

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-24L930-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-24L930-X-UNV-NP  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

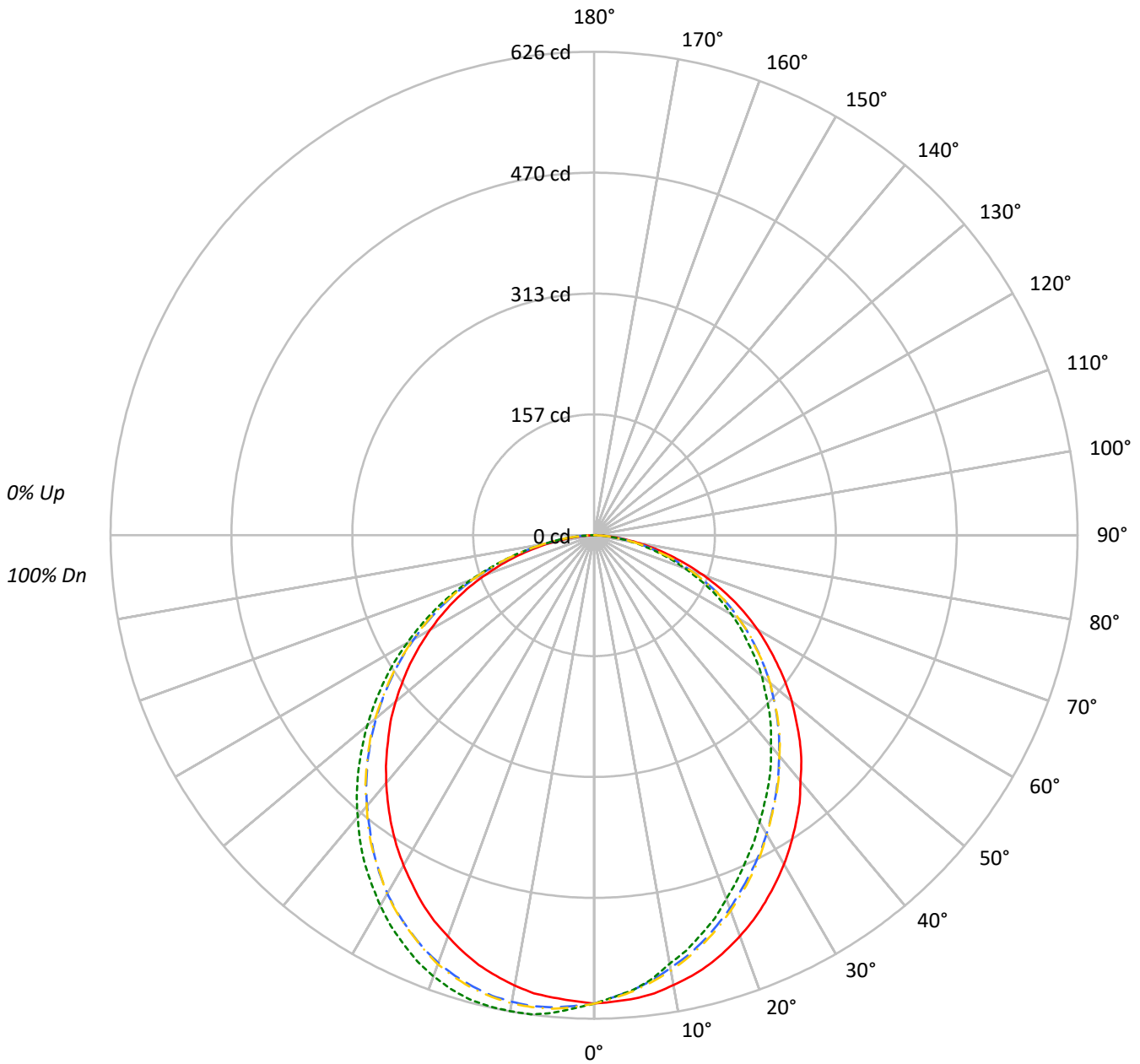
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1626.4 lumens  
Efficiency: N/A  
Efficacy: 58.3 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): 27.9  
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				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°	5595	5595	5595	5595
5°	5578	5470	5566	5750
10°	5541	5276	5546	5862
15°	5498	5111	5504	5944
20°	5423	4917	5429	5968
25°	5336	4735	5357	5943
30°	5240	4567	5255	5898
35°	5130	4435	5154	5834
40°	5007	4289	5040	5734
45°	4914	4181	4923	5630
50°	4795	4066	4814	5505
55°	4645	3917	4679	5352
60°	4506	3798	4519	5165
65°	4327	3639	4327	4943
70°	4033	3367	4017	4607
75°	3668	3055	3618	4132
80°	3172	2625	3060	3539
85°	2467	1958	2318	2911



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.3	3.5
10°-20°	162.6	10.0
20°-30°	241.8	14.9
30°-40°	285.0	17.5
40°-50°	290.1	17.8
50°-60°	258.5	15.9
60°-70°	194.7	12.0
70°-80°	108.3	6.7
80°-90°	28.1	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°	461.7	28.4
0°-40°	746.7	45.9
0°-60°	1295.3	79.6
0°-90°	1626.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1626.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	606	606	606	606	606	
5°	602	591	601	621	602	57
15°	576	535	576	622	576	162
25°	524	465	526	584	524	241
35°	456	394	458	518	456	285
45°	377	320	377	432	377	290
55°	289	244	291	333	289	259
65°	198	167	198	226	198	196
75°	103	86	102	116	103	109
85°	23	18	22	28	23	28
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°	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4
2.5°	604.4	604.4	605.1	602.3	598.9	597.5	596.8	596.2	597.5	598.2	597.5
5°	602.3	601.0	599.6	596.2	592.0	589.3	588.0	587.2	588.6	590.6	588.6
7.5°	598.2	595.4	592.8	588.0	583.1	579.0	576.9	575.6	576.9	579.0	577.6
10°	591.4	588.0	583.8	578.3	571.5	566.7	564.6	562.5	563.2	563.2	563.2
12.5°	584.5	579.7	574.9	568.0	560.5	555.0	551.5	548.8	550.2	550.9	550.9
