

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: P709145

Luminaire Tested: **4APN-35L940-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709145
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35L940-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

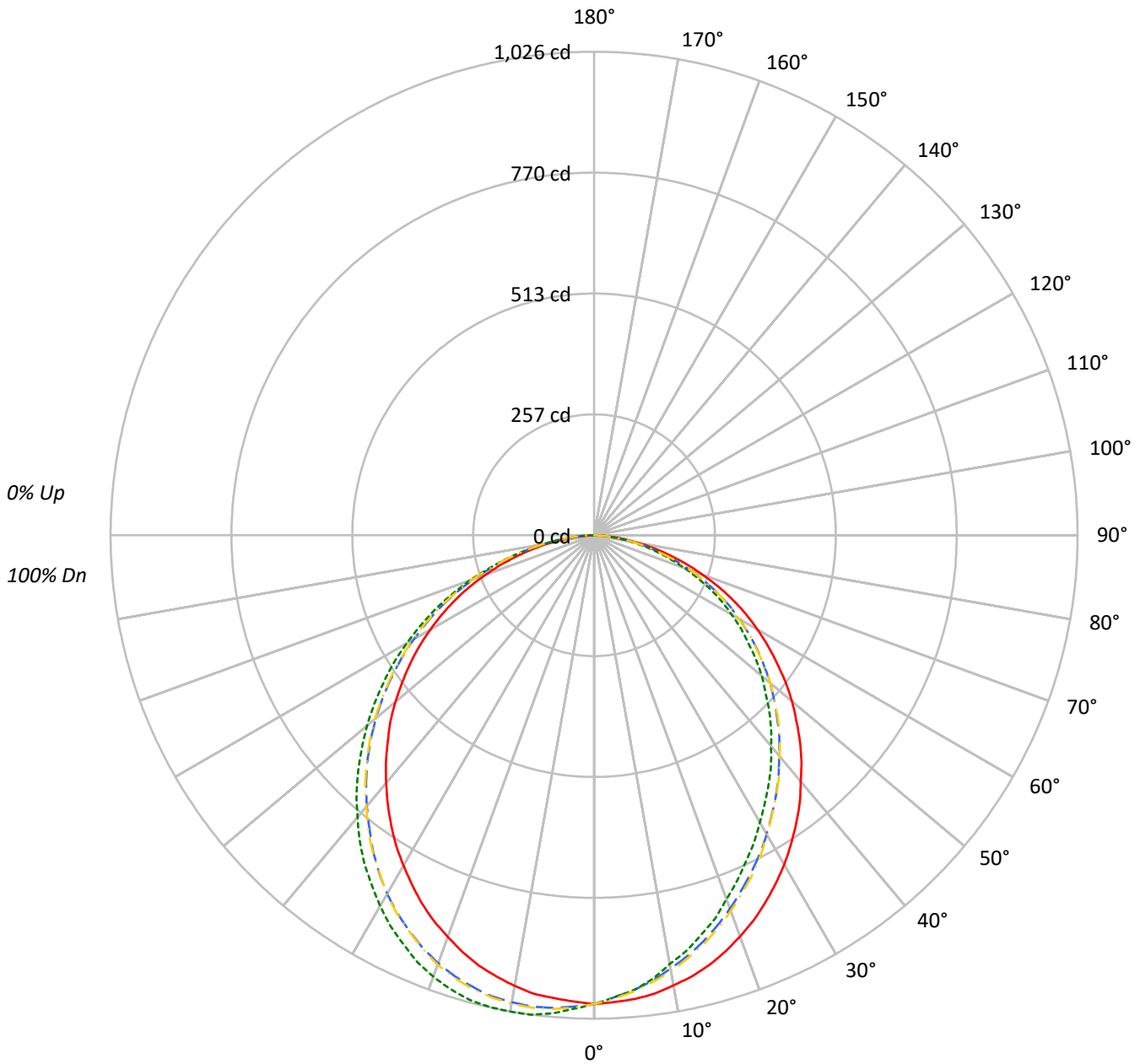
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2668.2 lumens
Efficiency: N/A
Efficacy: 66.0 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): 40.4
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	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°	9179	9179	9179	9179
5°	9151	8974	9131	9433
10°	9088	8657	9099	9616
15°	9019	8384	9030	9750
20°	8895	8067	8906	9790
25°	8753	7767	8787	9749
30°	8596	7494	8621	9676
35°	8417	7276	8455	9570
40°	8214	7035	8268	9408
45°	8062	6858	8077	9237
50°	7867	6671	7899	9030
55°	7621	6426	7676	8779
60°	7394	6230	7414	8473
65°	7099	5971	7099	8108
70°	6617	5525	6587	7559
75°	6017	5016	5939	6780
80°	5202	4304	5021	5802
85°	4054	3218	3811	4764



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.0	3.5
10°-20°	266.8	10.0
20°-30°	396.6	14.9
30°-40°	467.5	17.5
40°-50°	476.0	17.8
50°-60°	424.0	15.9
60°-70°	319.5	12.0
70°-80°	177.7	6.7
80°-90°	46.2	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°	757.4	28.4
0°-40°	1224.9	45.9
0°-60°	2124.9	79.6
0°-90°	2668.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2668.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	995	995	995	995	995	
5°	988	969	986	1018	988	94
15°	944	878	945	1021	944	266
25°	860	763	863	958	860	396
35°	747	646	751	850	747	467
45°	618	526	619	708	618	476
55°	474	400	477	546	474	424
65°	325	274	325	371	325	321
75°	169	141	167	190	169	179
85°	38	30	36	45	38	46
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°	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9
2.5°	991.5	991.5	992.6	988.1	982.5	980.3	979.1	978.0	980.3	981.4	980.3
5°	988.1	985.9	983.6	978.0	971.2	966.7	964.5	963.4	965.6	969.0	965.6
7.5°	981.4	976.9	972.4	964.5	956.6	949.9	946.5	944.2	946.5	949.9	947.6
10°	970.1	964.5	957.7	948.7	937.5	929.6	926.2	922.9	924.0	924.0	924.0
