

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-28L950-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-28L950-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

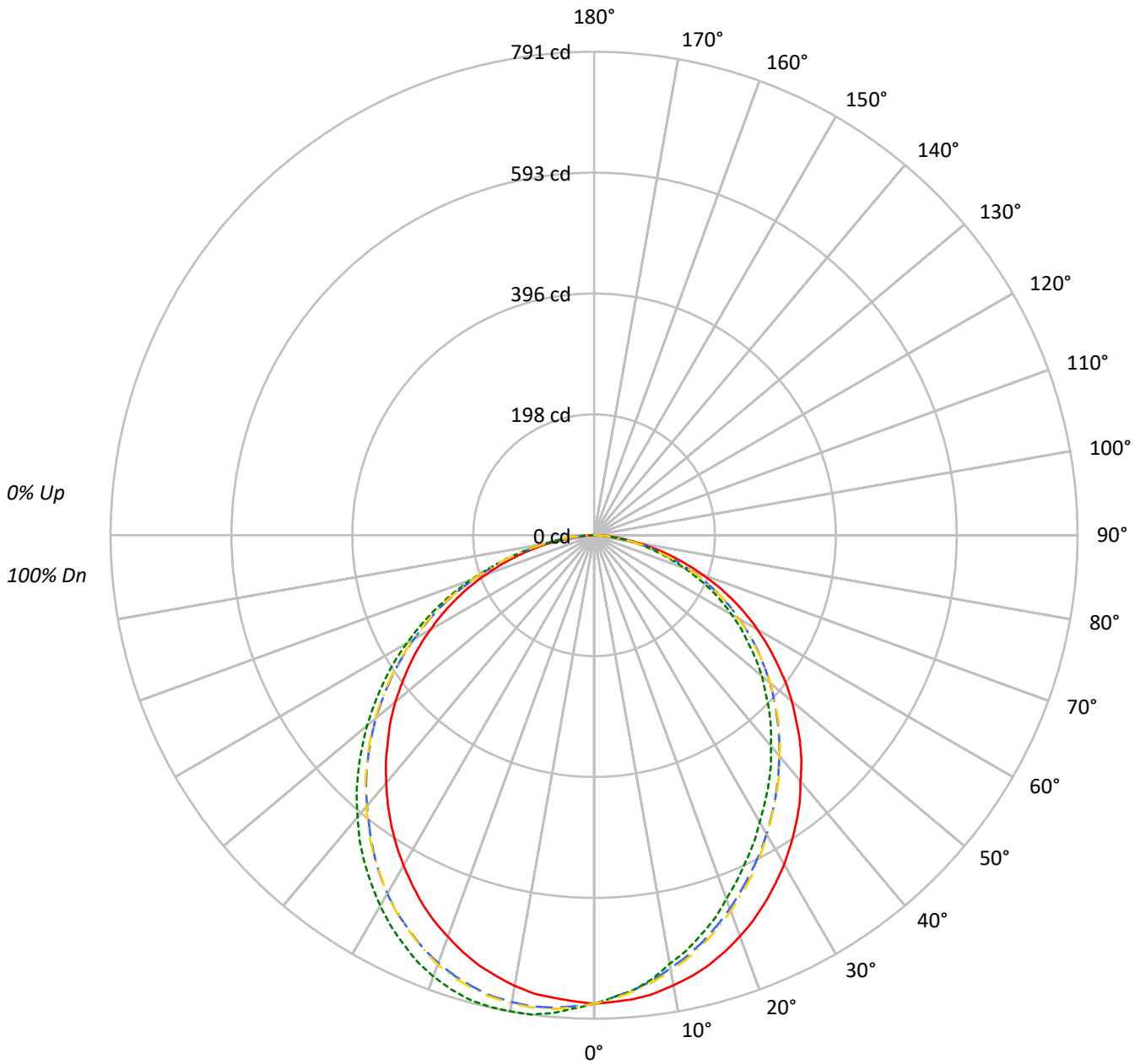
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2056.1 lumens
Efficiency: N/A
Efficacy: 63.9 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): 32.2
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	
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°	7073	7073	7073	7073
5°	7052	6916	7036	7268
10°	7004	6670	7011	7410
15°	6950	6462	6958	7513
20°	6854	6215	6863	7544
25°	6744	5986	6771	7513
30°	6624	5774	6642	7456
35°	6486	5607	6516	7375
40°	6329	5421	6371	7249
45°	6212	5284	6224	7118
50°	6063	5141	6087	6959
55°	5873	4953	5915	6766
60°	5698	4801	5713	6530
65°	5471	4602	5471	6248
70°	5101	4257	5077	5824
75°	4638	3864	4574	5226
80°	4006	3315	3868	4468
85°	3123	2477	2943	3673



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.4	3.5
10°-20°	205.6	10.0
20°-30°	305.6	14.9
30°-40°	360.2	17.5
40°-50°	366.8	17.8
50°-60°	326.8	15.9
60°-70°	246.2	12.0
70°-80°	136.9	6.7
80°-90°	35.6	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°	583.7	28.4
0°-40°	943.9	45.9
0°-60°	1637.4	79.6
0°-90°	2056.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2056.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	767	767	767	767	767	
5°	761	747	760	785	761	72
15°	728	676	728	787	728	205
25°	662	588	665	738	662	305
35°	576	498	578	655	576	360
45°	476	405	477	546	476	367
55°	365	308	368	421	365	327
65°	251	211	251	286	251	247
75°	130	108	128	147	130	138
85°	30	23	28	35	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°	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6
2.5°	764.1	764.1	764.9	761.4	757.1	755.4	754.5	753.6	755.4	756.2	755.4
5°	761.4	759.7	758.0	753.6	748.4	745.0	743.2	742.4	744.1	746.7	744.1
7.5°	756.2	752.7	749.3	743.2	737.1	732.0	729.3	727.6	729.3	732.0	730.2
10°	747.6	743.2	738.0	731.1	722.4	716.3	713.7	711.1	712.0	712.0	712.0
12.5°	738.9	732.8	726.7	718.1	708.6	701.5	697.2	693.8	695.6	696.4	696.4
