.8	3.6	3.3	2.6
87.5°	0.6	0.3	0.6	0.3	0.6	0.3	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	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°	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1
2.5°	772.3	771.6	771.4	771.1	770.8	770.5	770.2	769.6	769.3	769.0	768.5
5°	772.3	771.1	770.5	769.6	769.0	768.5	767.5	766.7	765.7	764.9	763.9
7.5°	771.1	769.3	768.2	766.4	765.7	764.9	763.1	761.9	760.4	758.6	756.5
10°	768.2	766.0	763.7	761.3	760.4	759.0	756.5	754.5	752.1	749.8	747.6
12.5°	763.4	760.1	757.2	753.9	752.1	750.6	747.3	744.4	741.4	738.8	735.2
15°	756.3	752.4	748.6	744.2	742.0	740.2	735.5	732.0	727.2	723.6	720.0
17.5°	744.7	738.8	734.0	728.4	725.4	723.3	719.2	713.6	709.1	705.2	701.1
20°	724.8	719.2	712.6	706.4	703.2	700.5	694.5	688.6	684.2	680.1	675.6
22.5°	698.8	691.6	686.8	679.1	676.5	673.2	666.1	660.8	655.7	651.6	647.4
25°	667.0	660.8	654.3	647.2	643.9	640.0	634.1	628.4	625.2	620.4	615.4
27.5°	630.6	625.5	617.4	611.2	607.9	605.0	599.4	594.4	589.6	586.4	581.6
30°	592.0	586.0	578.9	572.4	570.6	567.1	562.0	558.1	553.1	551.0	548.9
32.5°	549.5	542.8	537.4	533.3	529.7	526.7	524.1	517.8	517.0	511.6	511.0
35°	503.3	500.4	495.3	491.7	488.7	486.7	482.3	479.2	476.0	475.1	473.1
37.5°	459.6	456.2	451.4	448.1	446.0	445.8	442.5	440.7	438.4	437.1	434.8
40°	414.1	412.6	408.4	407.8	404.5	404.2	402.4	400.4	398.3	398.3	398.6
42.5°	371.9	370.2	368.4	366.3	364.5	364.5	363.6	363.0	362.5	361.5	363.0
45°	332.4	330.1	328.9	326.8	327.8	326.0	325.3	325.3	324.5	324.2	326.3
47.5°	295.7	293.0	291.8	291.3	291.3	291.5	288.8	289.8	289.5	290.0	291.0
50°	262.2	259.8	258.1	258.1	258.3	257.1	255.9	256.8	255.9	256.6	258.6
52.5°	231.0	228.7	227.8	227.8	226.0	225.7	226.3	225.1	225.4	225.7	226.9
55°	202.2	200.7	199.3	197.8	198.1	197.6	196.3	196.1	196.6	196.9	198.4
57.5°	176.4	174.4	172.3	171.8	171.1	171.1	169.6	169.3	170.0	168.5	168.5
60°	151.9	150.7	148.0	147.1	147.1	145.6	144.5	145.0	143.5	143.2	143.5
62.5°	129.0	128.1	126.4	124.6	124.0	123.4	121.9	121.3	120.7	119.5	117.7
65°	109.1	107.0	105.0	103.8	102.9	101.4	100.6	99.3	97.6	97.0	95.2
67.5°	89.3	87.1	85.1	84.2	83.3	82.5	81.0	79.5	77.4	75.0	73.0
70°	71.8	69.1	67.9	65.6	64.9	63.8	61.7	60.2	58.2	55.4	53.4
72.5°	54.9	53.1	51.3	49.2	47.7	46.9	45.1	42.7	40.3	38.8	36.8
75°	39.4	38.6	36.2	33.8	33.2	32.0	29.9	28.5	26.7	24.3	22.5
77.5°	26.7	25.0	23.5	21.4	20.7	19.6	18.4	16.9	15.8	14.3	13.0
80°	15.8	14.3	13.3	11.8	11.3	10.7	9.8	8.6	7.7	7.1	6.8
82.5°	7.7	6.6	6.2	5.3	5.1	4.8	4.1	3.8	3.3	3.3	3.3
85°	2.6	2.1	2.1	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.3
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°	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1
2.5°	768.2	767.8	767.5	767.2	767.2	767.0	767.0	766.7	766.7	766.4	766.4
5°	762.8	761.9	761.3	760.8	760.8	759.8	759.3	758.6	758.3	758.3	757.8
7.5°	755.4	754.2	753.0	752.1	751.9	750.3	749.1	749.1	748.0	747.3	746.8
10°	745.6	743.5	741.7	740.9	739.7	738.8	737.3	736.4	735.5	734.0	733.7
12.5°	732.2	730.7	728.1	726.9	726.3	724.6	722.2	721.0	720.7	719.5	718.6
15°	717.1	713.9	711.5	710.0	710.0	707.0	705.9	704.1	702.9	702.0	701.7
17.5°	697.5	694.3	691.9	689.8	689.3	686.8	685.1	684.5	683.0	683.7	682.2
20°	672.3	669.7	667.9	665.3	665.3	663.8	663.1	661.7	661.0	660.5	661.0
22.5°	645.4	642.1	639.1	638.8	638.8	636.8	636.5	636.2	635.0	635.8	635.5
25°	613.6	611.2	609.5	609.2	609.2	607.9	606.8	607.4	608.2	607.9	608.9
27.5°	580.7	578.3	577.7	577.5	576.8	576.5	577.2	577.2	578.0	579.2	580.4
