

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: P735610

Luminaire Tested: **4APN6-29-B2750-W2D-CP250-3500K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P735610  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P709119)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 1/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN6-29-B2750-W2D-CP250-3500K  
Description: 4FT 2900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 3500K CCT, AND CP250 LENS  
  
Light Source: -  
Ballast/Driver: -

**Summary**

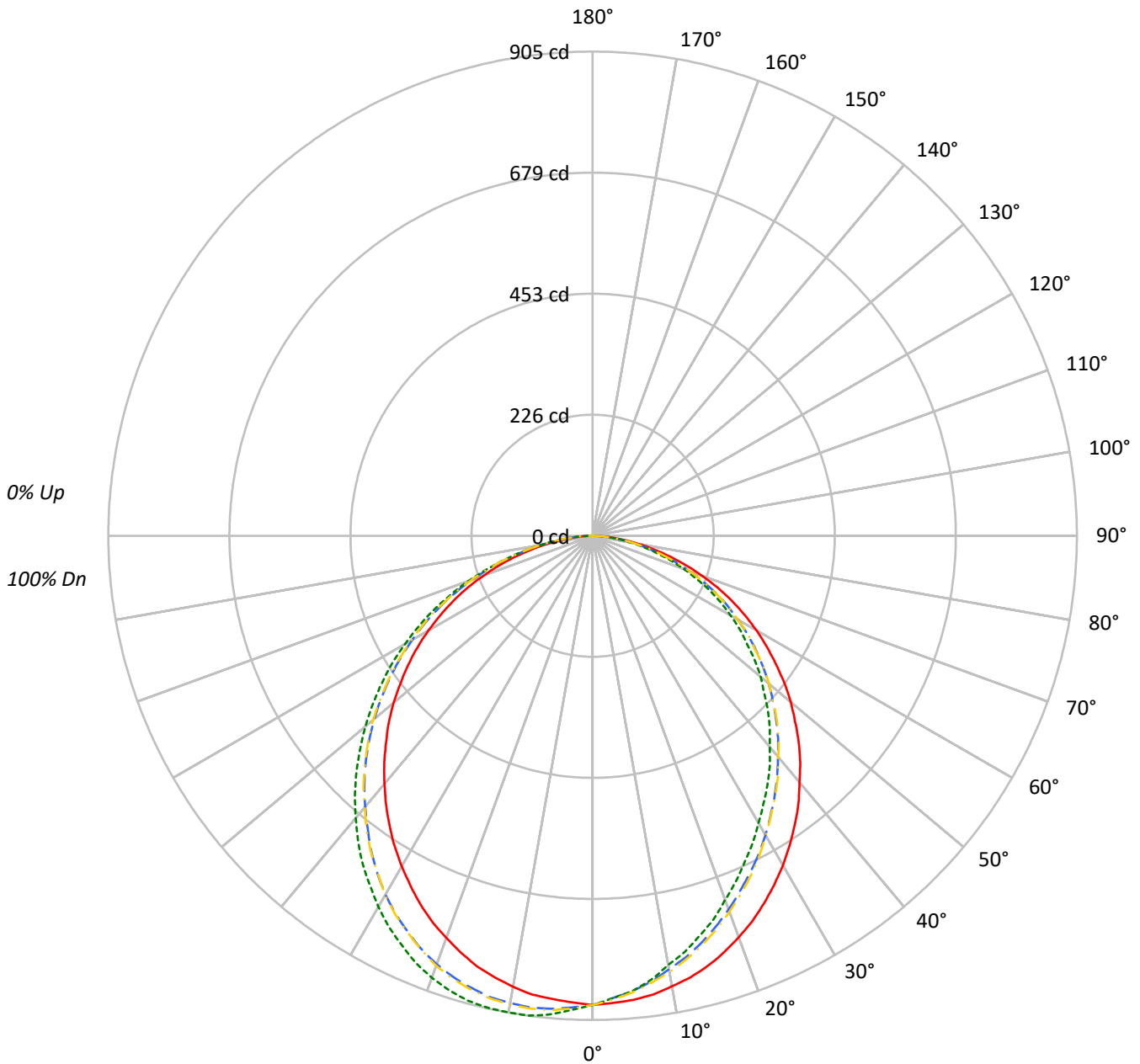
Lumens per Lamp: N/A  
Luminaire Lumens: 2352.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 28.5  
Input Voltage (V): NR  
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





