

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-28L940-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-28L940-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

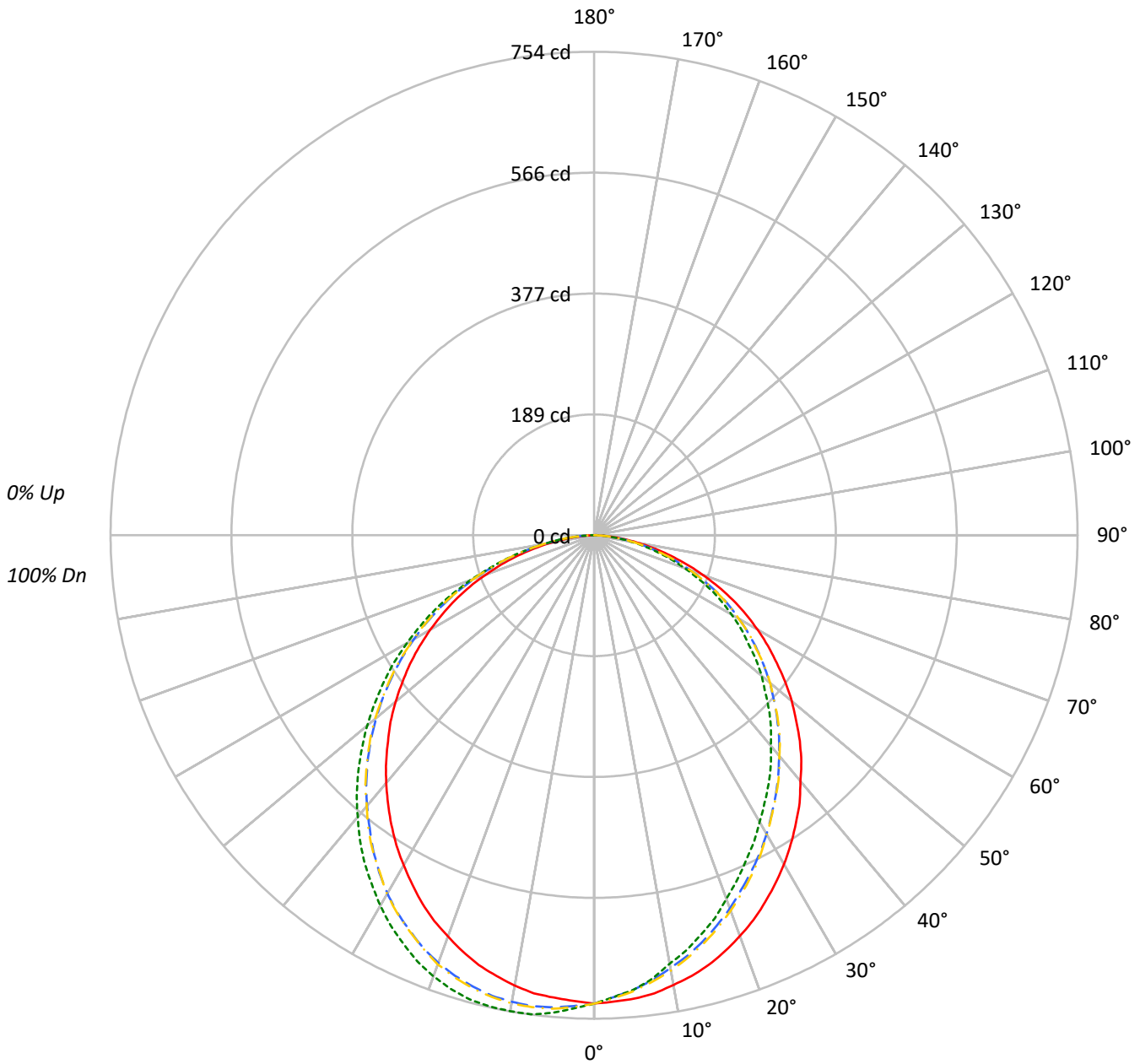
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1958.9 lumens
Efficiency: N/A
Efficacy: 60.8 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): 32.2
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°	6739	6739	6739	6739
5°	6718	6589	6703	6925
10°	6672	6356	6681	7060
15°	6622	6156	6630	7158
20°	6530	5922	6539	7188
25°	6427	5703	6452	7158
30°	6312	5501	6328	7104
35°	6180	5342	6207	7026
40°	6030	5164	6071	6906
45°	5918	5035	5930	6781
50°	5776	4897	5799	6630
55°	5596	4718	5636	6445
60°	5427	4573	5442	6220
65°	5213	4384	5213	5951
70°	4861	4057	4837	5549
75°	4417	3682	4360	4980
80°	3820	3161	3687	4256
85°	2975	2361	2805	3493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.0	3.5
10°-20°	195.9	10.0
20°-30°	291.2	14.9
30°-40°	343.2	17.5
40°-50°	349.5	17.8
50°-60°	311.3	15.9
60°-70°	234.5	12.0
70°-80°	130.4	6.7
80°-90°	33.9	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°	556.1	28.4
0°-40°	899.3	45.9
0°-60°	1560.1	79.6
0°-90°	1958.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1958.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	730	730	730	730	730	
5°	725	711	724	748	725	69
15°	693	644	694	749	693	195
25°	631	560	634	703	631	291
35°	549	474	551	624	549	343
45°	454	386	454	520	454	350
55°	348	293	350	401	348	312
65°	239	201	239	273	239	236
75°	124	103	122	140	124	132
85°	28	22	26	33	28	34
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°	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4
2.5°	727.9	727.9	728.7	725.4	721.4	719.7	718.9	718.1	719.7	720.5	719.7
5°	725.4	723.8	722.1	718.1	713.1	709.8	708.1	707.3	708.9	711.4	708.9
7.5°	720.5	717.2	713.9	708.1	702.3	697.4	694.9	693.3	694.9	697.4	695.7
10°	712.2	708.1	703.1	696.6	688.3	682.5	680.0	677.6	678.4	678.4	678.4
12.5°	703.9	698.2	692.4	684.1	675.1	668.5	664.3	661.0	662.6	663.5	663.5