15°	727.6	719.8	711.1	701.5	692.1	684.2	679.1	675.5	676.5	676.5	677.3
17.5°	713.7	705.1	696.4	685.1	673.8	665.1	659.1	654.8	656.5	657.4	658.2
20°	698.1	688.5	679.1	666.9	654.8	645.2	639.1	634.0	633.0	633.0	634.0
22.5°	681.6	671.2	660.0	647.0	634.0	623.5	617.5	612.3	611.4	611.4	612.3
25°	662.5	651.3	640.1	627.1	613.1	602.7	595.0	589.7	588.9	588.0	589.7
27.5°	642.6	631.4	620.0	607.0	592.3	581.9	574.1	568.9	567.2	566.3	568.0
30°	621.8	608.8	596.6	582.8	569.8	559.4	551.5	545.5	543.8	542.0	543.8
32.5°	599.3	586.2	573.2	559.4	546.4	536.0	528.1	522.0	520.4	519.5	521.2
35°	575.9	562.8	550.7	536.8	523.8	513.4	505.6	500.4	498.6	497.8	498.6
37.5°	552.5	539.5	527.3	513.4	500.4	490.0	482.2	477.0	476.1	475.2	476.1
40°	525.5	514.3	502.1	489.1	476.1	465.7	459.6	453.5	451.9	450.1	452.7
42.5°	502.1	490.9	478.7	466.5	453.5	443.1	436.2	431.0	429.3	428.5	429.3
45°	476.1	464.0	451.9	440.5	428.5	418.9	411.9	406.7	405.9	405.0	405.9
47.5°	448.4	438.0	427.5	416.3	404.1	394.6	388.5	383.3	381.6	379.9	381.6
50°	422.4	411.9	401.5	391.1	379.9	371.2	365.1	359.9	359.0	358.2	359.0
52.5°	394.6	384.2	374.6	364.3	354.7	346.0	339.9	335.6	334.8	333.9	334.8
55°	365.1	356.4	347.8	339.1	329.5	321.8	316.5	311.4	309.6	307.9	309.6
57.5°	337.4	329.5	320.9	312.2	303.5	296.6	291.4	287.0	286.2	285.4	286.2
60°	308.8	301.8	294.0	286.2	277.5	270.6	266.3	262.8	261.0	260.2	261.0
62.5°	280.1	273.2	267.1	259.3	251.5	246.3	241.9	238.5	236.8	235.8	236.8
65°	250.6	244.5	238.5	231.5	225.5	220.3	215.9	212.4	211.6	210.8	210.8
67.5°	220.3	215.1	209.8	203.8	196.8	191.7	187.4	184.7	183.8	183.0	183.8
70°	189.1	184.7	179.5	174.4	169.1	164.8	162.2	159.6	158.7	157.8	157.8
72.5°	159.6	156.1	151.8	147.4	143.1	138.8	136.2	134.4	133.6	132.7	132.7
75°	130.1	126.6	124.0	120.5	116.2	113.6	111.0	109.3	108.4	108.4	108.4
77.5°	102.3	99.8	97.1	93.7	91.1	88.4	86.8	85.8	85.0	85.0	85.0
80°	75.4	73.8	72.0	70.3	67.7	65.0	64.2	63.3	62.4	62.4	62.4
82.5°	51.2	50.3	48.6	46.8	45.1	44.3	43.3	42.5	42.5	42.5	42.5
85°	29.5	28.6	27.8	26.9	26.0	26.0	25.2	24.2	23.4	23.4	23.4
87.5°	12.2	12.2	12.2	11.2	10.4	10.4	10.4	10.4	10.4	10.4	10.4
