

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: P735596

Luminaire Tested: **4APN6-24-B2750-W2D-CP250-4000K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P735596  
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: 4APN6-24-B2750-W2D-CP250-4000K  
Description: 4FT 2400 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 4000K CCT, AND CP250 LENS  
  
Light Source: -  
Ballast/Driver: -

**Summary**

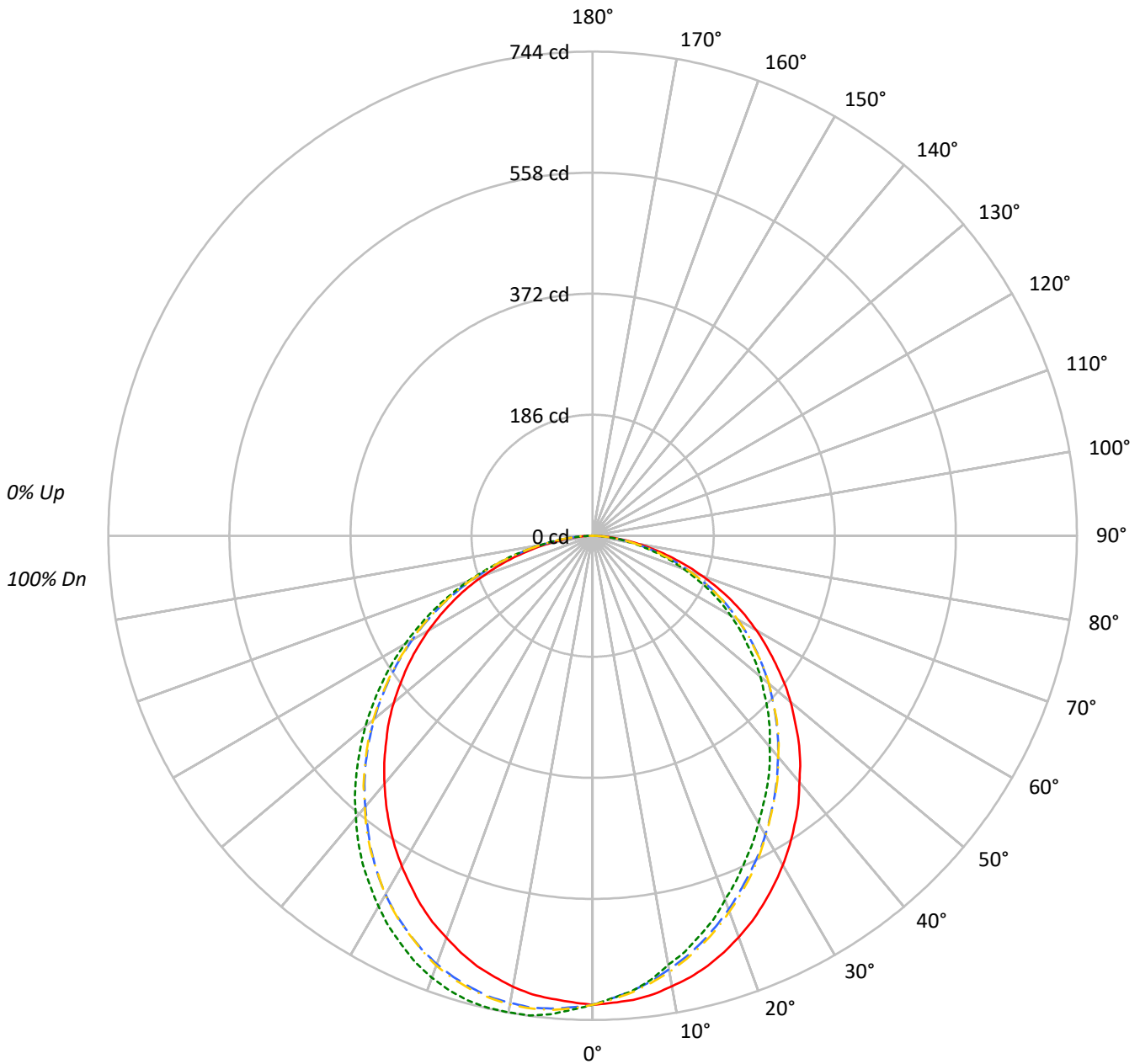
Lumens per Lamp: N/A  
Luminaire Lumens: 1933.0 lumens  
Efficiency: N/A  
Efficacy: 81.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.8  
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									
RC	80									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°	6649	6649	6649	6649
5°	6630	6502	6615	6834
10°	6584	6271	6592	6966
15°	6533	6075	6542	7063
20°	6445	5844	6452	7093
25°	6341	5627	6366	7063
30°	6227	5429	6245	7009
35°	6097	5271	6125	6934
40°	5951	5096	5991	6814
45°	5840	4969	5852	6691
50°	5700	4833	5723	6541
55°	5521	4657	5561	6362
60°	5355	4513	5371	6139
65°	5143	4325	5143	5875
70°	4794	4003	4775	5476
75°	4360	3632	4303	4912
80°	3772	3119	3640	4203
85°	2943	2329	2763	3451