15°	693.3	685.8	677.6	668.5	659.3	651.9	647.0	643.6	644.5	644.5	645.3
17.5°	680.0	671.8	663.5	652.8	642.0	633.8	628.0	623.8	625.5	626.3	627.1
20°	665.1	656.1	647.0	635.4	623.8	614.7	609.0	604.0	603.2	603.2	604.0
22.5°	649.5	639.5	628.8	616.4	604.0	594.0	588.3	583.3	582.5	582.5	583.3
25°	631.3	620.5	609.8	597.4	584.2	574.2	566.8	561.9	561.0	560.2	561.9
27.5°	612.3	601.5	590.8	578.4	564.4	554.4	547.0	542.0	540.4	539.6	541.2
30°	592.5	580.0	568.5	555.2	542.9	532.9	525.5	519.7	518.1	516.4	518.1
32.5°	571.0	558.5	546.2	532.9	520.6	510.6	503.2	497.4	495.8	494.9	496.6
35°	548.7	536.2	524.7	511.4	499.1	489.1	481.7	476.8	475.1	474.3	475.1
37.5°	526.4	513.9	502.4	489.1	476.8	466.8	459.4	454.5	453.6	452.8	453.6
40°	500.7	490.0	478.4	466.0	453.6	443.7	438.0	432.1	430.5	428.8	431.3
42.5°	478.4	467.6	456.1	444.5	432.1	422.2	415.6	410.7	409.0	408.2	409.0
45°	453.6	442.0	430.5	419.8	408.2	399.0	392.5	387.5	386.7	385.9	386.7
47.5°	427.2	417.3	407.3	396.6	385.0	376.0	370.2	365.2	363.5	361.9	363.5
50°	402.4	392.5	382.5	372.7	361.9	353.7	347.9	342.9	342.1	341.2	342.1
52.5°	376.0	366.0	356.9	347.0	337.9	329.7	323.9	319.7	318.9	318.1	318.9
55°	347.9	339.6	331.4	323.1	313.9	306.6	301.6	296.6	294.9	293.3	294.9
57.5°	321.4	313.9	305.7	297.4	289.2	282.6	277.6	273.5	272.6	271.8	272.6
60°	294.1	287.6	280.1	272.6	264.4	257.8	253.6	250.3	248.7	247.8	248.7
62.5°	266.9	260.3	254.5	247.1	239.6	234.6	230.5	227.2	225.6	224.8	225.6
65°	238.8	233.0	227.2	220.6	214.8	209.8	205.7	202.5	201.6	200.8	200.8
67.5°	209.8	204.9	200.0	194.2	187.5	182.6	178.5	176.0	175.2	174.4	175.2
70°	180.2	176.0	171.0	166.1	161.2	157.0	154.5	152.0	151.2	150.4	150.4
72.5°	152.0	148.7	144.6	140.4	136.4	132.2	129.7	128.1	127.2	126.4	126.4
75°	123.9	120.6	118.2	114.9	110.7	108.2	105.8	104.1	103.3	103.3	103.3
77.5°	97.5	95.1	92.6	89.2	86.8	84.3	82.6	81.8	81.0	81.0	81.0
80°	71.9	70.3	68.6	66.9	64.4	62.0	61.1	60.3	59.5	59.5	59.5
82.5°	48.8	47.9	46.3	44.6	43.0	42.1	41.3	40.5	40.5	40.5	40.5
85°	28.1	27.3	26.5	25.6	24.8	24.8	24.0	23.1	22.3	22.3	22.3
87.5°	11.5	11.5	11.5	10.8	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4
