

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: FAIL-SAFE

Report Number: P709139

Luminaire Tested: **4APN-35L935-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709139
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35L935-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

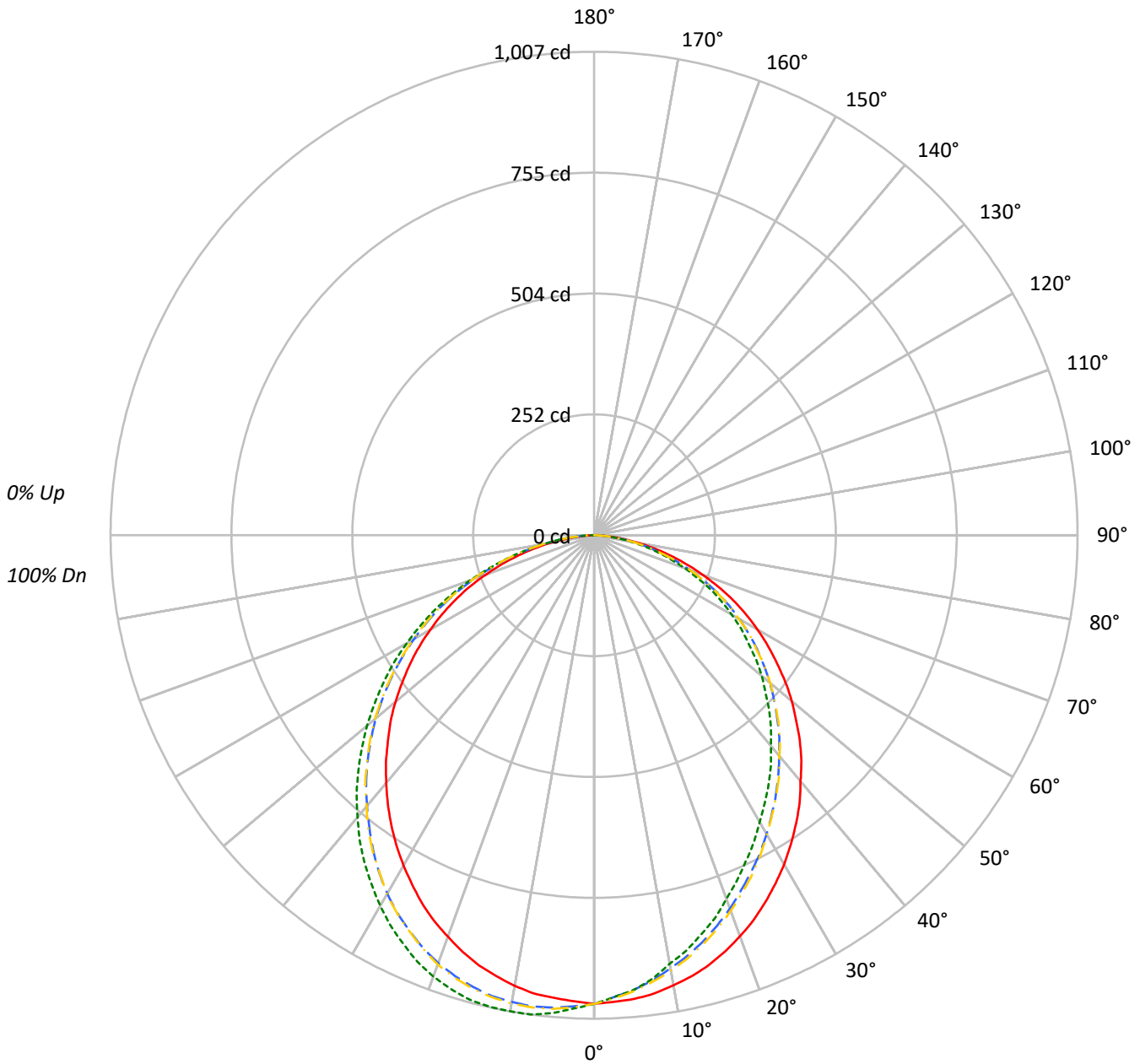
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2617.5 lumens
Efficiency: N/A
Efficacy: 64.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 40.4
Input Voltage (V): 120
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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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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	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9005	9005	9005	9005
5°	8977	8804	8957	9253
10°	8916	8492	8926	9433
15°	8848	8225	8858	9565
20°	8726	7913	8736	9604
25°	8587	7620	8620	9564
30°	8433	7351	8457	9492
35°	8257	7137	8294	9388
40°	8057	6901	8112	9228
45°	7908	6727	7923	9060
50°	7718	6545	7749	8859
55°	7476	6304	7530	8614
60°	7252	6111	7272	8311
65°	6966	5857	6966	7953
70°	6493	5419	6463	7416
75°	5903	4919	5825	6652
80°	5106	4224	4925	5690
85°	3970	3155	3737	4679



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.2	3.5
10°-20°	261.7	10.0
20°-30°	389.1	14.9
30°-40°	458.6	17.5
40°-50°	466.9	17.8
50°-60°	416.0	15.9
60°-70°	313.4	12.0
70°-80°	174.3	6.7
80°-90°	45.3	1.7
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°	743.0	28.4
0°-40°	1201.6	45.9
0°-60°	2084.5	79.6
0°-90°	2617.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2617.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	976	976	976	976	976	
5°	969	951	967	999	969	92
15°	926	861	927	1001	926	261
25°	844	748	847	940	844	389
35°	733	634	736	834	733	459
45°	606	516	607	694	606	467
55°	465	392	468	536	465	416
65°	319	268	319	364	319	315
75°	166	138	163	187	166	176
85°	38	30	35	44	38	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0
2.5°	972.6	972.6	973.8	969.3	963.8	961.6	960.5	959.4	961.6	962.7	961.6
5°	969.3	967.1	964.9	959.4	952.8	948.4	946.2	945.0	947.3	950.6	947.3
