

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-20L935-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-20L935-X-UNV-NP  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

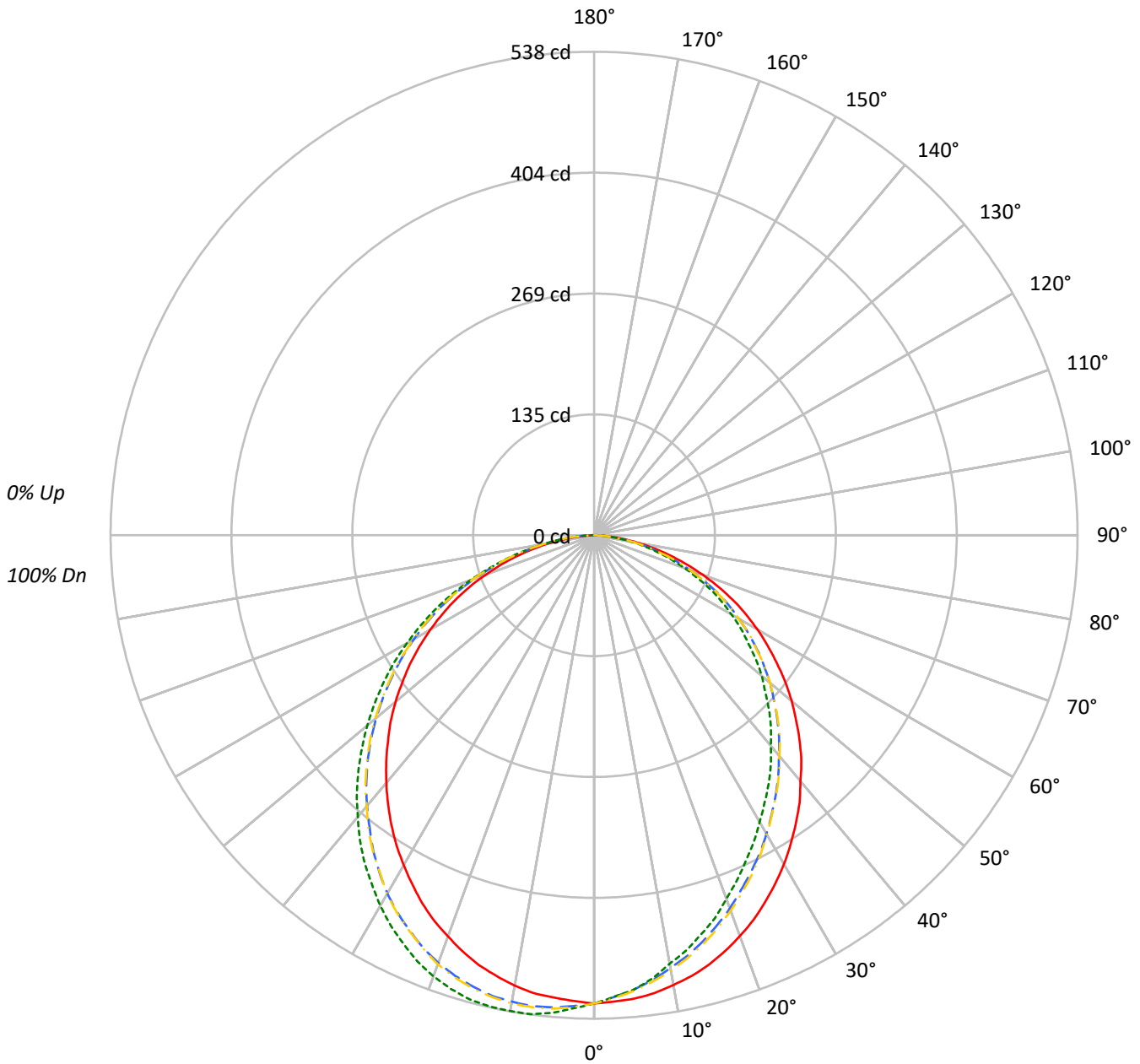
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1397.7 lumens  
Efficiency: N/A  
Efficacy: 58.7 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<sub>in</sub>): 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	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	4808	4808	4808	4808
5°	4794	4701	4783	4941
10°	4761	4534	4767	5037
15°	4724	4392	4730	5107
20°	4660	4226	4665	5128
25°	4585	4069	4602	5107
30°	4502	3925	4515	5069
35°	4410	3811	4429	5012
40°	4303	3684	4331	4927
45°	4222	3592	4231	4838
50°	4121	3495	4138	4729
55°	3992	3367	4021	4599
60°	3871	3262	3884	4438
65°	3720	3128	3720	4246
70°	3466	2894	3450	3960
75°	3151	2627	3108	3554
80°	2726	2253	2630	3039
85°	2117	1694	2001	2498



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.2	3.5
10°-20°	139.7	10.0
20°-30°	207.8	14.9
30°-40°	244.9	17.5
40°-50°	249.3	17.8
50°-60°	222.1	15.9
60°-70°	167.3	12.0
70°-80°	93.1	6.7
80°-90°	24.2	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°	396.8	28.4
0°-40°	641.6	45.9
0°-60°	1113.1	79.6
0°-90°	1397.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1397.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	521	521	521	521	521	
5°	518	508	516	534	518	49
15°	495	460	495	535	495	139
25°	450	400	452	502	450	207
35°	392	338	393	445	392	245
45°	324	275	324	371	324	249
55°	248	209	250	286	248	222
65°	170	143	170	194	170	168
75°	88	74	87	100	88	94
85°	20	16	19	24	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°	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1
2.5°	519.4	519.4	519.9	517.6	514.7	513.5	512.9	512.3	513.5	514.0	513.5
5°	517.6	516.4	515.2	512.3	508.8	506.4	505.3	504.6	505.8	507.6	505.8
7.5°	514.0	511.7	509.3	505.3	501.1	497.5	495.8	494.6	495.8	497.5	496.4
10°	508.2	505.3	501.7	497.0	491.1	486.9	485.2	483.4	484.0	484.0	484.0
12.5°	502.3	498.2	494.0	488.1	481.7	477.0	474.0	471.6	472.8	473.4	473.4