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

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

	0°	90°	180°	270°
0°	8091	8091	8091	8091
5°	8067	7911	8048	8316
10°	8011	7631	8021	8476
15°	7950	7391	7960	8595
20°	7841	7110	7851	8630
25°	7715	6847	7746	8594
30°	7577	6606	7599	8528
35°	7419	6413	7452	8436
40°	7241	6200	7289	8292
45°	7106	6045	7120	8142
50°	6936	5881	6963	7959
55°	6717	5665	6766	7740
60°	6516	5491	6536	7470
65°	6257	5263	6257	7147
70°	5835	4872	5808	6663
75°	5304	4420	5233	5978
80°	4585	3799	4431	5117
85°	3578	2837	3366	4203



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.9	3.5
10°-20°	235.2	10.0
20°-30°	349.6	14.9
30°-40°	412.1	17.5
40°-50°	419.6	17.8
50°-60°	373.8	15.9
60°-70°	281.6	12.0
70°-80°	156.6	6.7
80°-90°	40.7	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°	667.7	28.4
0°-40°	1079.7	45.9
0°-60°	1873.1	79.6
0°-90°	2352.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2352.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	877	877	877	877	877	
5°	871	854	869	898	871	83
15°	832	774	833	900	832	235
25°	758	673	761	844	758	349
35°	659	569	662	749	659	412
45°	545	463	546	624	545	420
55°	418	352	421	481	418	374
65°	287	241	287	327	287	283
75°	149	124	147	168	149	158
85°	34	27	32	40	34	41
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°	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0
2.5°	874.0	874.0	874.9	871.0	866.1	864.1	863.1	862.1	864.1	865.0	864.1
5°	871.0	869.0	867.0	862.1	856.2	852.2	850.1	849.2	851.2	854.2	851.2
7.5°	865.0	861.1	857.1	850.1	843.3	837.3	834.3	832.3	834.3	837.3	835.3
10°	855.1	850.1	844.2	836.3	826.4	819.4	816.5	813.5	814.5	814.5	814.5
12.5°	845.2	838.3	831.4	821.4	810.5	802.5	797.6	793.7	795.6	796.6	796.6
15°	832.3	823.5	813.5	802.5	791.7	782.7	776.8	772.8	773.8	773.8	774.8
17.5°	816.5	806.6	796.6	783.8	770.8	760.9	754.0	749.0	750.9	752.0	752.9
20°	798.6	787.7	776.8	762.9	749.0	738.1	731.1	725.2	724.2	724.2	725.2
22.5°	779.8	767.8	754.9	740.1	725.2	713.3	706.3	700.4	699.4	699.4	700.4
25°	757.9	745.0	732.2	717.3	701.3	689.5	680.5	674.6	673.6	672.6	674.6
27.5°	735.1	722.2	709.4	694.5	677.6	665.7	656.7	650.8	648.8	647.8	649.8
30°	711.2	696.4	682.5	666.6	651.7	639.9	630.9	624.0	622.1	620.1	622.1
32.5°	685.5	670.6	655.7	639.9	625.0	613.1	604.1	597.3	595.3	594.2	596.2
35°	658.7	643.8	630.0	614.0	599.2	587.4	578.4	572.5	570.5	569.4	570.5
37.5°	631.9	617.1	603.2	587.4	572.5	560.5	551.6	545.7	544.6	543.7	544.6
40°	601.2	588.3	574.4	559.5	544.6	532.8	525.8	518.9	516.8	514.8	517.9
42.5°	574.4	561.5	547.7	533.7	518.9	506.9	499.0	493.1	491.1	490.0	491.1
45°	544.6	530.8	516.8	504.0	490.0	479.2	471.3	465.2	464.3	463.3	464.3
47.5°	512.9	501.0	489.1	476.2	462.3	451.4	444.4	438.5	436.5	434.5	436.5
50°	483.2	471.3	459.3	447.4	434.5	424.6	417.6	411.7	410.7	409.7	410.7
52.5°	451.4	439.5	428.6	416.7	405.7	395.8	388.9	384.0	382.9	382.0	382.9
55°	417.6	407.7	397.8	387.9	377.0	368.0	362.1	356.1	354.2	352.2	354.2
57.5°	385.9	377.0	367.1	357.2	347.2	339.3	333.3	328.3	327.4	326.3	327.4
