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TABLES OF COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY APPLICATIONS

by Darl D. Bien

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. • NOVEMBER 1969



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TABLES OF COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY APPLICATIONS

by Darl D. Bien

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SUMMARY

Tables of component reliabilities required for a specified system reliability are presented for systems whose reliability is expressible by the binomial distribution. The tables have six-place accuracy and cover system reliabilities of 0.80, 0.90, 0.95, 0.975, 0.99, 0.995, 0.999, 0.9995, and 0.9999. Systems consisting of the following numbers of components are included: 2, 3, 4, . . . , 50; 52, 54, 56, . . . , 100; 110, 120, 130, . . . , 500; 525, 550, 575, . . . , 1000.

The short and efficient FORTRAN IV language computer program utilizing the Newton-Raphson iterative procedure for binomial parameter determination is presented together with instructions for its use. Examples of its usefulness in the areas of sampling plans and confidence intervals are also given.

INTRODUCTION

One way to achieve high reliability for complex systems is to use redundancy. A system of n components which functions only if at least r components function is called an r -out-of- n system (ref. 1). If all components have the same reliability p and if component failures are independent, the reliability of an r -out-of- n system is the probability that at least r of the n components perform successfully. This is the cumulative binomial probability:

$$\sum_{x=r}^n \frac{n!}{x!(n-x)!} p^x(1-p)^{n-x}$$

Frequently, in system design work, system reliability is specified. The component designer in turn needs to determine the component reliability p which is compatible

with the system reliability; that is, he needs to solve for p as a function of the number of components n , the minimum number required to operate successfully r , and the system reliability. This is referred to as determining the parameter of the cumulative binomial distribution. The determination of the cumulative binomial parameter is of interest in such other areas as sampling plans and confidence interval calculations.

The determination of p can be approximated by interpolation in existing tables of the cumulative binomial distribution (such as refs. 2 to 7), tables of the incomplete beta function (such as refs. 8 and 9), or tables of the F-distribution (such as refs. 9 and 10). Since the cumulative binomial distribution can be approximated by the normal or Poisson distributions under certain conditions on n and p , tables such as references 9 and 11 can be used for an approximate determination of p . References 12 and 13 contain charts of the cumulative binomial distribution from which values of the parameter p can be read with limited accuracy. References 14 and 15 contain tables of p but they cover only a small range of variables.

The primary purpose of this report is to present extensive tables of the parameter p of the cumulative binomial distribution covering a range of variables of particular interest in reliability redundancy applications. The computer program used to determine p is also presented in order that the user may generate tables of particular interest and because of the program's versatility in a variety of other problems. The program deck can be obtained from COSMIC Computer Center, University of Georgia, Athens, Georgia 30601. Examples of program usage are shown for confidence interval and sampling plan applications in addition to the redundancy application.

SYMBOLS

| | |
|---------------------|--|
| c | upper limit on binomial summation; acceptance number in single binomial sampling plans |
| n | number of components in system; sample size |
| P_a | probability of lot acceptance in single binomial sampling plans |
| $\Pr(X = x n, p)$ | probability of x successes in a system or sample of size n , where individual component reliability or item success probability is p |
| p | component reliability; item success probability; sample fraction defective in single binomial sampling plans |
| r | lower limit on binomial summation; minimum number of successes allowed |
| X | random variable |

x value that X can take

1 - α confidence coefficient

Subscripts:

j iteration number

l lower

u upper

0 initial value

THEORY

The binomial distribution is a suitable model for determining the reliability of an r-out-of-n system. If all components are assumed to have the same reliability p and component failures to be independent events, the probability of exactly x successes among the n components is given by

$$\Pr(X = x | n, p) = \binom{n}{x} p^x (1 - p)^{n-x} \quad (1)$$

The factor $\binom{n}{x}$ represents the number of combinations of n things taken x at a time; that is,

$$\binom{n}{x} = \frac{n!}{x!(n-x)!} \quad (2)$$

r or More Successes

The cumulative binomial probability of r or more successes among the n components is found by summation of x from r to n in equation (1); that is,

$$\Pr(X \geq r | n, p) = \sum_{x=r}^n \binom{n}{x} p^x (1 - p)^{n-x} \quad (3)$$

This equation for the reliability of an r-out-of-n system reduces to the reliability of a series system when r = n and a parallel system when r = 1. Since the summation of equation (1) from x = 0 to x = n must be 1, equation (3) can be rewritten as

$$\Pr(X \geq r | n, p) = 1 - \sum_{x=0}^{r-1} \binom{n}{x} p^x (1-p)^{n-x} \quad (4)$$

The summations in equations (3) and (4) can be rewritten in terms of cumulative binomial distributions with parameters n and $1 - p$ to give, respectively,

$$\Pr(X \geq r | n, p) = \sum_{x=0}^{n-r} \binom{n}{x} (1-p)^x p^{n-x} \quad (5)$$

and

$$\Pr(X \geq r | n, p) = 1 - \sum_{x=n-r+1}^n \binom{n}{x} (1-p)^x p^{n-x} \quad (6)$$

Since equations (3) to (6) are equivalent, the preferred choice among them for computer use is the equation containing the fewest terms in the expansion of the summation. The use of this preferred equation results in minimizing the computation time as well as the accumulated computer roundoff error. The summations in equations (3) and (5) each contain $n - r + 1$ terms, while the summations in equations (4) and (6) consist of r terms each. Therefore, equations (3) to (6) contain the same number of terms when $r = (n + 1)/2$. For r values greater than or equal to $(n + 1)/2$, equations (3) and (5) are preferred; for values of r less than $(n + 1)/2$, equations (4) and (6) are preferred.

c or Fewer Successes

The cumulative binomial probability of c or fewer successes among the n components is found by summation of x from 0 to c in equation (1); that is,

$$\Pr(X \leq c | n, p) = \sum_{x=0}^c \binom{n}{x} p^x (1-p)^{n-x} \quad (7)$$

Since the summation of equation (1) from $x = 0$ to $x = n$ must be 1, equation (7) can be rewritten as

$$\Pr(X \leq c | n, p) = 1 - \sum_{x=c+1}^n \binom{n}{x} p^x (1-p)^{n-x} \quad (8)$$

The summations in equations (7) and (8) can also be rewritten in terms of cumulative binomial distributions with parameters n and $1 - p$ to give, respectively,

$$\Pr(X \leq c | n, p) = \sum_{x=n-c}^n \binom{n}{x} (1-p)^x p^{n-x} \quad (9)$$

and

$$\Pr(X \leq c | n, p) = 1 - \sum_{x=0}^{n-c-1} \binom{n}{x} (1-p)^x p^{n-x} \quad (10)$$

The summations in equations (7) and (9) each contain $c + 1$ terms, while the summations in equations (8) and (10) consist of $n - c$ terms each. Therefore, equations (7) to (10) contain the same number of terms when $c = (n - 1)/2$. For c values less than or equal to $(n - 1)/2$, equations (7) and (9) are preferred; for values of c greater than $(n - 1)/2$, equations (8) and (10) are preferred.

METHOD OF SOLUTION

General

In the development of a computer program, a general formulation for the binomial summation is desired; that is, rather than programming all eight of the equations (3) to (10), it is desired to program one general form from which either $\Pr(X \geq r | n, p)$ or $\Pr(X \leq c | n, p)$ can be computed.

The general form selected is that of equation (3). It is noted that equations (6), (8), and (9) fit this same form; that is, the summations have an upper limit of n . Thus, equations (4), (5), (7), and (10) are eliminated from further consideration because their upper limits are not n . Equations (3) and (6) have as unique variables r and $\Pr(X \geq r | n, p)$, whereas equations (8) and (9) involve the variables c and $\Pr(X \leq c | n, p)$.

Equation (3) is used to restate the problem of determining the parameter of the cumulative binomial distribution: for given values of n , r , and $\Pr(X \geq r | n, p)$, deter-

mine the value of p . The solution to this problem is obtained by an iterative procedure beginning with an initial guess for p for use in the summation of equation (3). Unless there is equality between the specified quantity $\Pr(X \geq r | n, p)$ and the numerical value of the sum, a new estimate for p is selected. This procedure is repeated until the parameter p is ascertained with desired accuracy.