15°	494.6	489.3	483.4	477.0	470.4	465.1	461.6	459.2	459.8	459.8	460.4
17.5°	485.2	479.3	473.4	465.7	458.0	452.1	448.0	445.0	446.2	446.9	447.4
20°	474.6	468.1	461.6	453.3	445.0	438.6	434.4	430.9	430.4	430.4	430.9
22.5°	463.4	456.3	448.6	439.8	430.9	423.8	419.7	416.2	415.6	415.6	416.2
25°	450.4	442.7	435.1	426.2	416.7	409.7	404.4	400.9	400.2	399.7	400.9
27.5°	436.8	429.2	421.5	412.7	402.6	395.5	390.3	386.7	385.6	384.9	386.1
30°	422.6	413.9	405.6	396.2	387.3	380.2	375.0	370.8	369.6	368.4	369.6
32.5°	407.3	398.5	389.6	380.2	371.4	364.3	359.0	354.9	353.7	353.1	354.3
35°	391.5	382.6	374.3	364.9	356.1	349.0	343.7	340.1	338.9	338.4	338.9
37.5°	375.5	366.7	358.4	349.0	340.1	333.1	327.8	324.3	323.6	323.1	323.6
40°	357.3	349.6	341.3	332.5	323.6	316.6	312.5	308.3	307.1	305.9	307.8
42.5°	341.3	333.7	325.4	317.2	308.3	301.2	296.5	293.0	291.8	291.3	291.8
45°	323.6	315.4	307.1	299.5	291.3	284.7	280.0	276.5	275.9	275.3	275.9
47.5°	304.8	297.7	290.6	283.0	274.8	268.2	264.1	260.6	259.4	258.3	259.4
50°	287.1	280.0	272.9	265.9	258.3	252.4	248.2	244.6	244.1	243.5	244.1
52.5°	268.2	261.1	254.7	247.6	241.1	235.2	231.1	228.1	227.5	227.0	227.5
55°	248.2	242.3	236.4	230.5	224.0	218.7	215.2	211.6	210.5	209.3	210.5
57.5°	229.3	224.0	218.1	212.2	206.3	201.6	198.0	195.1	194.5	194.0	194.5
60°	209.8	205.1	199.9	194.5	188.6	183.9	181.0	178.6	177.5	176.8	177.5
62.5°	190.4	185.7	181.5	176.3	170.9	167.4	164.5	162.1	161.0	160.3	161.0
65°	170.4	166.2	162.1	157.4	153.2	149.7	146.8	144.5	143.8	143.3	143.3
67.5°	149.7	146.2	142.6	138.6	133.8	130.3	127.3	125.6	125.0	124.4	125.0
70°	128.5	125.6	122.1	118.5	115.0	112.0	110.3	108.4	107.9	107.3	107.3
72.5°	108.4	106.1	103.2	100.2	97.3	94.3	92.6	91.4	90.8	90.2	90.2
75°	88.4	86.1	84.3	82.0	79.0	77.3	75.4	74.3	73.7	73.7	73.7
77.5°	69.5	67.8	66.0	63.7	61.9	60.1	58.9	58.4	57.8	57.8	57.8
80°	51.3	50.1	49.0	47.8	46.0	44.3	43.6	43.1	42.4	42.4	42.4
82.5°	34.8	34.2	33.0	31.8	30.6	30.1	29.5	28.9	28.9	28.9	28.9
85°	20.0	19.5	18.9	18.3	17.7	17.7	17.1	16.5	16.0	16.0	16.0
87.5°	8.3	8.3	8.3	7.7	7.1	7.1	7.1	7.1	7.1	7.1	7.1