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.1	3.5
10°-20°	193.3	10.0
20°-30°	287.3	14.9
30°-40°	338.7	17.5
40°-50°	344.8	17.8
50°-60°	307.2	15.9
60°-70°	231.4	12.0
70°-80°	128.7	6.7
80°-90°	33.4	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°	548.7	28.4
0°-40°	887.4	45.9
0°-60°	1539.4	79.6
0°-90°	1933.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1933.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	721	721	721	721	721	
5°	716	702	714	738	716	68
15°	684	636	685	740	684	193
25°	623	553	625	694	623	287
35°	541	468	544	616	541	339
45°	448	381	448	513	448	345
55°	343	290	346	396	343	307
65°	236	198	236	269	236	233
75°	122	102	121	138	122	130
85°	28	22	26	33	28	33
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°	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7
2.5°	718.3	718.3	719.1	715.9	711.8	710.1	709.4	708.5	710.1	710.9	710.1
5°	715.9	714.2	712.6	708.5	703.6	700.3	698.7	697.9	699.6	702.0	699.6
7.5°	710.9	707.7	704.4	698.7	693.1	688.1	685.7	684.0	685.7	688.1	686.5
10°	702.8	698.7	693.8	687.3	679.2	673.5	671.0	668.6	669.4	669.4	669.4
12.5°	694.6	689.0	683.3	675.1	666.1	659.6	655.5	652.3	653.8	654.7	654.7
15°	684.0	676.8	668.6	659.6	650.6	643.3	638.4	635.1	636.0	636.0	636.8
17.5°	671.0	662.9	654.7	644.1	633.5	625.3	619.7	615.6	617.2	618.0	618.8
20°	656.4	647.3	638.4	627.0	615.6	606.6	600.9	596.0	595.2	595.2	596.0
22.5°	640.8	631.0	620.5	608.2	596.0	586.2	580.5	575.6	574.8	574.8	575.6
25°	622.9	612.3	601.7	589.5	576.4	566.7	559.3	554.5	553.6	552.8	554.5
27.5°	604.2	593.6	583.0	570.8	556.9	547.1	539.7	534.8	533.2	532.4	534.1
30°	584.5	572.3	561.0	547.9	535.6	525.9	518.5	512.8	511.3	509.6	511.3
32.5°	563.4	551.2	538.9	525.9	513.7	503.9	496.5	490.9	489.2	488.3	490.0
35°	541.3	529.1	517.8	504.7	492.4	482.7	475.3	470.5	468.8	468.0	468.8
37.5°	519.3	507.2	495.7	482.7	470.5	460.7	453.3	448.5	447.6	446.8	447.6
40°	494.1	483.5	472.0	459.8	447.6	437.9	432.1	426.4	424.8	423.1	425.6
42.5°	472.0	461.5	450.1	438.6	426.4	416.6	410.1	405.3	403.6	402.7	403.6
45°	447.6	436.2	424.8	414.2	402.7	393.8	387.3	382.4	381.6	380.8	381.6
47.5°	421.6	411.8	402.0	391.4	379.9	371.0	365.3	360.4	358.8	357.1	358.8
50°	397.1	387.3	377.5	367.7	357.1	349.0	343.2	338.4	337.5	336.7	337.5
52.5°	371.0	361.2	352.3	342.5	333.4	325.3	319.6	315.6	314.7	313.9	314.7
55°	343.2	335.1	326.9	318.8	309.8	302.5	297.6	292.7	291.1	289.5	291.1
57.5°	317.1	309.8	301.7	293.5	285.4	278.9	273.9	269.8	269.1	268.2	269.1
60°	290.2	283.7	276.4	269.1	260.9	254.4	250.3	247.0	245.4	244.6	245.4
62.5°	263.3	256.8	251.1	243.7	236.5	231.5	227.4	224.2	222.6	221.8	222.6
65°	235.6	230.0	224.2	217.7	212.0	207.0	203.0	199.8	198.9	198.1	198.1
67.5°	207.0	202.2	197.3	191.6	185.1	180.2	176.1	173.7	172.9	172.0	172.9
70°	177.7	173.7	168.8	163.9	159.0	154.9	152.5	150.1	149.2	148.4	148.4
