

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: P843453

Luminaire Tested: **LD4C20DE010B35 EU4C20B35 4LBLDWWLI**

Issue Date: 5/7/2024

Test Information

Test Method: LM-79-08
Report Number: P843453
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: LD4C20DE010B35 EU4C20B35 4LBDWWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

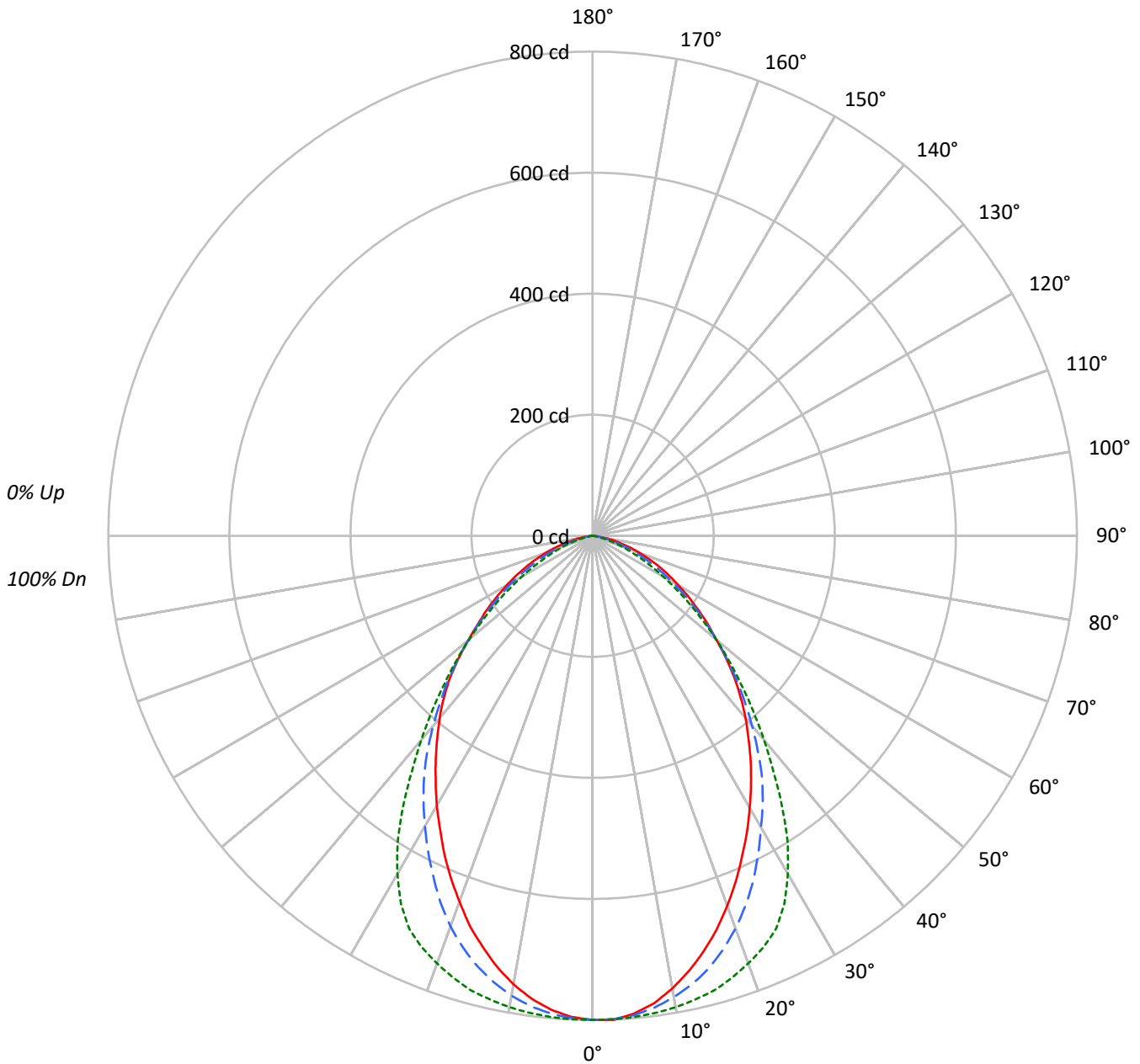
Lumens per Lamp: N/A
Luminaire Lumens: 1469.1 lumens
Efficiency: N/A
Efficacy: 67.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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	93	92	90	88				88
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77				77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59				59
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				53
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47				47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	98270	98270	98270
5°	97684	98424	96944
10°	94709	98664	93886
15°	90354	98888	89374
20°	85019	98315	84078
25°	79191	97165	78553
30°	73582	91485	72986
35°	68239	81827	67744
40°	63075	70581	63027
45°	57474	60236	57960
50°	50782	50935	51069
55°	45494	41638	45686
60°	40198	33072	40271
65°	35378	25203	35058
70°	29311	18032	29311
75°	22832	10348	21977
80°	14786	2547	14150
85°	5497	846	4229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.1	5.1
10°-20°	207.7	14.1
20°-30°	290.4	19.8
30°-40°	306.3	20.9
40°-50°	260.6	17.7
50°-60°	183.9	12.5
60°-70°	104.2	7.1
70°-80°	37.2	2.5
80°-90°	3.6	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°	573.2	39.0
0°-40°	879.6	59.9
0°-60°	1324.1	90.1
0°-90°	1469.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1469.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	800	800	800	800	800	
5°	792	795	798	792	786	75
15°	710	740	778	736	703	199
25°	584	628	717	622	580	269
35°	455	488	546	485	452	284
45°	331	336	347	337	334	254
55°	212	205	194	206	213	191
65°	122	104	87	105	121	121
75°	48	33	22	32	46	52
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°	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
2.5°	800.5	799.0	799.0	799.0	799.0	799.0	799.0	799.0	799.0	799.3	799.3
5°	792.1	791.5	791.2	791.2	791.2	791.2	791.5	792.7	793.3	794.2	794.8
