

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-24L940-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-24L940-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

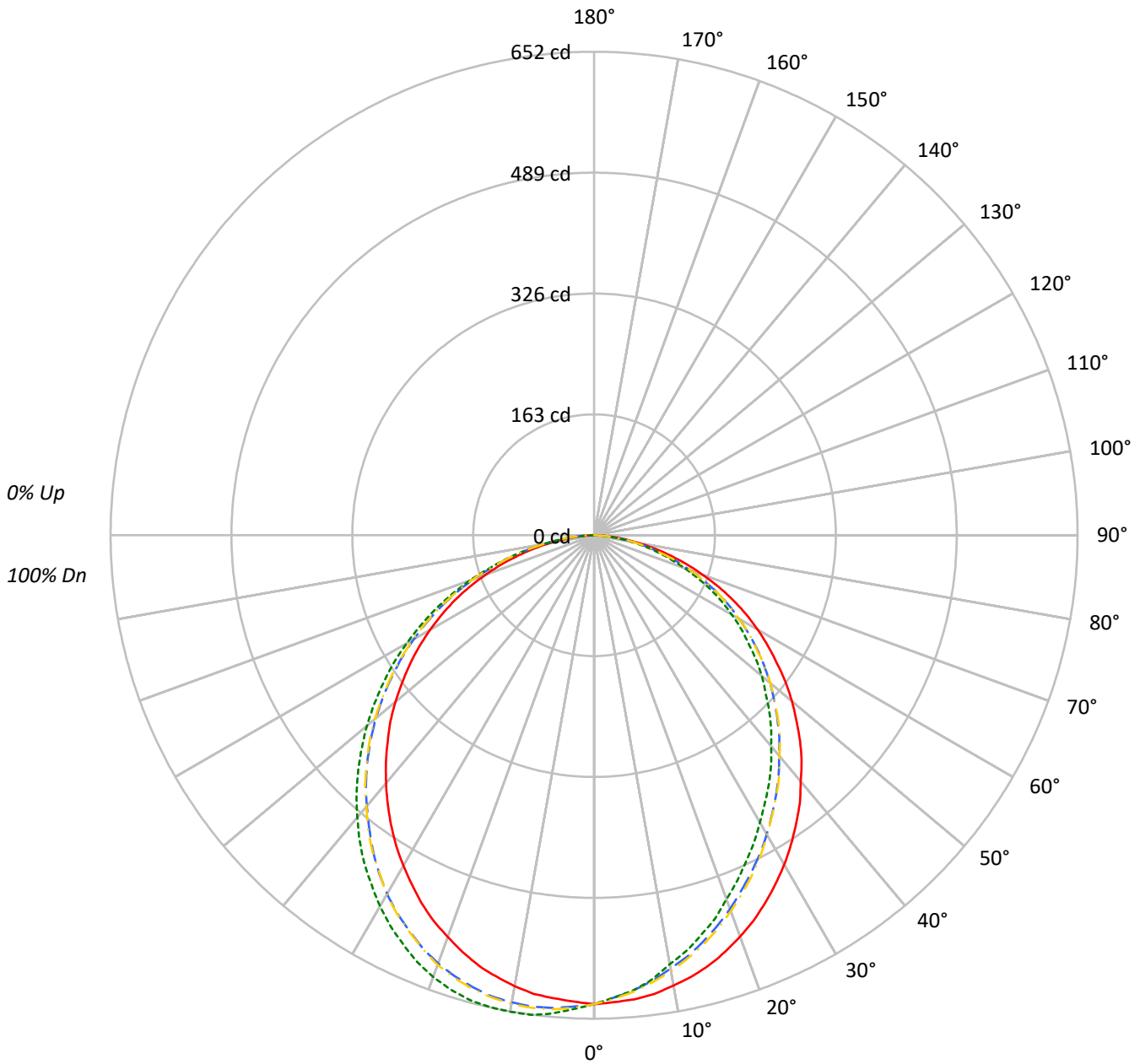
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1696.1 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): 27.9
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°	5835	5835	5835	5835
5°	5817	5705	5804	5996
10°	5777	5502	5784	6112
15°	5733	5330	5741	6197
20°	5654	5127	5661	6224
25°	5564	4938	5586	6198
30°	5464	4763	5480	6151
35°	5350	4626	5374	6083
40°	5221	4472	5256	5980
45°	5125	4358	5133	5870
50°	5001	4240	5021	5740
55°	4845	4084	4879	5580
60°	4700	3960	4713	5386
65°	4512	3794	4512	5152
70°	4205	3512	4189	4804
75°	3825	3187	3771	4310
80°	3305	2736	3193	3687
85°	2572	2043	2424	3028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.8	3.5
10°-20°	169.6	10.0
20°-30°	252.1	14.9
30°-40°	297.2	17.5
40°-50°	302.6	17.8
50°-60°	269.5	15.9
60°-70°	203.1	12.0
70°-80°	112.9	6.7
80°-90°	29.3	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°	481.5	28.4
0°-40°	778.6	45.9
0°-60°	1350.7	79.6
0°-90°	1696.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1696.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	632	632	632	632	632	
5°	628	616	627	647	628	60
15°	600	558	601	649	600	169
25°	547	485	549	609	547	252
35°	475	411	477	540	475	297
45°	393	334	393	450	393	303
55°	301	254	303	347	301	270
65°	207	174	207	236	207	204
75°	107	89	106	121	107	114
85°	24	19	23	29	24	29
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°	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4
2.5°	630.3	630.3	630.9	628.1	624.6	623.1	622.4	621.7	623.1	623.8	623.1
5°	628.1	626.7	625.2	621.7	617.4	614.5	613.1	612.4	613.8	616.0	613.8
7.5°	623.8	621.0	618.1	613.1	608.1	603.8	601.6	600.2	601.6	603.8	602.3
10°	616.6	613.1	608.8	603.1	595.9	590.9	588.8	586.6	587.3	587.3	587.3
12.5°	609.5	604.5	599.5	592.3	584.5	578.7	575.1	572.3	573.8	574.5	574.5
15°	600.2	593.8	586.6	578.7	570.9	564.4	560.1	557.3	558.0	558.0	558.7