60°	353.1	345.2	336.3	327.4	317.5	309.6	304.6	300.6	298.6	297.6	298.6
62.5°	320.4	312.5	305.5	296.6	287.7	281.7	276.7	272.8	270.8	269.9	270.8
65°	286.6	279.8	272.8	264.9	257.9	251.9	247.0	243.1	242.0	241.1	241.1
67.5°	251.9	246.0	240.1	233.1	225.2	219.2	214.2	211.3	210.4	209.3	210.4
70°	216.3	211.3	205.4	199.4	193.5	188.5	185.5	182.6	181.5	180.6	180.6
72.5°	182.6	178.6	173.6	168.7	163.7	158.7	155.8	153.8	152.8	151.8	151.8
75°	148.8	144.8	141.8	138.0	133.0	129.9	127.0	125.0	124.0	124.0	124.0
77.5°	117.0	114.1	111.1	107.1	104.2	101.2	99.2	98.3	97.2	97.2	97.2
80°	86.3	84.3	82.3	80.3	77.4	74.4	73.5	72.4	71.5	71.5	71.5
82.5°	58.6	57.5	55.5	53.6	51.6	50.6	49.6	48.7	48.7	48.7	48.7
85°	33.8	32.7	31.8	30.7	29.8	29.8	28.8	27.8	26.8	26.8	26.8
87.5°	13.9	13.9	13.9	12.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
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°	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0
2.5°	862.1	864.1	866.1	869.0	872.0	874.9	874.0	873.1	877.0	881.9	883.0
5°	849.2	851.2	854.2	859.1	864.1	868.1	869.0	869.0	877.0	883.9	885.9
7.5°	833.4	836.3	840.2	845.2	852.2	858.2	861.1	865.0	873.1	881.9	885.9
10°	813.5	818.5	824.4	831.4	838.3	845.2	851.2	856.2	866.1	876.0	881.9
12.5°	795.6	800.5	806.6	814.5	823.5	832.3	838.3	845.2	857.1	869.0	876.0
15°	775.7	780.7	787.7	795.6	805.5	815.4	824.4	833.4	845.2	858.2	866.1
17.5°	754.0	759.0	765.8	775.7	786.7	797.6	807.5	817.4	831.4	845.2	854.2
20°	727.2	734.2	743.0	752.9	765.8	778.8	788.7	799.6	814.5	829.4	839.3
22.5°	701.3	708.3	718.2	730.1	744.1	757.9	769.8	781.8	797.6	812.5	823.5
25°	676.5	684.6	694.5	706.3	719.3	733.1	747.0	760.9	776.8	792.6	803.6
27.5°	651.7	658.7	668.6	680.5	695.4	709.4	723.2	737.1	754.0	770.8	782.7
30°	624.0	631.9	640.9	652.8	668.6	684.6	698.4	713.3	730.1	747.0	759.0
32.5°	598.2	605.2	614.0	626.0	641.8	657.7	672.6	688.5	704.4	721.2	733.1
35°	572.5	579.3	588.3	600.2	616.1	631.9	646.8	661.6	677.6	693.4	705.3
37.5°	546.6	553.6	562.6	574.4	589.2	605.2	619.0	633.9	649.8	665.7	676.5
40°	519.8	526.8	533.7	545.7	560.5	576.4	590.3	605.2	621.0	636.8	647.8
42.5°	493.1	500.0	508.9	520.9	534.7	548.6	562.6	576.4	591.3	606.1	617.1
45°	466.3	472.2	481.2	492.0	506.0	518.9	532.8	545.7	560.5	574.4	585.3
47.5°	438.5	444.4	451.4	462.3	476.2	490.0	504.0	516.8	529.7	543.7	553.6
50°	411.7	417.6	425.5	435.5	448.5	461.3	473.3	485.1	498.1	510.9	519.8
52.5°	384.0	389.9	396.8	406.8	417.6	429.6	440.4	452.4	464.3	476.2	485.1
55°	356.1	360.1	366.0	375.0	386.9	398.9	409.7	420.6	431.6	441.5	450.3
57.5°	328.3	333.3	340.3	348.2	358.1	368.0	377.9	387.9	397.8	407.7	415.6
60°	300.6	304.6	309.6	316.4	326.3	335.3	345.2	354.2	363.1	372.0	379.0
62.5°	271.8	275.8	280.7	287.7	295.6	303.5	312.5	320.4	328.3	336.3	343.2
65°	242.0	246.0	251.0	256.9	263.9	270.8	278.7	286.6	292.7	298.6	305.5
67.5°	211.3	215.3	220.3	225.2	231.1	238.1	245.1	251.9	257.9	263.9	268.8
70°	181.5	184.5	189.4	193.5	198.4	203.4	209.3	215.3	219.2	224.2	230.2
72.5°	152.8	155.8	159.7	163.7	166.7	170.7	176.6	181.5	186.5	192.5	195.5
