

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: P709089

Luminaire Tested: **4APN-X-22L930-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709089  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-22L930-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

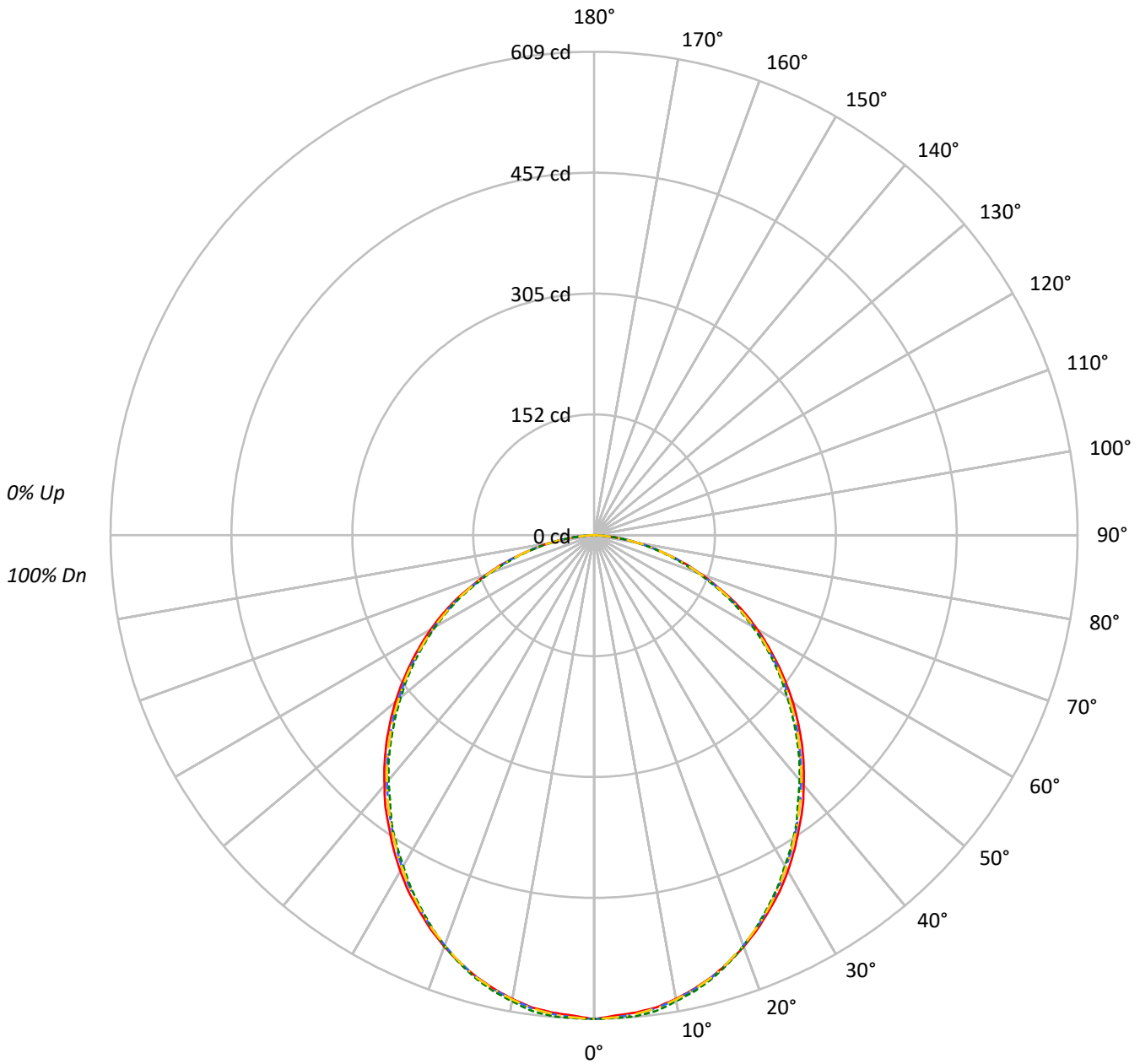
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1585.6 lumens  
Efficiency: N/A  
Efficacy: 66.1 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°	5622	5622	5622	5622
5°	5589	5631	5589	5631
10°	5556	5585	5556	5585
15°	5494	5516	5494	5516
20°	5414	5407	5414	5407
25°	5310	5265	5310	5265
30°	5201	5121	5201	5121
35°	5071	5003	5071	5003
40°	4948	4849	4948	4849
45°	4825	4709	4825	4709
50°	4689	4560	4689	4560
55°	4536	4428	4536	4428
60°	4381	4257	4381	4257
65°	4192	4061	4192	4061
70°	3874	3755	3874	3755
75°	3501	3394	3501	3394
80°	3007	2928	3007	2928
85°	2287	2287	2287	2287



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.5	3.6
10°-20°	162.4	10.2
20°-30°	239.4	15.1
30°-40°	279.5	17.6
40°-50°	281.8	17.8
50°-60°	249.0	15.7
60°-70°	186.2	11.7
70°-80°	103.2	6.5
80°-90°	26.5	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°	459.4	29.0
0°-40°	738.9	46.6
0°-60°	1269.7	80.1
0°-90°	1585.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1585.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	609	609	609	609	609	
5°	604	608	604	608	604	57
15°	575	578	575	578	575	162
25°	522	517	522	517	522	240
35°	450	444	450	444	450	282
45°	370	361	370	361	370	285
55°	282	275	282	275	282	252
65°	192	186	192	186	192	189
75°	98	95	98	95	98	104
85°	22	22	22	22	22	26
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°	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4
2.5°	605.7	608.7	611.7	610.9	608.7	607.2	608.0	608.0	608.7	608.7	608.7
5°	603.5	606.5	608.7	608.0	605.7	605.0	605.0	605.0	606.5	608.0	606.5
7.5°	599.8	602.0	604.2	603.5	601.3	600.5	600.5	601.3	602.8	604.2	602.8
10°	593.1	596.1	598.3	596.8	594.6	593.1	593.1	593.1	594.6	596.1	594.6
12.5°	584.9	587.1	589.4	588.6	586.4	584.9	584.9	584.9	586.4	587.9	586.4
