

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-20L850-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-20L850-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

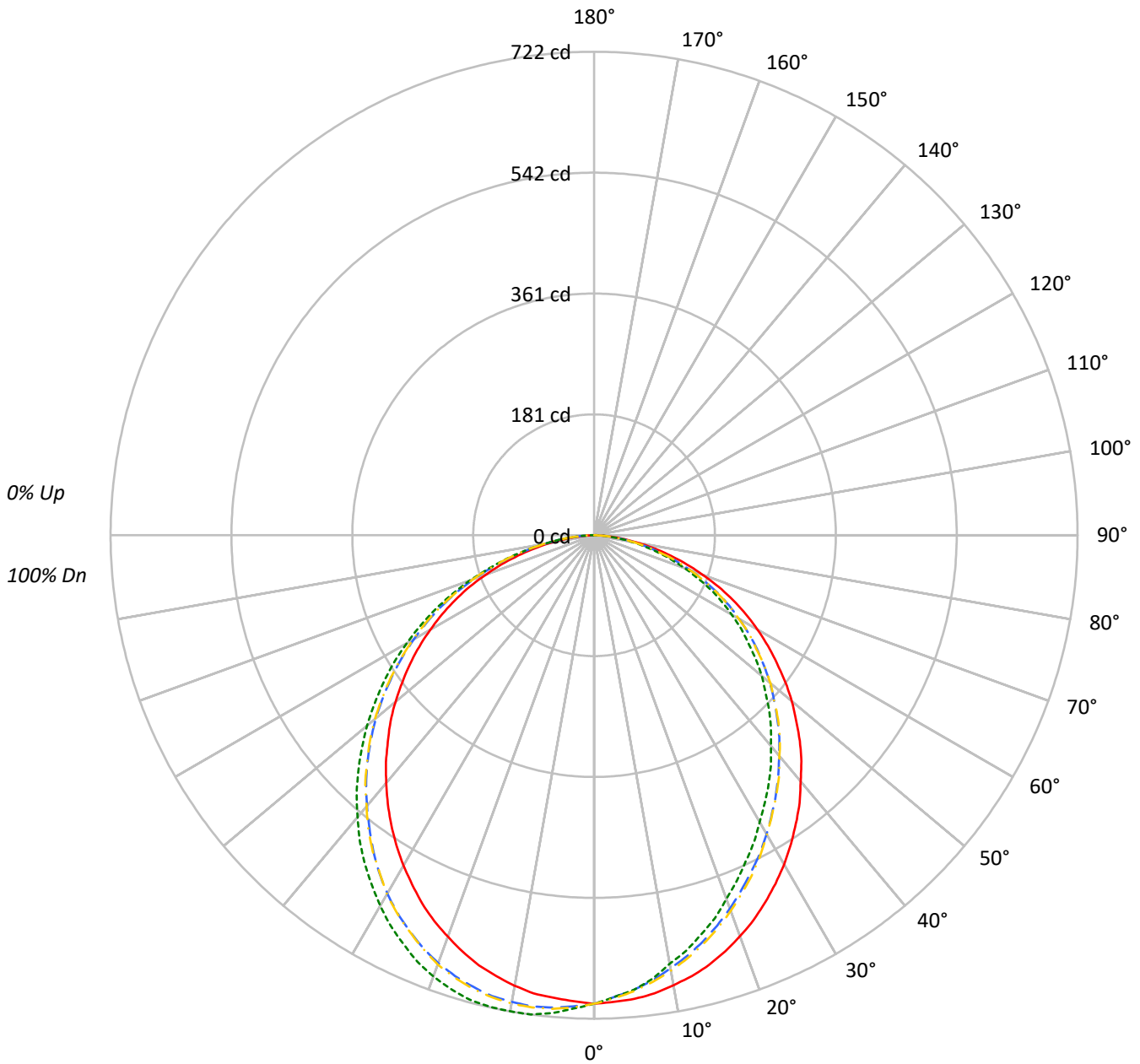
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1876.6 lumens
Efficiency: N/A
Efficacy: 78.8 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): 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°	6456	6456	6456	6456
5°	6437	6312	6421	6634
10°	6392	6088	6400	6763
15°	6343	5897	6351	6858
20°	6256	5673	6264	6886
25°	6156	5464	6180	6857
30°	6046	5270	6064	6805
35°	5919	5118	5946	6731
40°	5777	4948	5816	6616
45°	5669	4822	5681	6497
50°	5533	4692	5556	6351
55°	5360	4520	5398	6175
60°	5200	4382	5215	5960
65°	4993	4198	4993	5702
70°	4656	3884	4634	5317
75°	4235	3526	4178	4770
80°	3661	3029	3533	4081
85°	2848	2265	2689	3345



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.1	3.5
10°-20°	187.6	10.0
20°-30°	279.0	14.9
30°-40°	328.8	17.5
40°-50°	334.8	17.8
50°-60°	298.2	15.9
60°-70°	224.7	12.0
70°-80°	124.9	6.7
80°-90°	32.5	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°	532.7	28.4
0°-40°	861.5	45.9
0°-60°	1494.5	79.6
0°-90°	1876.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1876.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	700	700	700	700	700	
5°	695	682	693	716	695	66
15°	664	617	665	718	664	187
25°	605	537	607	674	605	279
35°	526	454	528	598	526	329
45°	434	370	435	498	434	335
55°	333	281	336	384	333	299
65°	229	192	229	261	229	226
75°	119	99	117	134	119	126
85°	27	21	25	32	27	32
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°	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7
2.5°	697.3	697.3	698.1	695.0	691.0	689.5	688.6	687.8	689.5	690.2	689.5
5°	695.0	693.3	691.8	687.8	683.1	680.0	678.3	677.6	679.1	681.5	679.1
7.5°	690.2	687.1	683.8	678.3	672.8	668.1	665.7	664.1	665.7	668.1	666.5
10°	682.3	678.3	673.6	667.3	659.3	653.8	651.4	649.1	649.8	649.8	649.8
12.5°	674.4	668.8	663.3	655.4	646.7	640.3	636.4	633.2	634.8	635.6	635.6
