

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: P

Luminaire Tested: **4APN-20L940-X-UNV-NP**

Issue Date: 06/06/2024



Test Information

Test Method: LM-79-08
Report Number: P
Test Lab: INNOVATION CENTER(G2)
Issue Date: 06/06/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-20L940-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

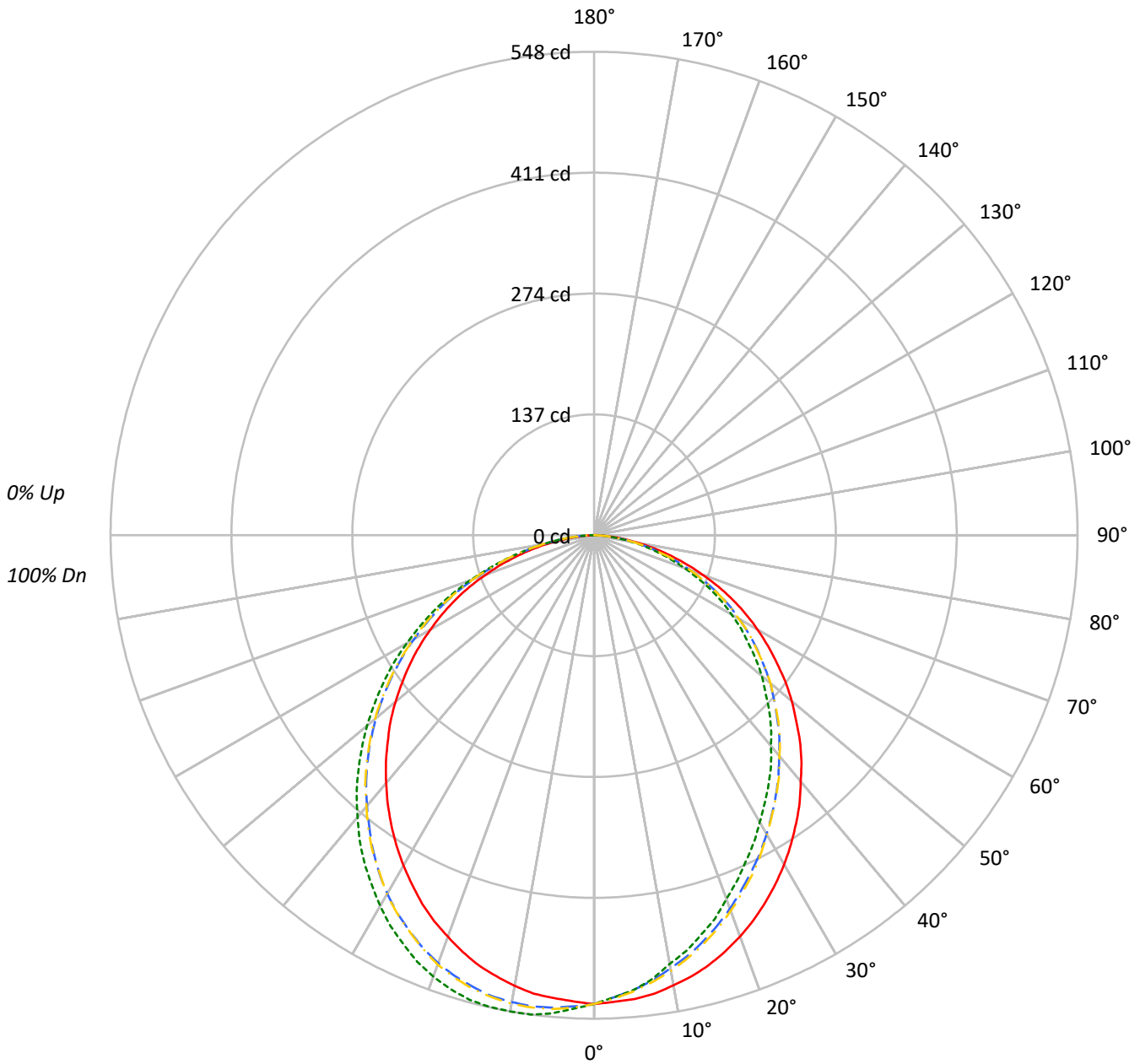
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1424.7 lumens
Efficiency: N/A
Efficacy: 59.9 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): 23.8
Input Voltage (V): 120
Input Current (A_{in}): 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				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°	4902	4902	4902	4902
5°	4887	4792	4876	5037
10°	4853	4622	4859	5134
15°	4815	4477	4822	5207
20°	4750	4307	4755	5228
25°	4675	4147	4692	5206
30°	4591	4001	4602	5167
35°	4494	3885	4514	5110
40°	4386	3757	4415	5022
45°	4304	3663	4312	4932
50°	4200	3563	4217	4821
55°	4070	3433	4099	4687
60°	3947	3327	3958	4525
65°	3792	3187	3792	4329
70°	3534	2948	3518	4036
75°	3215	2677	3173	3622
80°	2779	2295	2683	3098
85°	2170	1715	2043	2551



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.2	3.5
10°-20°	142.5	10.0
20°-30°	211.8	14.9
30°-40°	249.6	17.5
40°-50°	254.2	17.8
50°-60°	226.4	15.9
60°-70°	170.6	12.0
70°-80°	94.9	6.7
80°-90°	24.7	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°	404.4	28.4
0°-40°	654.1	45.9
0°-60°	1134.6	79.6
0°-90°	1424.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1424.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	531	531	531	531	531	
5°	528	517	526	544	528	50
15°	504	469	505	545	504	142
25°	459	407	461	511	459	212
35°	399	345	401	454	399	250
45°	330	281	330	378	330	254
55°	253	213	255	291	253	227
65°	174	146	174	198	174	171
75°	90	75	89	102	90	96
85°	20	16	19	24	20	25
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°	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3
2.5°	529.4	529.4	530.1	527.7	524.6	523.4	522.9	522.2	523.4	524.1	523.4
5°	527.7	526.5	525.3	522.2	518.6	516.2	515.0	514.4	515.6	517.4	515.6