15°	575.2	577.5	579.7	578.9	576.7	575.2	575.2	575.2	576.7	577.5	576.7
17.5°	564.1	566.3	568.5	567.0	564.1	562.6	562.6	562.6	564.1	564.8	564.1
20°	551.4	553.6	555.1	553.6	550.7	549.2	548.4	548.4	549.9	550.7	549.9
22.5°	537.3	538.8	540.2	538.8	535.8	534.3	533.5	532.8	533.5	534.3	533.5
25°	521.6	523.1	524.6	523.1	520.2	517.9	517.2	516.4	517.2	517.2	517.2
27.5°	506.0	506.8	508.2	506.0	503.0	500.8	500.1	499.3	500.1	500.1	500.1
30°	488.2	488.9	490.4	488.2	484.4	482.2	481.5	480.7	480.7	480.7	480.7
32.5°	469.6	471.0	472.5	469.6	465.8	463.6	462.9	462.1	462.9	462.9	462.9
35°	450.2	450.9	452.4	450.2	446.5	444.2	442.8	442.0	443.5	444.2	443.5
37.5°	431.6	432.3	433.1	430.9	427.1	424.9	423.4	422.7	421.9	421.9	421.9
40°	410.8	411.5	413.0	410.8	407.0	404.8	403.3	402.6	402.6	402.6	402.6
42.5°	390.7	391.4	392.2	389.9	386.2	384.0	382.5	381.7	382.5	382.5	382.5
45°	369.8	369.8	370.6	368.3	365.4	363.1	361.7	360.9	360.9	360.9	360.9
47.5°	348.3	349.0	349.7	347.5	344.5	342.3	340.8	339.3	339.3	339.3	339.3
50°	326.7	326.7	327.4	325.2	322.2	320.0	319.2	318.5	317.7	317.7	317.7
52.5°	304.4	305.1	305.8	303.6	301.4	299.1	297.7	296.9	296.9	296.9	296.9
55°	282.0	282.0	282.8	281.3	279.1	276.8	275.3	274.6	275.3	275.3	275.3
57.5°	259.7	260.4	261.2	259.0	256.7	254.5	253.8	253.0	253.0	253.0	253.0
60°	237.4	237.4	238.1	236.6	234.4	232.2	231.4	230.7	230.7	230.7	230.7
62.5°	215.1	215.1	215.8	214.3	212.1	209.8	209.1	208.4	208.4	208.4	208.4
65°	192.0	192.0	192.0	190.5	189.0	188.3	187.5	186.8	186.0	186.0	186.0
67.5°	166.7	166.7	167.4	165.9	164.5	163.7	163.0	162.2	161.5	161.5	161.5
70°	143.6	143.6	144.4	143.6	142.1	141.4	140.6	139.9	139.2	139.2	139.2
72.5°	121.3	121.3	121.3	120.6	119.8	119.1	118.3	117.6	116.8	116.8	116.8
75°	98.2	98.2	99.0	98.2	97.5	96.7	96.0	96.0	95.2	95.2	95.2
77.5°	76.6	77.4	78.1	77.4	76.6	75.9	75.2	75.2	74.4	74.4	74.4
80°	56.6	57.3	58.0	57.3	56.6	55.8	55.1	55.1	55.1	55.1	55.1
82.5°	38.0	38.7	39.4	38.7	38.0	38.0	37.2	37.2	37.2	37.2	37.2
85°	21.6	22.3	23.1	23.1	22.3	22.3	21.6	21.6	21.6	21.6	21.6
87.5°	8.2	8.9	9.7	9.7	8.9	8.9	8.9	8.9	8.9	8.9	8.9