Newton-Raphson Method

The Newton-Raphson method is a well-known numerical technique for finding the roots of equations. The Newton-Raphson method is chosen here because it provides rapid convergence and because the required derivative of the binomial summation is simple. The $(j + 1)^{\text{th}}$ estimate for the root p of equation (3) can be obtained from the j^{th} estimate for p as follows (ref. 16):

$$p_{j+1} = p_j - \frac{F(p_j)}{\frac{\partial F(p_j)}{\partial p_j}} \quad (11)$$

where

$$F(p_j) = \sum_{x=r}^n \binom{n}{x} p_j^x (1 - p_j)^{n-x} - \Pr(X \geq r | n, p) \quad (12)$$

and

$$\frac{\partial F(p_j)}{\partial p_j} = r \binom{n}{r} p_j^{r-1} (1 - p_j)^{n-r} \quad (13)$$

In order to assure convergence with the Newton-Raphson method, a judicious initial guess for p is required. Since the binomial distribution is monotonic, convergence is assured by selecting p_0 at the point of maximum slope on a curve of cumulative probability as a function of p . This point is determined by setting to zero the second partial derivative of $F(p_j)$ with respect to p_j . The second partial derivative is

$$\frac{\partial^2 F(p_j)}{\partial p_j^2} = r \binom{n}{r} p_j^{r-2} (1 - p_j)^{n-r-1} [(r - 1) - p_j(n - 1)] \quad (14)$$

The value of p_j for which equation (14) becomes zero is

$$p_0 = \frac{r - 1}{n - 1} \quad (15)$$

A relation useful in obtaining successive terms of the binomial summation is

$$\Pr(X = x + 1 | n, p) = \frac{(n - x)}{(x + 1)} \frac{p}{(1 - p)} \Pr(X = x | n, p) \quad (16)$$

This relation is especially useful in computer computation of the sum.

Figure 1 illustrates the Newton-Raphson method of solution for the case

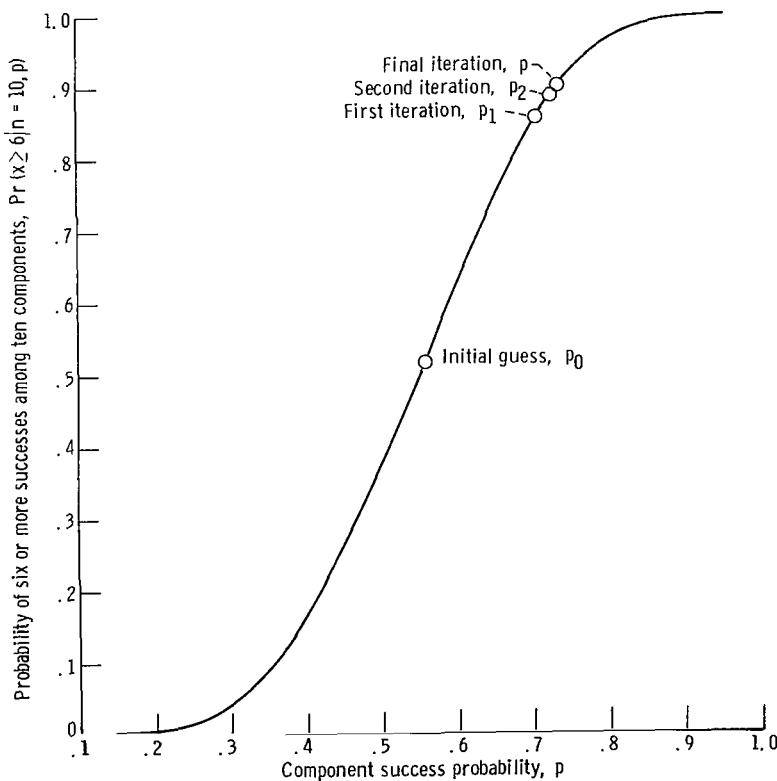


Figure 1. - Component success probability and cumulative probability for six or more successes among ten components.

$\Pr(X \geq 6 | n = 10, p) = 0.90$. The rapidity of convergence by this method is such that six-place accuracy in p can usually be obtained in fewer than six iterations. The FORTRAN program is presented in appendix A.

APPLICATION

The application which motivated this study is in determining the required component reliability in an r -out-of- n system. Two other applications, sampling plans and confidence intervals, are given in appendix B.

An r -out-of- n system is one which functions only if at least r components function in a system of n components. Frequently, in system design work, the designer has a specified system reliability that must be achieved. Physical requirements of the system determine the number of components r that must function successfully. Within limitations such as weight, cost, and size, the designer can choose the number of redundant components $n - r$. The problem is to determine the component reliability p that will satisfy the required system reliability for given n and r .

An example of such a problem is found in the design of vapor-chamber radiators for space application. Such radiators consist of several hundred (n) independent chambers, of which some number (r) must successfully function in order to reject the waste heat from a powerplant (ref. 17). Typically, the overall radiator reliability is specified.

The surfaces of the vapor chambers are subject to bombardment by meteoroids. A

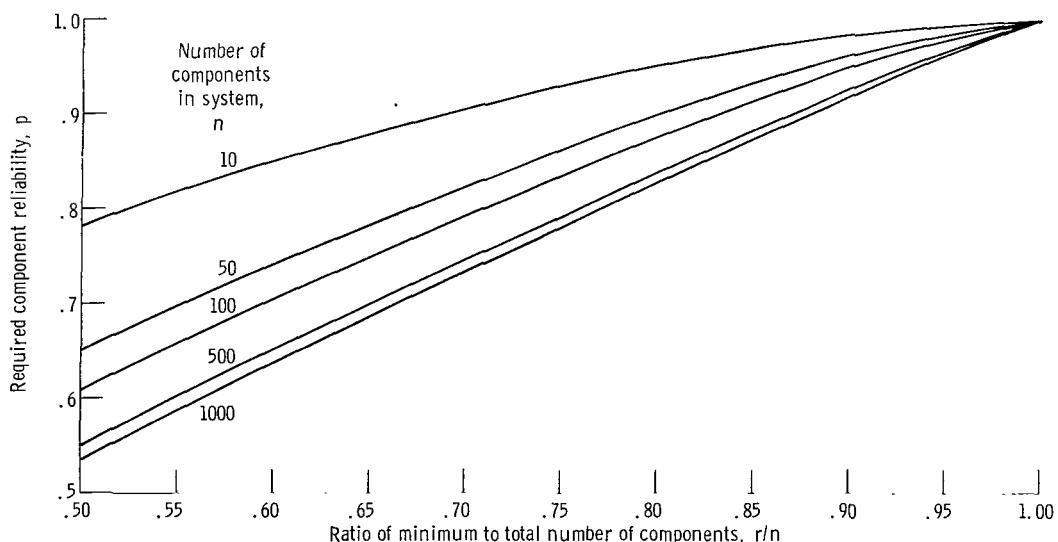


Figure 2. - Effect of number of components on required component reliability for system reliability of 0.99

$$\left(0.99 = \sum_{x=r}^n \binom{n}{x} p^x (1-p)^{n-x}\right)$$
 and a range of redundancy levels.

puncture of the chamber releases its vapor and destroys its usefulness. The thickness of the chamber walls can be expressed as a function of the required chamber reliability (ref. 17). Thus, to design the vapor-chamber radiator, it is necessary to determine p , the individual vapor chamber reliability. By cumulative binomial parameter determination, p can be determined as a function of the number of vapor chambers n , the minimum number required for mission success r , and the overall radiator reliability $\Pr(X \geq r | n, p)$.

The following table lists the component reliability for a system success probability of 0.99 for several n and r values. The same information is presented in figure 2 where it is shown that for fixed r/n , the larger values of n result in smaller required component reliabilities.

