

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: P735570

Luminaire Tested: **4APN6-19-B2750-W2D-3500K**

Issue Date: 1/5/2024



Test Information

Test Method: LM-79-08
Report Number: P735570
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: 4APN6-19-B2750-W2D-3500K
Description: 4FT 1900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 3500K CCT

Light Source: -
Ballast/Driver: -

Summary

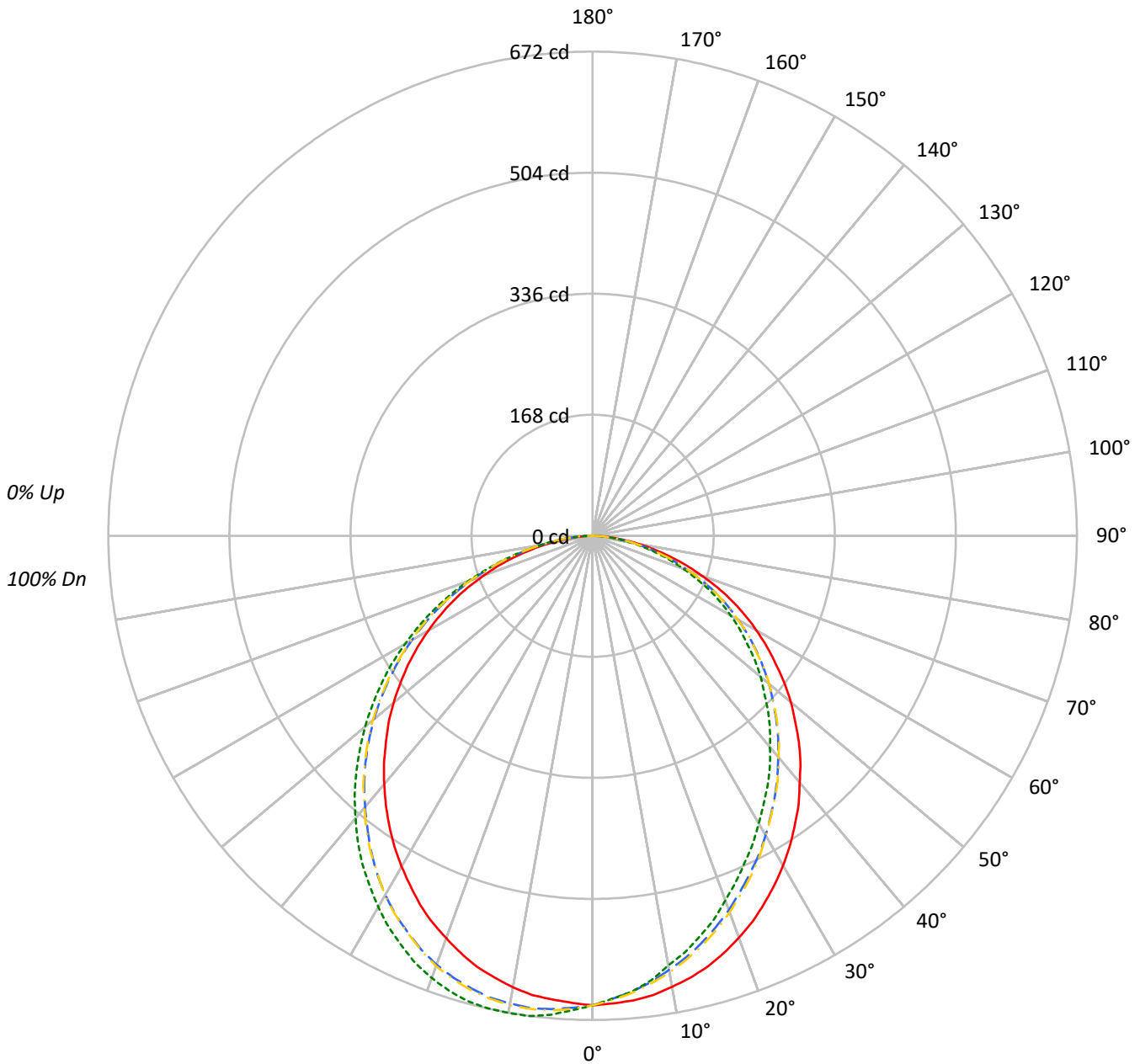
Lumens per Lamp: N/A
Luminaire Lumens: 1748.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 19
Input Voltage (V): NR
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