7.5°	962.7	958.3	953.9	946.2	938.4	931.8	928.5	926.3	928.5	931.8	929.6
10°	951.7	946.2	939.5	930.7	919.7	911.9	908.6	905.3	906.4	906.4	906.4
12.5°	940.6	932.9	925.2	914.1	902.0	893.2	887.6	883.2	885.4	886.5	886.5
15°	926.3	916.3	905.3	893.2	881.0	871.1	864.5	860.0	861.1	861.1	862.2
17.5°	908.6	897.6	886.5	872.2	857.8	846.8	839.1	833.5	835.7	836.9	838.0
20°	888.7	876.6	864.5	849.0	833.5	821.4	813.7	807.0	805.9	805.9	807.0
22.5°	867.8	854.5	840.2	823.6	807.0	793.8	786.1	779.4	778.3	778.3	779.4
25°	843.5	829.1	814.8	798.2	780.5	767.3	757.4	750.7	749.6	748.5	750.7
27.5°	818.1	803.7	789.4	772.8	754.1	740.8	730.9	724.2	722.0	720.9	723.1
30°	791.6	775.0	759.6	741.9	725.3	712.1	702.2	694.4	692.2	690.0	692.2
32.5°	762.9	746.3	729.8	712.1	695.5	682.3	672.4	664.6	662.4	661.3	663.5
35°	733.1	716.5	701.1	683.4	666.8	653.6	643.6	637.0	634.8	633.7	634.8
37.5°	703.3	686.7	671.2	653.6	637.0	623.8	613.8	607.2	606.1	605.0	606.1
40°	669.0	654.7	639.2	622.7	606.1	592.9	585.1	577.4	575.2	573.0	576.3
42.5°	639.2	624.9	609.4	594.0	577.4	564.2	555.3	548.7	546.5	545.4	546.5
45°	606.1	590.7	575.2	560.8	545.4	533.2	524.4	517.8	516.7	515.6	516.7
47.5°	570.8	557.5	544.3	529.9	514.5	502.3	494.6	488.0	485.8	483.6	485.8
50°	537.7	524.4	511.2	497.9	483.6	472.5	464.8	458.2	457.1	456.0	457.1
52.5°	502.3	489.1	476.9	463.7	451.5	440.5	432.8	427.3	426.2	425.1	426.2
55°	464.8	453.8	442.7	431.7	419.5	409.6	403.0	396.3	394.1	391.9	394.1
57.5°	429.5	419.5	408.5	397.5	386.4	377.6	371.0	365.4	364.3	363.2	364.3
60°	393.0	384.2	374.3	364.3	353.3	344.5	338.9	334.5	332.3	331.2	332.3
62.5°	356.6	347.8	340.0	330.1	320.2	313.5	308.0	303.6	301.4	300.3	301.4
65°	319.1	311.3	303.6	294.8	287.0	280.4	274.9	270.5	269.4	268.3	268.3
67.5°	280.4	273.8	267.2	259.4	250.6	244.0	238.5	235.2	234.1	232.9	234.1
70°	240.7	235.2	228.5	221.9	215.3	209.8	206.5	203.1	202.0	200.9	200.9
72.5°	203.1	198.7	193.2	187.7	182.2	176.6	173.3	171.1	170.0	168.9	168.9
75°	165.6	161.2	157.9	153.5	147.9	144.6	141.3	139.1	138.0	138.0	138.0
77.5°	130.3	127.0	123.7	119.2	115.9	112.6	110.4	109.3	108.2	108.2	108.2
80°	96.1	93.8	91.6	89.4	86.1	82.8	81.7	80.6	79.5	79.5	79.5