| CUM PROB | N | R | C | P |
|----------|------|------|---|----------|
| 0.990000 | 10 | 6 | | 0.849557 |
| 0.990000 | 10 | 7 | | 0.906786 |
| 0.990000 | 10 | 8 | | 0.952493 |
| 0.990000 | 10 | 9 | | 0.984462 |
| 0.990000 | 10 | 10 | | 0.998995 |
| 0.990000 | 50 | 30 | | 0.740064 |
| 0.990000 | 50 | 35 | | 0.823491 |
| 0.990000 | 50 | 40 | | 0.899068 |
| 0.990000 | 50 | 45 | | 0.963083 |
| 0.990000 | 50 | 50 | | 0.999799 |
| 0.990000 | 100 | 55 | | 0.657288 |
| 0.990000 | 100 | 60 | | 0.703765 |
| 0.990000 | 100 | 65 | | 0.749050 |
| 0.990000 | 100 | 70 | | 0.793051 |
| 0.990000 | 100 | 75 | | 0.835610 |
| 0.990000 | 100 | 80 | | 0.876473 |
| 0.990000 | 100 | 85 | | 0.915205 |
| 0.990000 | 100 | 90 | | 0.950980 |
| 0.990000 | 100 | 95 | | 0.981853 |
| 0.990000 | 100 | 100 | | 0.999899 |
| 0.990000 | 500 | 275 | | 0.600219 |
| 0.990000 | 500 | 300 | | 0.649052 |
| 0.990000 | 500 | 325 | | 0.697335 |
| 0.990000 | 500 | 350 | | 0.745022 |
| 0.990000 | 500 | 375 | | 0.792036 |
| 0.990000 | 500 | 400 | | 0.838251 |
| 0.990000 | 500 | 425 | | 0.883452 |
| 0.990000 | 500 | 450 | | 0.927211 |
| 0.990000 | 500 | 475 | | 0.968455 |
| 0.990000 | 500 | 500 | | 0.999980 |
| 0.990000 | 1000 | 550 | | 0.585849 |
| 0.990000 | 1000 | 600 | | 0.635099 |
| 0.990000 | 1000 | 650 | | 0.683959 |
| 0.990000 | 1000 | 700 | | 0.732395 |
| 0.990000 | 1000 | 750 | | 0.780353 |
| 0.990000 | 1000 | 800 | | 0.827742 |
| 0.990000 | 1000 | 850 | | 0.874409 |
| 0.990000 | 1000 | 900 | | 0.920045 |
| 0.990000 | 1000 | 950 | | 0.963873 |
| 0.990000 | 1000 | 1000 | | 0.999990 |

CONCLUDING REMARKS

The system designer who occasionally uses the binomial distribution in reliability applications will find that the extensive tables of this report provide him with six-place accuracy and a saving of time. The more frequent user will find that the computer program, which is short and efficient, can be used to generate tables more nearly suited to his use or to incorporate the routine into a larger system program.

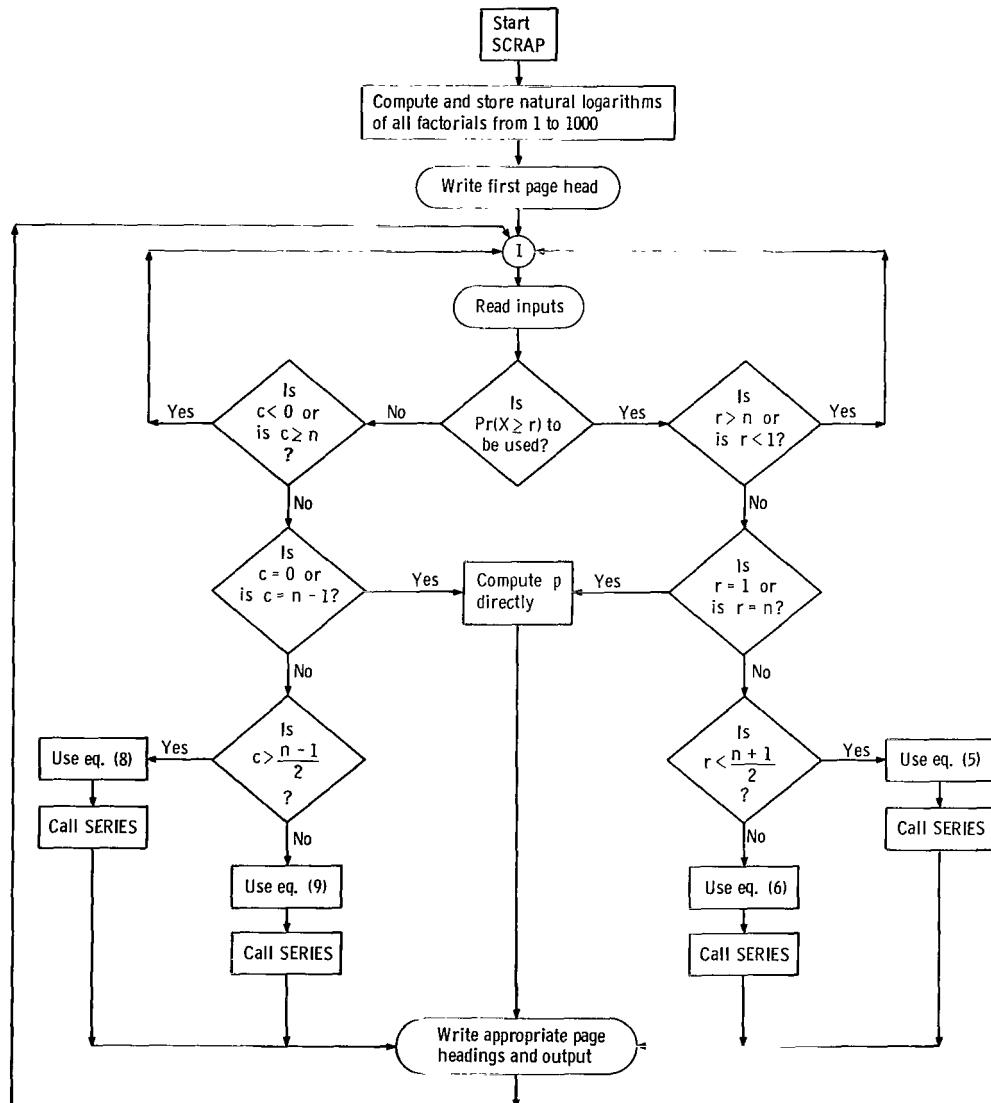
Lewis Research Center,
National Aeronautics and Space Administration,
Cleveland, Ohio, August 22, 1969,
120-27.

APPENDIX A

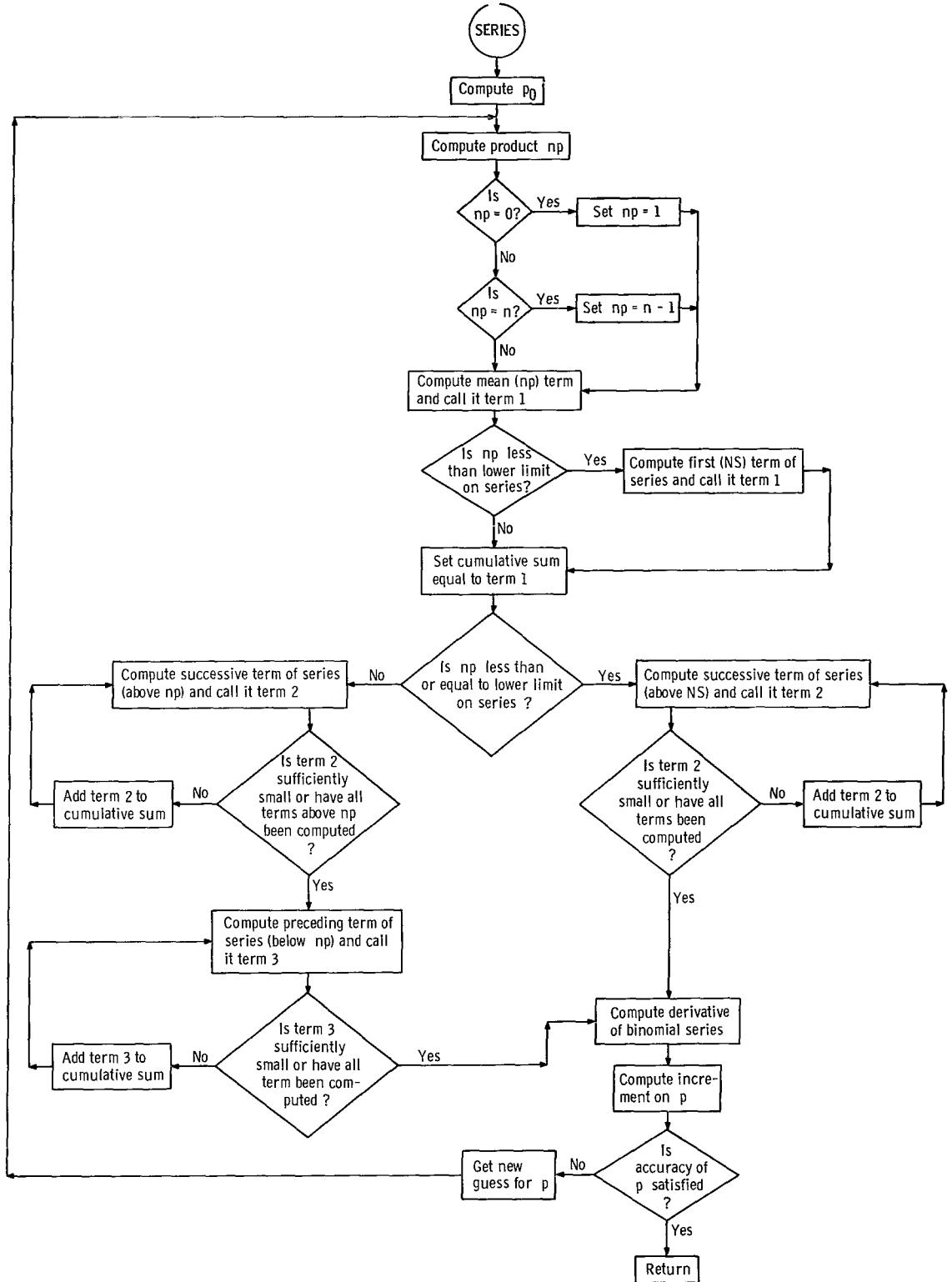
FORTRAN PROGRAM

A FORTRAN IV language computer program, written for the Lewis 7094 computer and utilizing the Newton-Raphson method, is presented at the end of this appendix. The flow diagram is shown in figure 3.