7.5°	524.1	521.7	519.2	515.0	510.8	507.2	505.4	504.1	505.4	507.2	506.0
10°	518.0	515.0	511.4	506.6	500.6	496.4	494.6	492.8	493.4	493.4	493.4
12.5°	512.0	507.8	503.6	497.6	491.0	486.2	483.1	480.7	481.9	482.6	482.6
15°	504.1	498.8	492.8	486.2	479.5	474.2	470.5	468.1	468.7	468.7	469.3
17.5°	494.6	488.6	482.6	474.7	466.9	460.9	456.8	453.7	454.9	455.6	456.1
20°	483.8	477.1	470.5	462.1	453.7	447.1	442.9	439.3	438.7	438.7	439.3
22.5°	472.3	465.1	457.3	448.3	439.3	432.0	427.9	424.3	423.7	423.7	424.3
25°	459.2	451.3	443.5	434.4	424.9	417.7	412.2	408.6	408.1	407.4	408.6
27.5°	445.3	437.5	429.7	420.7	410.5	403.2	397.8	394.2	393.0	392.4	393.6
30°	430.9	421.9	413.4	403.8	394.8	387.6	382.2	378.0	376.8	375.6	376.8
32.5°	415.3	406.2	397.2	387.6	378.6	371.4	365.9	361.8	360.6	359.9	361.1
35°	399.0	390.0	381.6	372.0	363.0	355.8	350.4	346.8	345.6	344.9	345.6
37.5°	382.8	373.8	365.4	355.8	346.8	339.6	334.1	330.5	329.9	329.3	329.9
40°	364.2	356.4	348.0	338.9	329.9	322.7	318.5	314.3	313.1	311.9	313.7
42.5°	348.0	340.1	331.7	323.3	314.3	307.1	302.2	298.6	297.4	296.9	297.4
45°	329.9	321.5	313.1	305.3	296.9	290.2	285.5	281.9	281.2	280.7	281.2
47.5°	310.7	303.5	296.2	288.5	280.0	273.5	269.2	265.6	264.4	263.2	264.4
50°	292.6	285.5	278.3	271.1	263.2	257.2	253.0	249.4	248.8	248.2	248.8
52.5°	273.5	266.2	259.6	252.4	245.8	239.8	235.6	232.5	232.0	231.3	232.0
55°	253.0	247.0	241.0	234.9	228.4	222.9	219.3	215.7	214.5	213.4	214.5
57.5°	233.7	228.4	222.4	216.3	210.3	205.5	201.9	198.9	198.3	197.7	198.3
60°	213.9	209.1	203.8	198.3	192.3	187.5	184.5	182.1	180.9	180.3	180.9
62.5°	194.1	189.3	185.1	179.7	174.3	170.7	167.6	165.2	164.0	163.5	164.0
65°	173.7	169.5	165.2	160.4	156.3	152.7	149.6	147.2	146.6	146.0	146.0
67.5°	152.7	149.0	145.4	141.3	136.5	132.8	129.8	128.0	127.4	126.8	127.4
70°	131.0	128.0	124.4	120.8	117.2	114.1	112.4	110.5	110.0	109.3	109.3
72.5°	110.5	108.2	105.2	102.2	99.1	96.2	94.3	93.1	92.6	91.9	91.9
75°	90.2	87.8	85.9	83.5	80.5	78.7	76.9	75.7	75.1	75.1	75.1
77.5°	70.9	69.2	67.3	64.9	63.1	61.3	60.1	59.5	58.9	58.9	58.9
80°	52.3	51.1	49.9	48.7	46.8	45.1	44.4	43.9	43.2	43.2	43.2
82.5°	35.5	34.9	33.7	32.5	31.3	30.6	30.1	29.4	29.4	29.4	29.4