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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°	6014	6014	6014	6014
5°	5996	5879	5982	6180
10°	5954	5671	5961	6299
15°	5909	5493	5916	6387
20°	5828	5285	5835	6413
25°	5734	5089	5757	6387
30°	5631	4909	5647	6339
35°	5513	4767	5538	6270
40°	5381	4608	5417	6163
45°	5280	4494	5291	6050
50°	5154	4371	5174	5915
55°	4993	4211	5028	5752
60°	4844	4082	4857	5550
65°	4650	3912	4650	5311
70°	4335	3620	4316	4950
75°	3943	3287	3889	4442
80°	3411	2821	3294	3799
85°	2657	2107	2498	3123



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.6	3.5
10°-20°	174.8	10.0
20°-30°	259.8	14.9
30°-40°	306.3	17.5
40°-50°	311.8	17.8
50°-60°	277.8	15.9
60°-70°	209.3	12.0
70°-80°	116.4	6.7
80°-90°	30.3	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°	496.2	28.4
0°-40°	802.5	45.9
0°-60°	1392.1	79.6
0°-90°	1748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1748.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	652	652	652	652	652	
5°	647	635	646	667	647	61
15°	619	575	619	669	619	174
25°	563	500	566	627	563	259
35°	490	423	492	557	490	306
45°	405	344	406	464	405	312
55°	310	262	313	358	310	278
65°	213	179	213	243	213	210
75°	111	92	109	125	111	118
85°	25	20	24	30	25	30
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°	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8
2.5°	649.6	649.6	650.3	647.4	643.7	642.2	641.5	640.7	642.2	642.9	642.2
5°	647.4	645.9	644.4	640.7	636.3	633.3	631.8	631.1	632.6	634.8	632.6
7.5°	642.9	640.0	637.0	631.8	626.7	622.3	620.1	618.6	620.1	622.3	620.8
10°	635.5	631.8	627.4	621.6	614.2	609.0	606.8	604.6	605.3	605.3	605.3
12.5°	628.1	623.0	617.9	610.5	602.3	596.5	592.8	589.9	591.3	592.1	592.1
15°	618.6	612.0	604.6	596.5	588.4	581.7	577.3	574.3	575.1	575.1	575.8
17.5°	606.8	599.4	592.1	582.5	572.8	565.5	560.4	556.7	558.1	558.9	559.6
20°	593.6	585.4	577.3	567.0	556.7	548.5	543.3	539.0	538.3	538.3	539.0
22.5°	579.5	570.6	561.1	550.0	539.0	530.1	524.9	520.5	519.8	519.8	520.5
25°	563.3	553.7	544.1	533.1	521.2	512.4	505.8	501.4	500.6	499.9	501.4
27.5°	546.3	536.8	527.2	516.1	503.6	494.7	488.0	483.7	482.2	481.5	483.0
30°	528.6	517.5	507.3	495.4	484.4	475.6	468.9	463.7	462.3	460.8	462.3
32.5°	509.5	498.4	487.3	475.6	464.5	455.7	449.0	443.9	442.4	441.6	443.1
35°	489.5	478.5	468.2	456.4	445.3	436.5	429.8	425.5	424.0	423.2	424.0
37.5°	469.6	458.6	448.3	436.5	425.5	416.6	409.9	405.5	404.7	404.0	404.7
40°	446.8	437.2	426.9	415.8	404.7	396.0	390.8	385.6	384.1	382.6	384.9