15°	575.6	569.4	562.5	555.0	547.5	541.3	537.2	534.4	535.1	535.1	535.8
17.5°	564.6	557.7	550.9	542.0	533.0	526.2	521.4	518.0	519.3	520.0	520.7
20°	552.3	544.7	537.2	527.6	518.0	510.4	505.6	501.5	500.8	500.8	501.5
22.5°	539.2	531.0	522.0	511.8	501.5	493.3	488.5	484.3	483.7	483.7	484.3
25°	524.2	515.2	506.3	495.9	485.0	476.8	470.6	466.5	465.8	465.1	466.5
27.5°	508.3	499.4	490.5	480.2	468.6	460.4	454.2	450.0	448.6	448.0	449.4
30°	491.9	481.6	472.0	461.0	450.7	442.5	436.3	431.5	430.1	428.7	430.1
32.5°	474.0	463.8	453.4	442.5	432.2	423.9	417.8	413.0	411.6	410.9	412.3
35°	455.5	445.2	435.6	424.7	414.3	406.1	400.0	395.8	394.4	393.8	394.4
37.5°	437.0	426.7	417.1	406.1	395.8	387.6	381.4	377.3	376.6	375.9	376.6
40°	415.7	406.8	397.2	386.9	376.6	368.4	363.5	358.8	357.5	356.1	358.1
42.5°	397.2	388.3	378.7	369.1	358.8	350.5	345.1	341.0	339.6	338.9	339.6
45°	376.6	367.0	357.5	348.5	338.9	331.4	325.8	321.8	321.0	320.4	321.0
47.5°	354.7	346.4	338.2	329.2	319.7	312.1	307.3	303.2	301.9	300.5	301.9
50°	334.1	325.8	317.6	309.4	300.5	293.7	288.8	284.7	284.0	283.3	284.0
52.5°	312.1	303.9	296.3	288.1	280.6	273.7	268.9	265.4	264.8	264.2	264.8
55°	288.8	281.9	275.1	268.2	260.6	254.5	250.4	246.3	244.9	243.5	244.9
57.5°	266.8	260.6	253.8	247.0	240.1	234.6	230.5	227.1	226.4	225.7	226.4
60°	244.2	238.7	232.5	226.4	219.5	214.0	210.6	207.8	206.5	205.8	206.5
62.5°	221.6	216.1	211.3	205.1	199.0	194.8	191.4	188.6	187.3	186.6	187.3
65°	198.2	193.4	188.6	183.2	178.4	174.3	170.8	168.1	167.3	166.7	166.7
67.5°	174.3	170.1	166.1	161.3	155.7	151.6	148.2	146.1	145.4	144.8	145.4
70°	149.5	146.1	142.0	137.9	133.8	130.4	128.3	126.2	125.6	124.8	124.8
72.5°	126.2	123.5	120.0	116.6	113.2	109.7	107.7	106.3	105.7	104.9	104.9
75°	102.9	100.1	98.1	95.3	91.9	89.9	87.8	86.5	85.7	85.7	85.7
77.5°	81.0	78.9	76.8	74.1	72.0	70.0	68.6	68.0	67.2	67.2	67.2
80°	59.7	58.3	57.0	55.6	53.5	51.4	50.8	50.1	49.4	49.4	49.4
82.5°	40.5	39.8	38.4	37.1	35.7	34.9	34.3	33.7	33.7	33.7	33.7
85°	23.3	22.7	21.9	21.3	20.6	20.6	19.9	19.2	18.5	18.5	18.5