72.5°	150.1	146.8	142.7	138.6	134.5	130.5	128.0	126.4	125.6	124.7	124.7
75°	122.3	119.0	116.6	113.4	109.3	106.8	104.3	102.7	101.9	101.9	101.9
77.5°	96.2	93.8	91.3	88.0	85.6	83.2	81.5	80.8	79.9	79.9	79.9
80°	71.0	69.3	67.7	66.0	63.6	61.2	60.4	59.5	58.7	58.7	58.7
82.5°	48.1	47.3	45.6	44.1	42.4	41.5	40.8	40.0	40.0	40.0	40.0
85°	27.8	26.9	26.1	25.2	24.5	24.5	23.7	22.8	22.0	22.0	22.0
87.5°	11.5	11.5	11.5	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°	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7
2.5°	708.5	710.1	711.8	714.2	716.7	719.1	718.3	717.5	720.7	724.8	725.7
5°	697.9	699.6	702.0	706.1	710.1	713.4	714.2	714.2	720.7	726.5	728.1
7.5°	684.9	687.3	690.5	694.6	700.3	705.3	707.7	710.9	717.5	724.8	728.1
10°	668.6	672.7	677.5	683.3	689.0	694.6	699.6	703.6	711.8	720.0	724.8
12.5°	653.8	657.9	662.9	669.4	676.8	684.0	689.0	694.6	704.4	714.2	720.0
15°	637.5	641.6	647.3	653.8	662.0	670.2	677.5	684.9	694.6	705.3	711.8
17.5°	619.7	623.8	629.4	637.5	646.6	655.5	663.7	671.8	683.3	694.6	702.0
20°	597.6	603.4	610.7	618.8	629.4	640.1	648.2	657.1	669.4	681.6	689.8
22.5°	576.4	582.1	590.3	600.1	611.5	622.9	632.7	642.5	655.5	667.7	676.8
25°	556.0	562.6	570.8	580.5	591.1	602.5	614.0	625.3	638.4	651.4	660.4
27.5°	535.6	541.3	549.5	559.3	571.5	583.0	594.3	605.8	619.7	633.5	643.3
30°	512.8	519.3	526.7	536.5	549.5	562.6	574.0	586.2	600.1	614.0	623.8
32.5°	491.6	497.4	504.7	514.5	527.5	540.6	552.8	565.8	578.9	592.7	602.5
35°	470.5	476.1	483.5	493.3	506.3	519.3	531.5	543.8	556.9	569.9	579.7
37.5°	449.2	455.0	462.3	472.0	484.3	497.4	508.7	521.0	534.1	547.1	556.0
40°	427.2	432.9	438.6	448.5	460.7	473.7	485.1	497.4	510.4	523.4	532.4
42.5°	405.3	410.9	418.3	428.1	439.4	450.9	462.3	473.7	485.9	498.2	507.2
45°	383.2	388.1	395.5	404.4	415.8	426.4	437.9	448.5	460.7	472.0	481.1
47.5°	360.4	365.3	371.0	379.9	391.4	402.7	414.2	424.8	435.3	446.8	455.0
50°	338.4	343.2	349.7	357.9	368.6	379.1	389.0	398.7	409.3	419.9	427.2
52.5°	315.6	320.4	326.1	334.3	343.2	353.0	362.0	371.8	381.6	391.4	398.7
55°	292.7	296.0	300.8	308.2	318.0	327.8	336.7	345.7	354.7	362.8	370.1
57.5°	269.8	273.9	279.7	286.2	294.3	302.5	310.6	318.8	326.9	335.1	341.6
60°	247.0	250.3	254.4	260.0	268.2	275.6	283.7	291.1	298.4	305.8	311.5
62.5°	223.4	226.7	230.7	236.5	243.0	249.5	256.8	263.3	269.8	276.4	282.1
65°	198.9	202.2	206.3	211.1	216.8	222.6	229.1	235.6	240.5	245.4	251.1
67.5°	173.7	177.0	181.0	185.1	190.0	195.7	201.4	207.0	212.0	216.8	220.9
70°	149.2	151.6	155.7	159.0	163.1	167.2	172.0	177.0	180.2	184.2	189.2
72.5°	125.6	128.0	131.2	134.5	137.0	140.3	145.1	149.2	153.3	158.2	160.6
75°	102.7	104.3	106.8	109.3	111.7	114.2	117.5	120.7	124.0	126.4	129.7
77.5°	79.9	81.5	84.0	85.6	87.3	88.9	91.3	93.8	96.2	97.8	101.1
80°	58.7	60.4	61.9	63.6	65.2	66.9	67.7	68.5	71.7	74.2	75.8