42.5°	426.9	417.3	407.0	396.7	385.6	376.7	370.9	366.5	365.0	364.2	365.0
45°	404.7	394.5	384.1	374.5	364.2	356.1	350.2	345.8	345.1	344.4	345.1
47.5°	381.2	372.4	363.5	353.9	343.6	335.5	330.3	325.9	324.4	322.9	324.4
50°	359.1	350.2	341.4	332.5	322.9	315.6	310.4	306.0	305.2	304.5	305.2
52.5°	335.5	326.6	318.5	309.7	301.5	294.1	289.1	285.4	284.6	283.9	284.6
55°	310.4	303.0	295.6	288.3	280.2	273.5	269.1	264.7	263.2	261.8	263.2
57.5°	286.8	280.2	272.8	265.4	258.1	252.2	247.7	244.0	243.3	242.5	243.3
60°	262.5	256.6	249.9	243.3	235.9	230.1	226.4	223.4	221.9	221.2	221.9
62.5°	238.1	232.3	227.1	220.4	213.8	209.4	205.7	202.8	201.3	200.6	201.3
65°	213.0	207.9	202.8	196.9	191.7	187.2	183.5	180.6	179.9	179.2	179.2
67.5°	187.2	182.8	178.5	173.3	167.4	162.9	159.2	157.0	156.3	155.5	156.3
70°	160.7	157.0	152.6	148.2	143.8	140.1	137.9	135.7	134.9	134.2	134.2
72.5°	135.7	132.7	129.0	125.3	121.7	118.0	115.8	114.3	113.6	112.8	112.8
75°	110.6	107.6	105.4	102.5	98.8	96.6	94.4	92.9	92.2	92.2	92.2
77.5°	87.0	84.8	82.6	79.6	77.4	75.2	73.7	73.0	72.2	72.2	72.2
80°	64.2	62.7	61.2	59.7	57.5	55.3	54.6	53.8	53.1	53.1	53.1
82.5°	43.5	42.7	41.3	39.9	38.4	37.6	36.9	36.2	36.2	36.2	36.2
85°	25.1	24.3	23.6	22.8	22.1	22.1	21.4	20.6	19.9	19.9	19.9
87.5°	10.4	10.4	10.4	9.6	8.9	8.9	8.9	8.9	8.9	8.9	8.9
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°	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8
2.5°	640.7	642.2	643.7	645.9	648.1	650.3	649.6	648.9	651.8	655.4	656.2
5°	631.1	632.6	634.8	638.5	642.2	645.2	645.9	645.9	651.8	656.9	658.4
7.5°	619.4	621.6	624.5	628.1	633.3	637.8	640.0	642.9	648.9	655.4	658.4
10°	604.6	608.3	612.7	617.9	623.0	628.1	632.6	636.3	643.7	651.0	655.4
12.5°	591.3	595.0	599.4	605.3	612.0	618.6	623.0	628.1	637.0	645.9	651.0
15°	576.5	580.2	585.4	591.3	598.6	606.0	612.7	619.4	628.1	637.8	643.7
17.5°	560.4	564.1	569.2	576.5	584.7	592.8	600.1	607.5	617.9	628.1	634.8
20°	540.4	545.6	552.2	559.6	569.2	578.8	586.2	594.3	605.3	616.4	623.7
22.5°	521.2	526.4	533.8	542.6	553.0	563.3	572.1	581.0	592.8	603.8	612.0
25°	502.8	508.8	516.1	524.9	534.6	544.8	555.2	565.5	577.3	589.1	597.2
27.5°	484.4	489.5	496.9	505.8	516.8	527.2	537.5	547.8	560.4	572.8	581.7
30°	463.7	469.6	476.3	485.1	496.9	508.8	519.0	530.1	542.6	555.2	564.1
32.5°	444.6	449.8	456.4	465.2	477.0	488.8	499.9	511.7	523.5	536.0	544.8
35°	425.5	430.6	437.2	446.1	457.8	469.6	480.7	491.7	503.6	515.3	524.2
37.5°	406.2	411.4	418.1	426.9	437.9	449.8	460.0	471.1	483.0	494.7	502.8
40°	386.3	391.5	396.7	405.5	416.6	428.4	438.7	449.8	461.5	473.3	481.5