85°	20.5	19.8	19.3	18.6	18.1	18.1	17.4	16.9	16.2	16.2	16.2
87.5°	8.4	8.4	8.4	7.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2
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°	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3
2.5°	522.2	523.4	524.6	526.5	528.2	530.1	529.4	528.9	531.3	534.2	534.9
5°	514.4	515.6	517.4	520.4	523.4	525.8	526.5	526.5	531.3	535.4	536.6
7.5°	504.8	506.6	509.0	512.0	516.2	519.8	521.7	524.1	528.9	534.2	536.6
10°	492.8	495.8	499.4	503.6	507.8	512.0	515.6	518.6	524.6	530.6	534.2
12.5°	481.9	485.0	488.6	493.4	498.8	504.1	507.8	512.0	519.2	526.5	530.6
15°	469.9	473.0	477.1	481.9	488.0	494.0	499.4	504.8	512.0	519.8	524.6
17.5°	456.8	459.7	464.0	469.9	476.6	483.1	489.2	495.2	503.6	512.0	517.4
20°	440.5	444.7	450.1	456.1	464.0	471.8	477.8	484.3	493.4	502.4	508.4
22.5°	424.9	429.1	435.1	442.3	450.7	459.2	466.3	473.5	483.1	492.2	498.8
25°	409.8	414.6	420.7	427.9	435.6	444.1	452.5	460.9	470.5	480.2	486.7
27.5°	394.8	399.0	405.0	412.2	421.3	429.7	438.1	446.5	456.8	466.9	474.2
30°	378.0	382.8	388.3	395.4	405.0	414.6	423.1	432.0	442.3	452.5	459.7
32.5°	362.3	366.6	372.0	379.2	388.8	398.4	407.4	417.0	426.7	436.8	444.1
35°	346.8	350.9	356.4	363.5	373.2	382.8	391.9	400.8	410.5	420.1	427.3
37.5°	331.1	335.3	340.8	348.0	357.0	366.6	375.0	384.0	393.6	403.2	409.8
40°	314.9	319.1	323.3	330.5	339.6	349.2	357.6	366.6	376.2	385.8	392.4
42.5°	298.6	302.9	308.3	315.5	323.9	332.3	340.8	349.2	358.2	367.1	373.8
45°	282.4	286.1	291.4	298.1	306.5	314.3	322.7	330.5	339.6	348.0	354.6
47.5°	265.6	269.2	273.5	280.0	288.5	296.9	305.3	313.1	320.9	329.3	335.3
50°	249.4	253.0	257.8	263.8	271.6	279.5	286.6	293.8	301.7	309.5	314.9
52.5°	232.5	236.2	240.4	246.4	253.0	260.2	266.8	274.0	281.2	288.5	293.8
55°	215.7	218.1	221.7	227.2	234.4	241.6	248.2	254.8	261.4	267.4	272.8
57.5°	198.9	201.9	206.2	211.0	216.9	222.9	228.9	234.9	241.0	247.0	251.8
60°	182.1	184.5	187.5	191.7	197.7	203.1	209.1	214.5	220.0	225.3	229.6
62.5°	164.7	167.1	170.1	174.3	179.1	183.8	189.3	194.1	198.9	203.8	207.9
65°	146.6	149.0	152.0	155.6	159.9	164.0	168.9	173.7	177.3	180.9	185.1
