

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: P843454

Luminaire Tested: **LD4C20DE010B35 EU4C20B35 4LBLWWH**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843454
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: LD4C20DE010B35 EU4C20B35 4LBLWWH
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

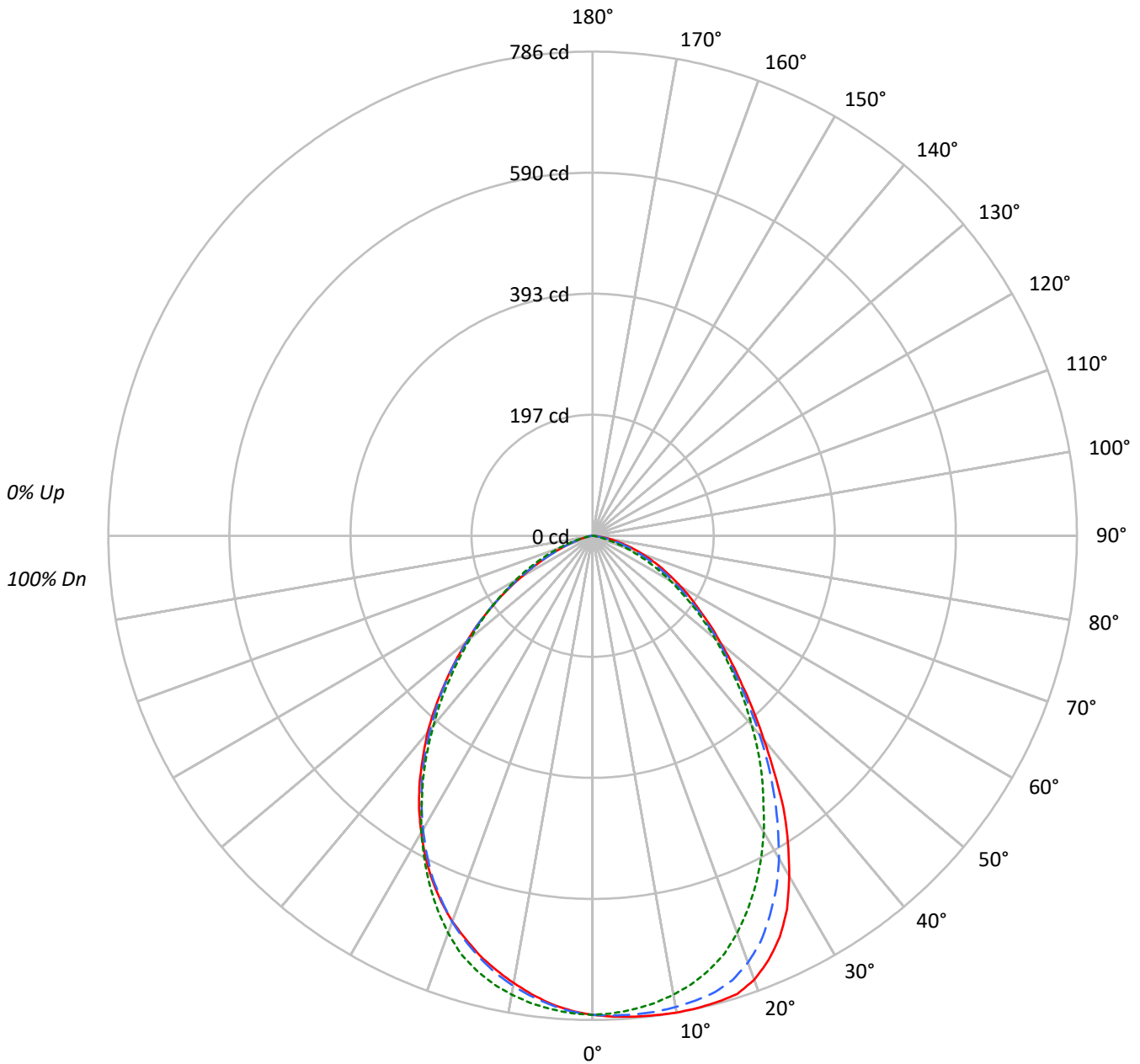
Lumens per Lamp: N/A
Luminaire Lumens: 1465.9 lumens
Efficiency: N/A
Efficacy: 67.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	95555	95555	95555
5°	96623	95144	94120
10°	98040	94347	91965
15°	99651	92847	89769
20°	100289	89686	87098
25°	97409	84843	83542
30°	90520	78859	78888
35°	81032	71869	73413
40°	69378	64438	66780
45°	59715	56813	58950
50°	51910	49463	50935
55°	45686	42538	42152
60°	40640	35505	32728
65°	35668	28430	23634
70°	30604	20079	15984
75°	24873	11629	9398
80°	17829	5094	4669
85°	6766	2114	2114



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	5.0
10°-20°	207.5	14.2
20°-30°	296.3	20.2
30°-40°	310.0	21.1
40°-50°	259.7	17.7
50°-60°	181.8	12.4
60°-70°	99.0	6.8
70°-80°	34.4	2.3
80°-90°	4.0	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°	577.1	39.4
0°-40°	887.1	60.5
0°-60°	1328.6	90.6
0°-90°	1465.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1465.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	778	778	778	778	778	
5°	784	780	772	765	763	75
15°	784	767	730	709	706	221
25°	719	680	626	614	616	328
35°	540	514	479	483	490	335
45°	344	336	327	338	339	267
55°	213	206	199	199	197	193
65°	123	112	98	82	81	122
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°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	781.4	780.5	780.9	780.9	780.9	780.5	780.9	780.5	780.5	780.2	779.6
5°	783.5	783.0	783.0	783.0	782.6	782.3	782.3	782.0	781.4	781.2	779.9
7.5°	785.0	784.4	784.4	784.1	783.8	783.5	783.2	782.3	781.4	780.9	779.4
10°	785.9	785.0	785.0	784.4	783.8	783.5	783.0	781.7	780.5	779.1	776.9
12.5°	785.3	784.4	784.1	783.5	782.3	781.7	781.2	779.6	777.6	775.5	772.7
15°	783.5	783.0	782.3	781.4	779.9	779.1	778.4	776.0	773.3	770.4	767.1