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°	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1
2.5°	512.3	513.5	514.7	516.4	518.2	519.9	519.4	518.8	521.1	524.1	524.7
5°	504.6	505.8	507.6	510.5	513.5	515.9	516.4	516.4	521.1	525.3	526.5
7.5°	495.2	497.0	499.4	502.3	506.4	510.0	511.7	514.0	518.8	524.1	526.5
10°	483.4	486.4	489.9	494.0	498.2	502.3	505.8	508.8	514.7	520.6	524.1
12.5°	472.8	475.8	479.3	484.0	489.3	494.6	498.2	502.3	509.3	516.4	520.6
15°	461.0	464.0	468.1	472.8	478.7	484.6	489.9	495.2	502.3	510.0	514.7
17.5°	448.0	451.0	455.1	461.0	467.5	474.0	479.9	485.8	494.0	502.3	507.6
20°	432.1	436.2	441.5	447.4	455.1	462.8	468.7	475.1	484.0	492.8	498.7
22.5°	416.7	420.9	426.8	433.9	442.1	450.4	457.5	464.5	474.0	482.9	489.3
25°	402.1	406.8	412.7	419.7	427.4	435.6	443.9	452.1	461.6	471.0	477.5
27.5°	387.3	391.5	397.3	404.4	413.2	421.5	429.7	438.0	448.0	458.0	465.1
30°	370.8	375.5	380.8	387.9	397.3	406.8	415.0	423.8	433.9	443.9	451.0
32.5°	355.5	359.6	364.9	372.0	381.4	390.8	399.7	409.1	418.6	428.5	435.6
35°	340.1	344.3	349.6	356.6	366.1	375.5	384.4	393.2	402.6	412.0	419.1
37.5°	324.8	329.0	334.2	341.3	350.2	359.6	367.9	376.7	386.1	395.5	402.1
40°	308.9	313.0	317.2	324.3	333.1	342.5	350.7	359.6	369.1	378.5	384.9
42.5°	293.0	297.2	302.4	309.5	317.7	326.0	334.2	342.5	351.4	360.2	366.7
45°	277.1	280.6	285.9	292.4	300.7	308.3	316.6	324.3	333.1	341.3	347.8
47.5°	260.6	264.1	268.2	274.8	283.0	291.3	299.5	307.1	314.8	323.1	329.0
50°	244.6	248.2	252.9	258.8	266.5	274.1	281.2	288.3	296.0	303.6	308.9
52.5°	228.1	231.7	235.8	241.7	248.2	255.3	261.8	268.9	275.9	283.0	288.3
55°	211.6	214.0	217.5	222.8	229.9	237.0	243.5	250.0	256.4	262.3	267.7
57.5°	195.1	198.0	202.2	206.9	212.8	218.7	224.6	230.5	236.4	242.3	247.0
60°	178.6	181.0	183.9	188.1	194.0	199.2	205.1	210.5	215.7	221.1	225.2
62.5°	161.5	163.9	166.8	170.9	175.6	180.4	185.7	190.4	195.1	199.9	203.9
65°	143.8	146.2	149.2	152.7	156.8	161.0	165.7	170.4	173.9	177.5	181.5
67.5°	125.6	127.9	130.8	133.8	137.4	141.5	145.6	149.7	153.2	156.8	159.8
70°	107.9	109.6	112.6	115.0	117.9	120.9	124.4	127.9	130.3	133.2	136.7