42.5°	366.5	371.6	378.2	387.1	397.4	407.7	418.1	428.4	439.4	450.5	458.6
45°	346.5	350.9	357.6	365.7	376.0	385.6	396.0	405.5	416.6	426.9	435.0
47.5°	325.9	330.3	335.5	343.6	353.9	364.2	374.5	384.1	393.7	404.0	411.4
50°	306.0	310.4	316.3	323.6	333.3	342.9	351.7	360.5	370.2	379.7	386.3
52.5°	285.4	289.8	294.9	302.3	310.4	319.2	327.3	336.2	345.1	353.9	360.5
55°	264.7	267.6	272.0	278.7	287.6	296.4	304.5	312.6	320.7	328.1	334.7
57.5°	244.0	247.7	252.9	258.8	266.1	273.5	280.9	288.3	295.6	303.0	308.9
60°	223.4	226.4	230.1	235.2	242.5	249.2	256.6	263.2	269.8	276.5	281.7
62.5°	202.0	205.0	208.6	213.8	219.7	225.6	232.3	238.1	244.0	249.9	255.1
65°	179.9	182.8	186.5	190.9	196.1	201.3	207.2	213.0	217.5	221.9	227.1
67.5°	157.0	160.0	163.7	167.4	171.8	177.0	182.1	187.2	191.7	196.1	199.8
70°	134.9	137.1	140.8	143.8	147.5	151.2	155.5	160.0	162.9	166.6	171.1
72.5°	113.6	115.8	118.7	121.7	123.9	126.8	131.2	134.9	138.6	143.1	145.3
75°	92.9	94.4	96.6	98.8	101.0	103.2	106.2	109.1	112.1	114.3	117.3
77.5°	72.2	73.7	75.9	77.4	78.9	80.4	82.6	84.8	87.0	88.5	91.5
80°	53.1	54.6	56.0	57.5	59.0	60.5	61.2	62.0	64.9	67.1	68.6
82.5°	36.2	36.9	37.6	39.1	39.9	40.6	41.3	41.3	42.7	44.2	46.4
85°	20.6	21.4	22.1	22.1	22.1	22.1	22.8	23.6	24.3	25.8	27.3
87.5°	8.1	8.1	8.9	8.9	8.9	8.9	8.9	8.9	9.6	11.1	11.8
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°	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8	651.8
2.5°	655.4	656.2	657.6	658.4	659.1	659.1	659.9	660.6	659.1	657.6	656.9
5°	659.1	659.9	662.1	664.3	665.8	667.3	666.5	665.8	664.3	662.1	660.6
7.5°	659.9	662.1	664.3	667.3	669.5	672.4	671.0	669.5	666.5	663.6	661.3
10°	657.6	660.6	664.3	668.0	670.2	672.4	671.0	669.5	666.5	662.8	659.9
12.5°	654.7	658.4	662.8	666.5	668.7	671.7	669.5	667.3	663.6	659.9	656.2
15°	648.1	652.5	657.6	662.1	665.8	668.7	666.5	665.0	660.6	655.4	650.3
17.5°	640.0	645.9	651.0	656.2	659.1	662.1	660.6	659.1	653.9	648.1	642.2
20°	630.4	636.3	641.5	646.6	650.3	653.2	651.0	648.9	643.7	638.5	632.6
22.5°	618.6	624.5	630.4	635.5	639.2	642.2	639.2	635.5	630.4	625.2	619.4
25°	603.8	610.5	617.1	622.3	624.5	627.4	624.5	621.6	616.4	611.2	604.6
27.5°	589.1	595.7	602.3	607.5	609.7	612.7	609.7	606.8	601.6	596.5	589.9
30°	572.1	578.8	585.4	590.6	592.8	595.0	592.1	589.1	584.7	579.5	572.8
32.5°	553.0	559.6	564.8	569.9	572.8	575.8	572.8	570.6	565.5	558.9	552.2
35°	532.3	539.0	545.6	550.7	553.7	556.7	553.0	549.3	544.8	539.7	533.8
37.5°	509.5	516.8	524.2	530.1	532.3	535.3	532.3	528.6	524.2	519.0	512.4
40°	488.0	494.7	501.4	507.3	509.5	511.7	508.8	505.8	500.6	495.4	488.8
