

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-20L930-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-20L930-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

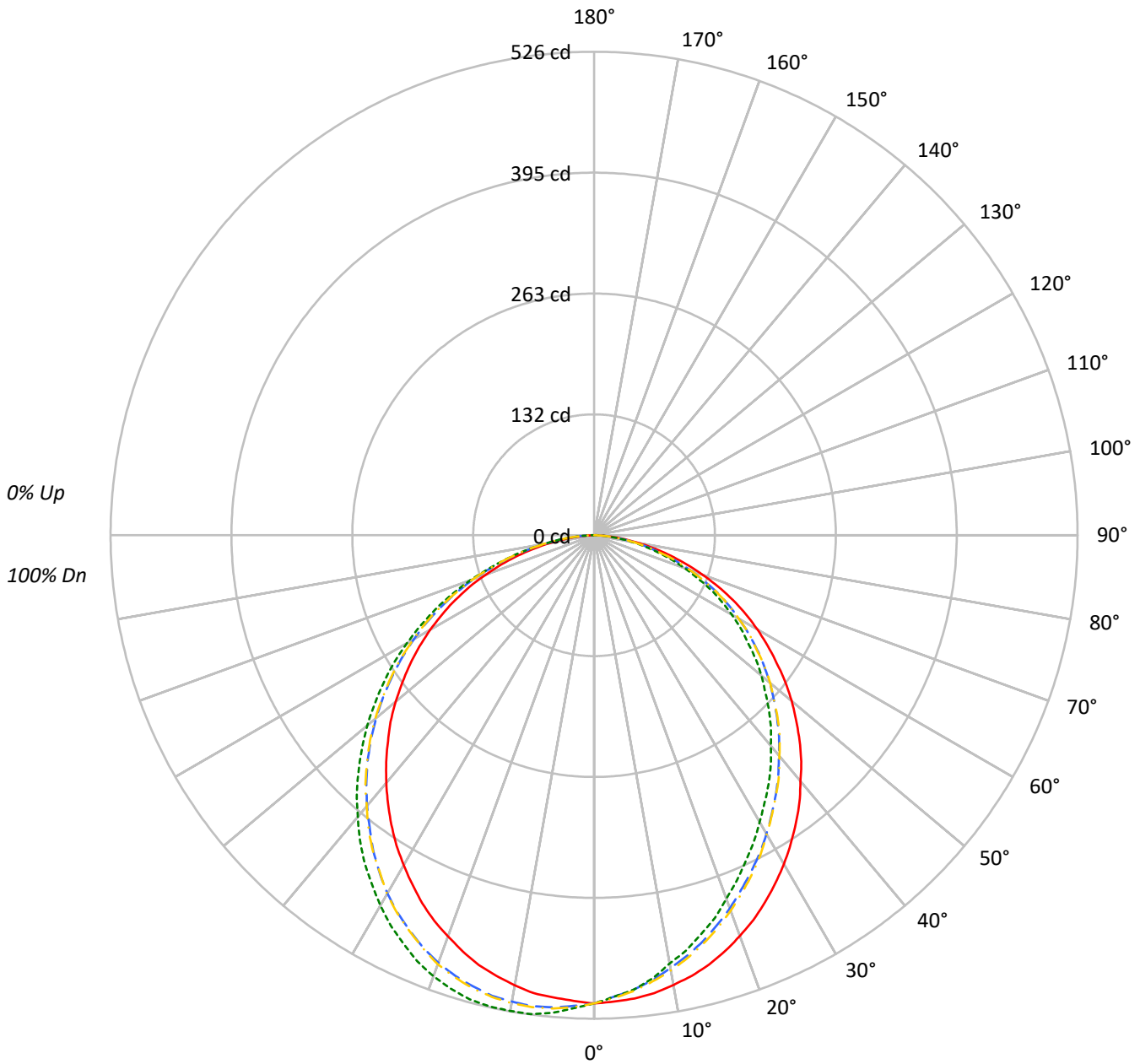
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1366.3 lumens
Efficiency: N/A
Efficacy: 57.4 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	4700	4700	4700	4700
5°	4686	4595	4675	4830
10°	4654	4432	4659	4923
15°	4618	4293	4624	4993
20°	4555	4131	4561	5013
25°	4482	3977	4500	4992
30°	4401	3836	4414	4955
35°	4309	3726	4330	4901
40°	4207	3602	4235	4818
45°	4127	3511	4136	4729
50°	4029	3416	4045	4623
55°	3902	3291	3930	4496
60°	3785	3190	3796	4338
65°	3635	3059	3635	4152
70°	3391	2830	3372	3871
75°	3083	2567	3041	3472
80°	2667	2205	2572	2970
85°	2075	1651	1948	2445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	3.5
10°-20°	136.6	10.0
20°-30°	203.1	14.9
30°-40°	239.4	17.5
40°-50°	243.7	17.8
50°-60°	217.1	15.9
60°-70°	163.6	12.0
70°-80°	91.0	6.7
80°-90°	23.6	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°	387.8	28.4
0°-40°	627.2	45.9
0°-60°	1088.1	79.6
0°-90°	1366.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1366.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	509	509	509	509	509	
5°	506	496	505	522	506	48
15°	484	450	484	523	484	136
25°	440	391	442	490	440	203
35°	383	331	384	435	383	239
45°	316	269	317	362	316	244
55°	243	205	244	280	243	217
65°	166	140	166	190	166	164
75°	86	72	85	97	86	92
85°	20	16	18	23	20	24
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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	507.7	507.7	508.3	506.0	503.0	501.9	501.4	500.7	501.9	502.5	501.9
5°	506.0	504.8	503.7	500.7	497.3	495.0	493.8	493.3	494.5	496.1	494.5
7.5°	502.5	500.2	497.9	493.8	489.9	486.4	484.6	483.5	484.6	486.4	485.2
10°	496.8	493.8	490.4	485.8	480.0	476.0	474.3	472.5	473.1	473.1	473.1
12.5°	491.0	486.9	482.9	477.1	470.8	466.2	463.3	461.0	462.2	462.8	462.8
15°	483.5	478.3	472.5	466.2	459.9	454.6	451.2	448.9	449.5	449.5	450.0