2.5°	718.1	719.7	721.4	723.8	726.3	728.7	727.9	727.1	730.4	734.6	735.4
5°	707.3	708.9	711.4	715.6	719.7	722.9	723.8	723.8	730.4	736.2	737.9
7.5°	694.1	696.6	699.9	703.9	709.8	714.7	717.2	720.5	727.1	734.6	737.9
10°	677.6	681.6	686.6	692.4	698.2	703.9	708.9	713.1	721.4	729.6	734.6
12.5°	662.6	666.8	671.8	678.4	685.8	693.3	698.2	703.9	713.9	723.8	729.6
15°	646.1	650.3	656.1	662.6	670.9	679.1	686.6	694.1	703.9	714.7	721.4
17.5°	628.0	632.1	637.8	646.1	655.3	664.3	672.6	680.8	692.4	703.9	711.4
20°	605.7	611.5	618.8	627.1	637.8	648.6	656.9	666.0	678.4	690.8	699.1
22.5°	584.2	590.0	598.2	608.2	619.7	631.3	641.2	651.1	664.3	676.7	685.8
25°	563.5	570.2	578.4	588.3	599.0	610.6	622.2	633.8	647.0	660.2	669.3
27.5°	542.9	548.7	556.9	566.8	579.2	590.8	602.3	614.0	628.0	642.0	651.9
30°	519.7	526.4	533.7	543.7	556.9	570.2	581.7	594.0	608.2	622.2	632.1
32.5°	498.2	504.1	511.4	521.4	534.6	547.9	560.2	573.4	586.7	600.7	610.6
35°	476.8	482.6	490.0	499.9	513.1	526.4	538.7	551.1	564.4	577.5	587.5
37.5°	455.3	461.1	468.5	478.4	490.8	504.1	515.6	527.9	541.2	554.4	563.5
40°	433.0	438.8	444.5	454.5	466.8	480.1	491.6	504.1	517.2	530.4	539.6
42.5°	410.7	416.5	423.8	433.8	445.3	456.9	468.5	480.1	492.4	504.9	513.9
45°	388.3	393.3	400.7	409.8	421.4	432.1	443.7	454.5	466.8	478.4	487.5
47.5°	365.2	370.2	376.0	385.0	396.6	408.2	419.8	430.5	441.3	452.8	461.1
50°	342.9	347.9	354.5	362.7	373.5	384.2	394.2	404.0	414.8	425.5	433.0
52.5°	319.7	324.7	330.5	338.7	347.9	357.7	366.9	376.8	386.7	396.6	404.0
55°	296.6	299.9	304.9	312.4	322.2	332.2	341.2	350.4	359.4	367.7	375.2
57.5°	273.5	277.6	283.4	290.1	298.3	306.6	314.8	323.1	331.4	339.6	346.2
60°	250.3	253.6	257.8	263.6	271.8	279.3	287.6	294.9	302.4	309.9	315.6
62.5°	226.4	229.7	233.8	239.6	246.3	252.8	260.3	266.9	273.5	280.1	285.9
65°	201.6	204.9	209.0	214.0	219.8	225.6	232.2	238.8	243.8	248.7	254.5
67.5°	176.0	179.3	183.4	187.5	192.5	198.3	204.1	209.8	214.8	219.8	224.0
70°	151.2	153.7	157.8	161.2	165.2	169.4	174.4	179.3	182.6	186.7	191.7
72.5°	127.2	129.7	133.0	136.4	138.9	142.1	147.1	151.2	155.4	160.3	162.7