42.5°	466.0	472.6	478.5	483.7	485.9	488.8	485.9	482.2	478.5	474.1	468.2
45°	442.4	449.0	454.2	459.3	461.5	463.7	460.8	457.1	453.5	449.8	443.9
47.5°	418.1	424.0	429.1	434.2	435.7	437.9	435.0	432.8	429.1	425.5	420.3
50°	393.0	398.9	404.0	408.4	409.9	412.1	409.2	406.2	403.3	400.4	396.0
52.5°	367.2	372.4	377.5	381.9	383.4	384.9	381.9	378.9	376.0	373.1	368.7
55°	340.7	345.8	350.9	354.6	356.1	357.6	354.6	352.4	349.4	347.2	342.9
57.5°	314.1	319.2	323.6	327.3	328.8	330.3	327.3	324.4	322.2	320.0	316.3
60°	286.8	291.9	295.6	298.6	300.1	300.8	297.8	295.6	294.1	292.7	289.1
62.5°	260.3	263.9	267.6	269.8	271.3	272.0	269.8	268.3	266.9	265.4	262.5
65°	232.3	236.6	239.6	241.8	242.5	243.3	241.1	239.6	238.1	236.6	234.5
67.5°	204.3	207.9	210.1	212.3	213.0	213.0	213.0	212.3	210.8	208.6	206.5
70°	176.2	179.2	181.3	182.8	183.5	183.5	182.1	180.6	180.6	179.9	178.5
72.5°	147.5	149.7	151.2	152.6	152.6	152.6	152.6	153.3	152.6	151.2	149.0
75°	120.2	122.4	123.9	124.6	124.6	124.6	124.6	125.3	124.6	123.9	122.4
77.5°	94.4	95.9	96.6	97.3	97.3	97.3	98.0	98.8	98.0	97.3	96.6
80°	70.0	70.7	71.5	72.2	71.5	71.5	72.2	73.7	73.0	72.2	71.5
82.5°	47.9	48.6	49.4	49.4	50.1	50.9	50.9	50.9	50.9	50.1	49.4
85°	28.8	29.5	29.5	29.5	29.5	29.5	30.2	31.0	31.0	30.2	30.2
87.5°	13.3	14.0	13.3	12.6	11.8	11.8	13.3	14.7	14.7	14.0	14.0
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°	651.8	651.8	651.8	651.8
2.5°	657.6	656.9	653.2	649.6
5°	659.9	657.6	652.5	647.4
7.5°	659.9	656.9	649.6	642.9
10°	656.2	651.8	643.7	635.5
12.5°	651.8	646.6	637.0	628.1
15°	645.2	639.2	628.9	618.6
17.5°	635.5	628.1	617.9	606.8
20°	625.9	617.9	605.3	593.6
22.5°	612.7	605.3	592.1	579.5
25°	597.9	589.9	576.5	563.3
27.5°	582.5	572.8	559.6	546.3
30°	564.8	555.2	541.9	528.6
32.5°	545.6	536.8	523.5	509.5
35°	526.4	516.8	503.6	489.5
37.5°	505.1	496.2	483.0	469.6
40°	482.2	473.3	460.0	446.8
42.5°	460.8	452.7	439.4	426.9
45°	437.2	429.1	416.6	404.7
47.5°	412.9	404.7	393.0	381.2
50°	389.3	381.2	370.2	359.1
52.5°	362.8	356.1	345.8	335.5
55°	337.0	330.3	320.0	310.4
57.5°	311.2	305.2	295.6	286.8
60°	283.9	278.0	270.6	262.5
62.5°	258.1	252.9	245.5	238.1
65°	230.8	226.4	219.7	213.0
67.5°	202.8	199.1	193.2	187.2
70°	174.8	170.3	165.9	160.7
72.5°	146.8	144.5	140.1	135.7
75°	120.2	118.0	114.3	110.6
77.5°	95.2	92.9	90.0	87.0
80°	70.0	68.6	66.4	64.2
82.5°	48.6	47.2	45.7	43.5
85°	29.5	28.0	26.5	25.1
87.5°	13.3	12.6	11.1	10.4
90°	0.0	0.0	0.0	0.0



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













(END OF REPORT)