

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: P709083

Luminaire Tested: **4APN-X-22L850-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709083
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-22L850-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

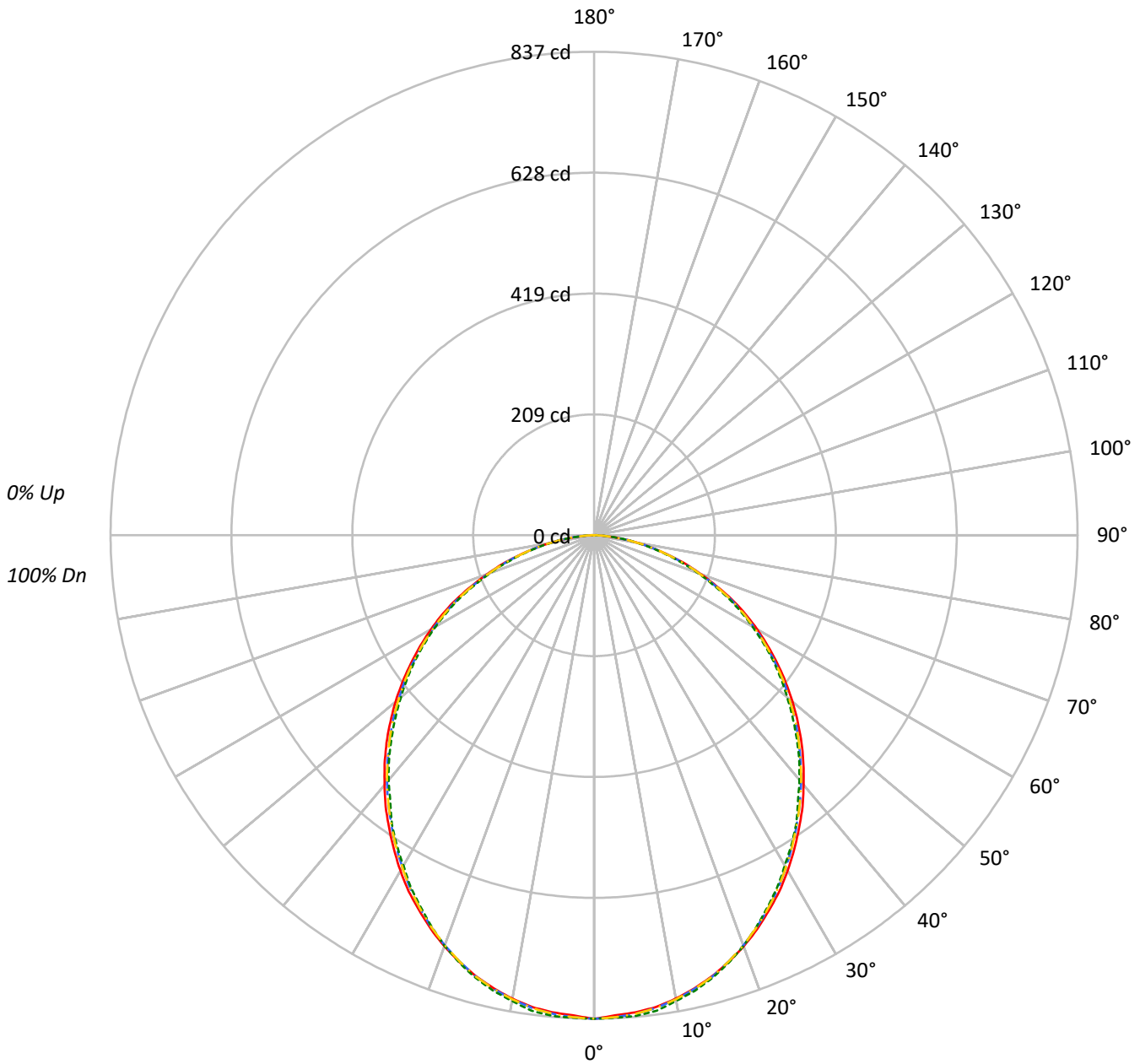
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2177.9 lumens
Efficiency: N/A
Efficacy: 90.7 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

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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				
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	100	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70	70	70	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60	60	60	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51	51	51	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	44	44	44	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39	39	39	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34	34	34	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31	31	31	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25	25	25	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	7723	7723	7723	7723
5°	7677	7734	7677	7734
10°	7632	7670	7632	7670
15°	7547	7576	7547	7576
20°	7436	7427	7436	7427
25°	7294	7232	7294	7232
30°	7143	7035	7143	7035
35°	6965	6873	6965	6873
40°	6795	6660	6795	6660
45°	6628	6468	6628	6468
50°	6440	6264	6440	6264
55°	6231	6083	6231	6083
60°	6017	5848	6017	5848
65°	5757	5578	5757	5578
70°	5322	5155	5322	5155
75°	4809	4663	4809	4663
80°	4128	4017	4128	4017
85°	3133	3133	3133	3133



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.0	3.6
10°-20°	223.1	10.2
20°-30°	328.9	15.1
30°-40°	383.9	17.6
40°-50°	387.0	17.8
50°-60°	342.1	15.7
60°-70°	255.8	11.7
70°-80°	141.8	6.5
80°-90°	36.4	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°	631.0	29.0
0°-40°	1014.9	46.6
0°-60°	1744.0	80.1
0°-90°	2177.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2177.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	837	837	837	837	837	
5°	829	835	829	835	829	79
15°	790	793	790	793	790	223
25°	716	710	716	710	716	330
35°	618	610	618	610	618	387
45°	508	496	508	496	508	392
55°	387	378	387	378	387	346
