

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: P735597

Luminaire Tested: **4APN6-24-B2750-W2D-CP250-5000K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P735597  
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-CP250-5000K  
Description: 4FT 2400 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 5000K CCT, AND CP250 LENS

Light Source: -  
Ballast/Driver: -

**Summary**

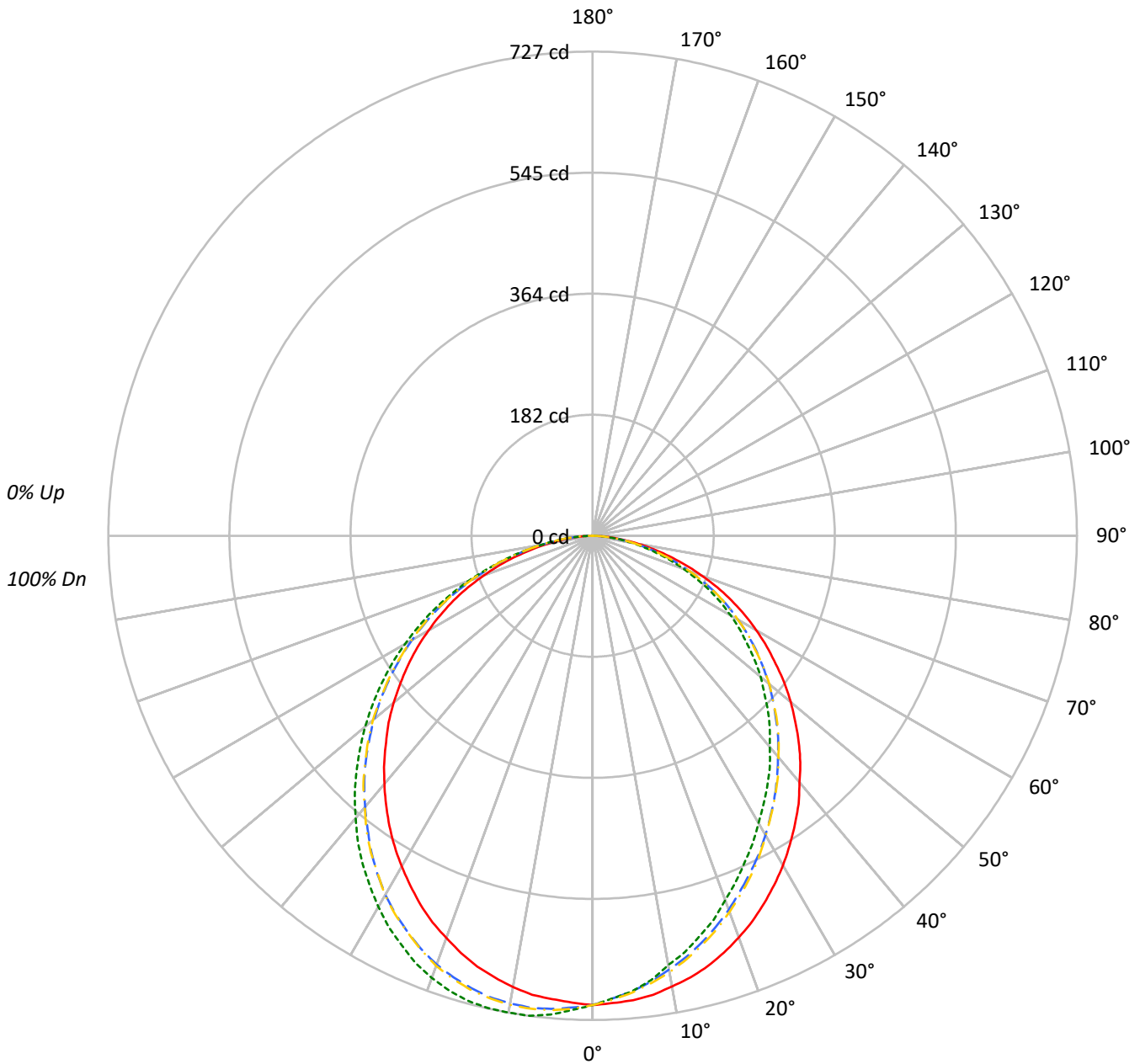
Lumens per Lamp: N/A  
Luminaire Lumens: 1890.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