7.5°	778.9	777.8	778.3	778.3	778.9	779.6	780.4	781.6	783.4	784.7	786.1
10°	759.2	758.0	759.5	760.1	761.9	762.8	764.2	766.0	769.6	771.4	773.9
12.5°	736.2	735.6	736.2	738.5	740.3	741.5	743.3	747.2	750.8	754.7	759.0
15°	710.4	708.9	709.9	712.8	715.8	717.9	719.4	724.5	729.3	735.3	740.3
17.5°	681.8	679.6	682.1	684.4	688.3	690.1	692.2	697.9	704.5	711.0	716.8
20°	650.3	649.7	651.2	654.5	658.4	660.8	662.6	668.8	674.6	683.5	690.1
22.5°	617.8	618.3	619.6	623.1	625.8	629.1	631.7	637.4	644.0	652.5	660.8
25°	584.2	585.1	587.2	589.6	594.1	595.9	599.1	605.2	610.9	618.6	627.9
27.5°	551.9	552.2	554.6	555.8	560.0	563.8	565.4	571.7	578.2	584.2	592.3
30°	518.7	519.6	521.1	524.4	528.6	530.1	531.9	537.6	542.7	550.1	556.4
32.5°	487.0	486.4	488.2	490.0	494.8	497.5	498.4	504.9	509.5	516.9	522.9
35°	455.0	453.5	456.2	458.0	462.2	464.5	465.8	470.9	475.0	481.3	487.9
37.5°	422.9	424.2	425.4	426.9	429.0	429.6	433.1	434.4	439.8	444.5	448.1
40°	393.3	392.8	392.2	393.7	396.4	397.6	397.9	401.2	402.3	407.1	409.8
42.5°	361.6	361.9	361.6	361.9	363.4	363.4	364.4	366.5	367.3	368.8	372.1
45°	330.8	330.8	330.0	330.3	330.5	330.3	330.5	331.5	333.3	333.3	335.6
47.5°	298.9	298.3	299.4	298.6	297.9	297.6	298.6	297.6	299.4	299.4	300.1
50°	265.7	265.7	267.2	266.8	267.5	266.2	266.5	266.5	266.8	266.5	267.7
52.5°	239.9	239.3	238.7	237.2	237.9	236.6	236.6	236.9	236.1	235.7	234.3
55°	212.4	213.0	212.1	211.5	211.5	210.3	210.0	208.2	207.0	206.1	205.2
57.5°	187.5	188.2	187.8	186.4	184.6	184.9	184.2	182.4	179.8	178.0	176.5
60°	163.6	164.3	163.6	162.1	161.5	160.3	160.0	157.7	155.6	153.1	151.3
62.5°	142.0	142.0	141.8	139.7	138.2	138.6	137.0	135.2	132.5	129.2	126.5
65°	121.7	121.4	119.9	119.1	117.8	116.3	115.5	112.7	110.6	108.0	104.4
67.5°	101.4	100.5	99.9	99.0	96.4	96.0	94.9	92.4	89.5	87.4	84.4
70°	81.6	81.3	80.2	80.2	78.1	77.2	75.4	73.3	70.5	67.6	65.3
72.5°	64.6	64.0	62.8	61.7	59.9	59.2	57.7	55.6	53.2	50.2	47.3
75°	48.1	47.6	47.3	45.8	44.3	42.7	42.2	40.1	37.7	35.6	32.9
77.5°	33.8	33.2	32.3	31.4	30.5	29.6	28.8	27.0	24.9	23.1	20.6
80°	20.9	20.3	19.8	19.5	18.5	18.3	17.0	16.2	14.4	13.1	11.6
82.5°	10.8	10.8	10.2	9.8	9.3	9.0	8.7	7.8	6.9	6.0	5.1
85°	3.9	3.9	3.6	3.3	3.3	3.0	3.0	2.6	2.1	2.1	1.5