12.5°	958.9	951.0	943.1	931.9	919.5	910.5	904.8	900.3	902.6	903.7	903.7
15°	944.2	934.1	922.9	910.5	898.1	888.0	881.2	876.7	877.8	877.8	879.0
17.5°	926.2	915.0	903.7	889.1	874.5	863.2	855.3	849.7	852.0	853.1	854.2
20°	906.0	893.6	881.2	865.5	849.7	837.3	829.4	822.7	821.6	821.6	822.7
22.5°	884.6	871.1	856.5	839.6	822.7	809.2	801.3	794.6	793.4	793.4	794.6
25°	859.8	845.2	830.6	813.7	795.7	782.2	772.0	765.3	764.2	763.0	765.3
27.5°	833.9	819.3	804.7	787.8	768.7	755.2	745.0	738.3	736.0	734.9	737.2
30°	806.9	790.1	774.3	756.3	739.4	725.9	715.8	707.9	705.6	703.4	705.6
32.5°	777.7	760.8	743.9	725.9	709.0	695.5	685.4	677.5	675.3	674.1	676.4
35°	747.3	730.4	714.6	696.6	679.8	666.3	656.1	649.4	647.1	646.0	647.1
37.5°	716.9	700.0	684.3	666.3	649.4	635.9	625.7	619.0	617.9	616.7	617.9
40°	682.0	667.4	651.6	634.7	617.9	604.4	596.5	588.6	586.4	584.1	587.5
42.5°	651.6	637.0	621.2	605.5	588.6	575.1	566.1	559.3	557.1	556.0	557.1
45°	617.9	602.1	586.4	571.7	556.0	543.6	534.6	527.8	526.7	525.6	526.7
47.5°	581.8	568.3	554.8	540.2	524.5	512.1	504.2	497.4	495.2	492.9	495.2
50°	548.1	534.6	521.1	507.6	492.9	481.7	473.8	467.1	465.9	464.8	465.9
52.5°	512.1	498.6	486.2	472.7	460.3	449.0	441.2	435.5	434.4	433.3	434.4
55°	473.8	462.6	451.3	440.0	427.7	417.5	410.8	404.0	401.8	399.5	401.8
57.5°	437.8	427.7	416.4	405.2	393.9	384.9	378.1	372.5	371.4	370.3	371.4
60°	400.7	391.7	381.5	371.4	360.1	351.1	345.5	341.0	338.8	337.6	338.8
62.5°	363.5	354.5	346.6	336.5	326.4	319.6	314.0	309.5	307.2	306.1	307.2
65°	325.2	317.4	309.5	300.5	292.6	285.9	280.2	275.7	274.6	273.5	273.5
67.5°	285.9	279.1	272.4	264.5	255.5	248.7	243.1	239.7	238.6	237.5	238.6
70°	245.3	239.7	233.0	226.2	219.5	213.8	210.5	207.1	206.0	204.8	204.8
72.5°	207.1	202.6	197.0	191.3	185.7	180.1	176.7	174.4	173.3	172.2	172.2
75°	168.8	164.3	160.9	156.4	150.8	147.4	144.1	141.8	140.7	140.7	140.7
77.5°	132.8	129.4	126.0	121.5	118.2	114.8	112.5	111.4	110.3	110.3	110.3
80°	97.9	95.7	93.4	91.2	87.8	84.4	83.3	82.2	81.0	81.0	81.0
82.5°	66.4	65.3	63.0	60.8	58.5	57.4	56.3	55.1	55.1	55.1	55.1
85°	38.3	37.1	36.0	34.9	33.8	33.8	32.6	31.5	30.4	30.4	30.4
87.5°	15.8	15.8	15.8	14.6	13.5	13.5	13.5	13.5	13.5	13.5	13.5