67.5°	128.0	130.4	133.4	136.5	140.1	144.2	148.4	152.7	156.3	159.9	162.8
70°	110.0	111.7	114.8	117.2	120.2	123.2	126.8	130.4	132.8	135.8	139.4
72.5°	92.6	94.3	96.7	99.1	101.0	103.4	107.0	110.0	112.9	116.5	118.4
75°	75.7	76.9	78.7	80.5	82.3	84.2	86.6	89.0	91.4	93.1	95.5
77.5°	58.9	60.1	61.9	63.1	64.3	65.5	67.3	69.2	70.9	72.1	74.5
80°	43.2	44.4	45.6	46.8	48.0	49.2	49.9	50.5	52.9	54.7	55.9
82.5°	29.4	30.1	30.6	31.8	32.5	33.0	33.7	33.7	34.9	36.1	37.9
85°	16.9	17.4	18.1	18.1	18.1	18.1	18.6	19.3	19.8	21.0	22.2
87.5°	6.6	6.6	7.2	7.2	7.2	7.2	7.2	7.2	7.8	9.0	9.6
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°	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3	531.3
2.5°	534.2	534.9	536.1	536.6	537.2	537.2	537.8	538.4	537.2	536.1	535.4
5°	537.2	537.8	539.6	541.5	542.7	543.9	543.2	542.7	541.5	539.6	538.4
7.5°	537.8	539.6	541.5	543.9	545.6	548.0	546.8	545.6	543.2	540.8	539.1
10°	536.1	538.4	541.5	544.4	546.3	548.0	546.8	545.6	543.2	540.3	537.8
12.5°	533.7	536.6	540.3	543.2	545.1	547.5	545.6	543.9	540.8	537.8	534.9
15°	528.2	531.8	536.1	539.6	542.7	545.1	543.2	542.0	538.4	534.2	530.1
17.5°	521.7	526.5	530.6	534.9	537.2	539.6	538.4	537.2	533.0	528.2	523.4
20°	513.8	518.6	522.9	527.0	530.1	532.5	530.6	528.9	524.6	520.4	515.6
22.5°	504.1	509.0	513.8	518.0	521.0	523.4	521.0	518.0	513.8	509.6	504.8
25°	492.2	497.6	503.0	507.2	509.0	511.4	509.0	506.6	502.4	498.2	492.8
27.5°	480.2	485.5	491.0	495.2	497.0	499.4	497.0	494.6	490.4	486.2	480.7
30°	466.3	471.8	477.1	481.4	483.1	485.0	482.6	480.2	476.6	472.3	466.9
32.5°	450.7	456.1	460.4	464.5	466.9	469.3	466.9	465.1	460.9	455.6	450.1
35°	433.9	439.3	444.7	448.9	451.3	453.7	450.7	447.7	444.1	439.9	435.1
37.5°	415.3	421.3	427.3	432.0	433.9	436.3	433.9	430.9	427.3	423.1	417.7
40°	397.8	403.2	408.6	413.4	415.3	417.0	414.6	412.2	408.1	403.8	398.4
42.5°	379.8	385.2	390.0	394.2	396.0	398.4	396.0	393.0	390.0	386.4	381.6
45°	360.6	365.9	370.2	374.4	376.2	378.0	375.6	372.6	369.5	366.6	361.8
47.5°	340.8	345.6	349.7	354.0	355.2	357.0	354.6	352.8	349.7	346.8	342.5
50°	320.3	325.1	329.3	332.9	334.1	335.9	333.5	331.1	328.7	326.3	322.7