17.5°	779.9	779.1	777.8	776.6	774.5	773.7	772.2	769.1	765.3	761.1	756.0
20°	767.1	766.5	765.3	763.2	759.9	758.6	756.6	752.7	747.6	742.6	737.2
22.5°	745.8	744.9	743.1	741.3	738.3	736.2	734.4	729.0	723.4	718.0	713.0
25°	718.6	717.7	715.3	713.0	709.9	706.3	704.5	700.4	694.7	687.8	680.3
27.5°	683.5	680.6	679.7	677.0	672.5	671.3	668.6	663.2	657.8	651.9	645.6
30°	638.1	638.1	636.4	635.1	631.0	629.7	626.8	621.0	618.1	609.7	605.0
32.5°	589.9	589.3	587.8	587.0	584.6	582.4	579.5	576.5	570.0	565.7	559.2
35°	540.3	536.7	537.3	535.5	534.0	531.6	531.4	528.1	522.0	519.6	513.7
37.5°	483.8	482.3	484.4	481.6	480.2	480.5	478.1	475.9	473.6	469.4	468.2
40°	432.6	433.8	433.5	431.1	432.3	430.8	428.4	426.3	425.1	422.4	421.6
42.5°	386.8	385.0	384.4	384.4	384.8	384.8	383.5	382.0	382.0	379.4	376.6
45°	343.7	343.7	343.1	344.9	342.3	342.3	341.3	341.1	339.8	339.3	336.0
47.5°	306.6	306.4	306.1	305.8	305.4	305.4	303.6	302.2	301.8	300.1	298.3
50°	271.6	273.4	272.9	271.4	270.8	271.1	269.8	269.0	268.6	265.7	266.0
52.5°	242.3	242.0	242.6	241.8	240.2	240.5	239.3	238.2	236.9	235.4	234.3
55°	213.3	214.8	214.2	213.3	213.0	212.4	211.5	210.0	209.7	206.5	206.1
57.5°	189.1	188.8	188.2	186.7	186.4	185.5	185.5	184.2	182.4	180.6	179.2
60°	165.4	165.4	164.6	164.3	163.1	162.8	162.5	161.3	159.2	157.7	155.3
62.5°	142.7	143.3	142.7	141.8	140.9	139.7	139.1	138.2	136.4	135.0	132.8
65°	122.7	122.4	122.1	120.9	120.6	119.4	119.1	117.3	115.5	114.3	111.9
67.5°	103.5	102.6	102.6	102.1	101.4	100.5	99.9	98.1	96.0	94.9	92.4
70°	85.2	84.7	84.7	84.7	83.1	82.3	82.0	81.1	78.1	76.9	74.5
72.5°	68.5	68.2	67.9	67.1	66.1	66.1	64.9	63.1	61.7	60.2	58.4
75°	52.4	53.0	52.4	51.2	50.9	50.2	49.4	47.9	46.3	44.5	42.5
77.5°	38.3	37.7	37.1	37.1	36.5	35.3	35.0	33.8	32.0	30.8	28.8
80°	25.2	24.9	24.2	23.6	23.4	23.1	22.7	21.6	19.8	18.8	17.0
82.5°	13.7	13.4	13.4	13.1	12.3	12.3	12.0	10.8	9.8	9.3	8.4
85°	4.8	4.8	4.8	4.4	4.4	4.4	4.2	3.9	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°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	779.1	778.4	778.1	777.8	777.6	777.3	776.9	776.3	776.0	775.8	775.1
