

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: P709077

Luminaire Tested: **4APN-X-22L840-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709077
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-22L840-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

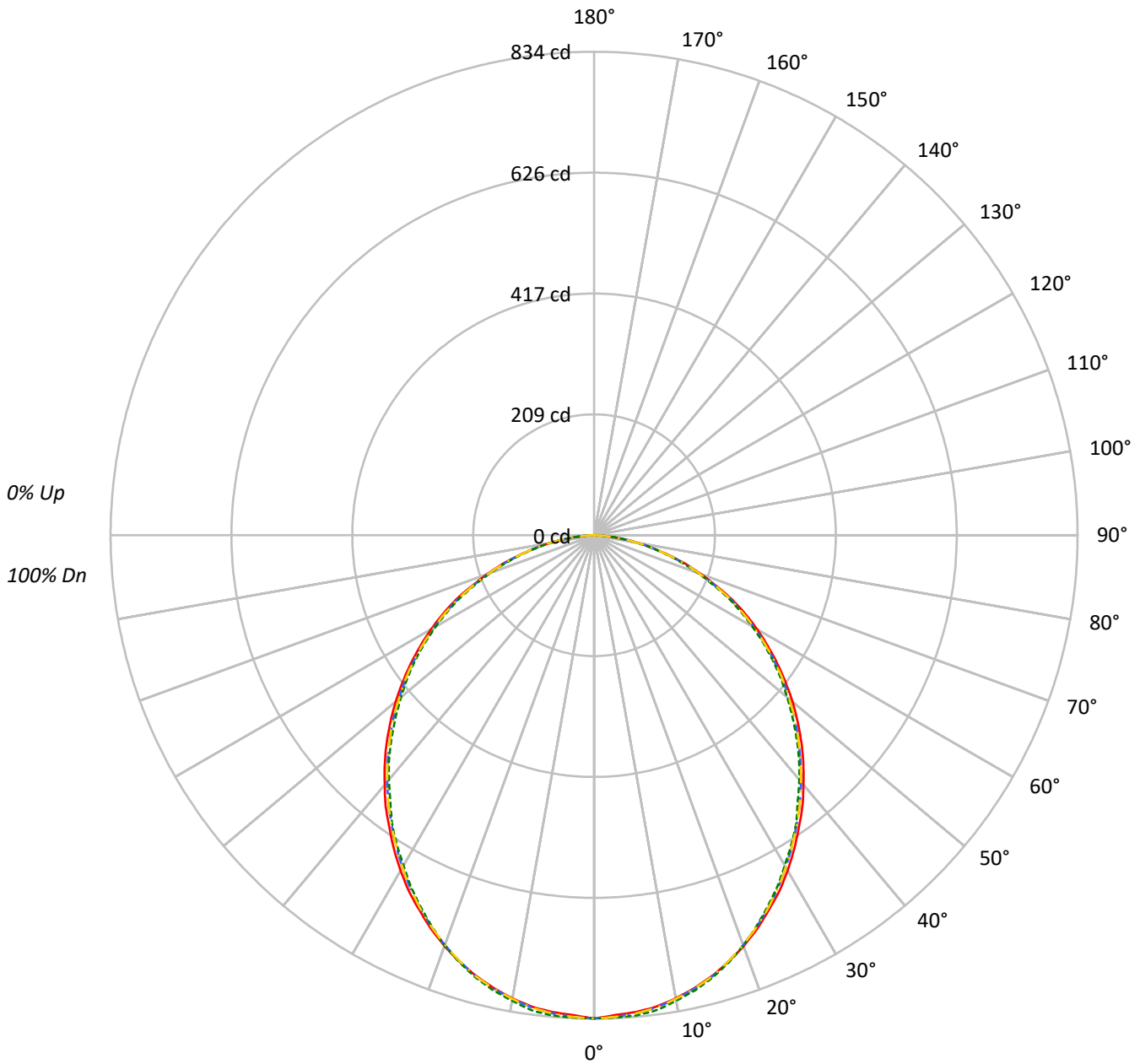
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2168.8 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 24
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

