

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: P709107

Luminaire Tested: **4APN-X-22L950-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709107  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-22L950-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

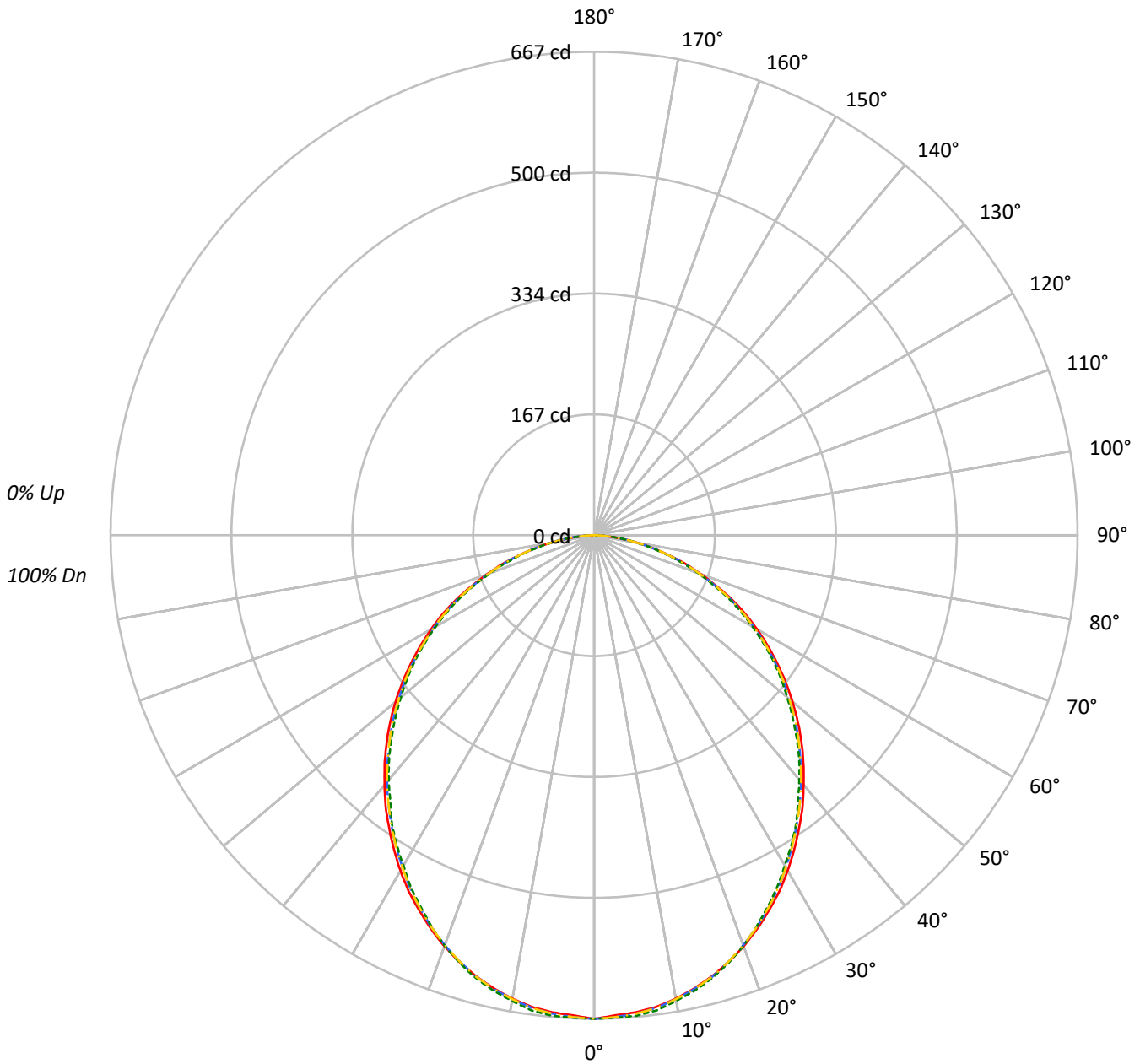
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1735.5 lumens  
Efficiency: N/A  
Efficacy: 72.3 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				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°	6155	6155	6155	6155
5°	6117	6163	6117	6163
10°	6081	6112	6081	6112
15°	6014	6037	6014	6037
20°	5925	5918	5925	5918
25°	5812	5763	5812	5763
30°	5692	5605	5692	5605
35°	5550	5476	5550	5476
40°	5415	5307	5415	5307
45°	5282	5154	5282	5154
50°	5133	4992	5133	4992
55°	4966	4848	4966	4848
60°	4794	4659	4794	4659
65°	4587	4445	4587	4445
70°	4241	4108	4241	4108
75°	3832	3718	3832	3718
80°	3289	3204	3289	3204
85°	2498	2498	2498	2498



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.0	3.6
10°-20°	177.8	10.2
20°-30°	262.0	15.1
30°-40°	305.9	17.6
40°-50°	308.4	17.8
50°-60°	272.6	15.7
60°-70°	203.8	11.7
70°-80°	113.0	6.5
80°-90°	29.0	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°	502.8	29.0
0°-40°	808.7	46.6
0°-60°	1389.7	80.1
0°-90°	1735.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1735.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	667	667	667	667	667	
5°	660	665	660	665	660	63
15°	630	632	630	632	630	177
25°	571	566	571	566	571	263
35°	493	486	493	486	493	309
45°	405	395	405	395	405	312
55°	309	301	309	301	309	276
65°	210	204	210	204	210	207
75°	108	104	108	104	108	114
85°	24	24	24	24	24	29
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°	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1
2.5°	663.0	666.2	669.5	668.7	666.2	664.6	665.4	665.4	666.2	666.2	666.2
5°	660.5	663.8	666.2	665.4	663.0	662.2	662.2	662.2	663.8	665.4	663.8
7.5°	656.5	658.9	661.3	660.5	658.1	657.3	657.3	658.1	659.7	661.3	659.7
10°	649.1	652.4	654.8	653.2	650.8	649.1	649.1	649.1	650.8	652.4	650.8
12.5°	640.2	642.6	645.1	644.2	641.8	640.2	640.2	640.2	641.8	643.4	641.8