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°	6502	6502	6502	6502
5°	6483	6357	6467	6682
10°	6437	6132	6446	6811
15°	6388	5939	6397	6906
20°	6301	5714	6308	6935
25°	6200	5502	6224	6906
30°	6088	5309	6107	6853
35°	5962	5154	5989	6779
40°	5818	4983	5857	6663
45°	5710	4858	5721	6542
50°	5573	4725	5595	6396
55°	5398	4552	5437	6220
60°	5237	4414	5252	6003
65°	5028	4229	5028	5744
70°	4688	3914	4667	5355
75°	4263	3554	4206	4805
80°	3687	3050	3560	4112
85°	2869	2276	2699	3377



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.6	3.5
10°-20°	189.0	10.0
20°-30°	280.9	14.9
30°-40°	331.1	17.5
40°-50°	337.2	17.8
50°-60°	300.4	15.9
60°-70°	226.3	12.0
70°-80°	125.8	6.7
80°-90°	32.7	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°	536.5	28.4
0°-40°	867.6	45.9
0°-60°	1505.2	79.6
0°-90°	1890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1890.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	705	705	705	705	705	
5°	700	686	698	722	700	66
15°	669	622	670	723	669	188
25°	609	540	611	678	609	281
35°	529	458	532	602	529	331
45°	438	372	438	501	438	337
55°	336	283	338	387	336	301
65°	230	194	230	263	230	227
75°	120	100	118	135	120	127
85°	27	22	26	32	27	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°	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7
2.5°	702.3	702.3	703.1	700.0	696.0	694.4	693.6	692.7	694.4	695.1	694.4
5°	700.0	698.3	696.7	692.7	688.0	684.8	683.2	682.4	684.0	686.4	684.0
7.5°	695.1	692.0	688.8	683.2	677.6	672.8	670.4	668.8	670.4	672.8	671.2
10°	687.1	683.2	678.4	672.0	664.1	658.5	656.1	653.7	654.5	654.5	654.5
12.5°	679.2	673.7	668.1	660.1	651.3	644.9	640.9	637.8	639.3	640.2	640.2
15°	668.8	661.7	653.7	644.9	636.2	629.0	624.2	621.0	621.8	621.8	622.6
17.5°	656.1	648.1	640.2	629.8	619.4	611.4	605.9	601.9	603.4	604.3	605.0
20°	641.8	632.9	624.2	613.0	601.9	593.1	587.5	582.7	582.0	582.0	582.7
22.5°	626.6	617.0	606.7	594.7	582.7	573.2	567.6	562.8	562.0	562.0	562.8
25°	609.0	598.7	588.3	576.4	563.6	554.1	546.9	542.1	541.3	540.5	542.1
27.5°	590.7	580.4	570.0	558.1	544.5	534.9	527.7	522.9	521.3	520.6	522.2
30°	571.5	559.6	548.5	535.7	523.7	514.2	507.0	501.4	499.9	498.3	499.9
32.5°	550.8	538.9	526.9	514.2	502.3	492.7	485.5	480.0	478.3	477.5	479.1
35°	529.3	517.3	506.2	493.4	481.5	472.0	464.8	460.0	458.4	457.6	458.4
37.5°	507.8	495.9	484.7	472.0	460.0	450.4	443.2	438.5	437.6	436.9	437.6
40°	483.1	472.7	461.5	449.6	437.6	428.1	422.5	416.9	415.3	413.7	416.2
42.5°	461.5	451.2	440.1	428.9	416.9	407.3	401.0	396.2	394.6	393.8	394.6
45°	437.6	426.5	415.3	405.0	393.8	385.0	378.7	373.8	373.1	372.3	373.1
47.5°	412.2	402.6	393.0	382.7	371.5	362.7	357.1	352.4	350.8	349.2	350.8
50°	388.3	378.7	369.1	359.5	349.2	341.2	335.6	330.9	330.0	329.2	330.0
52.5°	362.7	353.2	344.4	334.8	326.0	318.0	312.5	308.5	307.7	306.9	307.7
55°	335.6	327.6	319.7	311.7	302.9	295.7	291.0	286.1	284.6	283.0	284.6
57.5°	310.1	302.9	295.0	287.0	279.0	272.7	267.8	263.8	263.1	262.2	263.1