17.5°	588.8	581.6	574.5	565.2	555.9	548.7	543.7	540.1	541.6	542.2	543.0
20°	575.9	568.0	560.1	550.2	540.1	532.3	527.2	523.0	522.2	522.2	523.0
22.5°	562.3	553.8	544.4	533.7	523.0	514.4	509.3	505.1	504.3	504.3	505.1
25°	546.6	537.2	527.9	517.2	505.8	497.2	490.8	486.4	485.7	485.1	486.4
27.5°	530.1	520.8	511.5	500.7	488.6	480.0	473.5	469.3	467.8	467.2	468.6
30°	512.9	502.2	492.2	480.7	470.0	461.5	455.0	449.9	448.6	447.1	448.6
32.5°	494.4	483.6	472.9	461.5	450.7	442.1	435.6	430.7	429.2	428.5	429.9
35°	475.0	464.3	454.3	442.8	432.0	423.5	417.1	412.8	411.3	410.7	411.3
37.5°	455.7	445.0	435.0	423.5	412.8	404.2	397.8	393.4	392.8	392.0	392.8
40°	433.5	424.2	414.2	403.5	392.8	384.2	379.1	374.1	372.7	371.3	373.4
42.5°	414.2	404.9	394.9	384.8	374.1	365.6	359.9	355.5	354.1	353.4	354.1
45°	392.8	382.7	372.7	363.5	353.4	345.6	339.8	335.5	334.8	334.0	334.8
47.5°	369.8	361.2	352.7	343.4	333.4	325.5	320.5	316.2	314.8	313.3	314.8
50°	348.4	339.8	331.2	322.6	313.3	306.2	301.2	296.9	296.1	295.4	296.1
52.5°	325.5	316.9	309.1	300.5	292.6	285.5	280.5	276.9	276.1	275.4	276.1
55°	301.2	294.0	286.8	279.7	271.8	265.4	261.1	256.8	255.4	253.9	255.4
57.5°	278.3	271.8	264.7	257.5	250.4	244.7	240.4	236.8	236.0	235.4	236.0
60°	254.7	248.9	242.5	236.0	228.9	223.2	219.6	216.8	215.3	214.6	215.3
62.5°	231.1	225.3	220.4	213.9	207.5	203.2	199.6	196.8	195.3	194.5	195.3
65°	206.7	201.7	196.8	191.0	186.0	181.7	178.1	175.3	174.5	173.8	173.8
67.5°	181.7	177.4	173.2	168.1	162.4	158.1	154.5	152.4	151.7	150.9	151.7
70°	155.9	152.4	148.1	143.8	139.5	135.9	133.8	131.7	130.9	130.2	130.2
72.5°	131.7	128.8	125.2	121.6	118.0	114.4	112.3	110.9	110.2	109.4	109.4
75°	107.3	104.5	102.3	99.5	95.9	93.7	91.6	90.2	89.4	89.4	89.4
77.5°	84.5	82.2	80.1	77.3	75.1	72.9	71.5	70.8	70.1	70.1	70.1
80°	62.2	60.9	59.4	57.9	55.8	53.7	52.9	52.2	51.5	51.5	51.5
82.5°	42.2	41.5	40.1	38.6	37.2	36.5	35.8	35.0	35.0	35.0	35.0
85°	24.3	23.6	22.9	22.2	21.5	21.5	20.7	20.0	19.3	19.3	19.3
87.5°	10.0	10.0	10.0	9.3	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4