30°	545.1	544.5	543.6	543.3	542.8	544.3	544.8	545.7	545.4	547.2	548.4
32.5°	509.6	508.3	508.1	508.6	509.6	509.3	511.0	511.6	512.2	514.2	515.2
35°	473.6	473.3	472.8	472.8	473.1	475.4	475.4	477.5	478.7	479.2	481.6
37.5°	435.1	436.3	436.9	437.8	438.1	438.9	439.6	441.6	442.8	444.0	445.2
40°	399.8	399.2	401.9	400.1	400.6	403.4	404.5	404.2	406.0	407.8	409.0
42.5°	362.1	363.0	363.6	364.1	365.7	365.9	367.4	369.5	370.2	372.2	372.8
45°	325.6	326.0	327.1	328.3	329.2	331.6	332.2	333.0	334.8	334.8	335.7
47.5°	291.3	292.4	292.4	294.2	295.7	295.4	297.5	298.0	297.7	299.2	299.8
50°	258.3	260.1	259.8	261.0	261.6	261.9	263.7	264.2	263.0	264.5	264.8
52.5°	226.9	227.8	229.0	229.3	228.7	230.1	229.5	230.8	230.5	231.6	230.5
55°	198.1	197.8	197.8	198.4	197.8	198.4	199.0	197.8	196.9	198.1	197.8
57.5°	169.3	169.3	168.8	169.6	168.8	167.8	167.5	166.7	165.8	165.8	165.5
60°	142.4	141.7	140.6	140.2	140.2	138.8	138.2	137.1	137.1	135.8	134.6
62.5°	117.2	115.7	114.8	114.8	114.2	112.7	110.0	108.3	107.7	105.9	105.6
65°	93.4	91.9	91.1	89.3	87.8	87.1	84.5	82.5	81.5	79.7	80.1
67.5°	71.8	69.4	66.7	65.6	64.6	62.6	61.7	60.2	59.3	59.3	59.3
70°	51.6	49.5	46.9	46.0	45.4	43.6	42.7	42.4	43.3	43.0	43.3
72.5°	34.7	32.6	31.4	30.9	30.2	29.4	29.9	30.2	29.6	29.9	30.2
75°	21.0	20.4	19.6	19.2	19.2	19.6	19.2	19.2	19.6	19.6	19.9
77.5°	12.2	11.5	11.5	11.3	11.8	11.5	11.5	11.5	11.8	11.8	11.8
80°	6.6	6.6	6.6	6.6	6.8	6.6	6.8	6.8	6.8	6.8	6.8
82.5°	3.3	3.3	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.3
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.3	0.6	0.6	0.6	0.6	0.6	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	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1
2.5°	765.7	765.7	765.7	765.2	765.5	765.5	765.2	765.2
5°	757.5	757.2	756.5	756.5	756.0	756.5	756.3	756.5
7.5°	746.2	746.2	745.3	745.3	745.0	744.7	744.4	744.7
10°	732.8	732.8	732.2	732.0	732.2	731.0	731.0	730.7
12.5°	718.0	717.4	716.9	717.1	716.9	715.9	715.6	715.9
15°	700.8	699.9	700.3	699.3	699.3	699.0	699.6	699.6
17.5°	681.9	681.2	680.7	680.9	680.4	680.7	680.4	680.1
20°	660.8	660.5	660.5	659.3	659.5	659.3	659.5	660.5
22.5°	636.5	636.2	636.5	635.5	636.2	636.2	637.0	637.0
25°	609.7	609.5	610.0	610.4	610.7	611.5	610.7	611.0
27.5°	580.1	581.0	581.9	582.2	583.4	582.4	581.9	582.8
30°	550.2	550.2	549.9	551.0	552.0	552.8	551.3	551.3
32.5°	515.7	517.2	517.2	517.5	518.5	518.5	518.5	519.6
35°	482.8	483.8	484.0	482.8	483.4	483.1	485.2	485.2
37.5°	446.0	446.0	446.3	448.4	448.4	447.5	448.1	448.1
40°	411.1	411.3	410.2	410.8	412.3	411.6	412.3	412.8
42.5°	372.8	374.8	373.7	374.3	374.0	374.3	374.6	374.6
45°	336.3	337.0	337.0	337.2	337.8	338.4	336.6	336.3
47.5°	300.7	301.0	302.0	300.5	302.2	300.5	302.2	300.2
50°	264.8	266.0	265.1	265.8	264.8	264.8	264.5	264.2
52.5°	230.8	230.5	230.5	230.1	230.1	230.8	230.1	231.0
55°	196.6	196.9	196.3	196.1	195.8	196.6	195.8	195.1
57.5°	164.3	164.9	163.7	164.3	162.2	163.1	163.4	163.7
60°	134.3	133.5	133.5	132.3	132.3	133.2	132.0	132.0
62.5°	104.1	104.7	103.8	105.0	105.0	106.2	105.6	106.2
65°	79.7	80.1	80.4	80.4	80.4	82.2	81.5	80.7
67.5°	60.2	60.5	60.8	60.5	61.3	60.8	60.8	61.1
70°	43.6	43.9	44.2	44.2	43.9	44.2	44.2	44.2
72.5°	30.2	30.6	30.2	30.6	30.9	30.6	30.6	30.9
75°	19.9	19.9	19.6	19.6	19.6	19.6	19.9	19.6
77.5°	11.5	11.8	11.5	11.8	11.8	11.8	11.8	11.8
80°	6.8	6.8	6.8	6.6	6.8	6.8	6.8	6.6
82.5°	3.6	3.6	3.3	3.3	3.6	3.6	3.6	3.6
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.3	0.3	0.3	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)