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9
2.5°	978.0	980.3	982.5	985.9	989.3	992.6	991.5	990.4	994.9	1000.5	1001.6
5°	963.4	965.6	969.0	974.6	980.3	984.8	985.9	985.9	994.9	1002.8	1005.0
7.5°	945.4	948.7	953.2	958.9	966.7	973.5	976.9	981.4	990.4	1000.5	1005.0
10°	922.9	928.5	935.2	943.1	951.0	958.9	965.6	971.2	982.5	993.8	1000.5
12.5°	902.6	908.2	915.0	924.0	934.1	944.2	951.0	958.9	972.4	985.9	993.8
15°	880.1	885.7	893.6	902.6	913.9	925.1	935.2	945.4	958.9	973.5	982.5
17.5°	855.3	861.0	868.8	880.1	892.5	904.8	916.1	927.4	943.1	958.9	969.0
20°	824.9	832.8	842.9	854.2	868.8	883.5	894.7	907.1	924.0	940.9	952.1
22.5°	795.7	803.6	814.8	828.3	844.1	859.8	873.3	886.8	904.8	921.7	934.1
25°	767.5	776.5	787.8	801.3	815.9	831.7	847.5	863.2	881.2	899.2	911.6
27.5°	739.4	747.3	758.5	772.0	788.9	804.7	820.4	836.2	855.3	874.5	888.0
30°	707.9	716.9	727.0	740.5	758.5	776.5	792.3	809.2	828.3	847.5	861.0
32.5°	678.6	686.5	696.6	710.1	728.2	746.2	763.0	781.1	799.1	818.2	831.7
35°	649.4	657.3	667.4	680.9	698.9	716.9	733.8	750.7	768.7	786.7	800.2
37.5°	620.1	628.0	638.1	651.6	668.5	686.5	702.3	719.2	737.2	755.2	767.5
40°	589.7	597.6	605.5	619.0	635.9	653.9	669.6	686.5	704.5	722.5	734.9
42.5°	559.3	567.2	577.3	590.9	606.6	622.4	638.1	653.9	670.8	687.6	700.0
45°	529.0	535.7	545.8	558.2	574.0	588.6	604.4	619.0	635.9	651.6	664.0
47.5°	497.4	504.2	512.1	524.5	540.2	556.0	571.7	586.4	601.0	616.7	628.0
50°	467.1	473.8	482.8	494.1	508.7	523.3	536.8	550.3	565.0	579.6	589.7
52.5°	435.5	442.3	450.2	461.4	473.8	487.3	499.7	513.2	526.7	540.2	550.3
55°	404.0	408.5	415.3	425.4	438.9	452.4	464.8	477.2	489.6	500.8	510.9
57.5°	372.5	378.1	386.0	395.0	406.3	417.5	428.8	440.0	451.3	462.6	471.6
60°	341.0	345.5	351.1	359.0	370.3	380.4	391.7	401.8	411.9	422.0	429.9
62.5°	308.4	312.9	318.5	326.4	335.4	344.4	354.5	363.5	372.5	381.5	389.4
65°	274.6	279.1	284.7	291.5	299.4	307.2	316.2	325.2	332.0	338.8	346.6
67.5°	239.7	244.2	249.8	255.5	262.2	270.1	278.0	285.9	292.6	299.4	305.0
70°	206.0	209.3	215.0	219.5	225.1	230.7	237.5	244.2	248.7	254.3	261.1
72.5°	173.3	176.7	181.2	185.7	189.1	193.6	200.3	206.0	211.6	218.3	221.7