65°	264	256	264	256	264	260
75°	135	131	135	131	135	143
85°	30	30	30	30	30	36
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°	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1
2.5°	832.0	836.1	840.2	839.1	836.1	834.0	835.1	835.1	836.1	836.1	836.1
5°	828.9	833.0	836.1	835.1	832.0	831.0	831.0	831.0	833.0	835.1	833.0
7.5°	823.8	826.9	830.0	828.9	825.9	824.8	824.8	825.9	827.9	830.0	827.9
10°	814.6	818.7	821.8	819.7	816.7	814.6	814.6	814.6	816.7	818.7	816.7
12.5°	803.4	806.4	809.5	808.5	805.4	803.4	803.4	803.4	805.4	807.5	805.4
15°	790.1	793.2	796.2	795.2	792.1	790.1	790.1	790.1	792.1	793.2	792.1
17.5°	774.8	777.8	780.9	778.8	774.8	772.7	772.7	772.7	774.8	775.8	774.8
20°	757.4	760.4	762.5	760.4	756.4	754.3	753.3	753.3	755.3	756.4	755.3
22.5°	738.0	740.0	742.0	740.0	735.9	733.9	732.9	731.8	732.9	733.9	732.9
25°	716.5	718.5	720.6	718.5	714.5	711.4	710.4	709.3	710.4	710.4	710.4
27.5°	695.0	696.1	698.1	695.0	690.9	687.9	686.9	685.8	686.9	686.9	686.9
30°	670.5	671.5	673.6	670.5	665.4	662.3	661.3	660.3	660.3	660.3	660.3
32.5°	644.9	647.0	649.0	644.9	639.8	636.8	635.8	634.7	635.8	635.8	635.8
35°	618.4	619.4	621.4	618.4	613.3	610.2	608.2	607.1	609.2	610.2	609.2
37.5°	592.8	593.8	594.9	591.8	586.7	583.6	581.6	580.6	579.5	579.5	579.5
40°	564.2	565.2	567.3	564.2	559.1	556.0	554.0	553.0	553.0	553.0	553.0
42.5°	536.6	537.6	538.7	535.6	530.5	527.4	525.4	524.3	525.4	525.4	525.4
45°	508.0	508.0	509.0	505.9	501.9	498.8	496.7	495.7	495.7	495.7	495.7
47.5°	478.3	479.4	480.4	477.3	473.2	470.2	468.1	466.1	466.1	466.1	466.1
50°	448.7	448.7	449.7	446.7	442.6	439.5	438.5	437.5	436.4	436.4	436.4
52.5°	418.0	419.1	420.1	417.0	414.0	410.9	408.8	407.8	407.8	407.8	407.8
55°	387.4	387.4	388.4	386.4	383.3	380.2	378.2	377.2	378.2	378.2	378.2
57.5°	356.7	357.7	358.8	355.7	352.6	349.6	348.5	347.5	347.5	347.5	347.5
60°	326.1	326.1	327.1	325.0	322.0	318.9	317.9	316.9	316.9	316.9	316.9
62.5°	295.4	295.4	296.4	294.4	291.3	288.2	287.2	286.2	286.2	286.2	286.2
65°	263.7	263.7	263.7	261.7	259.6	258.6	257.6	256.5	255.5	255.5	255.5
67.5°	229.0	229.0	230.0	227.9	225.9	224.9	223.8	222.8	221.8	221.8	221.8
70°	197.3	197.3	198.3	197.3	195.2	194.2	193.2	192.2	191.1	191.1	191.1
72.5°	166.6	166.6	166.6	165.6	164.6	163.5	162.5	161.5	160.5	160.5	160.5