52.5°	299.3	303.5	307.7	311.3	312.5	313.7	311.3	308.9	306.5	304.1	300.5
55°	277.6	281.9	286.1	289.0	290.2	291.4	289.0	287.3	284.8	283.1	279.5
57.5°	256.0	260.2	263.8	266.8	268.0	269.2	266.8	264.4	262.6	260.8	257.8
60°	233.7	238.0	241.0	243.4	244.6	245.2	242.8	241.0	239.8	238.6	235.6
62.5°	212.2	215.1	218.1	220.0	221.2	221.7	220.0	218.8	217.5	216.3	213.9
65°	189.3	192.9	195.3	197.1	197.7	198.3	196.5	195.3	194.1	192.9	191.1
67.5°	166.4	169.5	171.3	173.1	173.7	173.7	173.7	173.1	171.9	170.1	168.3
70°	143.6	146.0	147.8	149.0	149.6	149.6	148.4	147.2	147.2	146.6	145.4
72.5°	120.2	122.0	123.2	124.4	124.4	124.4	124.4	125.0	124.4	123.2	121.4
75°	97.9	99.8	101.0	101.6	101.6	101.6	101.6	102.2	101.6	101.0	99.8
77.5°	76.9	78.1	78.7	79.3	79.3	79.3	79.9	80.5	79.9	79.3	78.7
80°	57.1	57.7	58.3	58.9	58.3	58.3	58.9	60.1	59.5	58.9	58.3
82.5°	39.1	39.6	40.3	40.3	40.8	41.5	41.5	41.5	41.5	40.8	40.3
85°	23.4	24.1	24.1	24.1	24.1	24.1	24.6	25.3	25.3	24.6	24.6
87.5°	10.8	11.4	10.8	10.2	9.6	9.6	10.8	12.0	12.0	11.4	11.4
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°	531.3	531.3	531.3	531.3
2.5°	536.1	535.4	532.5	529.4
5°	537.8	536.1	531.8	527.7
7.5°	537.8	535.4	529.4	524.1
10°	534.9	531.3	524.6	518.0
12.5°	531.3	527.0	519.2	512.0
15°	525.8	521.0	512.6	504.1
17.5°	518.0	512.0	503.6	494.6
20°	510.2	503.6	493.4	483.8
22.5°	499.4	493.4	482.6	472.3
25°	487.4	480.7	469.9	459.2
27.5°	474.7	466.9	456.1	445.3
30°	460.4	452.5	441.7	430.9
32.5°	444.7	437.5	426.7	415.3
35°	429.1	421.3	410.5	399.0
37.5°	411.7	404.5	393.6	382.8
40°	393.0	385.8	375.0	364.2
42.5°	375.6	369.0	358.2	348.0
45°	356.4	349.7	339.6	329.9
47.5°	336.5	329.9	320.3	310.7
50°	317.3	310.7	301.7	292.6
52.5°	295.7	290.2	281.9	273.5
55°	274.7	269.2	260.8	253.0
57.5°	253.6	248.8	241.0	233.7
60°	231.3	226.5	220.5	213.9
62.5°	210.3	206.2	200.1	194.1
65°	188.1	184.5	179.1	173.7
67.5°	165.2	162.3	157.5	152.7
70°	142.4	138.9	135.3	131.0
72.5°	119.6	117.8	114.1	110.5
75°	97.9	96.2	93.1	90.2
77.5°	77.5	75.7	73.3	70.9
80°	57.1	55.9	54.1	52.3
82.5°	39.6	38.4	37.2	35.5
85°	24.1	22.9	21.7	20.5
87.5°	10.8	10.2	9.0	8.4
90°	0.0	0.0	0.0	0.0

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