The program is written in two parts. The calling program, called SCRAP for



(a) Calling program, SCRAP.
Figure 3. - Computer flow diagram.



(b) Subroutine SERIES.

Figure 3. - Concluded.

Series Computation of Reliability and Probability, controls the input and output and provides for selection of the preferred equation for the most efficient computation of the binomial sum. The subroutine SERIES is used to compute the binomial sum and to determine to the desired accuracy the numerical value of the parameter p .

Calling Program, SCRAP

As shown in figure 3(a) the first function performed by SCRAP is the computation and storage of the natural logarithms of all factorials from 1 to 1000. These are needed because each term of the binomial summation contains factorials (see eqs. (1) and (2)). The logarithms are stored in double precision to maintain the desired accuracy after summing the possibly large number of terms in the binomial summation.

The program has five input variables, only four of which are used in any one problem. To specify whether the cumulative probability under consideration is $\Pr(X \geq r | n, p)$ or $\Pr(X \leq c | n, p)$, an input called TAIL is used. Any positive integer for TAIL indicates $\Pr(X \geq r | n, p)$, whereas any negative integer or zero indicates $\Pr(X \leq c | n, p)$. The input N (for n) can be any integer from 1 to 1000. The input R (for r) can take any integer value from 1 to n . The input C (for c) can take any integer value from zero to $n - 1$. The remaining input CUMSUM is the specified cumulative probability; it is either $\Pr(X \geq r | n, p)$ or $\Pr(X \leq c | n, p)$, depending on whether TAIL is positive or nonpositive, respectively. All inputs are programmed in NAMELIST format. A sample set of inputs is shown in the following table:

| Card column | 1 | 2 |
|-------------|---|---|
| Blank | \$ INPUT CUMSUM = 0.025, TAIL = 1, N = 50, R = 20\$ | |
| Blank | \$ INPUT TAIL = 0, C = 20\$ | |
| Blank | \$ INPUT CUMSUM = 0.05, TAIL = 1\$ | |
| Blank | \$ INPUT TAIL = 0\$ | |
| Blank | \$ INPUT CUMSUM = 0.025, TAIL = 1, R = 25\$ | |

Decision Functions

Figure 3(a) illustrates the decision functions performed by SCRAP. When the binomial summation consists of a single term, the parameter p is found by direct computation. When the summation contains more than one term, the Newton-Raphson iterative procedure is used to determine p . The program uses the form of the cumulative

binomial requiring computation of the fewer terms. Subroutine SERIES is then called to perform the binomial summation and determine the value of p.

A sample set of output obtained from the preceding sample input is as follows:

| CUMULATIVE PROBABILITY | C | (N) | X | $N-X$ | OR | N | (N) | X | $N-X$ |
|------------------------|-----|-----|---------|-------|----|-----|-----|----------|-------|
| | SUM | () | P (1-P) | | | SUM | () | P (1-P) | |
| | X=0 | (X) | | | | X=R | (X) | | |
| CUM PROB | | N | R | | C | | | P | |
| 0.025000 | | 50 | 20 | | | | | 0.264078 | |
| 0.025000 | | 50 | | 20 | | | | 0.548206 | |
| 0.050000 | | 50 | 20 | | | | | 0.283131 | |
| 0.050000 | | 50 | | 20 | | | | 0.526120 | |
| 0.025000 | | 50 | 25 | | | | | 0.355273 | |

The first page of output contains as a heading both equations (3) and (7). Of the five column headings, N, R, and C are identical to the inputs with the same names. The CUM PROB column is simply the CUMSUM input, and P is the cumulative binomial parameter p.

Subroutine SERIES

Subroutine SERIES performs the binomial summation, determines the parameter p to the desired accuracy, and delivers the solution to the calling program SCRAP. The flow diagram of figure 3(b) shows the steps in this procedure.

It is desirable to begin computation of the sum at the mode or largest term of the distribution. Since the binomial distribution is unimodal, successive terms of the summation on both sides of the mode need be computed only so long as the successive term adds significance to the cumulative sum.

Because the mode of the binomial distribution is more difficult to determine than the mean and since the mode is close to the mean, the mean term is chosen to initiate computation of the sum.

The mean of the binomial distribution is formed by the product np_j . If np_j , when rounded to the nearer integer value, is either zero or n, it is set equal to 1 or $n - 1$, respectively, to avoid definition and use of zero factorial. The probability of np_j (rounded to an integer) successes among n components given by equation (1) with $x = np_j$ is computed and stored as term 1.

If the mean np_j term is a term not included in the range of the summation, the computation begins instead with the first term of the summation designated by NS

in the computer program. With the use of equation (16), successive terms of the summation are computed until either (1) the terms become insignificantly small, less than 10^{-10} , or (2) all terms of the summation are included. Each term of the summation is added to the previous cumulative sum, called CGUESS in the program.

The increment on p as specified by the Newton-Raphson method is $|p_{j+1} - p_j|$ (eq. (11)). If this increment is less than 5×10^{-7} , the solution p is delivered to the calling program, SCRAP. If the accuracy of p is not satisfied, a new guess for p is used and the process repeated from the beginning. The error in p as obtained from this program is thus less than 5×10^{-7} ; that is, all six places are usable.

Miscellaneous Details

The running time on the Lewis 7094 computer is less than 0.001 minute for each case. With format modifications, the program was checked out with n values as large as 10 000. The calling program SCRAP and subroutine SERIES require a total storage capacity of less than 2900 36-bit words on the 7094 computer. Of the storage, 2000 words are used just to store the logarithms of the factorials in double precision. For repeated usage of the program, computer time and storage could be saved by permanently storing the logarithms of the factorials on disks.

A copy of the FORTRAN program deck can be obtained from COSMIC Computer Center, University of Georgia, Athens, Georgia 30601.

Program Listing

SCRAP

```
C -----SCRAP--SERIES COMPUTATION OF RELIABILITY AND PROBABILITY--IS A PROGRAM
C -----WHICH USES THE NEWTON-RAPHSON TECHNIQUE TO DETERMINE THE PARAMETER P OF
C -----THE BINOMIAL SERIES. THE INPUTS ARE C (OR R), N, TAIL, AND CUMULATIVE
C -----PROBABILITY AND THE OUTPUT IS P IN THE FOLLOWING EQUATIONS.
C
C -----          C   (N)   X   N-X      N   (N)   X   N-X
C -----CUMULATIVE PRUBABILITY = SUM ( ) P (1-P)      OR SUM ( ) P (1-P)
C -----          X=0   (X)                   X=R   (X)
C
C -----          (N)
C -----THE FACTOR ( ) MEANS THE NUMBER OF COMBINATIONS OF N THINGS TAKEN X AT A
C -----          (X)
C -----TIME.
C
DOUBLE PRECISION FACLOG,P,Q,AINTEG,CUMSUM
DIMENSION FACLOG(1000)
```

```

      COMMON CUMSUM,N,NS,P,Q,FACLOG
C
      FACLOG(1) = 0.
      CO 2 INTEG = 2,1000
      AINTEG = INTEG
      2 FACLOG(INTEG) = FACLOG(INTEG-1)+DLOG(AINTEG)
C
      WRITE (6,31)
      31 FORMAT (1H1/49X, 43HC (N) X N-X N (N) X N-X/
      123X,66HCUMULATIVE PROBABILITY = SUM ( ) P (1-P) OR SUM ( )
      2P (1-P)/48X,8HX=0 (X),17X,8HX=R (X)//, 2dX,8HCUM PROB,11X,
      31HN,10X,1HR,10X,1HC,12X,1HP,//)
C
      INTEGER C,R,TAIL
      I = 0
      N = 0
      K = 0
      NAMELIST/INPUT/CUMSUM, TAIL, N, C, R
      1 READ(5,INPUT)
      REALR = R
      REALN = N
      REALC = C
C
C ----IF TAIL IS GREATER THAN ZERO, SUM SERIES FROM R TO N.
      IF (TAIL.LE.0) GO TO 400
C
C ----IF R GREATER THAN N OR R LESS THAN 1 (ERROR CONDITIONS) GO TO NEXT CASE.
      300 IF(R.GT.N.OR.R.LT.1) GO TO 1
C
      IF(CUMSUM.EQ.0.) GO TO 330
      IF(CUMSUM.EQ.1.) GO TO 331
      IF(R.EQ.1) GO TO 320
      IF (R.NE.N) GO TO 321
      P = CUMSUM** (1./REALN)
      GO TO 40
      330 P = 0.
      GO TO 40
      331 P = 1.
      GO TO 40
      320 P = 1.-(1.-CUMSUM)** (1./REALN)
      GO TO 40
C
C ----IF R IS GREATER THAN OR EQUAL TO (N+1)/2, USE SUMMATION FROM R TO N.
      321 IF(REALR.LT.((REALN+1.)/2.)) GO TO 301
      NS = R
      CALL SERIES
      GO TO 40
C
C ----IF R IS LESS THAN (N+1)/2, USE SUMMATION FROM N-R+1 TO N IN TERMS OF Q,P.
C ----BECAUSE SUM (R,N,P,Q) = 1-SUM(0,R-1,P,Q) = 1-SUM(N-R+1,N,Q,P).
      301 NS = N-R+1
      CUMSUM = 1.-CUMSUM
      CALL SERIES
      CUMSUM = 1.-CUMSUM
      P = Q
      GO TO 40