75°	134.9	134.9	135.9	134.9	133.9	132.9	131.9	131.9	130.8	130.8	130.8
77.5°	105.3	106.3	107.3	106.3	105.3	104.3	103.2	103.2	102.2	102.2	102.2
80°	77.7	78.7	79.7	78.7	77.7	76.7	75.6	75.6	75.6	75.6	75.6
82.5°	52.1	53.1	54.2	53.1	52.1	52.1	51.1	51.1	51.1	51.1	51.1
85°	29.6	30.7	31.7	31.7	30.7	30.7	29.6	29.6	29.6	29.6	29.6
87.5°	11.2	12.3	13.3	13.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
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°	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1
2.5°	835.1	835.1	834.0	836.1	839.1	840.2	836.1	832.0	836.1	840.2	839.1
5°	831.0	831.0	831.0	832.0	835.1	836.1	833.0	828.9	833.0	836.1	835.1
7.5°	825.9	824.8	824.8	825.9	828.9	830.0	826.9	823.8	826.9	830.0	828.9
10°	814.6	814.6	814.6	816.7	819.7	821.8	818.7	814.6	818.7	821.8	819.7
12.5°	803.4	803.4	803.4	805.4	808.5	809.5	806.4	803.4	806.4	809.5	808.5
15°	790.1	790.1	790.1	792.1	795.2	796.2	793.2	790.1	793.2	796.2	795.2
17.5°	772.7	772.7	772.7	774.8	778.8	780.9	777.8	774.8	777.8	780.9	778.8
20°	753.3	753.3	754.3	756.4	760.4	762.5	760.4	757.4	760.4	762.5	760.4
22.5°	731.8	732.9	733.9	735.9	740.0	742.0	740.0	738.0	740.0	742.0	740.0
25°	709.3	710.4	711.4	714.5	718.5	720.6	718.5	716.5	718.5	720.6	718.5
27.5°	685.8	686.9	687.9	690.9	695.0	698.1	696.1	695.0	696.1	698.1	695.0
30°	660.3	661.3	662.3	665.4	670.5	673.6	671.5	670.5	671.5	673.6	670.5
32.5°	634.7	635.8	636.8	639.8	644.9	649.0	647.0	644.9	647.0	649.0	644.9
35°	607.1	608.2	610.2	613.3	618.4	621.4	619.4	618.4	619.4	621.4	618.4
37.5°	580.6	581.6	583.6	586.7	591.8	594.9	593.8	592.8	593.8	594.9	591.8
40°	553.0	554.0	556.0	559.1	564.2	567.3	565.2	564.2	565.2	567.3	564.2
42.5°	524.3	525.4	527.4	530.5	535.6	538.7	537.6	536.6	537.6	538.7	535.6
45°	495.7	496.7	498.8	501.9	505.9	509.0	508.0	508.0	508.0	509.0	505.9
47.5°	466.1	468.1	470.2	473.2	477.3	480.4	479.4	478.3	479.4	480.4	477.3
50°	437.5	438.5	439.5	442.6	446.7	449.7	448.7	448.7	448.7	449.7	446.7
52.5°	407.8	408.8	410.9	414.0	417.0	420.1	419.1	418.0	419.1	420.1	417.0
55°	377.2	378.2	380.2	383.3	386.4	388.4	387.4	387.4	387.4	388.4	386.4
57.5°	347.5	348.5	349.6	352.6	355.7	358.8	357.7	356.7	357.7	358.8	355.7
60°	316.9	317.9	318.9	322.0	325.0	327.1	326.1	326.1	326.1	327.1	325.0