82.5°	65.1	64.0	61.8	59.6	57.4	56.3	55.2	54.1	54.1	54.1	54.1
85°	37.5	36.4	35.3	34.2	33.1	33.1	32.0	30.9	29.8	29.8	29.8
87.5°	15.5	15.5	15.5	14.4	13.2	13.2	13.2	13.2	13.2	13.2	13.2
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0
2.5°	959.4	961.6	963.8	967.1	970.4	973.8	972.6	971.5	976.0	981.5	982.6
5°	945.0	947.3	950.6	956.1	961.6	966.0	967.1	967.1	976.0	983.7	985.9
7.5°	927.4	930.7	935.1	940.6	948.4	955.0	958.3	962.7	971.5	981.5	985.9
10°	905.3	910.8	917.4	925.2	932.9	940.6	947.3	952.8	963.8	974.9	981.5
12.5°	885.4	891.0	897.6	906.4	916.3	926.3	932.9	940.6	953.9	967.1	974.9
15°	863.3	868.9	876.6	885.4	896.5	907.5	917.4	927.4	940.6	955.0	963.8
17.5°	839.1	844.6	852.3	863.3	875.5	887.6	898.7	909.7	925.2	940.6	950.6
20°	809.3	817.0	826.9	838.0	852.3	866.7	877.7	889.8	906.4	923.0	934.0
22.5°	780.5	788.3	799.3	812.6	828.0	843.5	856.7	870.0	887.6	904.2	916.3
25°	752.9	761.8	772.8	786.1	800.4	815.9	831.3	846.8	864.5	882.1	894.3
27.5°	725.3	733.1	744.1	757.4	773.9	789.4	804.8	820.3	839.1	857.8	871.1
30°	694.4	703.3	713.2	726.5	744.1	761.8	777.2	793.8	812.6	831.3	844.6
32.5°	665.7	673.5	683.4	696.6	714.3	732.0	748.5	766.2	783.9	802.6	815.9
35°	637.0	644.8	654.7	667.9	685.6	703.3	719.8	736.4	754.1	771.7	785.0
37.5°	608.3	616.0	626.0	639.2	655.8	673.5	688.9	705.5	723.1	740.8	752.9
40°	578.5	586.2	594.0	607.2	623.8	641.4	656.9	673.5	691.1	708.8	720.9
42.5°	548.7	556.4	566.4	579.6	595.1	610.5	626.0	641.4	658.0	674.6	686.7
45°	518.9	525.5	535.5	547.6	563.1	577.4	592.9	607.2	623.8	639.2	651.4
47.5°	488.0	494.6	502.3	514.5	529.9	545.4	560.8	575.2	589.6	605.0	616.0
50°	458.2	464.8	473.6	484.7	499.0	513.4	526.6	539.9	554.2	568.6	578.5
52.5°	427.3	433.9	441.6	452.7	464.8	478.0	490.2	503.4	516.7	529.9	539.9
55°	396.3	400.8	407.4	417.3	430.6	443.8	456.0	468.1	480.3	491.3	501.2
57.5°	365.4	371.0	378.7	387.5	398.6	409.6	420.6	431.7	442.7	453.8	462.6
60°	334.5	338.9	344.5	352.2	363.2	373.2	384.2	394.1	404.1	414.0	421.7
62.5°	302.5	306.9	312.4	320.2	329.0	337.8	347.8	356.6	365.4	374.3	382.0
65°	269.4	273.8	279.3	285.9	293.7	301.4	310.2	319.1	325.7	332.3	340.0
67.5°	235.2	239.6	245.1	250.6	257.2	265.0	272.7	280.4	287.0	293.7	299.2