15°	629.6	632.0	634.5	633.7	631.2	629.6	629.6	629.6	631.2	632.0	631.2
17.5°	617.4	619.8	622.3	620.6	617.4	615.7	615.7	615.7	617.4	618.2	617.4
20°	603.5	606.0	607.6	606.0	602.7	601.1	600.3	600.3	601.9	602.7	601.9
22.5°	588.0	589.7	591.3	589.7	586.4	584.8	584.0	583.2	584.0	584.8	584.0
25°	570.9	572.6	574.2	572.6	569.3	566.9	566.1	565.2	566.1	566.1	566.1
27.5°	553.8	554.7	556.3	553.8	550.6	548.1	547.3	546.5	547.3	547.3	547.3
30°	534.3	535.1	536.7	534.3	530.2	527.8	527.0	526.1	526.1	526.1	526.1
32.5°	513.9	515.6	517.2	513.9	509.9	507.4	506.6	505.8	506.6	506.6	506.6
35°	492.8	493.6	495.2	492.8	488.7	486.2	484.6	483.8	485.4	486.2	485.4
37.5°	472.4	473.2	474.0	471.6	467.5	465.1	463.4	462.6	461.8	461.8	461.8
40°	449.6	450.4	452.0	449.6	445.5	443.1	441.4	440.6	440.6	440.6	440.6
42.5°	427.6	428.4	429.2	426.8	422.7	420.3	418.6	417.8	418.6	418.6	418.6
45°	404.8	404.8	405.6	403.2	399.9	397.5	395.8	395.0	395.0	395.0	395.0
47.5°	381.2	382.0	382.8	380.4	377.1	374.7	373.0	371.4	371.4	371.4	371.4
50°	357.6	357.6	358.4	355.9	352.7	350.2	349.4	348.6	347.8	347.8	347.8
52.5°	333.1	333.9	334.7	332.3	329.9	327.4	325.8	325.0	325.0	325.0	325.0
55°	308.7	308.7	309.5	307.9	305.4	303.0	301.4	300.5	301.4	301.4	301.4
57.5°	284.2	285.1	285.9	283.4	281.0	278.5	277.7	276.9	276.9	276.9	276.9
60°	259.8	259.8	260.6	259.0	256.6	254.1	253.3	252.5	252.5	252.5	252.5
62.5°	235.4	235.4	236.2	234.6	232.1	229.7	228.9	228.1	228.1	228.1	228.1
65°	210.1	210.1	210.1	208.5	206.9	206.1	205.2	204.4	203.6	203.6	203.6
67.5°	182.4	182.4	183.3	181.6	180.0	179.2	178.4	177.6	176.7	176.7	176.7
70°	157.2	157.2	158.0	157.2	155.6	154.7	153.9	153.1	152.3	152.3	152.3
72.5°	132.8	132.8	132.8	131.9	131.1	130.3	129.5	128.7	127.9	127.9	127.9
75°	107.5	107.5	108.3	107.5	106.7	105.9	105.1	105.1	104.3	104.3	104.3
77.5°	83.9	84.7	85.5	84.7	83.9	83.1	82.3	82.3	81.4	81.4	81.4
80°	61.9	62.7	63.5	62.7	61.9	61.1	60.3	60.3	60.3	60.3	60.3
82.5°	41.5	42.4	43.2	42.4	41.5	41.5	40.7	40.7	40.7	40.7	40.7
85°	23.6	24.4	25.2	25.2	24.4	24.4	23.6	23.6	23.6	23.6	23.6
87.5°	9.0	9.8	10.6	10.6	9.8	9.8	9.8	9.8	9.8	9.8	9.8