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°	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4
2.5°	608.0	608.0	607.2	608.7	610.9	611.7	608.7	605.7	608.7	611.7	610.9
5°	605.0	605.0	605.0	605.7	608.0	608.7	606.5	603.5	606.5	608.7	608.0
7.5°	601.3	600.5	600.5	601.3	603.5	604.2	602.0	599.8	602.0	604.2	603.5
10°	593.1	593.1	593.1	594.6	596.8	598.3	596.1	593.1	596.1	598.3	596.8
12.5°	584.9	584.9	584.9	586.4	588.6	589.4	587.1	584.9	587.1	589.4	588.6
15°	575.2	575.2	575.2	576.7	578.9	579.7	577.5	575.2	577.5	579.7	578.9
17.5°	562.6	562.6	562.6	564.1	567.0	568.5	566.3	564.1	566.3	568.5	567.0
20°	548.4	548.4	549.2	550.7	553.6	555.1	553.6	551.4	553.6	555.1	553.6
22.5°	532.8	533.5	534.3	535.8	538.8	540.2	538.8	537.3	538.8	540.2	538.8
25°	516.4	517.2	517.9	520.2	523.1	524.6	523.1	521.6	523.1	524.6	523.1
27.5°	499.3	500.1	500.8	503.0	506.0	508.2	506.8	506.0	506.8	508.2	506.0
30°	480.7	481.5	482.2	484.4	488.2	490.4	488.9	488.2	488.9	490.4	488.2
32.5°	462.1	462.9	463.6	465.8	469.6	472.5	471.0	469.6	471.0	472.5	469.6
35°	442.0	442.8	444.2	446.5	450.2	452.4	450.9	450.2	450.9	452.4	450.2
37.5°	422.7	423.4	424.9	427.1	430.9	433.1	432.3	431.6	432.3	433.1	430.9
40°	402.6	403.3	404.8	407.0	410.8	413.0	411.5	410.8	411.5	413.0	410.8
42.5°	381.7	382.5	384.0	386.2	389.9	392.2	391.4	390.7	391.4	392.2	389.9
45°	360.9	361.7	363.1	365.4	368.3	370.6	369.8	369.8	369.8	370.6	368.3
47.5°	339.3	340.8	342.3	344.5	347.5	349.7	349.0	348.3	349.0	349.7	347.5
50°	318.5	319.2	320.0	322.2	325.2	327.4	326.7	326.7	326.7	327.4	325.2
52.5°	296.9	297.7	299.1	301.4	303.6	305.8	305.1	304.4	305.1	305.8	303.6
55°	274.6	275.3	276.8	279.1	281.3	282.8	282.0	282.0	282.0	282.8	281.3
57.5°	253.0	253.8	254.5	256.7	259.0	261.2	260.4	259.7	260.4	261.2	259.0
60°	230.7	231.4	232.2	234.4	236.6	238.1	237.4	237.4	237.4	238.1	236.6
62.5°	208.4	209.1	209.8	212.1	214.3	215.8	215.1	215.1	215.1	215.8	214.3
65°	186.8	187.5	188.3	189.0	190.5	192.0	192.0	192.0	192.0	192.0	190.5
67.5°	162.2	163.0	163.7	164.5	165.9	167.4	166.7	166.7	166.7	167.4	165.9
70°	139.9	140.6	141.4	142.1	143.6	144.4	143.6	143.6	143.6	144.4	143.6