```

```

C
C ----IF C IS NEGATIVE OR IF C GREATER THAN OR EQUAL TO N (ERROR CONDITIONS).
C ----GO TO NEXT CASE.
400 IF(C.LT.0.OR.C.GE.N) GO TO 1
C
    IF(CUMSUM.EQ.0.) GO TO 430
    IF(CUMSUM.EQ.1.) GO TO 431
    IF(C.EQ.0) GO TO 420
    IF(C.NE.(N-1)) GO TO 421
    P = (1.-CUMSUM)**(1./REALN)
    GO TO 40
430 P = 1.
    GO TO 40
431 P = 0.
    GO TO 40
420 P = 1.-CUMSUM**(1./REALN)
    GO TO 40
C
C ----IF C IS LESS THAN OR EQUAL TO (N-1)/2, SUM(N-C,N,Q,P).
421 IF (REALC.GT.((REALN-1.)/2.)) GO TO 401
    NS = N-C
    CALL SERIES
    P = Q
    GO TO 40
C ----IF C IS GREATER THAN (N-1)/2, SUM FROM C+1 TO N AND SUBTRACT FROM 1.
401 NS = C+1
    CUMSUM = 1.-CUMSUM
    CALL SERIES
    CUMSUM = 1.-CUMSUM
C
C ----THE VARIABLES I, M, AND K ARE LINE AND PAGE COUNTERS USED IN GROUPING THE
C ----COUTPUT AND DETERMINING THE PROPER HEADINGS.
    40 I = I+1
    M = M+1
    IF (I.LE.5) GO TO 205
201 WRITE (6,21)
21 FORMAT (/)
    M = M+1
    I = 1
205 IF(K.GT.0) GO TO 203
    IF(M-47) 200,200,110
203 IF(M.LE.53) GO TO 200
110 WRITE (6,41)
    41 FORMAT (1H1,/,28X,8HCUM PROB,11X,1HN,10X,1HR,10X,1HC,12X,1HP//)
    I = 1
    M = 0
    K = K+1
200 IF(TAIL.LE.0) GO TO 410
310 WRITE(6,46) CUMSUM,N,R,P
    46 FORMAT(26X,F10.6,8X,I4,7X,I4, 18X,F10.6)
    GO TO 1
410 WRITE (6,47) CUMSUM,N,C,P
    47 FORMAT (26X,F10.6,8X,I4,18X,I4,7X,F10.6)
C
    GO TO 1
END

```

SERIES

```

SUBROUTINE SERIES
C -----SUBROUTINE SERIES IS USED TO PERFORM THE SUMMATION COMPUTATION AND TO
C -----DETERMINE THE VALUE OF THE PARAMETER P TO DESIRED ACCURACY.
C      DOUBLE PRECISION FACLOG,P,Q,AN,ANS,ANP,ANLNP,ANLIMIT,ANS1,ANLNPI,
1 TERM1,AK11,CGUESS,TERM2,AK21,AK2,TERM3,AK3,ANP1,DERIV,CUMSUM,DELP
C      DIMENSION FACLOG(1000)
C      COMMON CUMSUM,N,NS,P,Q,FACLOG
C
C      AN = N
C      ANS = NS
C -----INITIAL GUESS ON P SUCH THAT SECOND DERIVATIVE OF BINOMIAL EQUALS 0.
10 P = (ANS - 1.)/(AN - 1.)
11 C = 1.-P
      NLIMIT = N-NS
      ANLIMIT = NLIMIT
      NL1 = N-1
      ANSI = ANS+1.
      DROP = 1.0 E-10
C
2  NP = AN*P
    IF (NP.GE.1) GO TO 3
    NP = 1
3  IF(NP.LT.N) GO TO 4
    NP = N-1
4  ANP = NP
    ANP1 = ANP+1.
    NLNP = N-NP
    ANLNP = NLNP
    ANLNPI = ANLNP+1.
    NSLNP = NS-NP
    NPLNS = NP-NS
C
C -----THE MEAN (NP) TERM IS USUALLY THE LARGEST SO CALCULATION OF THE SUMMATION
C -----STARTS WITH IT.
      TERM1 = DEXP(FACLOG(N)-FACLOG(NP)-FACLOG(NLNP)-ANP*DLOG(1./P)
      1-ANLNP*DLOG(1./Q))
C
C -----IF NP LESS THAN NS, START SUMMATION WITH NS TERM INSTEAD.
      IF(NP.GE.NS) GO TO 9
15 DO 17 K11=1,NSLNP
      AK11 = K11
17 TERM1 = TERM1*(ANLNPI-AK11)/(ANS1-AK11)*P/Q
C
9  CGUESS = TERM1
    TERM2 = TERM1
C
    IF (NP.GT.NS) GO TO 43
C -----THE FOLLOWING LOOP COMPUTES NS+1 TERM, NS+2 TERM,....., N TERM.
29 DO 37 K21 = NS,NL1
      AK21 = K21
      TERM2 = TERM2*(AN-AK21)/(AK21+1.)*P/Q
C -----DROP TERMS LESS THAN 10-10
      IF (TERM2.LE.DROP) GO TO 16
      37 CGUESS = CGUESS + TERM2
C
      GO TO 16
C -----TERMS GREATER THAN NP COMPUTED HERE.
43 DO 7 K2 = NP,NL1
      AK2 = K2
      TERM2 = TERM2*(AN-AK2)/(AK2+1.)*P/Q
      IF (TERM2.LE.DROP) GO TO 22
      7 CGUESS = CGUESS+TERM2

```

```

C
C ----TERMS LESS THAN NP (INCLUDING NS TERM) COMPUTED HERE.
22 TERM3 = TERM1
   DO 8 K3=1,NPLNS
     AK3 = K3
     TERM3 = TERM3*(ANP1-AK3)/(ANLNP+AK3)*Q/P
     IF (TERM3.LE.DROP) GO TO 16
8 CGUESS = CGUESS+TERM3
C
C ----CALCULATION OF DERIVATIVE OF BINOMIAL SUMMATION.
16 DERIV = DEXP(FACLOG(N)-FACLOG(NS-1)-FACLOG(NLIMIT)-(ANS-1.) *
   1DLOG(1./P)-ANLIMIT*DLOG(1./Q))
C
C ----THE FORM OF NEWTON-RAPHSON SOLUTION IS P2=P1-F(P1)/F'(P1).
C ----DELP IS THE CORRECTION TO BE MADE ON P IF ACCURACY OF P IS NOT SATISFIED.
   DELP = (CGUESS-CUMSUM)/DERIV
   ACCRYP = ABS(DELP)
   P = P-DELP
   Q = 1.-P
C
C ----ERROR OF THE FORM ABSOLUTE VALUE OF DELP IS COMPUTED ABOVE AS ACCRYP.
C ----INCREMENT P AND IF LAST INCREMENT IS LESS THAN .5 TIMES 10-6, PRINT
C ----RESULT.  IF ACCRYP IS NOT SATISFIED, REPEAT FROM STATEMENT 2.
C
   IF (ACCRYP.LT..0000005) GO TO 39
   GO TO 2
C
39 RETURN
END

```

APPENDIX B

ADDITIONAL APPLICATIONS

Two additional applications of binomial parameter determination are given in this section.