2.5°	621.7	623.1	624.6	626.7	628.8	630.9	630.3	629.5	632.4	636.0	636.7
5°	612.4	613.8	616.0	619.5	623.1	625.9	626.7	626.7	632.4	637.4	638.9
7.5°	601.0	603.1	605.9	609.5	614.5	618.8	621.0	623.8	629.5	636.0	638.9
10°	586.6	590.2	594.5	599.5	604.5	609.5	613.8	617.4	624.6	631.7	636.0
12.5°	573.8	577.4	581.6	587.3	593.8	600.2	604.5	609.5	618.1	626.7	631.7
15°	559.5	563.0	568.0	573.8	580.9	588.1	594.5	601.0	609.5	618.8	624.6
17.5°	543.7	547.3	552.3	559.5	567.3	575.1	582.3	589.4	599.5	609.5	616.0
20°	524.3	529.4	535.9	543.0	552.3	561.6	568.7	576.6	587.3	598.1	605.2
22.5°	505.8	510.8	518.0	526.6	536.5	546.6	555.1	563.7	575.1	585.9	593.8
25°	487.9	493.6	500.7	509.3	518.6	528.7	538.7	548.7	560.1	571.5	579.5
27.5°	470.0	475.0	482.2	490.8	501.5	511.5	521.5	531.5	543.7	555.9	564.4
30°	449.9	455.7	462.1	470.7	482.2	493.6	503.6	514.4	526.6	538.7	547.3
32.5°	431.4	436.4	442.8	451.4	462.8	474.3	485.1	496.5	507.9	520.1	528.7
35°	412.8	417.8	424.2	432.8	444.2	455.7	466.4	477.1	488.6	500.1	508.7
37.5°	394.2	399.2	405.6	414.2	424.9	436.4	446.4	457.1	468.6	480.0	487.9
40°	374.9	379.9	384.8	393.4	404.2	415.6	425.7	436.4	447.8	459.2	467.2
42.5°	355.5	360.6	367.0	375.6	385.6	395.6	405.6	415.6	426.3	437.1	445.0
45°	336.3	340.5	346.9	354.8	364.8	374.1	384.2	393.4	404.2	414.2	422.1
47.5°	316.2	320.5	325.5	333.4	343.4	353.4	363.5	372.7	382.0	392.0	399.2
50°	296.9	301.2	306.9	314.0	323.3	332.7	341.2	349.8	359.1	368.4	374.9
52.5°	276.9	281.1	286.2	293.3	301.2	309.8	317.6	326.2	334.8	343.4	349.8
55°	256.8	259.7	264.0	270.4	279.0	287.6	295.4	303.3	311.2	318.4	324.8
57.5°	236.8	240.4	245.3	251.1	258.3	265.4	272.5	279.7	286.8	294.0	299.7
60°	216.8	219.6	223.2	228.2	235.4	241.8	248.9	255.4	261.8	268.3	273.3
62.5°	196.0	198.9	202.5	207.5	213.2	218.9	225.3	231.1	236.8	242.5	247.6
65°	174.5	177.4	181.0	185.3	190.3	195.3	201.0	206.7	211.0	215.3	220.4
67.5°	152.4	155.3	158.9	162.4	166.7	171.7	176.7	181.7	186.0	190.3	193.9
70°	130.9	133.0	136.6	139.5	143.1	146.7	150.9	155.3	158.1	161.7	166.0
72.5°	110.2	112.3	115.2	118.0	120.2	123.1	127.3	130.9	134.5	138.8	141.0