17.5°	474.3	468.5	462.8	455.3	447.7	442.0	438.0	435.1	436.2	436.8	437.4
20°	463.9	457.6	451.2	443.1	435.1	428.7	424.7	421.3	420.7	420.7	421.3
22.5°	453.0	446.1	438.5	429.9	421.3	414.3	410.3	406.9	406.2	406.2	406.9
25°	440.3	432.8	425.3	416.7	407.4	400.5	395.4	391.9	391.3	390.7	391.9
27.5°	427.0	419.5	412.0	403.4	393.6	386.7	381.5	378.0	376.9	376.3	377.5
30°	413.1	404.6	396.5	387.2	378.6	371.7	366.5	362.4	361.3	360.1	361.3
32.5°	398.2	389.5	380.9	371.7	363.1	356.2	350.9	346.9	345.8	345.2	346.3
35°	382.6	374.0	365.9	356.7	348.1	341.1	336.0	332.5	331.4	330.8	331.4
37.5°	367.0	358.5	350.4	341.1	332.5	325.6	320.4	317.0	316.3	315.8	316.3
40°	349.3	341.7	333.7	325.0	316.3	309.4	305.5	301.4	300.2	299.1	300.8
42.5°	333.7	326.2	318.1	310.1	301.4	294.5	289.9	286.4	285.3	284.7	285.3
45°	316.3	308.3	300.2	292.7	284.7	278.4	273.7	270.2	269.7	269.1	269.7
47.5°	297.9	291.0	284.1	276.6	268.6	262.2	258.2	254.7	253.6	252.4	253.6
50°	280.7	273.7	266.8	259.9	252.4	246.6	242.6	239.2	238.6	238.0	238.6
52.5°	262.2	255.3	248.9	242.0	235.7	229.9	225.9	223.0	222.5	221.8	222.5
55°	242.6	236.9	231.1	225.3	219.0	213.8	210.3	206.9	205.7	204.6	205.7
57.5°	224.1	219.0	213.3	207.5	201.7	197.1	193.6	190.8	190.2	189.6	190.2
60°	205.1	200.5	195.4	190.2	184.4	179.8	176.9	174.6	173.4	172.9	173.4
62.5°	186.2	181.5	177.5	172.3	167.2	163.7	160.8	158.5	157.3	156.7	157.3
65°	166.5	162.5	158.5	153.9	149.8	146.4	143.5	141.2	140.6	140.1	140.1
67.5°	146.4	142.9	139.5	135.4	130.8	127.3	124.5	122.7	122.2	121.6	122.2
70°	125.7	122.7	119.3	115.8	112.4	109.5	107.8	106.0	105.5	104.9	104.9
72.5°	106.0	103.7	100.9	98.0	95.1	92.2	90.4	89.3	88.8	88.1	88.1
75°	86.5	84.2	82.4	80.1	77.3	75.5	73.8	72.7	72.0	72.0	72.0
77.5°	68.0	66.3	64.5	62.2	60.5	58.8	57.6	57.1	56.5	56.5	56.5
80°	50.2	49.0	47.9	46.7	45.0	43.2	42.7	42.0	41.5	41.5	41.5
82.5°	34.0	33.5	32.3	31.2	30.0	29.4	28.9	28.2	28.2	28.2	28.2
85°	19.6	19.0	18.4	17.9	17.3	17.3	16.7	16.1	15.6	15.6	15.6
87.5°	8.1	8.1	8.1	7.5	6.9	6.9	6.9	6.9	6.9	6.9	6.9