72.5°	90.8	92.6	94.9	97.3	99.0	101.4	104.9	107.9	110.8	114.3	116.2
75°	74.3	75.4	77.3	79.0	80.8	82.5	84.9	87.2	89.6	91.4	93.8
77.5°	57.8	58.9	60.8	61.9	63.1	64.3	66.0	67.8	69.5	70.7	73.1
80°	42.4	43.6	44.8	46.0	47.2	48.3	49.0	49.5	51.9	53.7	54.9
82.5°	28.9	29.5	30.1	31.3	31.8	32.5	33.0	33.0	34.2	35.4	37.2
85°	16.5	17.1	17.7	17.7	17.7	17.7	18.3	18.9	19.5	20.7	21.9
87.5°	6.5	6.5	7.1	7.1	7.1	7.1	7.1	7.1	7.7	8.9	9.4
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1	521.1
2.5°	524.1	524.7	525.8	526.5	527.0	527.0	527.7	528.2	527.0	525.8	525.3
5°	527.0	527.7	529.4	531.2	532.4	533.5	532.9	532.4	531.2	529.4	528.2
7.5°	527.7	529.4	531.2	533.5	535.3	537.6	536.4	535.3	532.9	530.6	528.8
10°	525.8	528.2	531.2	534.1	535.9	537.6	536.4	535.3	532.9	530.0	527.7
12.5°	523.5	526.5	530.0	532.9	534.7	537.1	535.3	533.5	530.6	527.7	524.7
15°	518.2	521.8	525.8	529.4	532.4	534.7	532.9	531.7	528.2	524.1	519.9
17.5°	511.7	516.4	520.6	524.7	527.0	529.4	528.2	527.0	522.9	518.2	513.5
20°	504.1	508.8	512.9	517.0	519.9	522.3	520.6	518.8	514.7	510.5	505.8
22.5°	494.6	499.4	504.1	508.2	511.2	513.5	511.2	508.2	504.1	499.9	495.2
25°	482.9	488.1	493.5	497.5	499.4	501.7	499.4	497.0	492.8	488.8	483.4
27.5°	471.0	476.3	481.7	485.8	487.6	489.9	487.6	485.2	481.0	477.0	471.6
30°	457.5	462.8	468.1	472.2	474.0	475.8	473.4	471.0	467.5	463.4	458.0
32.5°	442.1	447.4	451.6	455.7	458.0	460.4	458.0	456.3	452.1	446.9	441.5
35°	425.6	430.9	436.2	440.3	442.7	445.0	442.1	439.1	435.6	431.5	426.8
37.5°	407.3	413.2	419.1	423.8	425.6	428.0	425.6	422.6	419.1	415.0	409.7
40°	390.3	395.5	400.9	405.6	407.3	409.1	406.8	404.4	400.2	396.2	390.8
42.5°	372.6	377.8	382.6	386.7	388.5	390.8	388.5	385.6	382.6	379.0	374.3
45°	353.7	359.0	363.2	367.2	369.1	370.8	368.4	365.5	362.5	359.6	354.9
47.5°	334.2	338.9	343.1	347.2	348.4	350.2	347.8	346.0	343.1	340.1	336.1
50°	314.2	318.9	323.1	326.6	327.8	329.5	327.2	324.8	322.4	320.1	316.6
52.5°	293.6	297.7	301.9	305.4	306.6	307.8	305.4	303.0	300.7	298.3	294.8
55°	272.4	276.5	280.6	283.5	284.7	285.9	283.5	281.8	279.5	277.7	274.1