75°	104.1	105.8	108.2	110.7	113.2	115.7	118.9	122.3	125.6	128.1	131.4
77.5°	81.0	82.6	85.1	86.8	88.4	90.1	92.6	95.1	97.5	99.1	102.4
80°	59.5	61.1	62.8	64.4	66.1	67.8	68.6	69.4	72.7	75.2	76.8
82.5°	40.5	41.3	42.1	43.8	44.6	45.5	46.3	46.3	47.9	49.6	52.1
85°	23.1	24.0	24.8	24.8	24.8	24.8	25.6	26.5	27.3	29.0	30.6
87.5°	9.1	9.1	10.0	10.0	10.0	10.0	10.0	10.0	10.8	12.4	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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4	730.4
2.5°	734.6	735.4	737.0	737.9	738.7	738.7	739.5	740.4	738.7	737.0	736.2
5°	738.7	739.5	742.0	744.4	746.1	747.7	746.9	746.1	744.4	742.0	740.4
7.5°	739.5	742.0	744.4	747.7	750.2	753.6	751.9	750.2	746.9	743.6	741.2
10°	737.0	740.4	744.4	748.6	751.1	753.6	751.9	750.2	746.9	742.9	739.5
12.5°	733.7	737.9	742.9	746.9	749.4	752.7	750.2	747.7	743.6	739.5	735.4
15°	726.3	731.2	737.0	742.0	746.1	749.4	746.9	745.3	740.4	734.6	728.7
17.5°	717.2	723.8	729.6	735.4	738.7	742.0	740.4	738.7	732.9	726.3	719.7
20°	706.4	713.1	718.9	724.6	728.7	732.1	729.6	727.1	721.4	715.6	708.9
22.5°	693.3	699.9	706.4	712.2	716.4	719.7	716.4	712.2	706.4	700.6	694.1
25°	676.7	684.1	691.6	697.4	699.9	703.1	699.9	696.6	690.8	685.0	677.6
27.5°	660.2	667.6	675.1	680.8	683.3	686.6	683.3	680.0	674.3	668.5	661.0
30°	641.2	648.6	656.1	661.8	664.3	666.8	663.5	660.2	655.3	649.5	642.0
32.5°	619.7	627.1	633.0	638.7	642.0	645.3	642.0	639.5	633.8	626.3	618.8
35°	596.5	604.0	611.5	617.2	620.5	623.8	619.7	615.5	610.6	604.8	598.2
37.5°	571.0	579.2	587.5	594.0	596.5	599.9	596.5	592.5	587.5	581.7	574.2
40°	547.0	554.4	561.9	568.5	571.0	573.4	570.2	566.8	561.0	555.2	547.9
42.5°	522.2	529.6	536.2	542.0	544.5	547.9	544.5	540.4	536.2	531.3	524.7
45°	495.8	503.2	508.9	514.8	517.2	519.7	516.4	512.3	508.1	504.1	497.4
47.5°	468.5	475.1	480.9	486.6	488.3	490.8	487.5	485.0	480.9	476.8	471.0
50°	440.4	447.0	452.8	457.8	459.4	461.9	458.6	455.3	452.0	448.6	443.7
52.5°	411.5	417.3	423.0	428.0	429.7	431.3	428.0	424.7	421.4	418.1	413.1
55°	381.7	387.5	393.3	397.5	399.0	400.7	397.5	395.0	391.7	389.2	384.2