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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	500.7	501.9	503.0	504.8	506.5	508.3	507.7	507.1	509.4	512.3	512.9
5°	493.3	494.5	496.1	499.1	501.9	504.2	504.8	504.8	509.4	513.5	514.6
7.5°	484.1	485.8	488.1	491.0	495.0	498.4	500.2	502.5	507.1	512.3	514.6
10°	472.5	475.4	478.9	482.9	486.9	491.0	494.5	497.3	503.0	508.9	512.3
12.5°	462.2	465.1	468.5	473.1	478.3	483.5	486.9	491.0	497.9	504.8	508.9
15°	450.7	453.5	457.6	462.2	467.9	473.7	478.9	484.1	491.0	498.4	503.0
17.5°	438.0	440.8	444.9	450.7	456.9	463.3	469.1	474.8	482.9	491.0	496.1
20°	422.4	426.4	431.6	437.4	444.9	452.3	458.1	464.5	473.1	481.7	487.6
22.5°	407.4	411.5	417.2	424.1	432.2	440.3	447.2	454.1	463.3	472.0	478.3
25°	393.0	397.7	403.4	410.3	417.8	425.9	433.9	442.0	451.2	460.4	466.8
27.5°	378.6	382.6	388.4	395.4	403.9	412.0	420.1	428.2	438.0	447.7	454.6
30°	362.4	367.0	372.3	379.2	388.4	397.7	405.7	414.3	424.1	433.9	440.8
32.5°	347.5	351.6	356.7	363.6	372.9	382.1	390.7	400.0	409.2	419.0	425.9
35°	332.5	336.5	341.7	348.6	357.8	367.0	375.7	384.4	393.6	402.8	409.7
37.5°	317.5	321.6	326.8	333.7	342.3	351.6	359.6	368.2	377.5	386.7	393.0
40°	302.0	306.0	310.1	317.0	325.6	334.8	342.9	351.6	360.8	370.0	376.3
42.5°	286.4	290.4	295.6	302.5	310.6	318.6	326.8	334.8	343.4	352.1	358.5
45°	270.9	274.3	279.5	285.8	293.9	301.4	309.4	317.0	325.6	333.7	340.0
47.5°	254.7	258.2	262.2	268.6	276.6	284.7	292.7	300.2	307.8	315.8	321.6
50°	239.2	242.6	247.2	253.0	260.5	267.9	274.8	281.8	289.3	296.8	302.0
52.5°	223.0	226.4	230.5	236.3	242.6	249.5	255.9	262.8	269.7	276.6	281.8
55°	206.9	209.2	212.6	217.9	224.8	231.7	238.0	244.3	250.7	256.4	261.7
57.5°	190.8	193.6	197.7	202.3	208.0	213.8	219.5	225.3	231.1	236.9	241.5
60°	174.6	176.9	179.8	183.8	189.6	194.8	200.5	205.7	211.0	216.1	220.2
62.5°	157.9	160.2	163.1	167.2	171.8	176.4	181.5	186.2	190.8	195.4	199.4
65°	140.6	142.9	145.8	149.3	153.3	157.3	161.9	166.5	170.0	173.4	177.5
67.5°	122.7	125.0	128.0	130.8	134.2	138.3	142.4	146.4	149.8	153.3	156.2
70°	105.5	107.2	110.1	112.4	115.2	118.1	121.6	125.0	127.3	130.3	133.7