60°	283.8	277.4	270.2	263.1	255.1	248.8	244.8	241.5	239.9	239.2	239.9
62.5°	257.5	251.1	245.5	238.3	231.2	226.4	222.4	219.2	217.6	216.9	217.6
65°	230.3	224.8	219.2	212.9	207.3	202.4	198.5	195.3	194.5	193.7	193.7
67.5°	202.4	197.7	192.9	187.3	181.0	176.2	172.2	169.8	169.0	168.2	169.0
70°	173.8	169.8	165.0	160.2	155.5	151.5	149.1	146.7	145.9	145.1	145.1
72.5°	146.7	143.5	139.5	135.5	131.5	127.6	125.2	123.6	122.8	122.0	122.0
75°	119.6	116.4	114.0	110.9	106.9	104.4	102.0	100.4	99.7	99.7	99.7
77.5°	94.1	91.7	89.3	86.1	83.7	81.3	79.7	79.0	78.1	78.1	78.1
80°	69.4	67.8	66.2	64.5	62.2	59.8	59.0	58.2	57.4	57.4	57.4
82.5°	47.1	46.2	44.6	43.1	41.5	40.6	39.9	39.1	39.1	39.1	39.1
85°	27.1	26.3	25.5	24.7	23.9	23.9	23.2	22.3	21.5	21.5	21.5
87.5°	11.2	11.2	11.2	10.3	9.6	9.6	9.6	9.6	9.6	9.6	9.6
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°	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7
2.5°	692.7	694.4	696.0	698.3	700.7	703.1	702.3	701.6	704.7	708.7	709.5
5°	682.4	684.0	686.4	690.4	694.4	697.6	698.3	698.3	704.7	710.3	711.9
7.5°	669.7	672.0	675.2	679.2	684.8	689.6	692.0	695.1	701.6	708.7	711.9
10°	653.7	657.7	662.5	668.1	673.7	679.2	684.0	688.0	696.0	703.9	708.7
12.5°	639.3	643.3	648.1	654.5	661.7	668.8	673.7	679.2	688.8	698.3	703.9
15°	623.4	627.3	632.9	639.3	647.3	655.2	662.5	669.7	679.2	689.6	696.0
17.5°	605.9	609.9	615.4	623.4	632.2	640.9	648.9	656.9	668.1	679.2	686.4
20°	584.4	590.0	597.1	605.0	615.4	625.8	633.8	642.5	654.5	666.4	674.4
22.5°	563.6	569.2	577.1	586.7	597.9	609.0	618.6	628.2	640.9	652.9	661.7
25°	543.6	550.1	558.1	567.6	578.0	589.1	600.3	611.4	624.2	636.9	645.8
27.5°	523.7	529.3	537.3	546.9	558.8	570.0	581.1	592.3	605.9	619.4	629.0
30°	501.4	507.8	515.0	524.6	537.3	550.1	561.2	573.2	586.7	600.3	609.9
32.5°	480.7	486.3	493.4	503.0	515.7	528.5	540.5	553.2	566.0	579.5	589.1
35°	460.0	465.5	472.7	482.3	495.0	507.8	519.7	531.7	544.5	557.2	566.8
37.5°	439.2	444.8	452.0	461.5	473.5	486.3	497.4	509.4	522.2	534.9	543.6
40°	417.7	423.3	428.9	438.5	450.4	463.2	474.4	486.3	499.0	511.7	520.6
42.5°	396.2	401.7	409.0	418.5	429.7	440.9	452.0	463.2	475.1	487.1	495.9
45°	374.7	379.4	386.7	395.4	406.6	416.9	428.1	438.5	450.4	461.5	470.4
47.5°	352.4	357.1	362.7	371.5	382.7	393.8	405.0	415.3	425.7	436.9	444.8
50°	330.9	335.6	342.0	349.9	360.4	370.7	380.3	389.8	400.2	410.6	417.7
52.5°	308.5	313.3	318.9	326.9	335.6	345.2	353.9	363.5	373.1	382.7	389.8
55°	286.1	289.4	294.1	301.3	310.9	320.5	329.2	338.0	346.8	354.8	361.9
57.5°	263.8	267.8	273.4	279.8	287.8	295.7	303.7	311.7	319.7	327.6	334.0
60°	241.5	244.8	248.8	254.3	262.2	269.4	277.4	284.6	291.7	299.0	304.6
62.5°	218.4	221.6	225.6	231.2	237.6	243.9	251.1	257.5	263.8	270.2	275.8
65°	194.5	197.7	201.7	206.4	212.0	217.6	224.0	230.3	235.2	239.9	245.5
67.5°	169.8	173.0	177.0	181.0	185.7	191.3	196.9	202.4	207.3	212.0	216.0
70°	145.9	148.2	152.2	155.5	159.4	163.4	168.2	173.0	176.2	180.1	185.0
72.5°	122.8	125.2	128.3	131.5	133.9	137.1	141.9	145.9	149.9	154.7	157.1