Sampling Plans

A sampling plan is a procedure whereby acceptability of a large lot of material is determined from the study of a small sample taken from that lot. A random sample is taken and the items in the sample are examined and classified into two categories, defectives and effectives. Based on the number of defectives in the sample, a decision is made to either accept or reject the entire lot.

A single binomial sampling plan consists simply of the specification of the sample size n and the acceptance number c (ref. 18). If the sample contains c or fewer defectives, the lot is accepted. If the sample contains more than c defectives, the lot is rejected.

The symbol p is used in sampling plans for the fraction of the lot which is defective. In this notation, low values of p imply high quality material and high values imply low quality material.

If the fraction defective is p , the probability that a sample of size n will have c or fewer defective items is given by equation (6). This probability of c or fewer defectives is the probability of lot acceptance P_a ; that is,

$$P_a = \Pr(X \leq c | n, p) \quad (B1)$$

The consumer must realize that, since the lot of material is much larger than the sample, there is some chance that the lot is of bad quality even though the sample leads to lot acceptance. The consumer prefers to keep the risk of such an acceptance of bad quality material at a low value, usually around $P_a = 0.10$. This is referred to as the consumer's risk. On the other hand, the producer realizes that there is some chance that a sample will pick up more than c defectives and the lot will be rejected even though the lot is of good quality. The producer wants to keep the risk of having good quality material rejected at a suitably low level, usually around $1 - P_a = 0.05$. This is referred to as the producer's risk.

Given values for n and c , the producer and consumer wish to know the fraction defective p to be expected under the plan as P_a is varied. The curve of probability

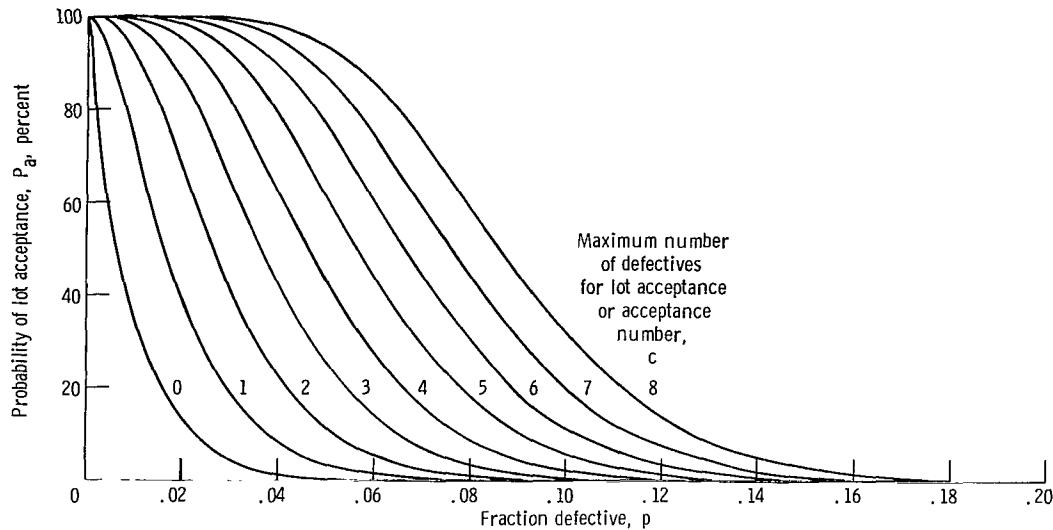


Figure 4. - Operating characteristic curves for single binomial sampling plans. Sample size, 100; acceptance number, 0 to 8.

of lot acceptance as a function of p is called the operating characteristic curve of the sampling plan. The operating characteristic curves for $n = 100$, $0 \leq c \leq 8$ are shown in figure 4. The data were obtained from the following table together with some unpublished results of the computer program run at P_a greater than 0.95 and P_a below 0.10.

| CUM PROB | N | R | C | P |
|----------|-----|---|---|----------|
| 0.950000 | 100 | | 0 | 0.000513 |
| 0.750000 | 100 | | 0 | 0.002873 |
| 0.500000 | 100 | | 0 | 0.006908 |
| 0.250000 | 100 | | 0 | 0.013767 |
| 0.100000 | 100 | | 0 | 0.022763 |
| 0.950000 | 100 | | 1 | 0.003565 |
| 0.750000 | 100 | | 1 | 0.009615 |
| 0.500000 | 100 | | 1 | 0.016727 |
| 0.250000 | 100 | | 1 | 0.026699 |
| 0.100000 | 100 | | 1 | 0.038339 |
| 0.950000 | 100 | | 2 | 0.008226 |
| 0.750000 | 100 | | 2 | 0.017297 |
| 0.500000 | 100 | | 2 | 0.026651 |
| 0.250000 | 100 | | 2 | 0.038829 |
| 0.100000 | 100 | | 2 | 0.052345 |
| 0.950000 | 100 | | 3 | 0.013777 |
| 0.750000 | 100 | | 3 | 0.025413 |
| 0.500000 | 100 | | 3 | 0.036597 |
| 0.250000 | 100 | | 3 | 0.050556 |
| 0.100000 | 100 | | 3 | 0.065586 |

| CUM PROB | N | R | C | P |
|----------|-----|---|---|----------|
| 0.950000 | 100 | | 4 | 0.019906 |
| 0.750000 | 100 | | 4 | 0.033795 |
| 0.500000 | 100 | | 4 | 0.046553 |
| 0.250000 | 100 | | 4 | 0.062031 |
| 0.100000 | 100 | | 4 | 0.078348 |
| 0.950000 | 100 | | 5 | 0.026450 |
| 0.750000 | 100 | | 5 | 0.042361 |
| 0.500000 | 100 | | 5 | 0.056512 |
| 0.250000 | 100 | | 5 | 0.073327 |
| 0.100000 | 100 | | 5 | 0.090771 |
| 0.950000 | 100 | | 6 | 0.033312 |
| 0.750000 | 100 | | 6 | 0.051067 |
| 0.500000 | 100 | | 6 | 0.066474 |
| 0.250000 | 100 | | 6 | 0.084487 |
| 0.100000 | 100 | | 6 | 0.102939 |
| 0.950000 | 100 | | 7 | 0.040429 |
| 0.750000 | 100 | | 7 | 0.059882 |
| 0.500000 | 100 | | 7 | 0.076436 |
| 0.250000 | 100 | | 7 | 0.095539 |
| 0.100000 | 100 | | 7 | 0.114903 |
| 0.950000 | 100 | | 8 | 0.047757 |
| 0.750000 | 100 | | 8 | 0.068789 |
| 0.500000 | 100 | | 8 | 0.086400 |
| 0.250000 | 100 | | 8 | 0.106501 |
| 0.100000 | 100 | | 8 | 0.126698 |

For example, from the table, given the plan $n = 100$ and $c = 3$, the fraction defective accepted 10 percent of the time is 0.065586, while the fraction defective accepted 95 percent of the time is 0.013777. This means that the producer will, on the average, have 5 percent of his good lots rejected under this plan if the lots which he produces have a fraction defective of 0.013777. Likewise, the consumer is assured that, under this plan, he will on the average accept bad lots having fraction defective 0.065586 only 10 percent of the time.

Confidence Intervals

Probability can be determined empirically. A sample of size n is taken, r of the items are classified as successes, and $n - r$ are classified as failures. A point estimate for the probability of success in the population is the quantity r/n .

Sometimes an interval estimate for p is given along with a statement concerning the confidence that the interval contains the true value of p . This is called the confi-

dence interval for p and is determined from

$$\Pr(p_l \leq p \leq p_u | n, r) = 1 - \alpha \quad (B2)$$

where $1 - \alpha$ is the confidence coefficient.

Whereas the point estimate for p is dependent only on the ratio r/n without regard to the actual sample size, the confidence interval for p depends on the numerical value of n as well; that is, a larger sample extracts more information about the population and hence a smaller interval is specified.