TEST NUMBER: P709077
CATALOG NUMBER: 4APN-X-22L840-UNV

Luminous Intensity Polar Plot



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



TEST NUMBER: P709077
 CATALOG NUMBER: 4APN-X-22L840-UNV

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	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	7691	7691	7691	7691
5°	7645	7702	7645	7702
10°	7600	7638	7600	7638
15°	7515	7544	7515	7544
20°	7405	7395	7405	7395
25°	7263	7201	7263	7201
30°	7113	7005	7113	7005
35°	6936	6843	6936	6843
40°	6766	6631	6766	6631
45°	6601	6440	6601	6440
50°	6413	6238	6413	6238
55°	6206	6058	6206	6058
60°	5991	5822	5991	5822
65°	5733	5556	5733	5556
70°	5298	5133	5298	5133
75°	4791	4645	4791	4645
80°	4112	4001	4112	4001
85°	3123	3123	3123	3123



TEST NUMBER: P709077
 CATALOG NUMBER: 4APN-X-22L840-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.7	3.6
10°-20°	222.2	10.2
20°-30°	327.5	15.1
30°-40°	382.3	17.6
40°-50°	385.4	17.8
50°-60°	340.6	15.7
60°-70°	254.7	11.7
70°-80°	141.2	6.5
80°-90°	36.2	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°	628.3	29.0
0°-40°	1010.6	46.6
0°-60°	1736.7	80.1
0°-90°	2168.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2168.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	834	834	834	834	834	
5°	826	832	826	832	826	78
15°	787	790	787	790	787	222
25°	714	707	714	707	714	329
35°	616	608	616	608	616	386
45°	506	494	506	494	506	390
55°	386	377	386	377	386	345
65°	263	254	263	254	263	259
75°	134	130	134	130	134	143
85°	30	30	30	30	30	36
90°	0	0	0	0	0	



TEST NUMBER: P709077

CATALOG NUMBER: 4APN-X-22L840-UNV

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6
2.5°	828.5	832.6	836.7	835.6	832.6	830.6	831.6	831.6	832.6	832.6	832.6
5°	825.5	829.5	832.6	831.6	828.5	827.5	827.5	827.5	829.5	831.6	829.5
7.5°	820.4	823.4	826.5	825.5	822.4	821.4	821.4	822.4	824.4	826.5	824.4
10°	811.2	815.3	818.3	816.3	813.2	811.2	811.2	811.2	813.2	815.3	813.2
12.5°	800.0	803.1	806.1	805.1	802.1	800.0	800.0	800.0	802.1	804.1	802.1
15°	786.8	789.8	792.9	791.9	788.8	786.8	786.8	786.8	788.8	789.8	788.8