57.5°	251.2	255.3	258.8	261.8	263.0	264.1	261.8	259.4	257.6	255.9	252.9
60°	229.3	233.5	236.4	238.8	239.9	240.5	238.2	236.4	235.2	234.0	231.1
62.5°	208.1	211.0	214.0	215.7	216.9	217.5	215.7	214.5	213.4	212.2	209.8
65°	185.7	189.2	191.6	193.3	194.0	194.5	192.8	191.6	190.4	189.2	187.4
67.5°	163.3	166.2	168.0	169.7	170.4	170.4	170.4	169.7	168.6	166.8	165.0
70°	140.9	143.3	145.0	146.2	146.8	146.8	145.6	144.5	144.5	143.8	142.6
72.5°	117.9	119.7	120.9	122.1	122.1	122.1	122.1	122.6	122.1	120.9	119.1
75°	96.1	97.8	99.0	99.7	99.7	99.7	99.7	100.2	99.7	99.0	97.8
77.5°	75.4	76.6	77.3	77.8	77.8	77.8	78.4	79.0	78.4	77.8	77.3
80°	56.0	56.6	57.2	57.8	57.2	57.2	57.8	58.9	58.4	57.8	57.2
82.5°	38.4	38.9	39.5	39.5	40.1	40.7	40.7	40.7	40.7	40.1	39.5
85°	23.0	23.6	23.6	23.6	23.6	23.6	24.2	24.8	24.8	24.2	24.2
87.5°	10.6	11.2	10.6	10.0	9.4	9.4	10.6	11.8	11.8	11.2	11.2
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: P  
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**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	521.1	521.1	521.1	521.1
2.5°	525.8	525.3	522.3	519.4
5°	527.7	525.8	521.8	517.6
7.5°	527.7	525.3	519.4	514.0
10°	524.7	521.1	514.7	508.2
12.5°	521.1	517.0	509.3	502.3
15°	515.9	511.2	502.9	494.6
17.5°	508.2	502.3	494.0	485.2
20°	500.5	494.0	484.0	474.6
22.5°	489.9	484.0	473.4	463.4
25°	478.1	471.6	461.0	450.4
27.5°	465.7	458.0	447.4	436.8
30°	451.6	443.9	433.3	422.6
32.5°	436.2	429.2	418.6	407.3
35°	420.9	413.2	402.6	391.5
37.5°	403.8	396.7	386.1	375.5
40°	385.6	378.5	367.9	357.3
42.5°	368.4	362.0	351.4	341.3
45°	349.6	343.1	333.1	323.6
47.5°	330.2	323.6	314.2	304.8
50°	311.3	304.8	296.0	287.1
52.5°	290.1	284.7	276.5	268.2
55°	269.4	264.1	255.9	248.2
57.5°	248.8	244.1	236.4	229.3
60°	227.0	222.2	216.4	209.8
62.5°	206.3	202.2	196.3	190.4
65°	184.5	181.0	175.6	170.4
67.5°	162.1	159.1	154.4	149.7
70°	139.7	136.2	132.7	128.5
72.5°	117.3	115.5	112.0	108.4
75°	96.1	94.3	91.4	88.4
77.5°	76.1	74.3	71.9	69.5
80°	56.0	54.9	53.0	51.3
82.5°	38.9	37.7	36.5	34.8
85°	23.6	22.4	21.2	20.0
87.5°	10.6	10.0	8.9	8.3
90°	0.0	0.0	0.0	0.0

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