The numerical values of the end points of the symmetrical confidence interval are obtained from the solution of

$$\Pr(X \geq r | n, p_l) = \frac{\alpha}{2} \quad (B3)$$

and

$$\Pr(X \leq r | n, p_u) = \frac{\alpha}{2} \quad (B4)$$

The following table shows confidence intervals for p for r/n values of 0.4, 0.5, and 0.8 for $n = 50$ and $n = 100$. If a sample of size 50 has 40 successes, the 95 percent confidence interval for p is 0.662817 to 0.899698. A sample of size 100 with 80 successes results in the same point estimate of 0.80 for p ; the larger sample size, however, narrows the 95 percent confidence interval to 0.708157 to 0.873344.

| CUM PROB | N | R | L | P |
|----------|-----|----|----|----------|
| 0.025000 | 50 | 20 | | 0.264078 |
| 0.025000 | 50 | | 20 | 0.548206 |
| 0.050000 | 50 | 20 | | 0.283131 |
| 0.050000 | 50 | | 20 | 0.526120 |
| 0.025000 | 50 | 25 | | 0.355273 |
| | | | 25 | 0.644727 |
| 0.025000 | 50 | 25 | | 0.376246 |
| 0.050000 | 50 | | 25 | 0.623754 |
| 0.025000 | 50 | 40 | | 0.662817 |
| 0.025000 | 50 | | 40 | 0.899698 |
| | | 40 | | |
| 0.025000 | 100 | 40 | | 0.303295 |
| 0.025000 | 100 | | 40 | 0.502791 |
| 0.050000 | 100 | 40 | | 0.317526 |
| 0.050000 | 100 | | 40 | 0.487024 |
| 0.025000 | 100 | 50 | | 0.398321 |
| | | 50 | | |
| 0.025000 | 100 | | 50 | 0.601679 |
| 0.050000 | 100 | 50 | | 0.413622 |
| 0.050000 | 100 | | 50 | 0.586378 |
| 0.025000 | 100 | 80 | | 0.708157 |
| 0.025000 | 100 | | 80 | 0.873344 |

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TABLE I. - COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

Explanation of Table

The cumulative binomial parameter satisfying equation (3) is extensively tabulated in the following table. The range of parameters is particularly useful in r-out-of-n redundancy problems. Values of cumulative probability (system reliability) tabulated are 0.80, 0.90, 0.95, 0.975, 0.99, 0.995, 0.999, 0.9995, and 0.9999. The n and r values are chosen in pairs: $n = 2, 3, 4, \dots, 50$ and $r = 1, 2, 3, \dots, 50$; $n = 52, 54, 56, \dots, 100$ and $r \approx n/2, (n/2) + 1, (n/2) + 2, \dots, n$; $n = 110, 120, 130, \dots, 500$ and $r = n/2, (n/2) + 5, (n/2) + 10, \dots, n$; $n = 525, 550, 575, \dots, 1000$ and $r \approx n/2, (n/2) + 10, (n/2) + 20, \dots, n$.

The computer program of appendix A was used, with format modifications, to produce the tables. Columns headed N and R correspond to n and r, respectively; the value in the body of the tables is the parameter p accurate to all six places.