15°	664.1	657.0	649.1	640.3	631.7	624.6	619.8	616.6	617.4	617.4	618.2
17.5°	651.4	643.6	635.6	625.3	615.1	607.1	601.6	597.6	599.2	599.9	600.8
20°	637.2	628.5	619.8	608.7	597.6	588.9	583.3	578.6	577.8	577.8	578.6
22.5°	622.2	612.7	602.3	590.4	578.6	569.2	563.6	558.8	558.0	558.0	558.8
25°	604.7	594.4	584.2	572.3	559.7	550.2	543.0	538.3	537.4	536.7	538.3
27.5°	586.6	576.2	565.9	554.1	540.7	531.2	524.0	519.3	517.7	516.9	518.4
30°	567.5	555.7	544.6	531.9	520.0	510.5	503.4	497.9	496.3	494.7	496.3
32.5°	546.9	535.0	523.2	510.5	498.7	489.2	482.0	476.5	474.9	474.1	475.8
35°	525.5	513.7	502.7	490.0	478.1	468.6	461.5	456.8	455.1	454.4	455.1
37.5°	504.2	492.3	481.3	468.6	456.8	447.3	440.1	435.4	434.5	433.8	434.5
40°	479.7	469.4	458.3	446.4	434.5	425.0	419.5	414.0	412.4	410.8	413.1
42.5°	458.3	448.0	436.9	425.9	414.0	404.5	398.1	393.4	391.9	391.0	391.9
45°	434.5	423.5	412.4	402.1	391.0	382.4	376.0	371.2	370.5	369.6	370.5
47.5°	409.2	399.7	390.2	380.0	368.9	360.1	354.6	349.9	348.2	346.7	348.2
50°	385.5	376.0	366.5	357.0	346.7	338.7	333.2	328.5	327.7	326.9	327.7
52.5°	360.1	350.6	342.0	332.5	323.7	315.8	310.3	306.3	305.6	304.7	305.6
55°	333.2	325.3	317.4	309.5	300.8	293.7	289.0	284.2	282.6	281.0	282.6
57.5°	307.9	300.8	292.8	285.0	277.1	270.7	266.0	262.0	261.2	260.4	261.2
60°	281.8	275.5	268.3	261.2	253.3	247.0	243.0	239.8	238.2	237.5	238.2
62.5°	255.7	249.3	243.8	236.7	229.6	224.8	220.8	217.7	216.1	215.3	216.1
65°	228.7	223.2	217.7	211.3	205.8	201.1	197.1	193.9	193.2	192.3	192.3
67.5°	201.1	196.3	191.6	186.0	179.7	174.9	170.9	168.6	167.8	167.0	167.8
70°	172.6	168.6	163.8	159.1	154.3	150.4	148.0	145.7	144.8	144.0	144.0
72.5°	145.7	142.4	138.5	134.5	130.6	126.7	124.3	122.7	121.9	121.2	121.2
75°	118.8	115.5	113.2	110.0	106.0	103.7	101.3	99.8	98.9	98.9	98.9
77.5°	93.4	91.0	88.7	85.5	83.1	80.8	79.2	78.4	77.5	77.5	77.5
80°	68.9	67.3	65.7	64.1	61.8	59.4	58.5	57.8	57.0	57.0	57.0
82.5°	46.7	45.9	44.3	42.8	41.1	40.4	39.6	38.8	38.8	38.8	38.8
85°	26.9	26.1	25.4	24.5	23.8	23.8	23.0	22.1	21.4	21.4	21.4
87.5°	11.1	11.1	11.1	10.3	9.5	9.5	9.5	9.5	9.5	9.5	9.5