72.5°	88.8	90.4	92.8	95.1	96.8	99.1	102.6	105.5	108.3	111.8	113.5
75°	72.7	73.8	75.5	77.3	78.9	80.7	83.0	85.3	87.6	89.3	91.6
77.5°	56.5	57.6	59.4	60.5	61.7	62.8	64.5	66.3	68.0	69.2	71.5
80°	41.5	42.7	43.8	45.0	46.1	47.3	47.9	48.4	50.7	52.5	53.6
82.5°	28.2	28.9	29.4	30.5	31.2	31.7	32.3	32.3	33.5	34.6	36.3
85°	16.1	16.7	17.3	17.3	17.3	17.3	17.9	18.4	19.0	20.2	21.3
87.5°	6.4	6.4	6.9	6.9	6.9	6.9	6.9	6.9	7.5	8.7	9.2
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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	512.3	512.9	514.0	514.6	515.2	515.2	515.8	516.3	515.2	514.0	513.5
5°	515.2	515.8	517.5	519.2	520.4	521.5	520.9	520.4	519.2	517.5	516.3
7.5°	515.8	517.5	519.2	521.5	523.2	525.5	524.4	523.2	520.9	518.6	516.9
10°	514.0	516.3	519.2	522.1	523.8	525.5	524.4	523.2	520.9	518.1	515.8
12.5°	511.7	514.6	518.1	520.9	522.7	525.0	523.2	521.5	518.6	515.8	512.9
15°	506.5	510.0	514.0	517.5	520.4	522.7	520.9	519.8	516.3	512.3	508.3
17.5°	500.2	504.8	508.9	512.9	515.2	517.5	516.3	515.2	511.2	506.5	501.9
20°	492.7	497.3	501.4	505.3	508.3	510.6	508.9	507.1	503.0	499.1	494.5
22.5°	483.5	488.1	492.7	496.8	499.6	501.9	499.6	496.8	492.7	488.7	484.1
25°	472.0	477.1	482.3	486.4	488.1	490.4	488.1	485.8	481.7	477.7	472.5
27.5°	460.4	465.6	470.8	474.8	476.6	478.9	476.6	474.3	470.2	466.2	461.0
30°	447.2	452.3	457.6	461.6	463.3	465.1	462.8	460.4	456.9	453.0	447.7
32.5°	432.2	437.4	441.5	445.4	447.7	450.0	447.7	446.1	442.0	436.8	431.6
35°	416.1	421.3	426.4	430.5	432.8	435.1	432.2	429.3	425.9	421.8	417.2
37.5°	398.2	403.9	409.7	414.3	416.1	418.4	416.1	413.1	409.7	405.7	400.5
40°	381.5	386.7	391.9	396.5	398.2	400.0	397.7	395.4	391.3	387.2	382.1
42.5°	364.2	369.4	374.0	378.0	379.8	382.1	379.8	376.9	374.0	370.6	365.9
45°	345.8	350.9	355.0	359.0	360.8	362.4	360.1	357.3	354.4	351.6	346.9
47.5°	326.8	331.4	335.4	339.4	340.6	342.3	340.0	338.3	335.4	332.5	328.5
50°	307.1	311.7	315.8	319.3	320.4	322.1	319.8	317.5	315.2	312.9	309.4
52.5°	287.0	291.0	295.0	298.5	299.7	300.8	298.5	296.2	293.9	291.6	288.1