5°	779.1	777.8	777.3	776.3	775.8	775.1	774.3	773.3	772.5	771.5	770.7
7.5°	777.8	776.0	774.8	773.0	772.5	771.5	769.7	768.6	767.1	765.3	763.2
10°	774.8	772.7	770.4	767.9	767.1	765.5	763.2	761.1	758.6	756.3	754.2
12.5°	770.1	766.8	763.8	760.4	758.6	757.2	753.9	750.9	748.0	745.2	741.6
15°	762.9	759.0	755.0	750.6	748.5	746.7	741.9	738.3	733.6	730.0	726.4
17.5°	751.2	745.2	740.4	734.7	731.8	729.7	725.4	719.8	715.3	711.4	707.2
20°	731.1	725.4	718.9	712.6	709.4	706.6	700.7	694.7	690.2	686.0	681.5
22.5°	704.8	697.6	692.9	685.1	682.4	679.1	671.9	666.5	661.4	657.3	653.1
25°	672.9	666.5	660.0	652.8	649.5	645.6	639.7	633.9	630.7	625.9	620.7
27.5°	636.1	631.0	622.8	616.6	613.3	610.3	604.6	599.6	594.7	591.4	586.7
30°	597.1	591.1	583.9	577.4	575.6	572.0	566.9	563.0	557.9	555.9	553.8
32.5°	554.3	547.4	542.0	537.9	534.3	531.4	528.6	522.4	521.4	516.0	515.5
35°	507.7	504.7	499.6	496.0	493.1	491.0	486.4	483.4	480.2	479.2	477.2
37.5°	463.7	460.1	455.3	452.0	449.9	449.6	446.3	444.5	442.2	440.9	438.6
40°	417.7	416.2	411.9	411.3	408.0	407.7	405.9	403.9	401.8	401.8	402.1
42.5°	375.1	373.3	371.5	369.4	367.6	367.6	366.8	366.2	365.6	364.7	366.2
45°	335.4	332.9	331.8	329.7	330.6	328.8	328.2	328.2	327.3	327.0	329.0
47.5°	298.3	295.6	294.3	293.8	293.8	294.1	291.4	292.3	292.0	292.5	293.5
50°	264.5	262.1	260.3	260.3	260.6	259.3	258.2	259.1	258.2	258.8	260.9
52.5°	233.1	230.7	229.7	229.7	227.9	227.7	228.2	227.1	227.4	227.7	228.9
55°	204.0	202.5	201.1	199.6	199.9	199.3	198.1	197.8	198.3	198.6	200.1
57.5°	178.0	175.9	173.8	173.2	172.6	172.6	171.1	170.8	171.4	170.0	170.0
60°	153.1	152.0	149.2	148.4	148.4	146.9	145.7	146.3	144.8	144.5	144.8
62.5°	130.1	129.2	127.4	125.6	125.0	124.5	123.0	122.4	121.7	120.6	118.8
65°	110.1	108.0	105.9	104.7	103.9	102.3	101.4	100.3	98.5	97.8	96.0
67.5°	90.0	88.0	85.9	84.9	84.1	83.1	81.6	80.2	78.1	75.7	73.6
70°	72.4	69.7	68.5	66.1	65.5	64.3	62.2	60.7	58.6	55.9	53.8
72.5°	55.3	53.5	51.7	49.7	48.1	47.3	45.5	43.0	40.7	39.2	37.1
75°	39.8	38.9	36.5	34.1	33.5	32.3	30.2	28.8	27.0	24.5	22.7
77.5°	27.0	25.2	23.6	21.6	20.9	19.8	18.5	17.0	15.9	14.4	13.1