17.5°	771.5	774.6	777.6	775.6	771.5	769.5	769.5	769.5	771.5	772.5	771.5
20°	754.2	757.3	759.3	757.3	753.2	751.2	750.1	750.1	752.2	753.2	752.2
22.5°	734.9	736.9	738.9	736.9	732.8	730.8	729.8	728.8	729.8	730.8	729.8
25°	713.5	715.5	717.6	715.5	711.5	708.4	707.4	706.4	707.4	707.4	707.4
27.5°	692.1	693.1	695.2	692.1	688.1	685.0	684.0	683.0	684.0	684.0	684.0
30°	667.7	668.7	670.8	667.7	662.6	659.6	658.5	657.5	657.5	657.5	657.5
32.5°	642.3	644.3	646.3	642.3	637.2	634.1	633.1	632.1	633.1	633.1	633.1
35°	615.8	616.8	618.8	615.8	610.7	607.6	605.6	604.6	606.6	607.6	606.6
37.5°	590.3	591.4	592.4	589.3	584.2	581.2	579.1	578.1	577.1	577.1	577.1
40°	561.8	562.9	564.9	561.8	556.8	553.7	551.7	550.6	550.6	550.6	550.6
42.5°	534.4	535.4	536.4	533.3	528.3	525.2	523.2	522.1	523.2	523.2	523.2
45°	505.9	505.9	506.9	503.8	499.8	496.7	494.7	493.6	493.6	493.6	493.6
47.5°	476.3	477.4	478.4	475.3	471.3	468.2	466.2	464.1	464.1	464.1	464.1
50°	446.8	446.8	447.8	444.8	440.7	437.7	436.6	435.6	434.6	434.6	434.6
52.5°	416.3	417.3	418.3	415.3	412.2	409.2	407.1	406.1	406.1	406.1	406.1
55°	385.8	385.8	386.8	384.7	381.7	378.6	376.6	375.6	376.6	376.6	376.6
57.5°	355.2	356.2	357.3	354.2	351.2	348.1	347.1	346.1	346.1	346.1	346.1
60°	324.7	324.7	325.7	323.7	320.6	317.6	316.5	315.5	315.5	315.5	315.5
62.5°	294.2	294.2	295.2	293.1	290.1	287.0	286.0	285.0	285.0	285.0	285.0
65°	262.6	262.6	262.6	260.6	258.5	257.5	256.5	255.5	254.5	254.5	254.5
67.5°	228.0	228.0	229.0	227.0	224.9	223.9	222.9	221.9	220.9	220.9	220.9
70°	196.4	196.4	197.5	196.4	194.4	193.4	192.4	191.4	190.3	190.3	190.3
72.5°	165.9	165.9	165.9	164.9	163.9	162.9	161.8	160.8	159.8	159.8	159.8
75°	134.4	134.4	135.4	134.4	133.3	132.3	131.3	131.3	130.3	130.3	130.3
77.5°	104.8	105.9	106.9	105.9	104.8	103.8	102.8	102.8	101.8	101.8	101.8
80°	77.4	78.4	79.4	78.4	77.4	76.3	75.3	75.3	75.3	75.3	75.3
82.5°	51.9	52.9	53.9	52.9	51.9	51.9	50.9	50.9	50.9	50.9	50.9
85°	29.5	30.5	31.6	31.6	30.5	30.5	29.5	29.5	29.5	29.5	29.5
87.5°	11.2	12.2	13.2	13.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P709077