87.5°	9.6	9.6	9.6	8.9	8.2	8.2	8.2	8.2	8.2	8.2	8.2
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°	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4
2.5°	596.2	597.5	598.9	601.0	603.0	605.1	604.4	603.7	606.4	609.9	610.5
5°	587.2	588.6	590.6	594.0	597.5	600.2	601.0	601.0	606.4	611.2	612.6
7.5°	576.2	578.3	581.0	584.5	589.3	593.4	595.4	598.2	603.7	609.9	612.6
10°	562.5	565.9	570.1	574.9	579.7	584.5	588.6	592.0	598.9	605.8	609.9
12.5°	550.2	553.6	557.7	563.2	569.4	575.6	579.7	584.5	592.8	601.0	605.8
15°	536.4	539.9	544.7	550.2	557.1	563.9	570.1	576.2	584.5	593.4	598.9
17.5°	521.4	524.8	529.6	536.4	544.0	551.5	558.5	565.3	574.9	584.5	590.6
20°	502.9	507.7	513.8	520.7	529.6	538.5	545.4	552.9	563.2	573.5	580.4
22.5°	485.0	489.9	496.7	504.9	514.5	524.2	532.4	540.6	551.5	561.9	569.4
25°	467.8	473.4	480.2	488.5	497.3	507.0	516.6	526.2	537.2	548.1	555.7
27.5°	450.7	455.5	462.4	470.6	480.9	490.5	500.1	509.7	521.4	533.0	541.3
30°	431.5	437.0	443.2	451.4	462.4	473.4	482.9	493.3	504.9	516.6	524.8
32.5°	413.7	418.5	424.7	432.9	443.9	454.8	465.1	476.1	487.1	498.7	507.0
35°	395.8	400.6	406.8	415.1	426.1	437.0	447.3	457.6	468.6	479.5	487.7
37.5°	378.0	382.8	389.0	397.2	407.5	418.5	428.1	438.3	449.4	460.4	467.8
40°	359.5	364.3	369.1	377.3	387.6	398.6	408.2	418.5	429.5	440.4	448.0
42.5°	341.0	345.8	351.9	360.1	369.7	379.4	389.0	398.6	408.9	419.1	426.7
45°	322.4	326.6	332.7	340.2	349.9	358.8	368.4	377.3	387.6	397.2	404.8
47.5°	303.2	307.3	312.1	319.7	329.2	338.9	348.5	357.5	366.3	375.9	382.8
50°	284.7	288.8	294.3	301.1	310.1	319.0	327.2	335.4	344.4	353.3	359.5
52.5°	265.4	269.6	274.4	281.3	288.8	297.1	304.6	312.8	321.0	329.2	335.4
55°	246.3	249.0	253.2	259.4	267.6	275.8	283.3	290.9	298.5	305.3	311.5
57.5°	227.1	230.5	235.3	240.8	247.6	254.5	261.4	268.2	275.1	281.9	287.5
60°	207.8	210.6	214.0	218.9	225.7	231.9	238.7	244.9	251.1	257.2	262.0
62.5°	188.0	190.7	194.2	199.0	204.4	209.9	216.1	221.6	227.1	232.5	237.3
65°	167.3	170.1	173.5	177.7	182.5	187.3	192.8	198.2	202.4	206.5	211.3
67.5°	146.1	148.9	152.3	155.7	159.9	164.7	169.5	174.3	178.4	182.5	185.9