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6
2.5°	753.6	755.4	757.1	759.7	762.3	764.9	764.1	763.1	766.6	771.0	771.8
5°	742.4	744.1	746.7	751.1	755.4	758.8	759.7	759.7	766.6	772.7	774.5
7.5°	728.5	731.1	734.6	738.9	745.0	750.1	752.7	756.2	763.1	771.0	774.5
10°	711.1	715.5	720.6	726.7	732.8	738.9	744.1	748.4	757.1	765.7	771.0
12.5°	695.6	699.9	705.1	712.0	719.8	727.6	732.8	738.9	749.3	759.7	765.7
15°	678.1	682.6	688.5	695.6	704.2	712.9	720.6	728.5	738.9	750.1	757.1
17.5°	659.1	663.5	669.5	678.1	687.7	697.2	705.9	714.6	726.7	738.9	746.7
20°	635.7	641.7	649.5	658.2	669.5	680.8	689.5	699.0	712.0	725.0	733.6
22.5°	613.1	619.2	627.9	638.3	650.4	662.5	673.0	683.4	697.2	710.2	719.8
25°	591.5	598.4	607.0	617.5	628.7	640.9	653.1	665.1	679.1	692.9	702.5
27.5°	569.8	575.9	584.5	595.0	608.0	620.0	632.2	644.4	659.1	673.8	684.2
30°	545.5	552.5	560.2	570.6	584.5	598.4	610.5	623.5	638.3	653.1	663.5
32.5°	523.0	529.0	536.8	547.2	561.1	575.0	588.0	601.9	615.7	630.5	640.9
35°	500.4	506.5	514.3	524.7	538.5	552.5	565.5	578.5	592.3	606.2	616.6
37.5°	477.9	484.0	491.7	502.1	515.1	529.0	541.1	554.1	568.0	581.9	591.5
40°	454.5	460.5	466.5	477.0	490.0	503.9	516.0	529.0	542.9	556.8	566.3
42.5°	431.0	437.1	444.9	455.3	467.5	479.6	491.7	503.9	516.9	529.9	539.5
45°	407.6	412.8	420.6	430.1	442.3	453.5	465.7	477.0	490.0	502.1	511.7
47.5°	383.3	388.5	394.6	404.1	416.3	428.5	440.5	451.9	463.1	475.2	484.0
50°	359.9	365.1	372.0	380.7	392.0	403.3	413.7	424.1	435.4	446.6	454.5
52.5°	335.6	340.9	346.9	355.5	365.1	375.5	385.0	395.4	405.9	416.3	424.1
55°	311.4	314.8	320.0	327.8	338.2	348.6	358.2	367.7	377.3	385.9	393.7
57.5°	287.0	291.4	297.4	304.4	313.1	321.8	330.4	339.1	347.8	356.4	363.4
60°	262.8	266.3	270.6	276.7	285.4	293.1	301.8	309.6	317.4	325.2	331.3
62.5°	237.6	241.1	245.4	251.5	258.4	265.4	273.2	280.1	287.0	294.0	300.0
65°	211.6	215.1	219.4	224.6	230.7	236.8	243.7	250.6	255.9	261.0	267.1
67.5°	184.7	188.2	192.5	196.8	202.1	208.1	214.2	220.3	225.5	230.7	235.0
70°	158.7	161.3	165.7	169.1	173.4	177.8	183.0	188.2	191.7	196.0	201.2