72.5°	117.6	118.3	119.1	119.8	120.6	121.3	121.3	121.3	121.3	121.3	120.6
75°	96.0	96.0	96.7	97.5	98.2	99.0	98.2	98.2	98.2	99.0	98.2
77.5°	75.2	75.2	75.9	76.6	77.4	78.1	77.4	76.6	77.4	78.1	77.4
80°	55.1	55.1	55.8	56.6	57.3	58.0	57.3	56.6	57.3	58.0	57.3
82.5°	37.2	37.2	38.0	38.0	38.7	39.4	38.7	38.0	38.7	39.4	38.7
85°	21.6	21.6	22.3	22.3	23.1	23.1	22.3	21.6	22.3	23.1	23.1
87.5°	8.9	8.9	8.9	8.9	9.7	9.7	8.9	8.2	8.9	9.7	9.7
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°	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4
2.5°	608.7	607.2	608.0	608.0	608.7	608.7	608.7	608.0	608.0	607.2	608.7
5°	605.7	605.0	605.0	605.0	606.5	608.0	606.5	605.0	605.0	605.0	605.7
7.5°	601.3	600.5	600.5	601.3	602.8	604.2	602.8	601.3	600.5	600.5	601.3
10°	594.6	593.1	593.1	593.1	594.6	596.1	594.6	593.1	593.1	593.1	594.6
12.5°	586.4	584.9	584.9	584.9	586.4	587.9	586.4	584.9	584.9	584.9	586.4
15°	576.7	575.2	575.2	575.2	576.7	577.5	576.7	575.2	575.2	575.2	576.7
17.5°	564.1	562.6	562.6	562.6	564.1	564.8	564.1	562.6	562.6	562.6	564.1
20°	550.7	549.2	548.4	548.4	549.9	550.7	549.9	548.4	548.4	549.2	550.7
22.5°	535.8	534.3	533.5	532.8	533.5	534.3	533.5	532.8	533.5	534.3	535.8
25°	520.2	517.9	517.2	516.4	517.2	517.2	517.2	516.4	517.2	517.9	520.2
27.5°	503.0	500.8	500.1	499.3	500.1	500.1	500.1	499.3	500.1	500.8	503.0
30°	484.4	482.2	481.5	480.7	480.7	480.7	480.7	480.7	481.5	482.2	484.4
32.5°	465.8	463.6	462.9	462.1	462.9	462.9	462.9	462.1	462.9	463.6	465.8
35°	446.5	444.2	442.8	442.0	443.5	444.2	443.5	442.0	442.8	444.2	446.5
37.5°	427.1	424.9	423.4	422.7	421.9	421.9	421.9	422.7	423.4	424.9	427.1
40°	407.0	404.8	403.3	402.6	402.6	402.6	402.6	402.6	403.3	404.8	407.0
42.5°	386.2	384.0	382.5	381.7	382.5	382.5	382.5	381.7	382.5	384.0	386.2
45°	365.4	363.1	361.7	360.9	360.9	360.9	360.9	360.9	361.7	363.1	365.4
47.5°	344.5	342.3	340.8	339.3	339.3	339.3	339.3	339.3	340.8	342.3	344.5
50°	322.2	320.0	319.2	318.5	317.7	317.7	317.7	318.5	319.2	320.0	322.2
52.5°	301.4	299.1	297.7	296.9	296.9	296.9	296.9	296.9	297.7	299.1	301.4