70°	125.6	127.6	131.0	133.8	137.2	140.6	144.8	148.9	151.6	155.1	159.1
72.5°	105.7	107.7	110.5	113.2	115.2	118.0	122.1	125.6	129.0	133.0	135.2
75°	86.5	87.8	89.9	91.9	94.0	96.1	98.7	101.5	104.3	106.3	109.1
77.5°	67.2	68.6	70.6	72.0	73.4	74.8	76.8	78.9	81.0	82.3	85.1
80°	49.4	50.8	52.1	53.5	54.9	56.2	57.0	57.6	60.4	62.4	63.8
82.5°	33.7	34.3	34.9	36.3	37.1	37.7	38.4	38.4	39.8	41.1	43.2
85°	19.2	19.9	20.6	20.6	20.6	20.6	21.3	21.9	22.7	24.0	25.4
87.5°	7.6	7.6	8.2	8.2	8.2	8.2	8.2	8.2	8.9	10.3	11.0
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4	606.4
2.5°	609.9	610.5	611.9	612.6	613.3	613.3	614.0	614.7	613.3	611.9	611.2
5°	613.3	614.0	616.1	618.1	619.5	620.9	620.1	619.5	618.1	616.1	614.7
7.5°	614.0	616.1	618.1	620.9	622.9	625.7	624.3	622.9	620.1	617.4	615.3
10°	611.9	614.7	618.1	621.5	623.5	625.7	624.3	622.9	620.1	616.7	614.0
12.5°	609.2	612.6	616.7	620.1	622.3	624.9	622.9	620.9	617.4	614.0	610.5
15°	603.0	607.1	611.9	616.1	619.5	622.3	620.1	618.8	614.7	609.9	605.1
17.5°	595.4	601.0	605.8	610.5	613.3	616.1	614.7	613.3	608.5	603.0	597.5
20°	586.6	592.0	596.8	601.6	605.1	607.8	605.8	603.7	598.9	594.0	588.6
22.5°	575.6	581.0	586.6	591.4	594.8	597.5	594.8	591.4	586.6	581.8	576.2
25°	561.9	568.0	574.2	579.0	581.0	583.8	581.0	578.3	573.5	568.7	562.5
27.5°	548.1	554.3	560.5	565.3	567.3	570.1	567.3	564.6	559.7	555.0	548.8
30°	532.4	538.5	544.7	549.5	551.5	553.6	550.9	548.1	544.0	539.2	533.0
32.5°	514.5	520.7	525.4	530.3	533.0	535.8	533.0	531.0	526.2	520.0	513.8
35°	495.3	501.5	507.7	512.4	515.2	518.0	514.5	511.1	507.0	502.1	496.7
37.5°	474.0	480.9	487.7	493.3	495.3	498.1	495.3	491.9	487.7	482.9	476.8
40°	454.2	460.4	466.5	472.0	474.0	476.1	473.4	470.6	465.8	461.0	454.8
42.5°	433.5	439.7	445.2	450.0	452.1	454.8	452.1	448.6	445.2	441.1	435.6
45°	411.6	417.8	422.6	427.3	429.5	431.5	428.7	425.3	421.9	418.5	413.0
47.5°	389.0	394.4	399.2	404.0	405.4	407.5	404.8	402.7	399.2	395.8	391.0
50°	365.7	371.1	375.9	380.0	381.4	383.5	380.7	378.0	375.3	372.5	368.4
52.5°	341.6	346.4	351.3	355.3	356.7	358.1	355.3	352.6	349.9	347.1	343.0