72.5°	133.6	136.2	139.6	143.1	145.7	149.2	154.3	158.7	163.0	168.3	170.8
75°	109.3	111.0	113.6	116.2	118.8	121.4	124.8	128.3	131.8	134.4	137.9
77.5°	85.0	86.8	89.3	91.1	92.8	94.5	97.1	99.8	102.3	104.1	107.5
80°	62.4	64.2	65.9	67.7	69.3	71.1	72.0	72.8	76.3	78.9	80.7
82.5°	42.5	43.3	44.3	46.0	46.8	47.7	48.6	48.6	50.3	52.0	54.7
85°	24.2	25.2	26.0	26.0	26.0	26.0	26.9	27.8	28.6	30.3	32.1
87.5°	9.5	9.5	10.4	10.4	10.4	10.4	10.4	10.4	11.2	13.0	13.8
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°	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6	766.6
2.5°	771.0	771.8	773.6	774.5	775.3	775.3	776.1	777.1	775.3	773.6	772.7
5°	775.3	776.1	778.8	781.4	783.1	784.8	784.0	783.1	781.4	778.8	777.1
7.5°	776.1	778.8	781.4	784.8	787.5	790.9	789.1	787.5	784.0	780.5	777.9
10°	773.6	777.1	781.4	785.7	788.3	790.9	789.1	787.5	784.0	779.6	776.1
12.5°	770.1	774.5	779.6	784.0	786.6	790.1	787.5	784.8	780.5	776.1	771.8
15°	762.3	767.5	773.6	778.8	783.1	786.6	784.0	782.2	777.1	771.0	764.9
17.5°	752.7	759.7	765.7	771.8	775.3	778.8	777.1	775.3	769.2	762.3	755.4
20°	741.5	748.4	754.5	760.6	764.9	768.4	765.7	763.1	757.1	751.1	744.1
22.5°	727.6	734.6	741.5	747.6	751.9	755.4	751.9	747.6	741.5	735.4	728.5
25°	710.2	718.1	725.9	732.0	734.6	738.0	734.6	731.1	725.0	719.0	711.1
27.5°	692.9	700.7	708.6	714.6	717.2	720.6	717.2	713.7	707.6	701.5	693.8
30°	673.0	680.8	688.5	694.6	697.2	699.9	696.4	692.9	687.7	681.6	673.8
32.5°	650.4	658.2	664.3	670.4	673.8	677.3	673.8	671.2	665.1	657.4	649.5
35°	626.1	634.0	641.7	647.8	651.3	654.8	650.4	646.0	640.9	634.8	627.9
37.5°	599.3	608.0	616.6	623.5	626.1	629.6	626.1	621.8	616.6	610.5	602.7
40°	574.1	581.9	589.7	596.6	599.3	601.9	598.4	595.0	588.9	582.8	575.0
42.5°	548.1	555.9	562.8	568.9	571.5	575.0	571.5	567.2	562.8	557.6	550.7
45°	520.4	528.1	534.2	540.3	542.9	545.5	542.0	537.7	533.4	529.0	522.0
47.5°	491.7	498.6	504.7	510.8	512.5	515.1	511.7	509.0	504.7	500.4	494.3
50°	462.2	469.2	475.2	480.5	482.2	484.8	481.3	477.9	474.4	470.9	465.7
52.5°	431.9	438.0	444.0	449.2	451.0	452.7	449.2	445.8	442.3	438.8	433.6
55°	400.7	406.7	412.8	417.1	418.9	420.6	417.1	414.5	411.0	408.4	403.3