80°	15.9	14.4	13.4	12.0	11.3	10.8	9.8	8.7	7.8	7.2	6.9
82.5°	7.8	6.6	6.2	5.4	5.1	4.8	4.2	3.9	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°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	774.8	774.5	774.3	774.0	774.0	773.7	773.7	773.3	773.3	773.0	773.0
5°	769.4	768.6	767.9	767.3	767.3	766.5	765.8	765.3	765.0	765.0	764.4
7.5°	762.0	760.8	759.6	758.6	758.4	756.8	755.7	755.7	754.5	753.9	753.4
10°	752.1	750.0	748.2	747.3	746.2	745.2	743.7	742.9	741.9	740.4	740.1
12.5°	738.7	737.2	734.4	733.3	732.6	730.8	728.5	727.2	727.0	725.7	724.9
15°	723.4	720.1	717.7	716.2	716.2	713.2	712.0	710.2	709.0	708.1	707.9
17.5°	703.6	700.4	697.9	695.8	695.3	692.9	691.1	690.4	688.9	689.6	688.1
20°	678.3	675.5	673.7	671.1	671.1	669.5	669.0	667.5	666.8	666.2	666.8
22.5°	651.0	647.7	644.7	644.4	644.4	642.3	642.0	641.7	640.5	641.5	641.1
25°	618.9	616.6	614.8	614.5	614.5	613.3	612.1	612.7	613.6	613.3	614.2
27.5°	585.7	583.4	582.8	582.4	581.9	581.6	582.2	582.2	583.1	584.2	585.5
30°	549.9	549.2	548.4	548.1	547.4	549.0	549.5	550.5	550.2	552.0	553.1
32.5°	514.0	512.7	512.4	513.1	514.0	513.7	515.5	516.0	516.7	518.8	519.6
35°	477.7	477.5	476.9	476.9	477.2	479.5	479.5	481.6	482.8	483.4	485.9
37.5°	438.9	440.1	440.7	441.6	441.9	442.7	443.4	445.5	446.6	447.8	449.1
40°	403.3	402.6	405.4	403.6	404.1	406.9	408.0	407.7	409.5	411.3	412.6
42.5°	365.3	366.2	366.8	367.4	368.9	369.2	370.7	372.7	373.3	375.5	376.1
45°	328.5	328.8	330.0	331.1	332.1	334.4	335.1	336.0	337.8	337.8	338.7
47.5°	293.8	295.0	295.0	296.8	298.3	297.9	300.1	300.7	300.4	301.8	302.5
50°	260.6	262.4	262.1	263.2	263.9	264.2	266.0	266.5	265.4	266.8	267.2
52.5°	228.9	229.7	231.0	231.3	230.7	232.2	231.5	232.8	232.5	233.6	232.5
55°	199.9	199.6	199.6	200.1	199.6	200.1	200.7	199.6	198.6	199.9	199.6
57.5°	170.8	170.8	170.2	171.1	170.2	169.3	169.0	168.2	167.2	167.2	166.9
60°	143.6	143.0	141.8	141.5	141.5	140.0	139.4	138.2	138.2	137.1	135.8
62.5°	118.1	116.7	115.8	115.8	115.2	113.7	110.9	109.1	108.6	106.8	106.5
65°	94.2	92.8	91.8	90.0	88.5	88.0	85.2	83.1	82.3	80.5	80.8
67.5°	72.4	70.0	67.3	66.1	65.3	63.1	62.2	60.7	59.9	59.9	59.9