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°	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7
2.5°	687.8	689.5	691.0	693.3	695.7	698.1	697.3	696.6	699.7	703.7	704.5
5°	677.6	679.1	681.5	685.5	689.5	692.6	693.3	693.3	699.7	705.2	706.8
7.5°	664.9	667.3	670.5	674.4	680.0	684.7	687.1	690.2	696.6	703.7	706.8
10°	649.1	653.1	657.8	663.3	668.8	674.4	679.1	683.1	691.0	699.0	703.7
12.5°	634.8	638.8	643.6	649.8	657.0	664.1	668.8	674.4	683.8	693.3	699.0
15°	619.0	622.9	628.5	634.8	642.7	650.7	657.8	664.9	674.4	684.7	691.0
17.5°	601.6	605.6	611.1	619.0	627.7	636.4	644.3	652.2	663.3	674.4	681.5
20°	580.2	585.7	592.8	600.8	611.1	621.3	629.3	638.0	649.8	661.7	669.6
22.5°	559.7	565.2	573.1	582.6	593.7	604.7	614.2	623.7	636.4	648.3	657.0
25°	539.8	546.2	554.1	563.6	573.9	584.9	596.1	607.1	619.8	632.4	641.2
27.5°	520.0	525.5	533.5	543.0	554.9	565.9	577.0	588.1	601.6	615.1	624.6
30°	497.9	504.2	511.3	520.8	533.5	546.2	557.3	569.2	582.6	596.1	605.6
32.5°	477.3	482.9	490.0	499.4	512.2	524.8	536.7	549.3	562.0	575.4	584.9
35°	456.8	462.3	469.4	478.9	491.5	504.2	516.0	527.9	540.7	553.3	562.8
37.5°	436.1	441.6	448.8	458.3	470.2	482.9	493.9	505.8	518.4	531.2	539.8
40°	414.8	420.3	425.9	435.4	447.3	459.9	471.0	482.9	495.5	508.2	516.9
42.5°	393.4	398.9	406.0	415.5	426.6	437.8	448.8	459.9	471.8	483.6	492.3
45°	372.0	376.7	383.9	392.6	403.7	414.0	425.0	435.4	447.3	458.3	467.0
47.5°	349.9	354.6	360.1	368.9	380.0	391.0	402.1	412.4	422.6	433.8	441.6
50°	328.5	333.2	339.6	347.5	357.7	368.1	377.6	387.1	397.4	407.6	414.8
52.5°	306.3	311.1	316.6	324.5	333.2	342.7	351.5	361.0	370.5	380.0	387.1
55°	284.2	287.3	292.1	299.2	308.7	318.2	326.9	335.6	344.3	352.2	359.4
57.5°	262.0	266.0	271.5	277.8	285.7	293.7	301.6	309.5	317.4	325.3	331.6
60°	239.8	243.0	247.0	252.5	260.4	267.6	275.5	282.6	289.7	296.8	302.3
62.5°	216.9	220.1	224.0	229.6	235.8	242.2	249.3	255.7	262.0	268.3	273.8
65°	193.2	196.3	200.3	205.1	210.6	216.1	222.4	228.7	233.5	238.2	243.8
67.5°	168.6	171.8	175.7	179.7	184.4	189.9	195.6	201.1	205.8	210.6	214.5
70°	144.8	147.2	151.2	154.3	158.3	162.3	167.0	171.8	174.9	178.9	183.7