75°	141.8	144.1	147.4	150.8	154.2	157.6	162.1	166.6	171.1	174.4	178.9
77.5°	110.3	112.5	115.9	118.2	120.4	122.7	126.0	129.4	132.8	135.1	139.6
80°	81.0	83.3	85.5	87.8	90.0	92.3	93.4	94.5	99.0	102.4	104.7
82.5°	55.1	56.3	57.4	59.6	60.8	61.9	63.0	63.0	65.3	67.5	70.9
85°	31.5	32.6	33.8	33.8	33.8	33.8	34.9	36.0	37.1	39.4	41.6
87.5°	12.4	12.4	13.5	13.5	13.5	13.5	13.5	13.5	14.6	16.9	18.0
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°	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9	994.9
2.5°	1000.5	1001.6	1003.9	1005.0	1006.1	1006.1	1007.3	1008.4	1006.1	1003.9	1002.8
5°	1006.1	1007.3	1010.6	1014.0	1016.3	1018.5	1017.4	1016.3	1014.0	1010.6	1008.4
7.5°	1007.3	1010.6	1014.0	1018.5	1021.9	1026.4	1024.1	1021.9	1017.4	1012.9	1009.5
10°	1003.9	1008.4	1014.0	1019.6	1023.0	1026.4	1024.1	1021.9	1017.4	1011.8	1007.3
12.5°	999.4	1005.0	1011.8	1017.4	1020.8	1025.3	1021.9	1018.5	1012.9	1007.3	1001.6
15°	989.3	996.0	1003.9	1010.6	1016.3	1020.8	1017.4	1015.1	1008.4	1000.5	992.6
17.5°	976.9	985.9	993.8	1001.6	1006.1	1010.6	1008.4	1006.1	998.3	989.3	980.3
20°	962.2	971.2	979.1	987.0	992.6	997.1	993.8	990.4	982.5	974.6	965.6
22.5°	944.2	953.2	962.2	970.1	975.7	980.3	975.7	970.1	962.2	954.4	945.4
25°	921.7	931.9	942.0	949.9	953.2	957.7	953.2	948.7	940.9	933.0	922.9
27.5°	899.2	909.3	919.5	927.4	930.7	935.2	930.7	926.2	918.4	910.5	900.3
30°	873.3	883.5	893.6	901.5	904.8	908.2	903.7	899.2	892.5	884.6	874.5
32.5°	844.1	854.2	862.1	870.0	874.5	879.0	874.5	871.1	863.2	853.1	842.9
35°	812.6	822.7	832.8	840.7	845.2	849.7	844.1	838.4	831.7	823.8	814.8
37.5°	777.7	788.9	800.2	809.2	812.6	817.1	812.6	806.9	800.2	792.3	782.2
40°	745.0	755.2	765.3	774.3	777.7	781.1	776.5	772.0	764.2	756.3	746.2
42.5°	711.3	721.4	730.4	738.3	741.7	746.2	741.7	736.0	730.4	723.7	714.6
45°	675.3	685.4	693.3	701.1	704.5	707.9	703.4	697.8	692.1	686.5	677.5
47.5°	638.1	647.1	655.0	662.9	665.1	668.5	664.0	660.6	655.0	649.4	641.5
50°	599.9	608.9	616.7	623.5	625.7	629.1	624.6	620.1	615.6	611.1	604.4
52.5°	560.5	568.3	576.2	583.0	585.2	587.5	583.0	578.5	574.0	569.5	562.7