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):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1
2.5°	665.4	665.4	664.6	666.2	668.7	669.5	666.2	663.0	666.2	669.5	668.7
5°	662.2	662.2	662.2	663.0	665.4	666.2	663.8	660.5	663.8	666.2	665.4
7.5°	658.1	657.3	657.3	658.1	660.5	661.3	658.9	656.5	658.9	661.3	660.5
10°	649.1	649.1	649.1	650.8	653.2	654.8	652.4	649.1	652.4	654.8	653.2
12.5°	640.2	640.2	640.2	641.8	644.2	645.1	642.6	640.2	642.6	645.1	644.2
15°	629.6	629.6	629.6	631.2	633.7	634.5	632.0	629.6	632.0	634.5	633.7
17.5°	615.7	615.7	615.7	617.4	620.6	622.3	619.8	617.4	619.8	622.3	620.6
20°	600.3	600.3	601.1	602.7	606.0	607.6	606.0	603.5	606.0	607.6	606.0
22.5°	583.2	584.0	584.8	586.4	589.7	591.3	589.7	588.0	589.7	591.3	589.7
25°	565.2	566.1	566.9	569.3	572.6	574.2	572.6	570.9	572.6	574.2	572.6
27.5°	546.5	547.3	548.1	550.6	553.8	556.3	554.7	553.8	554.7	556.3	553.8
30°	526.1	527.0	527.8	530.2	534.3	536.7	535.1	534.3	535.1	536.7	534.3
32.5°	505.8	506.6	507.4	509.9	513.9	517.2	515.6	513.9	515.6	517.2	513.9
35°	483.8	484.6	486.2	488.7	492.8	495.2	493.6	492.8	493.6	495.2	492.8
37.5°	462.6	463.4	465.1	467.5	471.6	474.0	473.2	472.4	473.2	474.0	471.6
40°	440.6	441.4	443.1	445.5	449.6	452.0	450.4	449.6	450.4	452.0	449.6
42.5°	417.8	418.6	420.3	422.7	426.8	429.2	428.4	427.6	428.4	429.2	426.8
45°	395.0	395.8	397.5	399.9	403.2	405.6	404.8	404.8	404.8	405.6	403.2
47.5°	371.4	373.0	374.7	377.1	380.4	382.8	382.0	381.2	382.0	382.8	380.4
50°	348.6	349.4	350.2	352.7	355.9	358.4	357.6	357.6	357.6	358.4	355.9
52.5°	325.0	325.8	327.4	329.9	332.3	334.7	333.9	333.1	333.9	334.7	332.3
55°	300.5	301.4	303.0	305.4	307.9	309.5	308.7	308.7	308.7	309.5	307.9
57.5°	276.9	277.7	278.5	281.0	283.4	285.9	285.1	284.2	285.1	285.9	283.4
60°	252.5	253.3	254.1	256.6	259.0	260.6	259.8	259.8	259.8	260.6	259.0
62.5°	228.1	228.9	229.7	232.1	234.6	236.2	235.4	235.4	235.4	236.2	234.6
65°	204.4	205.2	206.1	206.9	208.5	210.1	210.1	210.1	210.1	210.1	208.5
67.5°	177.6	178.4	179.2	180.0	181.6	183.3	182.4	182.4	182.4	183.3	181.6
70°	153.1	153.9	154.7	155.6	157.2	158.0	157.2	157.2	157.2	158.0	157.2