57.5°	352.0	357.7	362.7	366.9	368.5	370.2	366.9	363.5	361.1	358.6	354.5
60°	321.4	327.2	331.4	334.6	336.3	337.1	333.9	331.4	329.7	328.0	323.9
62.5°	291.6	295.8	299.9	302.4	304.1	304.9	302.4	300.8	299.1	297.4	294.1
65°	260.3	265.3	268.6	271.0	271.8	272.6	270.1	268.6	266.9	265.3	262.8
67.5°	228.8	233.0	235.5	238.0	238.8	238.8	238.8	238.0	236.3	233.8	231.3
70°	197.5	200.8	203.3	204.9	205.7	205.7	204.1	202.5	202.5	201.6	200.0
72.5°	165.2	167.7	169.4	171.0	171.0	171.0	171.0	171.9	171.0	169.4	166.9
75°	134.7	137.2	138.9	139.7	139.7	139.7	139.7	140.4	139.7	138.9	137.2
77.5°	105.8	107.4	108.2	109.1	109.1	109.1	109.9	110.7	109.9	109.1	108.2
80°	78.5	79.3	80.1	81.0	80.1	80.1	81.0	82.6	81.8	81.0	80.1
82.5°	53.8	54.5	55.3	55.3	56.1	57.0	57.0	57.0	57.0	56.1	55.3
85°	32.3	33.0	33.0	33.0	33.0	33.0	33.8	34.7	34.7	33.8	33.8
87.5°	14.8	15.7	14.8	14.0	13.2	13.2	14.8	16.5	16.5	15.7	15.7
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):

	330°	340°	350°	360°
0°	730.4	730.4	730.4	730.4
2.5°	737.0	736.2	732.1	727.9
5°	739.5	737.0	731.2	725.4
7.5°	739.5	736.2	727.9	720.5
10°	735.4	730.4	721.4	712.2
12.5°	730.4	724.6	713.9	703.9
15°	722.9	716.4	704.8	693.3
17.5°	712.2	703.9	692.4	680.0
20°	701.5	692.4	678.4	665.1
22.5°	686.6	678.4	663.5	649.5
25°	670.1	661.0	646.1	631.3
27.5°	652.8	642.0	627.1	612.3
30°	633.0	622.2	607.3	592.5
32.5°	611.5	601.5	586.7	571.0
35°	590.0	579.2	564.4	548.7
37.5°	566.0	556.1	541.2	526.4
40°	540.4	530.4	515.6	500.7
42.5°	516.4	507.3	492.4	478.4
45°	490.0	480.9	466.8	453.6
47.5°	462.8	453.6	440.4	427.2
50°	436.3	427.2	414.8	402.4
52.5°	406.5	399.0	387.5	376.0
55°	377.6	370.2	358.6	347.9
57.5°	348.7	342.1	331.4	321.4
60°	318.1	311.5	303.2	294.1
62.5°	289.2	283.4	275.1	266.9
65°	258.6	253.6	246.3	238.8
67.5°	227.2	223.1	216.5	209.8
70°	195.8	190.9	185.9	180.2
72.5°	164.4	161.9	157.0	152.0
75°	134.7	132.2	128.1	123.9
77.5°	106.6	104.1	100.8	97.5
80°	78.5	76.8	74.4	71.9
82.5°	54.5	52.9	51.3	48.8
85°	33.0	31.4	29.8	28.1
87.5°	14.8	14.0	12.4	11.5
90°	0.0	0.0	0.0	0.0

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