70°	52.0	49.9	47.3	46.3	45.8	44.0	43.0	42.7	43.7	43.4	43.7
72.5°	35.0	32.9	31.7	31.1	30.6	29.6	30.2	30.6	29.9	30.2	30.6
75°	21.3	20.6	19.8	19.5	19.5	19.8	19.5	19.5	19.8	19.8	20.1
77.5°	12.3	11.6	11.6	11.3	12.0	11.6	11.6	11.6	12.0	12.0	12.0
80°	6.6	6.6	6.6	6.6	6.9	6.6	6.9	6.9	6.9	6.9	6.9
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°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	772.5	772.5	772.5	771.9	772.2	772.2	771.9	771.9
5°	764.0	763.8	763.2	763.2	762.6	763.2	762.9	763.2
7.5°	752.7	752.7	751.8	751.8	751.6	751.2	750.9	751.2
10°	739.3	739.3	738.7	738.3	738.7	737.5	737.5	737.2
12.5°	724.3	723.6	723.1	723.4	723.1	722.2	721.8	722.2
15°	706.9	706.1	706.3	705.4	705.4	705.1	705.8	705.8
17.5°	687.8	687.1	686.6	686.9	686.3	686.6	686.3	686.0
20°	666.5	666.2	666.2	665.0	665.4	665.0	665.4	666.2
22.5°	642.0	641.7	642.0	641.1	641.7	641.7	642.6	642.6
25°	615.1	614.8	615.4	615.6	616.0	616.9	616.0	616.3
27.5°	585.2	586.0	587.0	587.3	588.5	587.5	587.0	587.8
30°	554.9	554.9	554.6	555.9	556.7	557.7	556.1	556.1
32.5°	520.3	521.7	521.7	522.0	522.9	522.9	522.9	524.2
35°	487.0	488.0	488.2	487.0	487.7	487.4	489.5	489.5
37.5°	449.9	449.9	450.2	452.3	452.3	451.4	452.0	452.0
40°	414.6	414.9	413.7	414.4	415.9	415.2	415.9	416.4
42.5°	376.1	378.1	376.9	377.6	377.3	377.6	377.9	377.9
45°	339.3	339.8	339.8	340.1	340.8	341.3	339.6	339.3
47.5°	303.3	303.6	304.6	303.0	304.8	303.0	304.8	302.8
50°	267.2	268.3	267.5	268.0	267.2	267.2	266.8	266.5
52.5°	232.8	232.5	232.5	232.2	232.2	232.8	232.2	233.1
55°	198.3	198.6	198.1	197.8	197.5	198.3	197.5	196.8
57.5°	165.7	166.4	165.1	165.7	163.6	164.6	164.9	165.1
60°	135.5	134.6	134.6	133.5	133.5	134.3	133.2	133.2
62.5°	105.0	105.7	104.7	105.9	105.9	107.1	106.5	107.1
65°	80.5	80.8	81.1	81.1	81.1	82.9	82.3	81.3
67.5°	60.7	61.0	61.3	61.0	62.0	61.3	61.3	61.7
70°	44.0	44.3	44.5	44.5	44.3	44.5	44.5	44.5
72.5°	30.6	30.8	30.6	30.8	31.1	30.8	30.8	31.1
75°	20.1	20.1	19.8	19.8	19.8	19.8	20.1	19.8
77.5°	11.6	12.0	11.6	12.0	12.0	12.0	12.0	12.0
80°	6.9	6.9	6.9	6.6	6.9	6.9	6.9	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)