70°	202.0	205.3	210.9	215.3	220.8	226.3	232.9	239.6	244.0	249.5	256.1
72.5°	170.0	173.3	177.7	182.2	185.5	189.9	196.5	202.0	207.6	214.2	217.5
75°	139.1	141.3	144.6	147.9	151.3	154.6	159.0	163.4	167.8	171.1	175.5
77.5°	108.2	110.4	113.7	115.9	118.1	120.3	123.7	127.0	130.3	132.5	136.9
80°	79.5	81.7	83.9	86.1	88.3	90.5	91.6	92.7	97.2	100.5	102.7
82.5°	54.1	55.2	56.3	58.5	59.6	60.7	61.8	61.8	64.0	66.2	69.6
85°	30.9	32.0	33.1	33.1	33.1	33.1	34.2	35.3	36.4	38.6	40.8
87.5°	12.1	12.1	13.2	13.2	13.2	13.2	13.2	13.2	14.4	16.6	17.7
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0
2.5°	981.5	982.6	984.8	985.9	987.0	987.0	988.1	989.2	987.0	984.8	983.7
5°	987.0	988.1	991.4	994.7	996.9	999.1	998.0	996.9	994.7	991.4	989.2
7.5°	988.1	991.4	994.7	999.1	1002.5	1006.9	1004.7	1002.5	998.0	993.6	990.3
10°	984.8	989.2	994.7	1000.2	1003.6	1006.9	1004.7	1002.5	998.0	992.5	988.1
12.5°	980.4	985.9	992.5	998.0	1001.4	1005.8	1002.5	999.1	993.6	988.1	982.6
15°	970.4	977.1	984.8	991.4	996.9	1001.4	998.0	995.8	989.2	981.5	973.8
17.5°	958.3	967.1	974.9	982.6	987.0	991.4	989.2	987.0	979.3	970.4	961.6
20°	943.9	952.8	960.5	968.2	973.8	978.2	974.9	971.5	963.8	956.1	947.3
22.5°	926.3	935.1	943.9	951.7	957.2	961.6	957.2	951.7	943.9	936.2	927.4
25°	904.2	914.1	924.1	931.8	935.1	939.5	935.1	930.7	923.0	915.2	905.3
27.5°	882.1	892.1	902.0	909.7	913.0	917.4	913.0	908.6	900.9	893.2	883.2
30°	856.7	866.7	876.6	884.3	887.6	891.0	886.5	882.1	875.5	867.8	857.8
32.5°	828.0	838.0	845.7	853.4	857.8	862.2	857.8	854.5	846.8	836.9	826.9
35°	797.1	807.0	817.0	824.7	829.1	833.5	828.0	822.5	815.9	808.1	799.3
37.5°	762.9	773.9	785.0	793.8	797.1	801.5	797.1	791.6	785.0	777.2	767.3
40°	730.9	740.8	750.7	759.6	762.9	766.2	761.8	757.4	749.6	741.9	732.0
42.5°	697.7	707.7	716.5	724.2	727.6	732.0	727.6	722.0	716.5	709.9	701.1
45°	662.4	672.4	680.1	687.8	691.1	694.4	690.0	684.5	679.0	673.5	664.6
47.5°	626.0	634.8	642.5	650.3	652.5	655.8	651.4	648.1	642.5	637.0	629.3
50°	588.4	597.3	605.0	611.6	613.8	617.2	612.7	608.3	603.9	599.5	592.9
52.5°	549.8	557.5	565.3	571.9	574.1	576.3	571.9	567.5	563.1	558.6	552.0