55°	519.9	527.8	535.7	541.3	543.6	545.8	541.3	538.0	533.5	530.1	523.3
57.5°	479.4	487.3	494.1	499.7	501.9	504.2	499.7	495.2	491.8	488.4	482.8
60°	437.8	445.7	451.3	455.8	458.1	459.2	454.7	451.3	449.0	446.8	441.2
62.5°	397.3	402.9	408.5	411.9	414.2	415.3	411.9	409.7	407.4	405.2	400.7
65°	354.5	361.3	365.8	369.1	370.3	371.4	368.0	365.8	363.5	361.3	357.9
67.5°	311.7	317.4	320.7	324.1	325.2	325.2	325.2	324.1	321.9	318.5	315.1
70°	269.0	273.5	276.9	279.1	280.2	280.2	278.0	275.7	275.7	274.6	272.4
72.5°	225.1	228.5	230.7	233.0	233.0	233.0	233.0	234.1	233.0	230.7	227.3
75°	183.4	186.8	189.1	190.2	190.2	190.2	190.2	191.3	190.2	189.1	186.8
77.5°	144.1	146.3	147.4	148.6	148.6	148.6	149.7	150.8	149.7	148.6	147.4
80°	106.9	108.0	109.2	110.3	109.2	109.2	110.3	112.5	111.4	110.3	109.2
82.5°	73.2	74.3	75.4	75.4	76.5	77.7	77.7	77.7	77.7	76.5	75.4
85°	43.9	45.0	45.0	45.0	45.0	45.0	46.1	47.3	47.3	46.1	46.1
87.5°	20.3	21.4	20.3	19.1	18.0	18.0	20.3	22.5	22.5	21.4	21.4
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):

	330°	340°	350°	360°
0°	994.9	994.9	994.9	994.9
2.5°	1003.9	1002.8	997.1	991.5
5°	1007.3	1003.9	996.0	988.1
7.5°	1007.3	1002.8	991.5	981.4
10°	1001.6	994.9	982.5	970.1
12.5°	994.9	987.0	972.4	958.9
15°	984.8	975.7	960.0	944.2
17.5°	970.1	958.9	943.1	926.2
20°	955.5	943.1	924.0	906.0
22.5°	935.2	924.0	903.7	884.6
25°	912.7	900.3	880.1	859.8
27.5°	889.1	874.5	854.2	833.9
30°	862.1	847.5	827.2	806.9
32.5°	832.8	819.3	799.1	777.7
35°	803.6	788.9	768.7	747.3
37.5°	770.9	757.4	737.2	716.9
40°	736.0	722.5	702.3	682.0
42.5°	703.4	691.0	670.8	651.6
45°	667.4	655.0	635.9	617.9
47.5°	630.2	617.9	599.9	581.8
50°	594.2	581.8	565.0	548.1
52.5°	553.7	543.6	527.8	512.1
55°	514.3	504.2	488.4	473.8
57.5°	474.9	465.9	451.3	437.8
60°	433.3	424.3	413.0	400.7
62.5°	393.9	386.0	374.8	363.5
65°	352.3	345.5	335.4	325.2
67.5°	309.5	303.9	294.9	285.9
70°	266.7	260.0	253.2	245.3
72.5°	224.0	220.6	213.8	207.1
75°	183.4	180.1	174.4	168.8
77.5°	145.2	141.8	137.3	132.8
80°	106.9	104.7	101.3	97.9
82.5°	74.3	72.0	69.8	66.4
85°	45.0	42.8	40.5	38.3
87.5°	20.3	19.1	16.9	15.8
90°	0.0	0.0	0.0	0.0

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