57.5°	369.4	375.5	380.7	385.0	386.8	388.5	385.0	381.6	378.9	376.4	372.0
60°	337.4	343.4	347.8	351.2	352.9	353.9	350.4	347.8	346.0	344.3	339.9
62.5°	306.1	310.4	314.8	317.4	319.1	320.0	317.4	315.7	313.9	312.2	308.8
65°	273.2	278.4	281.9	284.4	285.4	286.2	283.6	281.9	280.1	278.4	275.8
67.5°	240.2	244.5	247.2	249.8	250.6	250.6	250.6	249.8	248.0	245.4	242.9
70°	207.3	210.8	213.4	215.1	215.9	215.9	214.2	212.4	212.4	211.6	209.8
72.5°	173.4	176.0	177.8	179.5	179.5	179.5	179.5	180.3	179.5	177.8	175.2
75°	141.3	143.9	145.7	146.6	146.6	146.6	146.6	147.4	146.6	145.7	143.9
77.5°	111.0	112.8	113.6	114.5	114.5	114.5	115.3	116.2	115.3	114.5	113.6
80°	82.4	83.3	84.1	85.0	84.1	84.1	85.0	86.8	85.8	85.0	84.1
82.5°	56.3	57.3	58.1	58.1	59.0	59.8	59.8	59.8	59.8	59.0	58.1
85°	33.8	34.7	34.7	34.7	34.7	34.7	35.6	36.4	36.4	35.6	35.6
87.5°	15.6	16.5	15.6	14.8	13.8	13.8	15.6	17.3	17.3	16.5	16.5
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):

	330°	340°	350°	360°
0°	766.6	766.6	766.6	766.6
2.5°	773.6	772.7	768.4	764.1
5°	776.1	773.6	767.5	761.4
7.5°	776.1	772.7	764.1	756.2
10°	771.8	766.6	757.1	747.6
12.5°	766.6	760.6	749.3	738.9
15°	758.8	751.9	739.7	727.6
17.5°	747.6	738.9	726.7	713.7
20°	736.3	726.7	712.0	698.1
22.5°	720.6	712.0	696.4	681.6
25°	703.3	693.8	678.1	662.5
27.5°	685.1	673.8	658.2	642.6
30°	664.3	653.1	637.4	621.8
32.5°	641.7	631.4	615.7	599.3
35°	619.2	608.0	592.3	575.9
37.5°	594.0	583.6	568.0	552.5
40°	567.2	556.8	541.1	525.5
42.5°	542.0	532.5	516.9	502.1
45°	514.3	504.7	490.0	476.1
47.5°	485.6	476.1	462.2	448.4
50°	457.9	448.4	435.4	422.4
52.5°	426.7	418.9	406.7	394.6
55°	396.4	388.5	376.4	365.1
57.5°	365.9	359.0	347.8	337.4
60°	333.9	326.9	318.3	308.8
62.5°	303.5	297.4	288.8	280.1
65°	271.4	266.3	258.4	250.6
67.5°	238.5	234.2	227.2	220.3
70°	205.5	200.4	195.1	189.1
72.5°	172.6	170.0	164.8	159.6
75°	141.3	138.8	134.4	130.1
77.5°	111.8	109.3	105.8	102.3
80°	82.4	80.7	78.1	75.4
82.5°	57.3	55.5	53.8	51.2
85°	34.7	32.9	31.3	29.5
87.5°	15.6	14.8	13.0	12.2
90°	0.0	0.0	0.0	0.0

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