82.5°	40.0	40.8	41.5	43.2	44.1	44.8	45.6	45.6	47.3	48.9	51.3
85°	22.8	23.7	24.5	24.5	24.5	24.5	25.2	26.1	26.9	28.5	30.2
87.5°	8.9	8.9	9.8	9.8	9.8	9.8	9.8	9.8	10.6	12.2	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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7	720.7
2.5°	724.8	725.7	727.2	728.1	728.9	728.9	729.8	730.5	728.9	727.2	726.5
5°	728.9	729.8	732.2	734.6	736.3	737.9	737.0	736.3	734.6	732.2	730.5
7.5°	729.8	732.2	734.6	737.9	740.3	743.5	742.0	740.3	737.0	733.8	731.3
10°	727.2	730.5	734.6	738.7	741.1	743.5	742.0	740.3	737.0	733.0	729.8
12.5°	724.0	728.1	733.0	737.0	739.5	742.8	740.3	737.9	733.8	729.8	725.7
15°	716.7	721.6	727.2	732.2	736.3	739.5	737.0	735.4	730.5	724.8	719.1
17.5°	707.7	714.2	720.0	725.7	728.9	732.2	730.5	728.9	723.2	716.7	710.1
20°	697.1	703.6	709.4	715.0	719.1	722.4	720.0	717.5	711.8	706.1	699.6
22.5°	684.0	690.5	697.1	702.8	706.8	710.1	706.8	702.8	697.1	691.4	684.9
25°	667.7	675.1	682.4	688.1	690.5	693.8	690.5	687.3	681.6	675.9	668.6
27.5°	651.4	658.8	666.1	671.8	674.2	677.5	674.2	671.0	665.3	659.6	652.3
30°	632.7	640.1	647.3	653.1	655.5	657.9	654.7	651.4	646.6	640.8	633.5
32.5°	611.5	618.8	624.5	630.3	633.5	636.8	633.5	631.0	625.3	618.0	610.7
35°	588.6	596.0	603.4	609.0	612.3	615.6	611.5	607.5	602.5	596.8	590.3
37.5°	563.4	571.5	579.7	586.2	588.6	591.9	588.6	584.5	579.7	574.0	566.7
40°	539.7	547.1	554.5	561.0	563.4	565.8	562.6	559.3	553.6	547.9	540.6
42.5°	515.3	522.6	529.1	534.8	537.3	540.6	537.3	533.2	529.1	524.3	517.8
45°	489.2	496.5	502.2	508.0	510.4	512.8	509.6	505.5	501.5	497.4	490.9
47.5°	462.3	468.8	474.6	480.2	481.8	484.3	481.1	478.6	474.6	470.5	464.8
50°	434.6	441.1	446.8	451.7	453.3	455.7	452.5	449.2	446.0	442.7	437.9
52.5°	406.0	411.8	417.5	422.3	424.0	425.6	422.3	419.0	415.8	412.5	407.7
55°	376.7	382.4	388.1	392.2	393.8	395.5	392.2	389.7	386.4	384.0	379.1
57.5°	347.3	353.0	357.9	362.0	363.6	365.3	362.0	358.8	356.3	353.8	349.7
60°	317.1	322.8	326.9	330.2	331.9	332.7	329.4	326.9	325.3	323.7	319.6
62.5°	287.8	291.9	296.0	298.4	300.0	300.8	298.4	296.7	295.2	293.5	290.2
65°	256.8	261.7	265.0	267.4	268.2	269.1	266.6	265.0	263.3	261.7	259.3
67.5°	225.9	230.0	232.4	234.8	235.6	235.6	235.6	234.8	233.2	230.7	228.3
70°	194.8	198.1	200.5	202.2	203.0	203.0	201.4	199.8	199.8	198.9	197.3
72.5°	163.1	165.5	167.2	168.8	168.8	168.8	168.8	169.6	168.8	167.2	164.7
75°	132.9	135.3	137.0	137.8	137.8	137.8	137.8	138.6	137.8	137.0	135.3
77.5°	104.3	106.0	106.8	107.6	107.6	107.6	108.4	109.3	108.4	107.6	106.8
80°	77.5	78.2	79.1	79.9	79.1	79.1	79.9	81.5	80.8	79.9	79.1
82.5°	53.0	53.8	54.6	54.6	55.4	56.3	56.3	56.3	56.3	55.4	54.6
85°	31.8	32.6	32.6	32.6	32.6	32.6	33.4	34.3	34.3	33.4	33.4
87.5°	14.7	15.5	14.7	13.9	13.0	13.0	14.7	16.3	16.3	15.5	15.5
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):**