62.5°	286.2	287.2	288.2	291.3	294.4	296.4	295.4	295.4	295.4	296.4	294.4
65°	256.5	257.6	258.6	259.6	261.7	263.7	263.7	263.7	263.7	263.7	261.7
67.5°	222.8	223.8	224.9	225.9	227.9	230.0	229.0	229.0	229.0	230.0	227.9
70°	192.2	193.2	194.2	195.2	197.3	198.3	197.3	197.3	197.3	198.3	197.3
72.5°	161.5	162.5	163.5	164.6	165.6	166.6	166.6	166.6	166.6	166.6	165.6
75°	131.9	131.9	132.9	133.9	134.9	135.9	134.9	134.9	134.9	135.9	134.9
77.5°	103.2	103.2	104.3	105.3	106.3	107.3	106.3	105.3	106.3	107.3	106.3
80°	75.6	75.6	76.7	77.7	78.7	79.7	78.7	77.7	78.7	79.7	78.7
82.5°	51.1	51.1	52.1	52.1	53.1	54.2	53.1	52.1	53.1	54.2	53.1
85°	29.6	29.6	30.7	30.7	31.7	31.7	30.7	29.6	30.7	31.7	31.7
87.5°	12.3	12.3	12.3	12.3	13.3	13.3	12.3	11.2	12.3	13.3	13.3
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°	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1	837.1
2.5°	836.1	834.0	835.1	835.1	836.1	836.1	836.1	835.1	835.1	834.0	836.1
5°	832.0	831.0	831.0	831.0	833.0	835.1	833.0	831.0	831.0	831.0	832.0
7.5°	825.9	824.8	824.8	825.9	827.9	830.0	827.9	825.9	824.8	824.8	825.9
10°	816.7	814.6	814.6	814.6	816.7	818.7	816.7	814.6	814.6	814.6	816.7
12.5°	805.4	803.4	803.4	803.4	805.4	807.5	805.4	803.4	803.4	803.4	805.4
15°	792.1	790.1	790.1	790.1	792.1	793.2	792.1	790.1	790.1	790.1	792.1
17.5°	774.8	772.7	772.7	772.7	774.8	775.8	774.8	772.7	772.7	772.7	774.8
20°	756.4	754.3	753.3	753.3	755.3	756.4	755.3	753.3	753.3	754.3	756.4
22.5°	735.9	733.9	732.9	731.8	732.9	733.9	732.9	731.8	732.9	733.9	735.9
25°	714.5	711.4	710.4	709.3	710.4	710.4	710.4	709.3	710.4	711.4	714.5
27.5°	690.9	687.9	686.9	685.8	686.9	686.9	686.9	685.8	686.9	687.9	690.9
30°	665.4	662.3	661.3	660.3	660.3	660.3	660.3	660.3	661.3	662.3	665.4
32.5°	639.8	636.8	635.8	634.7	635.8	635.8	635.8	634.7	635.8	636.8	639.8
35°	613.3	610.2	608.2	607.1	609.2	610.2	609.2	607.1	608.2	610.2	613.3
37.5°	586.7	583.6	581.6	580.6	579.5	579.5	579.5	580.6	581.6	583.6	586.7
40°	559.1	556.0	554.0	553.0	553.0	553.0	553.0	553.0	554.0	556.0	559.1
42.5°	530.5	527.4	525.4	524.3	525.4	525.4	525.4	524.3	525.4	527.4	530.5
45°	501.9	498.8	496.7	495.7	495.7	495.7	495.7	495.7	496.7	498.8	501.9
47.5°	473.2	470.2	468.1	466.1	466.1	466.1	466.1	466.1	468.1	470.2	473.2