75°	90.2	91.6	93.7	95.9	98.0	100.1	103.0	105.8	108.7	110.9	113.8
77.5°	70.1	71.5	73.7	75.1	76.5	78.0	80.1	82.2	84.5	85.8	88.7
80°	51.5	52.9	54.4	55.8	57.3	58.6	59.4	60.1	63.0	65.1	66.6
82.5°	35.0	35.8	36.5	37.9	38.6	39.4	40.1	40.1	41.5	43.0	45.1
85°	20.0	20.7	21.5	21.5	21.5	21.5	22.2	22.9	23.6	25.1	26.5
87.5°	7.8	7.8	8.6	8.6	8.6	8.6	8.6	8.6	9.3	10.7	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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4	632.4
2.5°	636.0	636.7	638.1	638.9	639.6	639.6	640.2	641.0	639.6	638.1	637.4
5°	639.6	640.2	642.4	644.6	646.0	647.4	646.7	646.0	644.6	642.4	641.0
7.5°	640.2	642.4	644.6	647.4	649.5	652.4	651.0	649.5	646.7	643.8	641.7
10°	638.1	641.0	644.6	648.2	650.3	652.4	651.0	649.5	646.7	643.1	640.2
12.5°	635.3	638.9	643.1	646.7	648.8	651.7	649.5	647.4	643.8	640.2	636.7
15°	628.8	633.1	638.1	642.4	646.0	648.8	646.7	645.3	641.0	636.0	630.9
17.5°	621.0	626.7	631.7	636.7	639.6	642.4	641.0	639.6	634.5	628.8	623.1
20°	611.7	617.4	622.4	627.4	630.9	633.9	631.7	629.5	624.6	619.5	613.8
22.5°	600.2	605.9	611.7	616.6	620.2	623.1	620.2	616.6	611.7	606.7	601.0
25°	585.9	592.3	598.7	603.8	605.9	608.8	605.9	603.1	598.1	593.0	586.6
27.5°	571.5	578.0	584.5	589.4	591.6	594.5	591.6	588.8	583.7	578.7	572.3
30°	555.1	561.6	568.0	573.0	575.1	577.4	574.5	571.5	567.3	562.3	555.9
32.5°	536.5	543.0	547.9	553.0	555.9	558.7	555.9	553.8	548.7	542.2	535.9
35°	516.5	523.0	529.4	534.4	537.2	540.1	536.5	532.9	528.7	523.7	518.0
37.5°	494.4	501.5	508.7	514.4	516.5	519.4	516.5	512.9	508.7	503.6	497.2
40°	473.5	480.0	486.4	492.2	494.4	496.5	493.6	490.8	485.7	480.7	474.3
42.5°	452.1	458.6	464.3	469.3	471.4	474.3	471.4	467.8	464.3	460.0	454.3
45°	429.2	435.6	440.7	445.7	447.8	449.9	447.1	443.6	440.0	436.4	430.7
47.5°	405.6	411.3	416.4	421.4	422.8	424.9	422.1	420.0	416.4	412.8	407.8
50°	381.3	387.1	392.0	396.4	397.8	399.9	397.0	394.2	391.3	388.4	384.2
52.5°	356.3	361.2	366.3	370.6	372.0	373.4	370.6	367.7	364.8	362.0	357.7
55°	330.5	335.5	340.5	344.1	345.6	346.9	344.1	342.0	339.1	337.0	332.7