55°	510.1	517.8	525.5	531.0	533.2	535.5	531.0	527.7	523.3	520.0	513.4
57.5°	470.3	478.0	484.7	490.2	492.4	494.6	490.2	485.8	482.5	479.1	473.6
60°	429.5	437.2	442.7	447.1	449.3	450.4	446.0	442.7	440.5	438.3	432.8
62.5°	389.7	395.2	400.8	404.1	406.3	407.4	404.1	401.9	399.7	397.5	393.0
65°	347.8	354.4	358.8	362.1	363.2	364.3	361.0	358.8	356.6	354.4	351.1
67.5°	305.8	311.3	314.6	318.0	319.1	319.1	319.1	318.0	315.8	312.4	309.1
70°	263.9	268.3	271.6	273.8	274.9	274.9	272.7	270.5	270.5	269.4	267.2
72.5°	220.8	224.1	226.3	228.5	228.5	228.5	228.5	229.6	228.5	226.3	223.0
75°	180.0	183.3	185.5	186.6	186.6	186.6	186.6	187.7	186.6	185.5	183.3
77.5°	141.3	143.5	144.6	145.7	145.7	145.7	146.8	147.9	146.8	145.7	144.6
80°	104.9	106.0	107.1	108.2	107.1	107.1	108.2	110.4	109.3	108.2	107.1
82.5°	71.8	72.9	74.0	74.0	75.1	76.2	76.2	76.2	76.2	75.1	74.0
85°	43.1	44.2	44.2	44.2	44.2	44.2	45.3	46.4	46.4	45.3	45.3
87.5°	19.9	21.0	19.9	18.8	17.7	17.7	19.9	22.1	22.1	21.0	21.0
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):

	330°	340°	350°	360°
0°	976.0	976.0	976.0	976.0
2.5°	984.8	983.7	978.2	972.6
5°	988.1	984.8	977.1	969.3
7.5°	988.1	983.7	972.6	962.7
10°	982.6	976.0	963.8	951.7
12.5°	976.0	968.2	953.9	940.6
15°	966.0	957.2	941.7	926.3
17.5°	951.7	940.6	925.2	908.6
20°	937.3	925.2	906.4	888.7
22.5°	917.4	906.4	886.5	867.8
25°	895.4	883.2	863.3	843.5
27.5°	872.2	857.8	838.0	818.1
30°	845.7	831.3	811.5	791.6
32.5°	817.0	803.7	783.9	762.9
35°	788.3	773.9	754.1	733.1
37.5°	756.3	743.0	723.1	703.3
40°	722.0	708.8	688.9	669.0
42.5°	690.0	677.9	658.0	639.2
45°	654.7	642.5	623.8	606.1
47.5°	618.3	606.1	588.4	570.8
50°	582.9	570.8	554.2	537.7
52.5°	543.2	533.2	517.8	502.3
55°	504.5	494.6	479.1	464.8
57.5°	465.9	457.1	442.7	429.5
60°	425.1	416.2	405.2	393.0
62.5°	386.4	378.7	367.6	356.6
65°	345.6	338.9	329.0	319.1
67.5°	303.6	298.1	289.3	280.4
70°	261.7	255.0	248.4	240.7
72.5°	219.7	216.4	209.8	203.1
75°	180.0	176.6	171.1	165.6
77.5°	142.4	139.1	134.7	130.3
80°	104.9	102.7	99.4	96.1
82.5°	72.9	70.7	68.4	65.1
85°	44.2	42.0	39.7	37.5
87.5°	19.9	18.8	16.6	15.5
90°	0.0	0.0	0.0	0.0

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