CATALOG NUMBER: 4APN-X-22L840-UNV

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6
2.5°	831.6	831.6	830.6	832.6	835.6	836.7	832.6	828.5	832.6	836.7	835.6
5°	827.5	827.5	827.5	828.5	831.6	832.6	829.5	825.5	829.5	832.6	831.6
7.5°	822.4	821.4	821.4	822.4	825.5	826.5	823.4	820.4	823.4	826.5	825.5
10°	811.2	811.2	811.2	813.2	816.3	818.3	815.3	811.2	815.3	818.3	816.3
12.5°	800.0	800.0	800.0	802.1	805.1	806.1	803.1	800.0	803.1	806.1	805.1
15°	786.8	786.8	786.8	788.8	791.9	792.9	789.8	786.8	789.8	792.9	791.9
17.5°	769.5	769.5	769.5	771.5	775.6	777.6	774.6	771.5	774.6	777.6	775.6
20°	750.1	750.1	751.2	753.2	757.3	759.3	757.3	754.2	757.3	759.3	757.3
22.5°	728.8	729.8	730.8	732.8	736.9	738.9	736.9	734.9	736.9	738.9	736.9
25°	706.4	707.4	708.4	711.5	715.5	717.6	715.5	713.5	715.5	717.6	715.5
27.5°	683.0	684.0	685.0	688.1	692.1	695.2	693.1	692.1	693.1	695.2	692.1
30°	657.5	658.5	659.6	662.6	667.7	670.8	668.7	667.7	668.7	670.8	667.7
32.5°	632.1	633.1	634.1	637.2	642.3	646.3	644.3	642.3	644.3	646.3	642.3
35°	604.6	605.6	607.6	610.7	615.8	618.8	616.8	615.8	616.8	618.8	615.8
37.5°	578.1	579.1	581.2	584.2	589.3	592.4	591.4	590.3	591.4	592.4	589.3
40°	550.6	551.7	553.7	556.8	561.8	564.9	562.9	561.8	562.9	564.9	561.8
42.5°	522.1	523.2	525.2	528.3	533.3	536.4	535.4	534.4	535.4	536.4	533.3
45°	493.6	494.7	496.7	499.8	503.8	506.9	505.9	505.9	505.9	506.9	503.8
47.5°	464.1	466.2	468.2	471.3	475.3	478.4	477.4	476.3	477.4	478.4	475.3
50°	435.6	436.6	437.7	440.7	444.8	447.8	446.8	446.8	446.8	447.8	444.8
52.5°	406.1	407.1	409.2	412.2	415.3	418.3	417.3	416.3	417.3	418.3	415.3
55°	375.6	376.6	378.6	381.7	384.7	386.8	385.8	385.8	385.8	386.8	384.7
57.5°	346.1	347.1	348.1	351.2	354.2	357.3	356.2	355.2	356.2	357.3	354.2
60°	315.5	316.5	317.6	320.6	323.7	325.7	324.7	324.7	324.7	325.7	323.7
62.5°	285.0	286.0	287.0	290.1	293.1	295.2	294.2	294.2	294.2	295.2	293.1
65°	255.5	256.5	257.5	258.5	260.6	262.6	262.6	262.6	262.6	262.6	260.6
67.5°	221.9	222.9	223.9	224.9	227.0	229.0	228.0	228.0	228.0	229.0	227.0
70°	191.4	192.4	193.4	194.4	196.4	197.5	196.4	196.4	196.4	197.5	196.4
72.5°	160.8	161.8	162.9	163.9	164.9	165.9	165.9	165.9	165.9	165.9	164.9
75°	131.3	131.3	132.3	133.3	134.4	135.4	134.4	134.4	134.4	135.4	134.4
77.5°	102.8	102.8	103.8	104.8	105.9	106.9	105.9	104.8	105.9	106.9	105.9
80°	75.3	75.3	76.3	77.4	78.4	79.4	78.4	77.4	78.4	79.4	78.4
82.5°	50.9	50.9	51.9	51.9	52.9	53.9	52.9	51.9	52.9	53.9	52.9
85°	29.5	29.5	30.5	30.5	31.6	31.6	30.5	29.5	30.5	31.6	31.6
87.5°	12.2	12.2	12.2	12.2	13.2	13.2	12.2	11.2	12.2	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