75°	125.0	127.0	129.9	133.0	135.9	138.9	142.9	146.8	150.8	153.8	157.8
77.5°	97.2	99.2	102.2	104.2	106.2	108.2	111.1	114.1	117.0	119.1	123.1
80°	71.5	73.5	75.4	77.4	79.4	81.4	82.3	83.4	87.3	90.2	92.2
82.5°	48.7	49.6	50.6	52.6	53.6	54.6	55.5	55.5	57.5	59.5	62.5
85°	27.8	28.8	29.8	29.8	29.8	29.8	30.7	31.8	32.7	34.7	36.7
87.5°	10.9	10.9	11.9	11.9	11.9	11.9	11.9	11.9	12.9	14.9	15.8
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0	877.0
2.5°	881.9	883.0	884.9	885.9	886.9	886.9	887.9	888.9	886.9	884.9	883.9
5°	886.9	887.9	890.9	893.8	895.9	897.9	896.8	895.9	893.8	890.9	888.9
7.5°	887.9	890.9	893.8	897.9	900.8	904.7	902.8	900.8	896.8	892.9	889.8
10°	884.9	888.9	893.8	898.8	901.8	904.7	902.8	900.8	896.8	891.8	887.9
12.5°	881.0	885.9	891.8	896.8	899.8	903.8	900.8	897.9	892.9	887.9	883.0
15°	872.0	878.0	884.9	890.9	895.9	899.8	896.8	894.8	888.9	881.9	874.9
17.5°	861.1	869.0	876.0	883.0	886.9	890.9	888.9	886.9	879.9	872.0	864.1
20°	848.3	856.2	863.1	870.0	874.9	879.0	876.0	873.1	866.1	859.1	851.2
22.5°	832.3	840.2	848.3	855.1	860.1	864.1	860.1	855.1	848.3	841.3	833.4
25°	812.5	821.4	830.3	837.3	840.2	844.2	840.2	836.3	829.4	822.4	813.5
27.5°	792.6	801.6	810.5	817.4	820.4	824.4	820.4	816.5	809.5	802.5	793.7
30°	769.8	778.8	787.7	794.6	797.6	800.5	796.6	792.6	786.7	779.8	770.8
32.5°	744.1	752.9	759.9	766.9	770.8	774.8	770.8	767.8	760.9	752.0	743.0
35°	716.2	725.2	734.2	741.0	745.0	749.0	744.1	739.1	733.1	726.1	718.2
37.5°	685.5	695.4	705.3	713.3	716.2	720.2	716.2	711.2	705.3	698.4	689.5
40°	656.7	665.7	674.6	682.5	685.5	688.5	684.6	680.5	673.6	666.6	657.7
42.5°	627.0	635.9	643.8	650.8	653.7	657.7	653.7	648.8	643.8	637.9	630.0
45°	595.3	604.1	611.1	618.1	621.0	624.0	620.1	615.1	610.1	605.2	597.3
47.5°	562.6	570.5	577.4	584.3	586.3	589.2	585.3	582.4	577.4	572.5	565.5
50°	528.8	536.7	543.7	549.6	551.6	554.5	550.6	546.6	542.7	538.7	532.8
52.5°	494.0	501.0	508.0	513.9	515.9	517.9	513.9	509.9	506.0	502.0	496.1
55°	458.4	465.2	472.2	477.2	479.2	481.2	477.2	474.2	470.2	467.2	461.3
57.5°	422.6	429.6	435.5	440.4	442.4	444.4	440.4	436.5	433.6	430.5	425.5
60°	385.9	392.8	397.8	401.8	403.8	404.8	400.7	397.8	395.8	393.9	388.9
62.5°	350.2	355.2	360.1	363.1	365.1	366.0	363.1	361.1	359.2	357.2	353.1
65°	312.5	318.4	322.4	325.4	326.3	327.4	324.4	322.4	320.4	318.4	315.5
67.5°	274.8	279.8	282.8	285.7	286.6	286.6	286.6	285.7	283.7	280.7	277.8
70°	237.0	241.1	244.0	246.0	247.0	247.0	245.1	243.1	243.1	242.0	240.1
72.5°	198.4	201.4	203.4	205.4	205.4	205.4	205.4	206.3	205.4	203.4	200.4
75°	161.7	164.6	166.7	167.7	167.7	167.7	167.7	168.7	167.7	166.7	164.6
77.5°	127.0	129.0	129.9	131.0	131.0	131.0	131.9	133.0	131.9	131.0	129.9
80°	94.3	95.2	96.3	97.2	96.3	96.3	97.2	99.2	98.3	97.2	96.3
82.5°	64.5	65.4	66.5	66.5	67.4	68.5	68.5	68.5	68.5	67.4	66.5
85°	38.7	39.7	39.7	39.7	39.7	39.7	40.6	41.7	41.7	40.6	40.6
87.5°	17.8	18.9	17.8	16.9	15.8	15.8	17.8	19.8	19.8	18.9	18.9
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: P735610