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°	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
2.5°	799.6	799.3	799.6	799.6	799.9	799.9	799.9	799.6	799.9	799.6	799.6
5°	794.8	795.7	796.3	796.9	797.2	797.5	797.5	797.8	798.1	798.1	797.8
7.5°	787.3	789.1	790.9	792.1	792.7	793.3	794.2	794.8	795.4	795.1	794.8
10°	777.5	780.4	782.9	785.2	786.5	787.3	788.8	790.1	790.6	790.9	790.1
12.5°	763.4	767.6	771.4	775.4	777.1	778.3	781.4	783.4	784.7	784.7	783.7
15°	745.7	751.8	757.4	762.4	765.5	767.3	771.8	774.7	776.5	777.5	776.0
17.5°	724.5	731.4	738.2	744.9	747.9	750.5	756.8	761.0	764.9	765.5	763.7
20°	697.3	706.0	713.7	721.8	725.1	729.3	736.4	743.3	749.3	752.0	746.9
22.5°	666.7	676.4	683.5	693.4	697.9	702.4	711.7	720.4	730.8	736.4	727.5
25°	635.1	643.1	651.8	661.3	667.7	672.4	683.2	694.3	708.4	716.8	704.2
27.5°	600.9	608.1	618.6	629.1	633.8	639.9	652.7	664.7	678.2	685.7	676.4
30°	565.6	574.6	584.6	594.1	600.9	606.7	617.1	627.3	638.7	644.9	638.1
32.5°	530.7	539.4	547.7	558.2	562.0	567.2	576.4	585.1	593.8	599.5	591.4
35°	493.9	501.6	509.5	516.7	518.5	524.4	531.9	537.0	541.1	545.6	540.2
37.5°	453.8	459.8	463.7	471.4	474.5	475.3	481.3	484.9	489.4	490.3	490.0
40°	413.1	418.5	421.8	426.5	429.0	429.0	433.1	436.5	439.8	440.1	439.8
42.5°	375.1	377.8	380.5	383.5	382.9	386.5	388.3	389.7	392.2	392.2	392.8
45°	336.9	339.0	341.3	341.9	344.3	344.3	345.8	346.4	347.6	346.7	345.5
47.5°	301.2	302.2	302.4	305.1	305.8	303.6	305.4	305.8	305.4	305.4	304.8
50°	267.5	268.0	267.7	266.8	267.2	268.0	267.2	265.9	266.5	266.5	267.2
52.5°	234.5	233.3	232.7	232.7	231.5	231.5	230.0	229.4	229.2	227.9	229.4
55°	204.3	202.5	199.8	199.3	198.3	198.0	196.2	194.7	194.2	194.4	194.2
57.5°	175.2	172.6	170.8	170.2	169.3	167.5	165.4	163.9	163.6	163.0	163.0
60°	149.0	146.0	143.3	140.6	140.9	139.7	137.6	136.8	135.8	134.6	135.5
62.5°	125.0	121.7	118.8	116.0	114.2	113.4	111.9	110.4	109.5	108.6	109.8
65°	101.4	98.7	95.4	92.8	91.8	91.0	89.5	87.0	86.7	86.7	87.4
67.5°	80.2	77.2	74.1	72.3	71.2	70.0	69.4	68.2	67.3	66.7	67.1
70°	61.7	58.6	56.3	54.5	53.5	53.2	51.2	50.9	50.6	50.2	49.9
72.5°	44.8	42.5	40.4	39.2	38.0	37.1	36.5	35.6	35.3	35.3	35.3
75°	30.8	29.0	26.7	25.2	24.5	23.6	22.7	22.1	21.6	21.8	21.8
77.5°	18.5	16.7	15.2	14.1	13.7	12.9	12.0	11.3	10.5	10.5	10.8