57.5°	304.7	309.8	314.0	317.6	319.1	320.5	317.6	314.8	312.7	310.4	306.9
60°	278.3	283.3	286.8	289.7	291.2	291.9	289.0	286.8	285.5	284.0	280.5
62.5°	252.5	256.1	259.7	261.8	263.2	264.0	261.8	260.4	259.0	257.5	254.7
65°	225.3	229.7	232.5	234.6	235.4	236.0	233.9	232.5	231.1	229.7	227.5
67.5°	198.1	201.7	203.9	206.1	206.7	206.7	206.7	206.1	204.6	202.5	200.4
70°	170.9	173.8	176.0	177.4	178.1	178.1	176.7	175.3	175.3	174.5	173.2
72.5°	143.1	145.2	146.7	148.1	148.1	148.1	148.1	148.8	148.1	146.7	144.5
75°	116.6	118.8	120.2	120.9	120.9	120.9	120.9	121.6	120.9	120.2	118.8
77.5°	91.6	93.0	93.7	94.4	94.4	94.4	95.2	95.9	95.2	94.4	93.7
80°	68.0	68.7	69.4	70.1	69.4	69.4	70.1	71.5	70.8	70.1	69.4
82.5°	46.5	47.2	47.9	47.9	48.7	49.3	49.3	49.3	49.3	48.7	47.9
85°	27.9	28.6	28.6	28.6	28.6	28.6	29.3	30.1	30.1	29.3	29.3
87.5°	12.9	13.6	12.9	12.2	11.4	11.4	12.9	14.3	14.3	13.6	13.6
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):

	330°	340°	350°	360°
0°	632.4	632.4	632.4	632.4
2.5°	638.1	637.4	633.9	630.3
5°	640.2	638.1	633.1	628.1
7.5°	640.2	637.4	630.3	623.8
10°	636.7	632.4	624.6	616.6
12.5°	632.4	627.4	618.1	609.5
15°	625.9	620.2	610.2	600.2
17.5°	616.6	609.5	599.5	588.8
20°	607.3	599.5	587.3	575.9
22.5°	594.5	587.3	574.5	562.3
25°	580.2	572.3	559.5	546.6
27.5°	565.2	555.9	543.0	530.1
30°	547.9	538.7	525.8	512.9
32.5°	529.4	520.8	507.9	494.4
35°	510.8	501.5	488.6	475.0
37.5°	490.0	481.5	468.6	455.7
40°	467.8	459.2	446.4	433.5
42.5°	447.1	439.2	426.3	414.2
45°	424.2	416.4	404.2	392.8
47.5°	400.6	392.8	381.3	369.8
50°	377.7	369.8	359.1	348.4
52.5°	351.9	345.6	335.5	325.5
55°	326.9	320.5	310.4	301.2
57.5°	301.9	296.1	286.8	278.3
60°	275.4	269.7	262.6	254.7
62.5°	250.4	245.3	238.2	231.1
65°	224.0	219.6	213.2	206.7
67.5°	196.8	193.2	187.4	181.7
70°	169.6	165.2	161.0	155.9
72.5°	142.4	140.2	135.9	131.7
75°	116.6	114.4	110.9	107.3
77.5°	92.3	90.2	87.3	84.5
80°	68.0	66.6	64.4	62.2
82.5°	47.2	45.8	44.3	42.2
85°	28.6	27.2	25.7	24.3
87.5°	12.9	12.2	10.7	10.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)