75°	100.4	102.0	104.4	106.9	109.2	111.6	114.8	118.0	121.2	123.6	126.8
77.5°	78.1	79.7	82.1	83.7	85.3	86.9	89.3	91.7	94.1	95.7	98.9
80°	57.4	59.0	60.6	62.2	63.8	65.4	66.2	67.0	70.1	72.5	74.1
82.5°	39.1	39.9	40.6	42.2	43.1	43.8	44.6	44.6	46.2	47.8	50.2
85°	22.3	23.2	23.9	23.9	23.9	23.9	24.7	25.5	26.3	27.9	29.5
87.5°	8.7	8.7	9.6	9.6	9.6	9.6	9.6	9.6	10.3	12.0	12.7
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°	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7
2.5°	708.7	709.5	711.1	711.9	712.7	712.7	713.5	714.3	712.7	711.1	710.3
5°	712.7	713.5	715.9	718.3	719.9	721.5	720.6	719.9	718.3	715.9	714.3
7.5°	713.5	715.9	718.3	721.5	723.9	727.0	725.5	723.9	720.6	717.5	715.0
10°	711.1	714.3	718.3	722.3	724.6	727.0	725.5	723.9	720.6	716.7	713.5
12.5°	707.9	711.9	716.7	720.6	723.0	726.2	723.9	721.5	717.5	713.5	709.5
15°	700.7	705.6	711.1	715.9	719.9	723.0	720.6	719.0	714.3	708.7	703.1
17.5°	692.0	698.3	703.9	709.5	712.7	715.9	714.3	712.7	707.1	700.7	694.4
20°	681.6	688.0	693.6	699.1	703.1	706.3	703.9	701.6	696.0	690.4	684.0
22.5°	668.8	675.2	681.6	687.1	691.1	694.4	691.1	687.1	681.6	676.0	669.7
25°	652.9	660.1	667.2	672.8	675.2	678.4	675.2	672.0	666.4	660.8	653.7
27.5°	636.9	644.1	651.3	656.9	659.2	662.5	659.2	656.1	650.5	644.9	637.8
30°	618.6	625.8	632.9	638.5	640.9	643.3	640.2	636.9	632.2	626.6	619.4
32.5°	597.9	605.0	610.6	616.2	619.4	622.6	619.4	617.0	611.4	604.3	597.1
35°	575.5	582.7	590.0	595.5	598.7	601.9	597.9	593.9	589.1	583.5	577.1
37.5°	550.8	558.8	566.8	573.2	575.5	578.8	575.5	571.5	566.8	561.2	554.1
40°	527.7	534.9	542.1	548.5	550.8	553.2	550.1	546.9	541.3	535.7	528.5
42.5°	503.9	511.0	517.3	522.9	525.3	528.5	525.3	521.3	517.3	512.6	506.2
45°	478.3	485.5	491.1	496.7	499.0	501.4	498.3	494.3	490.3	486.3	480.0
47.5°	452.0	458.4	464.0	469.5	471.1	473.5	470.4	468.0	464.0	460.0	454.4
50°	424.9	431.3	436.9	441.6	443.2	445.6	442.5	439.2	436.1	432.9	428.1
52.5°	397.0	402.6	408.2	412.9	414.6	416.2	412.9	409.7	406.6	403.4	398.6
55°	368.3	373.8	379.4	383.4	385.0	386.7	383.4	381.1	377.8	375.5	370.7
57.5°	339.6	345.2	349.9	353.9	355.5	357.1	353.9	350.8	348.4	345.9	342.0
60°	310.1	315.7	319.7	322.9	324.5	325.3	322.0	319.7	318.0	316.5	312.5
62.5°	281.4	285.4	289.4	291.7	293.4	294.1	291.7	290.1	288.6	287.0	283.8
65°	251.1	255.9	259.1	261.5	262.2	263.1	260.7	259.1	257.5	255.9	253.5
67.5°	220.9	224.8	227.2	229.6	230.3	230.3	230.3	229.6	228.0	225.6	223.2
70°	190.5	193.7	196.1	197.7	198.5	198.5	196.9	195.3	195.3	194.5	192.9
72.5°	159.4	161.8	163.4	165.0	165.0	165.0	165.0	165.8	165.0	163.4	161.1
75°	129.9	132.3	133.9	134.8	134.8	134.8	134.8	135.5	134.8	133.9	132.3
77.5°	102.0	103.6	104.4	105.3	105.3	105.3	106.0	106.9	106.0	105.3	104.4
80°	75.7	76.5	77.4	78.1	77.4	77.4	78.1	79.7	79.0	78.1	77.4
82.5°	51.8	52.6	53.4	53.4	54.2	55.0	55.0	55.0	55.0	54.2	53.4
85°	31.1	31.9	31.9	31.9	31.9	31.9	32.6	33.5	33.5	32.6	32.6
87.5°	14.3	15.2	14.3	13.6	12.7	12.7	14.3	15.9	15.9	15.2	15.2
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):**