TEST NUMBER: P709077
 CATALOG NUMBER: 4APN-X-22L840-UNV

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6
2.5°	832.6	830.6	831.6	831.6	832.6	832.6	832.6	831.6	831.6	830.6	832.6
5°	828.5	827.5	827.5	827.5	829.5	831.6	829.5	827.5	827.5	827.5	828.5
7.5°	822.4	821.4	821.4	822.4	824.4	826.5	824.4	822.4	821.4	821.4	822.4
10°	813.2	811.2	811.2	811.2	813.2	815.3	813.2	811.2	811.2	811.2	813.2
12.5°	802.1	800.0	800.0	800.0	802.1	804.1	802.1	800.0	800.0	800.0	802.1
15°	788.8	786.8	786.8	786.8	788.8	789.8	788.8	786.8	786.8	786.8	788.8
17.5°	771.5	769.5	769.5	769.5	771.5	772.5	771.5	769.5	769.5	769.5	771.5
20°	753.2	751.2	750.1	750.1	752.2	753.2	752.2	750.1	750.1	751.2	753.2
22.5°	732.8	730.8	729.8	728.8	729.8	730.8	729.8	728.8	729.8	730.8	732.8
25°	711.5	708.4	707.4	706.4	707.4	707.4	707.4	706.4	707.4	708.4	711.5
27.5°	688.1	685.0	684.0	683.0	684.0	684.0	684.0	683.0	684.0	685.0	688.1
30°	662.6	659.6	658.5	657.5	657.5	657.5	657.5	657.5	658.5	659.6	662.6
32.5°	637.2	634.1	633.1	632.1	633.1	633.1	633.1	632.1	633.1	634.1	637.2
35°	610.7	607.6	605.6	604.6	606.6	607.6	606.6	604.6	605.6	607.6	610.7
37.5°	584.2	581.2	579.1	578.1	577.1	577.1	577.1	578.1	579.1	581.2	584.2
40°	556.8	553.7	551.7	550.6	550.6	550.6	550.6	550.6	551.7	553.7	556.8
42.5°	528.3	525.2	523.2	522.1	523.2	523.2	523.2	522.1	523.2	525.2	528.3
45°	499.8	496.7	494.7	493.6	493.6	493.6	493.6	493.6	494.7	496.7	499.8
47.5°	471.3	468.2	466.2	464.1	464.1	464.1	464.1	464.1	466.2	468.2	471.3
50°	440.7	437.7	436.6	435.6	434.6	434.6	434.6	435.6	436.6	437.7	440.7
52.5°	412.2	409.2	407.1	406.1	406.1	406.1	406.1	406.1	407.1	409.2	412.2
55°	381.7	378.6	376.6	375.6	376.6	376.6	376.6	375.6	376.6	378.6	381.7
57.5°	351.2	348.1	347.1	346.1	346.1	346.1	346.1	346.1	347.1	348.1	351.2
60°	320.6	317.6	316.5	315.5	315.5	315.5	315.5	315.5	316.5	317.6	320.6
62.5°	290.1	287.0	286.0	285.0	285.0	285.0	285.0	285.0	286.0	287.0	290.1
65°	258.5	257.5	256.5	255.5	254.5	254.5	254.5	255.5	256.5	257.5	258.5
67.5°	224.9	223.9	222.9	221.9	220.9	220.9	220.9	221.9	222.9	223.9	224.9
70°	194.4	193.4	192.4	191.4	190.3	190.3	190.3	191.4	192.4	193.4	194.4
72.5°	163.9	162.9	161.8	160.8	159.8	159.8	159.8	160.8	161.8	162.9	163.9
75°	133.3	132.3	131.3	131.3	130.3	130.3	130.3	131.3	131.3	132.3	133.3
77.5°	104.8	103.8	102.8	102.8	101.8	101.8	101.8	102.8	102.8	103.8	104.8
80°	77.4	76.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	76.3	77.4
82.5°	51.9	51.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	51.9	51.9
85°	30.5	30.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	30.5	30.5
87.5°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P709077
 CATALOG NUMBER: 4APN-X-22L840-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	833.6	833.6	833.6	833.6
2.5°	835.6	836.7	832.6	828.5
5°	831.6	832.6	829.5	825.5
7.5°	825.5	826.5	823.4	820.4
10°	816.3	818.3	815.3	811.2
12.5°	805.1	806.1	803.1	800.0
15°	791.9	792.9	789.8	786.8
17.5°	775.6	777.6	774.6	771.5
20°	757.3	759.3	757.3	754.2
22.5°	736.9	738.9	736.9	734.9
25°	715.5	717.6	715.5	713.5
27.5°	692.1	695.2	693.1	692.1
30°	667.7	670.8	668.7	667.7
32.5°	642.3	646.3	644.3	642.3
35°	615.8	618.8	616.8	615.8
37.5°	589.3	592.4	591.4	590.3
40°	561.8	564.9	562.9	561.8
42.5°	533.3	536.4	535.4	534.4
45°	503.8	506.9	505.9	505.9
47.5°	475.3	478.4	477.4	476.3
50°	444.8	447.8	446.8	446.8
52.5°	415.3	418.3	417.3	416.3
55°	384.7	386.8	385.8	385.8
57.5°	354.2	357.3	356.2	355.2
60°	323.7	325.7	324.7	324.7
62.5°	293.1	295.2	294.2	294.2
65°	260.6	262.6	262.6	262.6
67.5°	227.0	229.0	228.0	228.0
70°	196.4	197.5	196.4	196.4
72.5°	164.9	165.9	165.9	165.9
75°	134.4	135.4	134.4	134.4
77.5°	105.9	106.9	105.9	104.8
80°	78.4	79.4	78.4	77.4
82.5°	52.9	53.9	52.9	51.9
85°	31.6	31.6	30.5	29.5
87.5°	13.2	13.2	12.2	11.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)