72.5°	128.7	129.5	130.3	131.1	131.9	132.8	132.8	132.8	132.8	132.8	131.9
75°	105.1	105.1	105.9	106.7	107.5	108.3	107.5	107.5	107.5	108.3	107.5
77.5°	82.3	82.3	83.1	83.9	84.7	85.5	84.7	83.9	84.7	85.5	84.7
80°	60.3	60.3	61.1	61.9	62.7	63.5	62.7	61.9	62.7	63.5	62.7
82.5°	40.7	40.7	41.5	41.5	42.4	43.2	42.4	41.5	42.4	43.2	42.4
85°	23.6	23.6	24.4	24.4	25.2	25.2	24.4	23.6	24.4	25.2	25.2
87.5°	9.8	9.8	9.8	9.8	10.6	10.6	9.8	9.0	9.8	10.6	10.6
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°	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1	667.1
2.5°	666.2	664.6	665.4	665.4	666.2	666.2	666.2	665.4	665.4	664.6	666.2
5°	663.0	662.2	662.2	662.2	663.8	665.4	663.8	662.2	662.2	662.2	663.0
7.5°	658.1	657.3	657.3	658.1	659.7	661.3	659.7	658.1	657.3	657.3	658.1
10°	650.8	649.1	649.1	649.1	650.8	652.4	650.8	649.1	649.1	649.1	650.8
12.5°	641.8	640.2	640.2	640.2	641.8	643.4	641.8	640.2	640.2	640.2	641.8
15°	631.2	629.6	629.6	629.6	631.2	632.0	631.2	629.6	629.6	629.6	631.2
17.5°	617.4	615.7	615.7	615.7	617.4	618.2	617.4	615.7	615.7	615.7	617.4
20°	602.7	601.1	600.3	600.3	601.9	602.7	601.9	600.3	600.3	601.1	602.7
22.5°	586.4	584.8	584.0	583.2	584.0	584.8	584.0	583.2	584.0	584.8	586.4
25°	569.3	566.9	566.1	565.2	566.1	566.1	566.1	565.2	566.1	566.9	569.3
27.5°	550.6	548.1	547.3	546.5	547.3	547.3	547.3	546.5	547.3	548.1	550.6
30°	530.2	527.8	527.0	526.1	526.1	526.1	526.1	526.1	527.0	527.8	530.2
32.5°	509.9	507.4	506.6	505.8	506.6	506.6	506.6	505.8	506.6	507.4	509.9
35°	488.7	486.2	484.6	483.8	485.4	486.2	485.4	483.8	484.6	486.2	488.7
37.5°	467.5	465.1	463.4	462.6	461.8	461.8	461.8	462.6	463.4	465.1	467.5
40°	445.5	443.1	441.4	440.6	440.6	440.6	440.6	440.6	441.4	443.1	445.5
42.5°	422.7	420.3	418.6	417.8	418.6	418.6	418.6	417.8	418.6	420.3	422.7
45°	399.9	397.5	395.8	395.0	395.0	395.0	395.0	395.0	395.8	397.5	399.9
47.5°	377.1	374.7	373.0	371.4	371.4	371.4	371.4	371.4	373.0	374.7	377.1
50°	352.7	350.2	349.4	348.6	347.8	347.8	347.8	348.6	349.4	350.2	352.7
52.5°	329.9	327.4	325.8	325.0	325.0	325.0	325.0	325.0	325.8	327.4	329.9