72.5°	121.9	124.3	127.4	130.6	133.0	136.2	140.9	144.8	148.8	153.5	155.9
75°	99.8	101.3	103.7	106.0	108.4	110.8	114.0	117.2	120.3	122.7	125.9
77.5°	77.5	79.2	81.5	83.1	84.7	86.3	88.7	91.0	93.4	95.0	98.2
80°	57.0	58.5	60.1	61.8	63.3	64.9	65.7	66.5	69.6	72.0	73.6
82.5°	38.8	39.6	40.4	42.0	42.8	43.5	44.3	44.3	45.9	47.5	49.9
85°	22.1	23.0	23.8	23.8	23.8	23.8	24.5	25.4	26.1	27.7	29.3
87.5°	8.7	8.7	9.5	9.5	9.5	9.5	9.5	9.5	10.3	11.9	12.6
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7	699.7
2.5°	703.7	704.5	706.1	706.8	707.6	707.6	708.5	709.2	707.6	706.1	705.2
5°	707.6	708.5	710.8	713.2	714.7	716.3	715.6	714.7	713.2	710.8	709.2
7.5°	708.5	710.8	713.2	716.3	718.7	721.9	720.3	718.7	715.6	712.4	710.0
10°	706.1	709.2	713.2	717.1	719.5	721.9	720.3	718.7	715.6	711.6	708.5
12.5°	702.9	706.8	711.6	715.6	718.0	721.1	718.7	716.3	712.4	708.5	704.5
15°	695.7	700.5	706.1	710.8	714.7	718.0	715.6	714.0	709.2	703.7	698.1
17.5°	687.1	693.3	699.0	704.5	707.6	710.8	709.2	707.6	702.1	695.7	689.5
20°	676.7	683.1	688.6	694.2	698.1	701.3	699.0	696.6	691.0	685.5	679.1
22.5°	664.1	670.5	676.7	682.3	686.2	689.5	686.2	682.3	676.7	671.2	664.9
25°	648.3	655.4	662.5	668.1	670.5	673.6	670.5	667.3	661.7	656.2	649.1
27.5°	632.4	639.6	646.7	652.2	654.6	657.8	654.6	651.4	645.9	640.3	633.2
30°	614.2	621.3	628.5	634.1	636.4	638.8	635.6	632.4	627.7	622.2	615.1
32.5°	593.7	600.8	606.3	611.8	615.1	618.2	615.1	612.7	607.1	599.9	592.8
35°	571.5	578.6	585.7	591.3	594.4	597.6	593.7	589.7	584.9	579.4	573.1
37.5°	546.9	554.9	562.8	569.2	571.5	574.7	571.5	567.5	562.8	557.3	550.2
40°	524.0	531.2	538.3	544.6	546.9	549.3	546.2	543.0	537.4	531.9	524.8
42.5°	500.3	507.4	513.7	519.3	521.7	524.8	521.7	517.7	513.7	508.9	502.7
45°	474.9	482.0	487.6	493.1	495.5	497.9	494.7	490.8	486.8	482.9	476.5
47.5°	448.8	455.1	460.6	466.3	467.8	470.2	467.0	464.6	460.6	456.8	451.1
50°	421.9	428.3	433.8	438.5	440.1	442.5	439.3	436.1	433.0	429.8	425.0
52.5°	394.2	399.7	405.3	410.0	411.6	413.1	410.0	406.9	403.7	400.5	395.8
55°	365.7	371.2	376.7	380.7	382.4	383.9	380.7	378.4	375.2	372.9	368.1