80°	10.2	8.7	7.5	6.6	6.0	5.7	4.8	4.4	3.9	3.6	3.6
82.5°	4.4	3.6	3.0	2.6	2.4	2.1	1.8	1.5	1.5	1.2	1.5
85°	1.5	1.2	0.8	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°	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
2.5°	799.3	799.3	799.0	799.0	799.0	798.4	798.4	798.1	797.8	797.5	796.9
5°	797.2	796.9	796.3	796.0	795.7	794.8	793.9	793.3	792.4	791.2	790.6
7.5°	794.2	793.3	792.1	791.5	790.6	788.6	787.0	785.5	784.0	781.9	779.6
10°	789.1	787.3	785.5	784.3	782.9	780.1	777.1	774.7	771.4	768.5	765.2
12.5°	781.9	779.9	776.3	774.5	772.7	768.8	764.9	759.8	755.4	751.1	747.2
15°	772.9	769.1	764.9	762.4	759.8	753.6	747.5	742.1	736.2	731.1	724.8
17.5°	759.8	754.1	748.2	745.4	741.8	734.6	727.5	720.0	713.2	706.8	699.1
20°	740.0	733.8	726.0	721.8	718.9	709.2	702.4	694.0	686.8	679.0	670.3
22.5°	717.1	708.4	699.7	693.7	690.4	680.8	671.6	664.1	656.3	647.4	641.0
25°	691.1	680.3	669.8	663.8	658.7	648.5	639.6	631.7	622.2	614.4	608.1
27.5°	661.7	649.4	637.1	631.2	626.4	615.3	605.7	597.7	588.4	581.5	574.9
30°	626.6	615.6	603.9	599.1	593.4	582.1	571.0	563.8	553.7	546.5	539.4
32.5°	583.0	575.9	566.6	560.0	556.9	546.5	537.3	528.6	519.9	514.2	507.0
35°	535.2	528.9	521.1	517.5	513.6	507.0	499.5	492.1	485.2	479.8	473.2
37.5°	486.7	480.4	475.6	471.7	469.4	463.3	458.9	453.2	448.4	443.4	439.8
40°	436.5	434.7	429.6	427.8	427.2	420.6	416.7	412.2	409.2	406.2	404.1
42.5°	391.9	388.9	385.0	385.3	383.5	379.9	377.3	374.2	372.1	370.6	368.6
45°	347.9	345.5	343.7	345.2	342.3	341.0	339.0	338.7	337.2	334.4	333.6
47.5°	306.0	305.8	306.0	305.1	304.5	304.0	304.2	302.7	301.2	300.4	299.1
50°	267.7	268.0	268.6	269.5	267.5	268.3	268.0	267.7	267.7	266.8	267.5
52.5°	230.7	230.9	231.5	232.5	232.7	232.7	233.6	234.3	235.4	236.9	236.9
55°	195.7	197.8	198.9	200.4	199.6	201.3	202.2	204.9	205.8	205.8	207.0
57.5°	164.6	166.6	167.5	169.3	170.0	171.4	173.8	175.2	177.4	179.2	181.0
60°	136.1	137.0	139.4	142.0	141.5	145.1	146.9	149.2	152.0	153.1	155.6
62.5°	110.6	111.9	113.7	114.5	116.7	118.5	122.7	125.0	127.4	130.4	132.8
65°	88.0	89.2	91.0	92.8	93.6	96.4	98.5	102.6	104.7	108.0	110.6
67.5°	67.3	69.1	70.5	71.8	72.3	75.1	78.4	80.2	84.1	87.4	89.5
70°	50.2	51.7	53.5	53.2	54.5	56.6	58.9	61.7	64.6	67.6	70.0