55°	305.4	303.0	301.4	300.5	301.4	301.4	301.4	300.5	301.4	303.0	305.4
57.5°	281.0	278.5	277.7	276.9	276.9	276.9	276.9	276.9	277.7	278.5	281.0
60°	256.6	254.1	253.3	252.5	252.5	252.5	252.5	252.5	253.3	254.1	256.6
62.5°	232.1	229.7	228.9	228.1	228.1	228.1	228.1	228.1	228.9	229.7	232.1
65°	206.9	206.1	205.2	204.4	203.6	203.6	203.6	204.4	205.2	206.1	206.9
67.5°	180.0	179.2	178.4	177.6	176.7	176.7	176.7	177.6	178.4	179.2	180.0
70°	155.6	154.7	153.9	153.1	152.3	152.3	152.3	153.1	153.9	154.7	155.6
72.5°	131.1	130.3	129.5	128.7	127.9	127.9	127.9	128.7	129.5	130.3	131.1
75°	106.7	105.9	105.1	105.1	104.3	104.3	104.3	105.1	105.1	105.9	106.7
77.5°	83.9	83.1	82.3	82.3	81.4	81.4	81.4	82.3	82.3	83.1	83.9
80°	61.9	61.1	60.3	60.3	60.3	60.3	60.3	60.3	60.3	61.1	61.9
82.5°	41.5	41.5	40.7	40.7	40.7	40.7	40.7	40.7	40.7	41.5	41.5
85°	24.4	24.4	23.6	23.6	23.6	23.6	23.6	23.6	23.6	24.4	24.4
87.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
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):**

	330°	340°	350°	360°
0°	667.1	667.1	667.1	667.1
2.5°	668.7	669.5	666.2	663.0
5°	665.4	666.2	663.8	660.5
7.5°	660.5	661.3	658.9	656.5
10°	653.2	654.8	652.4	649.1
12.5°	644.2	645.1	642.6	640.2
15°	633.7	634.5	632.0	629.6
17.5°	620.6	622.3	619.8	617.4
20°	606.0	607.6	606.0	603.5
22.5°	589.7	591.3	589.7	588.0
25°	572.6	574.2	572.6	570.9
27.5°	553.8	556.3	554.7	553.8
30°	534.3	536.7	535.1	534.3
32.5°	513.9	517.2	515.6	513.9
35°	492.8	495.2	493.6	492.8
37.5°	471.6	474.0	473.2	472.4
40°	449.6	452.0	450.4	449.6
42.5°	426.8	429.2	428.4	427.6
45°	403.2	405.6	404.8	404.8
47.5°	380.4	382.8	382.0	381.2
50°	355.9	358.4	357.6	357.6
52.5°	332.3	334.7	333.9	333.1
55°	307.9	309.5	308.7	308.7
57.5°	283.4	285.9	285.1	284.2
60°	259.0	260.6	259.8	259.8
62.5°	234.6	236.2	235.4	235.4
65°	208.5	210.1	210.1	210.1
67.5°	181.6	183.3	182.4	182.4
70°	157.2	158.0	157.2	157.2
72.5°	131.9	132.8	132.8	132.8
75°	107.5	108.3	107.5	107.5
77.5°	84.7	85.5	84.7	83.9
80°	62.7	63.5	62.7	61.9
82.5°	42.4	43.2	42.4	41.5
85°	25.2	25.2	24.4	23.6
87.5°	10.6	10.6	9.8	9.0
90°	0.0	0.0	0.0	0.0

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