57.5°	337.2	342.7	347.5	351.5	353.0	354.6	351.5	348.2	345.9	343.5	339.6
60°	307.9	313.5	317.4	320.6	322.1	323.0	319.7	317.4	315.8	314.2	310.3
62.5°	279.5	283.3	287.3	289.7	291.3	292.1	289.7	288.1	286.6	285.0	281.8
65°	249.3	254.1	257.2	259.6	260.4	261.2	258.8	257.2	255.7	254.1	251.7
67.5°	219.3	223.2	225.6	227.9	228.7	228.7	228.7	227.9	226.4	224.0	221.6
70°	189.2	192.3	194.7	196.3	197.1	197.1	195.6	193.9	193.9	193.2	191.6
72.5°	158.3	160.7	162.3	163.8	163.8	163.8	163.8	164.7	163.8	162.3	159.9
75°	129.0	131.4	133.0	133.8	133.8	133.8	133.8	134.5	133.8	133.0	131.4
77.5°	101.3	102.9	103.7	104.5	104.5	104.5	105.3	106.0	105.3	104.5	103.7
80°	75.2	76.0	76.8	77.5	76.8	76.8	77.5	79.2	78.4	77.5	76.8
82.5°	51.4	52.3	53.0	53.0	53.8	54.6	54.6	54.6	54.6	53.8	53.0
85°	30.9	31.6	31.6	31.6	31.6	31.6	32.5	33.3	33.3	32.5	32.5
87.5°	14.3	15.0	14.3	13.5	12.6	12.6	14.3	15.9	15.9	15.0	15.0
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°	699.7	699.7	699.7	699.7
2.5°	706.1	705.2	701.3	697.3
5°	708.5	706.1	700.5	695.0
7.5°	708.5	705.2	697.3	690.2
10°	704.5	699.7	691.0	682.3
12.5°	699.7	694.2	683.8	674.4
15°	692.6	686.2	675.2	664.1
17.5°	682.3	674.4	663.3	651.4
20°	672.0	663.3	649.8	637.2
22.5°	657.8	649.8	635.6	622.2
25°	641.9	633.2	619.0	604.7
27.5°	625.3	615.1	600.8	586.6
30°	606.3	596.1	581.8	567.5
32.5°	585.7	576.2	562.0	546.9
35°	565.2	554.9	540.7	525.5
37.5°	542.2	532.7	518.4	504.2
40°	517.7	508.2	493.9	479.7
42.5°	494.7	486.0	471.8	458.3
45°	469.4	460.6	447.3	434.5
47.5°	443.3	434.5	421.9	409.2
50°	417.9	409.2	397.4	385.5
52.5°	389.5	382.4	371.2	360.1
55°	361.7	354.6	343.5	333.2
57.5°	334.0	327.7	317.4	307.9
60°	304.7	298.5	290.5	281.8
62.5°	277.1	271.5	263.6	255.7
65°	247.7	243.0	235.8	228.7
67.5°	217.7	213.7	207.4	201.1
70°	187.6	182.8	178.1	172.6
72.5°	157.5	155.2	150.4	145.7
75°	129.0	126.7	122.7	118.8
77.5°	102.1	99.8	96.5	93.4
80°	75.2	73.6	71.3	68.9
82.5°	52.3	50.6	49.1	46.7
85°	31.6	30.1	28.5	26.9
87.5°	14.3	13.5	11.9	11.1
90°	0.0	0.0	0.0	0.0

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