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**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	877.0	877.0	877.0	877.0
2.5°	884.9	883.9	879.0	874.0
5°	887.9	884.9	878.0	871.0
7.5°	887.9	883.9	874.0	865.0
10°	883.0	877.0	866.1	855.1
12.5°	877.0	870.0	857.1	845.2
15°	868.1	860.1	846.2	832.3
17.5°	855.1	845.2	831.4	816.5
20°	842.2	831.4	814.5	798.6
22.5°	824.4	814.5	796.6	779.8
25°	804.6	793.7	775.7	757.9
27.5°	783.8	770.8	752.9	735.1
30°	759.9	747.0	729.2	711.2
32.5°	734.2	722.2	704.4	685.5
35°	708.3	695.4	677.6	658.7
37.5°	679.6	667.7	649.8	631.9
40°	648.8	636.8	619.0	601.2
42.5°	620.1	609.1	591.3	574.4
45°	588.3	577.4	560.5	544.6
47.5°	555.6	544.6	528.8	512.9
50°	523.8	512.9	498.1	483.2
52.5°	488.1	479.2	465.2	451.4
55°	453.4	444.4	430.5	417.6
57.5°	418.7	410.7	397.8	385.9
60°	382.0	374.0	364.1	353.1
62.5°	347.2	340.3	330.3	320.4
65°	310.5	304.6	295.6	286.6
67.5°	272.8	267.9	260.0	251.9
70°	235.2	229.1	223.2	216.3
72.5°	197.5	194.4	188.5	182.6
75°	161.7	158.7	153.8	148.8
77.5°	128.0	125.0	121.1	117.0
80°	94.3	92.2	89.3	86.3
82.5°	65.4	63.5	61.5	58.6
85°	39.7	37.7	35.7	33.8
87.5°	17.8	16.9	14.9	13.9
90°	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - · 135°-315°















(END OF REPORT)