	330°	340°	350°	360°
0°	704.7	704.7	704.7	704.7
2.5°	711.1	710.3	706.3	702.3
5°	713.5	711.1	705.6	700.0
7.5°	713.5	710.3	702.3	695.1
10°	709.5	704.7	696.0	687.1
12.5°	704.7	699.1	688.8	679.2
15°	697.6	691.1	680.0	668.8
17.5°	687.1	679.2	668.1	656.1
20°	676.8	668.1	654.5	641.8
22.5°	662.5	654.5	640.2	626.6
25°	646.5	637.8	623.4	609.0
27.5°	629.8	619.4	605.0	590.7
30°	610.6	600.3	586.0	571.5
32.5°	590.0	580.4	566.0	550.8
35°	569.2	558.8	544.5	529.3
37.5°	546.1	536.5	522.2	507.8
40°	521.3	511.7	497.4	483.1
42.5°	498.3	489.4	475.1	461.5
45°	472.7	464.0	450.4	437.6
47.5°	446.4	437.6	424.9	412.2
50°	420.9	412.2	400.2	388.3
52.5°	392.3	385.0	373.8	362.7
55°	364.4	357.1	345.9	335.6
57.5°	336.5	330.0	319.7	310.1
60°	306.9	300.6	292.6	283.8
62.5°	279.0	273.4	265.5	257.5
65°	249.5	244.8	237.6	230.3
67.5°	219.2	215.3	208.9	202.4
70°	189.0	184.1	179.4	173.8
72.5°	158.7	156.2	151.5	146.7
75°	129.9	127.6	123.6	119.6
77.5°	102.9	100.4	97.3	94.1
80°	75.7	74.1	71.8	69.4
82.5°	52.6	51.1	49.4	47.1
85°	31.9	30.3	28.7	27.1
87.5°	14.3	13.6	12.0	11.2
90°	0.0	0.0	0.0	0.0



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















(END OF REPORT)