55°	279.1	276.8	275.3	274.6	275.3	275.3	275.3	274.6	275.3	276.8	279.1
57.5°	256.7	254.5	253.8	253.0	253.0	253.0	253.0	253.0	253.8	254.5	256.7
60°	234.4	232.2	231.4	230.7	230.7	230.7	230.7	230.7	231.4	232.2	234.4
62.5°	212.1	209.8	209.1	208.4	208.4	208.4	208.4	208.4	209.1	209.8	212.1
65°	189.0	188.3	187.5	186.8	186.0	186.0	186.0	186.8	187.5	188.3	189.0
67.5°	164.5	163.7	163.0	162.2	161.5	161.5	161.5	162.2	163.0	163.7	164.5
70°	142.1	141.4	140.6	139.9	139.2	139.2	139.2	139.9	140.6	141.4	142.1
72.5°	119.8	119.1	118.3	117.6	116.8	116.8	116.8	117.6	118.3	119.1	119.8
75°	97.5	96.7	96.0	96.0	95.2	95.2	95.2	96.0	96.0	96.7	97.5
77.5°	76.6	75.9	75.2	75.2	74.4	74.4	74.4	75.2	75.2	75.9	76.6
80°	56.6	55.8	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.8	56.6
82.5°	38.0	38.0	37.2	37.2	37.2	37.2	37.2	37.2	37.2	38.0	38.0
85°	22.3	22.3	21.6	21.6	21.6	21.6	21.6	21.6	21.6	22.3	22.3
87.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
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°	609.4	609.4	609.4	609.4
2.5°	610.9	611.7	608.7	605.7
5°	608.0	608.7	606.5	603.5
7.5°	603.5	604.2	602.0	599.8
10°	596.8	598.3	596.1	593.1
12.5°	588.6	589.4	587.1	584.9
15°	578.9	579.7	577.5	575.2
17.5°	567.0	568.5	566.3	564.1
20°	553.6	555.1	553.6	551.4
22.5°	538.8	540.2	538.8	537.3
25°	523.1	524.6	523.1	521.6
27.5°	506.0	508.2	506.8	506.0
30°	488.2	490.4	488.9	488.2
32.5°	469.6	472.5	471.0	469.6
35°	450.2	452.4	450.9	450.2
37.5°	430.9	433.1	432.3	431.6
40°	410.8	413.0	411.5	410.8
42.5°	389.9	392.2	391.4	390.7
45°	368.3	370.6	369.8	369.8
47.5°	347.5	349.7	349.0	348.3
50°	325.2	327.4	326.7	326.7
52.5°	303.6	305.8	305.1	304.4
55°	281.3	282.8	282.0	282.0
57.5°	259.0	261.2	260.4	259.7
60°	236.6	238.1	237.4	237.4
62.5°	214.3	215.8	215.1	215.1
65°	190.5	192.0	192.0	192.0
67.5°	165.9	167.4	166.7	166.7
70°	143.6	144.4	143.6	143.6
72.5°	120.6	121.3	121.3	121.3
75°	98.2	99.0	98.2	98.2
77.5°	77.4	78.1	77.4	76.6
80°	57.3	58.0	57.3	56.6
82.5°	38.7	39.4	38.7	38.0
85°	23.1	23.1	22.3	21.6
87.5°	9.7	9.7	8.9	8.2
90°	0.0	0.0	0.0	0.0

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