50°	442.6	439.5	438.5	437.5	436.4	436.4	436.4	437.5	438.5	439.5	442.6
52.5°	414.0	410.9	408.8	407.8	407.8	407.8	407.8	407.8	408.8	410.9	414.0
55°	383.3	380.2	378.2	377.2	378.2	378.2	378.2	377.2	378.2	380.2	383.3
57.5°	352.6	349.6	348.5	347.5	347.5	347.5	347.5	347.5	348.5	349.6	352.6
60°	322.0	318.9	317.9	316.9	316.9	316.9	316.9	316.9	317.9	318.9	322.0
62.5°	291.3	288.2	287.2	286.2	286.2	286.2	286.2	286.2	287.2	288.2	291.3
65°	259.6	258.6	257.6	256.5	255.5	255.5	255.5	256.5	257.6	258.6	259.6
67.5°	225.9	224.9	223.8	222.8	221.8	221.8	221.8	222.8	223.8	224.9	225.9
70°	195.2	194.2	193.2	192.2	191.1	191.1	191.1	192.2	193.2	194.2	195.2
72.5°	164.6	163.5	162.5	161.5	160.5	160.5	160.5	161.5	162.5	163.5	164.6
75°	133.9	132.9	131.9	131.9	130.8	130.8	130.8	131.9	131.9	132.9	133.9
77.5°	105.3	104.3	103.2	103.2	102.2	102.2	102.2	103.2	103.2	104.3	105.3
80°	77.7	76.7	75.6	75.6	75.6	75.6	75.6	75.6	75.6	76.7	77.7
82.5°	52.1	52.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	52.1	52.1
85°	30.7	30.7	29.6	29.6	29.6	29.6	29.6	29.6	29.6	30.7	30.7
87.5°	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
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°	837.1	837.1	837.1	837.1
2.5°	839.1	840.2	836.1	832.0
5°	835.1	836.1	833.0	828.9
7.5°	828.9	830.0	826.9	823.8
10°	819.7	821.8	818.7	814.6
12.5°	808.5	809.5	806.4	803.4
15°	795.2	796.2	793.2	790.1
17.5°	778.8	780.9	777.8	774.8
20°	760.4	762.5	760.4	757.4
22.5°	740.0	742.0	740.0	738.0
25°	718.5	720.6	718.5	716.5
27.5°	695.0	698.1	696.1	695.0
30°	670.5	673.6	671.5	670.5
32.5°	644.9	649.0	647.0	644.9
35°	618.4	621.4	619.4	618.4
37.5°	591.8	594.9	593.8	592.8
40°	564.2	567.3	565.2	564.2
42.5°	535.6	538.7	537.6	536.6
45°	505.9	509.0	508.0	508.0
47.5°	477.3	480.4	479.4	478.3
50°	446.7	449.7	448.7	448.7
52.5°	417.0	420.1	419.1	418.0
55°	386.4	388.4	387.4	387.4
57.5°	355.7	358.8	357.7	356.7
60°	325.0	327.1	326.1	326.1
62.5°	294.4	296.4	295.4	295.4
65°	261.7	263.7	263.7	263.7
67.5°	227.9	230.0	229.0	229.0
70°	197.3	198.3	197.3	197.3
72.5°	165.6	166.6	166.6	166.6
75°	134.9	135.9	134.9	134.9
77.5°	106.3	107.3	106.3	105.3
80°	78.7	79.7	78.7	77.7
82.5°	53.1	54.2	53.1	52.1
85°	31.7	31.7	30.7	29.6
87.5°	13.3	13.3	12.3	11.2
90°	0.0	0.0	0.0	0.0

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