55°	266.3	270.2	274.3	277.2	278.4	279.5	277.2	275.5	273.2	271.4	267.9
57.5°	245.5	249.5	253.0	255.9	257.1	258.2	255.9	253.6	251.8	250.1	247.2
60°	224.1	228.2	231.1	233.4	234.6	235.1	232.8	231.1	229.9	228.7	225.9
62.5°	203.4	206.3	209.2	211.0	212.1	212.6	211.0	209.8	208.6	207.5	205.1
65°	181.5	185.0	187.3	189.0	189.6	190.2	188.5	187.3	186.2	185.0	183.3
67.5°	159.6	162.5	164.2	166.0	166.5	166.5	166.5	166.0	164.9	163.1	161.3
70°	137.7	140.1	141.8	142.9	143.5	143.5	142.4	141.2	141.2	140.6	139.5
72.5°	115.2	117.0	118.1	119.3	119.3	119.3	119.3	119.9	119.3	118.1	116.4
75°	94.0	95.7	96.8	97.4	97.4	97.4	97.4	98.0	97.4	96.8	95.7
77.5°	73.8	75.0	75.5	76.1	76.1	76.1	76.6	77.3	76.6	76.1	75.5
80°	54.8	55.3	55.9	56.5	55.9	55.9	56.5	57.6	57.1	56.5	55.9
82.5°	37.4	38.1	38.6	38.6	39.2	39.7	39.7	39.7	39.7	39.2	38.6
85°	22.5	23.1	23.1	23.1	23.1	23.1	23.6	24.2	24.2	23.6	23.6
87.5°	10.4	11.0	10.4	9.8	9.2	9.2	10.4	11.5	11.5	11.0	11.0
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°	509.4	509.4	509.4	509.4
2.5°	514.0	513.5	510.6	507.7
5°	515.8	514.0	510.0	506.0
7.5°	515.8	513.5	507.7	502.5
10°	512.9	509.4	503.0	496.8
12.5°	509.4	505.3	497.9	491.0
15°	504.2	499.6	491.5	483.5
17.5°	496.8	491.0	482.9	474.3
20°	489.2	482.9	473.1	463.9
22.5°	478.9	473.1	462.8	453.0
25°	467.4	461.0	450.7	440.3
27.5°	455.3	447.7	437.4	427.0
30°	441.5	433.9	423.6	413.1
32.5°	426.4	419.5	409.2	398.2
35°	411.5	403.9	393.6	382.6
37.5°	394.7	387.8	377.5	367.0
40°	376.9	370.0	359.6	349.3
42.5°	360.1	353.9	343.4	333.7
45°	341.7	335.4	325.6	316.3
47.5°	322.7	316.3	307.1	297.9
50°	304.3	297.9	289.3	280.7
52.5°	283.5	278.4	270.2	262.2
55°	263.3	258.2	250.1	242.6
57.5°	243.2	238.6	231.1	224.1
60°	221.8	217.2	211.5	205.1
62.5°	201.7	197.7	191.9	186.2
65°	180.3	176.9	171.8	166.5
67.5°	158.5	155.6	151.0	146.4
70°	136.5	133.1	129.6	125.7
72.5°	114.7	112.9	109.5	106.0
75°	94.0	92.2	89.3	86.5
77.5°	74.3	72.7	70.3	68.0
80°	54.8	53.6	51.9	50.2
82.5°	38.1	36.9	35.8	34.0
85°	23.1	21.9	20.7	19.6
87.5°	10.4	9.8	8.7	8.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)