	330°	340°	350°	360°
0°	720.7	720.7	720.7	720.7
2.5°	727.2	726.5	722.4	718.3
5°	729.8	727.2	721.6	715.9
7.5°	729.8	726.5	718.3	710.9
10°	725.7	720.7	711.8	702.8
12.5°	720.7	715.0	704.4	694.6
15°	713.4	706.8	695.5	684.0
17.5°	702.8	694.6	683.3	671.0
20°	692.2	683.3	669.4	656.4
22.5°	677.5	669.4	654.7	640.8
25°	661.2	652.3	637.5	622.9
27.5°	644.1	633.5	618.8	604.2
30°	624.5	614.0	599.3	584.5
32.5°	603.4	593.6	578.9	563.4
35°	582.1	571.5	556.9	541.3
37.5°	558.5	548.7	534.1	519.3
40°	533.2	523.4	508.7	494.1
42.5°	509.6	500.6	485.9	472.0
45°	483.5	474.6	460.7	447.6
47.5°	456.6	447.6	434.6	421.6
50°	430.5	421.6	409.3	397.1
52.5°	401.2	393.8	382.4	371.0
55°	372.6	365.3	353.8	343.2
57.5°	344.1	337.5	326.9	317.1
60°	313.9	307.4	299.3	290.2
62.5°	285.4	279.7	271.5	263.3
65°	255.2	250.3	243.0	235.6
67.5°	224.2	220.1	213.6	207.0
70°	193.3	188.3	183.5	177.7
72.5°	162.3	159.8	154.9	150.1
75°	132.9	130.5	126.4	122.3
77.5°	105.2	102.7	99.5	96.2
80°	77.5	75.8	73.4	71.0
82.5°	53.8	52.2	50.6	48.1
85°	32.6	31.0	29.3	27.8
87.5°	14.7	13.9	12.2	11.5
90°	0.0	0.0	0.0	0.0



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















(END OF REPORT)