72.5°	35.0	36.5	37.7	38.0	39.2	40.7	42.5	44.5	47.0	49.9	53.2
75°	22.1	22.4	23.6	24.2	24.9	26.7	28.1	30.2	32.3	34.7	36.8
77.5°	11.1	12.0	12.6	13.1	13.4	14.9	16.5	18.3	20.0	22.4	24.5
80°	4.2	4.4	5.4	5.7	6.2	7.2	8.4	9.3	10.8	12.6	13.7
82.5°	1.5	1.8	2.1	2.1	2.4	3.0	3.3	4.2	5.1	5.7	6.2
85°	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1.2	1.5	1.8	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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
2.5°	796.6	796.6	796.3	796.0	796.0	796.0	795.7	795.7
5°	789.4	788.6	788.3	787.6	787.3	787.0	786.1	786.1
7.5°	777.8	776.5	775.7	774.7	773.6	772.7	772.7	771.4
10°	762.2	759.8	758.6	757.4	755.9	754.1	753.6	752.6
12.5°	743.3	738.5	737.4	735.3	732.8	731.7	729.6	729.6
15°	720.0	715.0	712.2	711.0	708.1	706.0	705.0	702.7
17.5°	692.8	688.9	684.7	682.9	679.6	677.0	675.7	675.4
20°	665.3	659.0	656.3	653.6	649.7	647.4	645.6	643.1
22.5°	633.5	627.9	624.0	622.2	618.9	614.7	611.7	611.7
25°	600.1	595.0	592.9	589.0	585.1	583.6	580.0	579.5
27.5°	568.1	563.0	558.7	556.7	552.2	550.1	547.1	546.0
30°	534.8	528.9	525.9	525.5	520.3	518.1	515.7	514.5
32.5°	501.6	496.6	493.6	491.8	489.4	485.8	483.7	482.5
35°	468.7	465.5	462.7	460.7	456.8	455.0	453.2	451.7
37.5°	434.4	431.3	430.1	428.3	426.5	423.3	422.6	421.5
40°	401.2	397.2	397.2	396.1	394.3	394.0	393.0	393.0
42.5°	366.5	364.7	364.4	364.7	363.4	362.9	361.9	364.0
45°	332.0	332.9	331.5	331.8	331.1	332.3	332.3	333.6
47.5°	300.4	299.1	299.7	300.4	301.2	301.2	300.9	300.6
50°	266.5	267.7	269.0	267.5	268.0	268.3	266.8	267.2
52.5°	237.5	237.9	238.7	237.9	238.7	238.4	239.0	237.9
55°	209.4	209.4	210.6	210.9	211.2	212.1	212.4	213.3
57.5°	182.1	183.7	185.2	184.9	186.0	187.3	186.4	187.3
60°	158.5	159.7	161.2	161.8	162.8	163.3	163.3	163.9
62.5°	134.6	137.0	138.2	139.4	139.4	140.6	141.8	142.0
65°	113.1	115.8	116.7	117.6	118.1	119.4	120.9	120.6
67.5°	92.8	94.6	95.7	96.4	98.1	98.7	99.9	101.1
70°	72.7	75.1	75.9	77.2	78.7	79.9	81.0	81.6
72.5°	55.6	57.4	58.1	59.2	60.7	61.9	62.5	63.5
75°	38.9	41.9	42.2	43.0	44.3	45.8	46.6	46.3
77.5°	25.7	27.8	28.1	29.3	30.5	31.7	32.0	32.3
80°	15.2	16.5	16.7	17.3	18.3	18.8	19.5	20.0
82.5°	7.2	7.8	8.4	8.4	9.0	9.6	9.6	9.8
85°	2.4	2.4	2.6	2.6	3.0	3.0	3.3	3.0
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)