55°	317.0	321.8	326.6	330.0	331.4	332.7	330.0	328.0	325.2	323.1	319.0
57.5°	292.3	297.1	301.1	304.6	305.9	307.3	304.6	301.9	299.8	297.7	294.3
60°	266.8	271.6	275.1	277.8	279.2	279.9	277.2	275.1	273.7	272.4	268.9
62.5°	242.1	245.6	249.0	251.1	252.4	253.2	251.1	249.7	248.3	247.0	244.2
65°	216.1	220.2	222.9	225.0	225.7	226.4	224.3	222.9	221.6	220.2	218.1
67.5°	190.0	193.4	195.6	197.6	198.2	198.2	198.2	197.6	196.2	194.2	192.1
70°	163.9	166.7	168.7	170.1	170.8	170.8	169.5	168.1	168.1	167.3	166.1
72.5°	137.2	139.2	140.6	142.0	142.0	142.0	142.0	142.7	142.0	140.6	138.6
75°	111.8	113.9	115.2	115.9	115.9	115.9	115.9	116.6	115.9	115.2	113.9
77.5°	87.8	89.2	89.9	90.5	90.5	90.5	91.3	91.9	91.3	90.5	89.9
80°	65.2	65.8	66.6	67.2	66.6	66.6	67.2	68.6	68.0	67.2	66.6
82.5°	44.6	45.3	46.0	46.0	46.7	47.3	47.3	47.3	47.3	46.7	46.0
85°	26.7	27.5	27.5	27.5	27.5	27.5	28.1	28.9	28.9	28.1	28.1
87.5°	12.4	13.0	12.4	11.6	11.0	11.0	12.4	13.7	13.7	13.0	13.0
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°	606.4	606.4	606.4	606.4
2.5°	611.9	611.2	607.8	604.4
5°	614.0	611.9	607.1	602.3
7.5°	614.0	611.2	604.4	598.2
10°	610.5	606.4	598.9	591.4
12.5°	606.4	601.6	592.8	584.5
15°	600.2	594.8	585.2	575.6
17.5°	591.4	584.5	574.9	564.6
20°	582.4	574.9	563.2	552.3
22.5°	570.1	563.2	550.9	539.2
25°	556.3	548.8	536.4	524.2
27.5°	542.0	533.0	520.7	508.3
30°	525.4	516.6	504.2	491.9
32.5°	507.7	499.4	487.1	474.0
35°	489.9	480.9	468.6	455.5
37.5°	469.9	461.6	449.4	437.0
40°	448.6	440.4	428.1	415.7
42.5°	428.7	421.2	408.9	397.2
45°	406.8	399.2	387.6	376.6
47.5°	384.2	376.6	365.7	354.7
50°	362.3	354.7	344.4	334.1
52.5°	337.5	331.4	321.8	312.1
55°	313.5	307.3	297.7	288.8
57.5°	289.5	284.0	275.1	266.8
60°	264.2	258.6	251.8	244.2
62.5°	240.1	235.3	228.5	221.6
65°	214.7	210.6	204.4	198.2
67.5°	188.6	185.2	179.7	174.3
70°	162.5	158.5	154.3	149.5
72.5°	136.5	134.4	130.4	126.2
75°	111.8	109.7	106.3	102.9
77.5°	88.5	86.5	83.7	81.0
80°	65.2	63.8	61.8	59.7
82.5°	45.3	43.9	42.5	40.5
85°	27.5	26.1	24.7	23.3
87.5°	12.4	11.6	10.3	9.6
90°	0.0	0.0	0.0	0.0

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