$$\text{Cumulative Probability} = \sum_{x=R}^N \binom{N}{x} p^x (1-p)^{N-x}$$

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 2 | 1 | .552786 | .683772 | .776393 | .841886 | .900000 | .929289 | .968377 | .977639 | .990000 |
| | 2 | .894427 | .948683 | .974679 | .987421 | .994987 | .997497 | .999500 | .999750 | .999950 |
| 3 | 1 | .415196 | .535841 | .631597 | .707598 | .784557 | .829002 | .900000 | .920630 | .953584 |
| | 2 | .712859 | .804200 | .864650 | .905701 | .941097 | .958600 | .981630 | .987034 | .994215 |
| | 3 | .528318 | .965489 | .983048 | .991596 | .996655 | .998331 | .999667 | .999833 | .999967 |
| 4 | 1 | .331260 | .437659 | .527129 | .602365 | .683772 | .734085 | .822172 | .850465 | .900000 |
| | 2 | .582454 | .679539 | .751395 | .805880 | .859132 | .889115 | .935962 | .949350 | .970541 |
| | 3 | .787683 | .857441 | .902389 | .932414 | .958001 | .970555 | .986977 | .990815 | .995906 |
| | 4 | .945742 | .974004 | .987259 | .993691 | .997491 | .998748 | .999750 | .999875 | .999975 |
| 5 | 1 | .275220 | .369043 | .450720 | .521824 | .601893 | .653428 | .748811 | .781327 | .841510 |
| | 2 | .490192 | .583890 | .657408 | .716418 | .777928 | .814903 | .877986 | .897846 | .932187 |
| | 3 | .673402 | .753364 | .810745 | .853367 | .894360 | .917171 | .952448 | .962452 | .978218 |
| | 4 | .831391 | .887765 | .923560 | .947255 | .967318 | .977119 | .989898 | .992878 | .996828 |
| | 5 | .956352 | .979148 | .989794 | .994949 | .997992 | .998998 | .999800 | .999900 | .999980 |
| 6 | 1 | .235275 | .318708 | .393038 | .459258 | .535841 | .586481 | .683772 | .718273 | .784556 |
| | 2 | .422448 | .510316 | .581803 | .641235 | .705686 | .746007 | .818614 | .842835 | .887031 |
| | 3 | .585394 | .666806 | .728662 | .777222 | .826930 | .856404 | .906046 | .921516 | .948099 |
| | 4 | .731351 | .799091 | .846839 | .881883 | .915270 | .933721 | .962084 | .970090 | .982675 |
| | 5 | .860119 | .907405 | .937150 | .956728 | .973237 | .981279 | .991744 | .994181 | .997409 |
| | 6 | .963492 | .982593 | .991488 | .995789 | .998326 | .999165 | .999833 | .999917 | .999983 |
| 7 | 1 | .205403 | .280314 | .348164 | .409616 | .482053 | .530883 | .627241 | .662383 | .731730 |
| | 2 | .370862 | .452565 | .520703 | .578723 | .643365 | .684912 | .762521 | .789435 | .840362 |
| | 3 | .516758 | .596180 | .658739 | .709579 | .763676 | .797028 | .856226 | .875747 | .911098 |
| | 4 | .649906 | .721398 | .774678 | .815948 | .857730 | .882296 | .923345 | .936058 | .957816 |
| | 5 | .771674 | .830362 | .871244 | .901012 | .929196 | .944701 | .968439 | .975120 | .985603 |
| | 6 | .880461 | .921177 | .946624 | .963307 | .977335 | .984156 | .993018 | .995080 | .997810 |
| | 7 | .968625 | .985061 | .992699 | .996390 | .998565 | .999284 | .999857 | .999929 | .999986 |
| 8 | 1 | .182235 | .250106 | .312344 | .369417 | .437659 | .484331 | .578303 | .613302 | .683772 |
| | 2 | .330365 | .406245 | .470679 | .526510 | .589942 | .631517 | .711276 | .739717 | .794965 |
| | 3 | .462098 | .538215 | .599689 | .650856 | .706770 | .742169 | .807300 | .829609 | .871466 |
| | 4 | .583655 | .655377 | .710759 | .755137 | .801798 | .830299 | .880430 | .896840 | .926409 |
| | 5 | .696774 | .760338 | .807097 | .842987 | .879050 | .900133 | .935170 | .945974 | .964417 |
| | 6 | .801403 | .853145 | .888887 | .914767 | .939160 | .952536 | .972957 | .978691 | .987679 |
| 7 | 7 | .895627 | .931374 | .953611 | .968146 | .980342 | .986264 | .993951 | .995738 | .998103 |
| | 8 | .972492 | .986916 | .993609 | .996840 | .998744 | .999374 | .999875 | .999937 | .999987 |
| | 9 | .163749 | .225736 | .283129 | .336267 | .400516 | .444953 | .535841 | .570247 | .640618 |
| 9 | 2 | .297770 | .368362 | .429136 | .482497 | .544034 | .584969 | .665109 | .694293 | .752125 |
| | 3 | .417682 | .490081 | .549642 | .600094 | .656315 | .692606 | .761152 | .785284 | .831742 |
| | 4 | .529136 | .599420 | .655059 | .700705 | .749974 | .780864 | .837140 | .856260 | .891936 |
| | 5 | .633913 | .699031 | .748632 | .787991 | .829035 | .853944 | .897477 | .911652 | .937110 |
| | 6 | .732453 | .789604 | .831250 | .863004 | .894738 | .913212 | .943794 | .953194 | .969209 |
| 7 | 7 | .824250 | .870503 | .902253 | .925145 | .946652 | .958415 | .976336 | .981361 | .989228 |
| | 8 | .907373 | .939231 | .958977 | .971855 | .982644 | .987876 | .994663 | .996240 | .998327 |
| | 9 | .975511 | .988362 | .994317 | .997191 | .998884 | .999443 | .999889 | .999944 | .999989 |
| | 10 | .148660 | .205672 | .258866 | .308497 | .369043 | .411296 | .498813 | .532376 | .601892 |
| 10 | 2 | .270988 | .336848 | .394163 | .445016 | .504353 | .544287 | .623723 | .653130 | .712324 |
| | 3 | .380937 | .449604 | .506901 | .556095 | .611743 | .648201 | .718457 | .743711 | .793292 |
| | 4 | .483657 | .551731 | .606624 | .652453 | .702884 | .735114 | .795363 | .816394 | .856638 |
| | 5 | .580865 | .645784 | .696463 | .737622 | .781662 | .809084 | .858691 | .875449 | .906591 |
| | 6 | .673172 | .732682 | .777559 | .812914 | .849557 | .871689 | .910187 | .922675 | .945043 |
| 7 | 7 | .760559 | .812438 | .849972 | .878448 | .906786 | .923232 | .950373 | .958695 | .972853 |
| | 8 | .842365 | .884175 | .912736 | .933260 | .952493 | .962993 | .978962 | .983433 | .990430 |
| | 9 | .916740 | .945471 | .963229 | .974789 | .984462 | .989149 | .995226 | .996637 | .998503 |
| | 10 | .977933 | .989519 | .994884 | .997471 | .998995 | .999499 | .999900 | .999950 | .999990 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 11 | 1 | .136112 | .188869 | .238404 | .284914 | .342067 | .382246 | .466330 | .498921 | .567123 |
| | 2 | .248602 | .310243 | .364359 | .412780 | .469816 | .508565 | .586641 | .615930 | .675634 |
| | 3 | .350067 | .415157 | .470087 | .517756 | .572323 | .608495 | .679315 | .705192 | .756787 |
| | 4 | .445222 | .510761 | .564374 | .609743 | .660417 | .693283 | .755948 | .778277 | .821835 |
| | 5 | .535690 | .599473 | .650188 | .692095 | .737798 | .766798 | .820606 | .839273 | .874836 |
| | 6 | .622135 | .682281 | .728750 | .766206 | .806023 | .830688 | .875071 | .889999 | .917656 |
| | 7 | .704735 | .759467 | .800424 | .832512 | .865612 | .885531 | .920051 | .931216 | .951174 |
| | 8 | .783287 | .830767 | .864925 | .890737 | .916340 | .931161 | .955562 | .963031 | .975720 |
| | 9 | .857C85 | .895226 | .921180 | .939782 | .957177 | .966659 | .981061 | .985090 | .991390 |
| | 10 | .924385 | .950548 | .966681 | .977169 | .985935 | .990180 | .995680 | .996957 | .998E46 |
| | 11 | .979919 | .990467 | .995348 | .997701 | .999087 | .999544 | .999909 | .999955 | .999991 |
| 12 | 1 | .125515 | .174596 | .220922 | .264648 | .318708 | .356946 | .437659 | .469220 | .535840 |
| | 2 | .229617 | .287498 | .338681 | .384796 | .439544 | .477026 | .553359 | .582308 | .641933 |
| | 3 | .323782 | .385522 | .438105 | .484138 | .537343 | .572950 | .643568 | .669715 | .722504 |
| | 4 | .412351 | .475266 | .527327 | .571858 | .622193 | .655222 | .719198 | .742366 | .788255 |
| | 5 | .496848 | .559003 | .609138 | .651124 | .697596 | .727515 | .784124 | .804165 | .843077 |
| | 6 | .577939 | .637724 | .684762 | .723330 | .765107 | .791472 | .840115 | .856910 | .888799 |
| | 7 | .655888 | .711828 | .754700 | .789055 | .825390 | .847807 | .887979 | .901444 | .926332 |
| | 8 | .730687 | .781319 | .818975 | .848348 | .878533 | .896645 | .927941 | .938038 | .956060 |
| | 9 | .802054 | .845812 | .877149 | .900754 | .924105 | .937595 | .959763 | .966537 | .978036 |
| | 10 | .869284 | .904347 | .928130 | .945139 | .961018 | .969663 | .982779 | .986444 | .992174 |
| | 11 | .930743 | .954759 | .969540 | .979137 | .987153 | .991032 | .996056 | .997222 | .998764 |
| | 12 | .981577 | .991258 | .995735 | .997892 | .999163 | .999582 | .999917 | .999958 | .999992 |
| 13 | 1 | .116446 | .162322 | .205817 | .247053 | .298296 | .334730 | .412198 | .442718 | .507611 |
| | 2 | .213316 | .267836 | .316340 | .360297 | .412827 | .449025 | .523403 | .551867 | .611011 |
| | 3 | .301141 | .359776 | .410099 | .454471 | .506171 | .541044 | .610951 | .637119 | .690501 |
| | 4 | .383941 | .444263 | .494650 | .538132 | .587759 | .620636 | .685138 | .708806 | .756270 |
| | 5 | .463142 | .523429 | .572619 | .614262 | .660900 | .691277 | .749651 | .770651 | .812043 |
| | 6 | .539395 | .598239 | .645201 | .684222 | .727113 | .754572 | .806218 | .824411 | .859608 |
| | 7 | .612998 | .669141 | .712951 | .748655 | .787123 | .811295 | .85694 | .870967 | .899888 |
| | 8 | .684036 | .736270 | .776045 | .807768 | .841182 | .861729 | .898429 | .910697 | .933328 |
| | 9 | .752415 | .799498 | .834341 | .861421 | .889165 | .905771 | .934399 | .943617 | .960049 |
| | 10 | .817818 | .858389 | .887334 | .909080 | .930545 | .942924 | .963234 | .969433 | .979947 |
| | 11 | .879561 | .912004 | .933950 | .949619 | .964225 | .972168 | .984210 | .987572 | .992827 |
| | 12 | .936114 | .958309 | .971947 | .980793 | .988176 | .991748 | .996371 | .997444 | .998863 |
| | 13 | .982982 | .991928 | .996062 | .998054 | .999277 | .999614 | .999923 | .999962 | .999992 |
| 14 | 1 | .108598 | .151657 | .192636 | .231636 | .280314 | .315079 | .389460 | .418952 | .482052 |
| | 2 | .199169 | .250675 | .296734 | .338684 | .389095 | .424026 | .496348 | .524241 | .582627 |
| | 3 | .281441 | .337214 | .385390 | .428129 | .478264 | .512307 | .581169 | .607184 | .660717 |
| | 4 | .359154 | .416977 | .465657 | .507976 | .556669 | .589183 | .653659 | .677576 | .726034 |
| | 5 | .433644 | .491965 | .540005 | .581035 | .627435 | .657944 | .717324 | .738966 | .782147 |
| | 6 | .505537 | .563108 | .609585 | .648620 | .692030 | .720144 | .773839 | .793056 | .830789 |
| | 7 | .575143 | .630868 | .674972 | .711391 | .751200 | .776574 | .824073 | .840739 | .872887 |
| | 8 | .642594 | .695446 | .736415 | .769639 | .805282 | .827602 | .868448 | .882456 | .908924 |
| | 9 | .707886 | .756843 | .793927 | .823389 | .854318 | .873286 | .907072 | .918340 | .939094 |
| | 10 | .770879 | .814866 | .847282 | .872402 | .898071 | .913405 | .939786 | .948267 | .963369 |
| | 11 | .831248 | .869061 | .895953 | .916111 | .935972 | .947410 | .966152 | .97185 | .981550 |
| | 12 | .888337 | .918523 | .938897 | .953421 | .966943 | .974291 | .985420 | .988527 | .993380 |
| | 13 | .940711 | .961342 | .974001 | .982205 | .989048 | .992358 | .996640 | .997634 | .998947 |
| | 14 | .984188 | .992502 | .996343 | .998193 | .999282 | .999642 | .999929 | .999964 | .999993 |
| 15 | 1 | .101740 | .142304 | .181036 | .218019 | .264358 | .297578 | .369043 | .397536 | .458830 |
| | 2 | .186777 | .235569 | .279396 | .319485 | .367891 | .401592 | .471827 | .499096 | .556542 |
| | 3 | .264148 | .317287 | .363442 | .404603 | .453166 | .486330 | .553932 | .579672 | .633034 |
| | 4 | .337346 | .392793 | .439784 | .480891 | .528514 | .560528 | .624588 | .648570 | .697582 |
| | 5 | .407628 | .463971 | .510752 | .551003 | .596893 | .627307 | .687132 | .709173 | .753601 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 15 | 6 | .475591 | .531708 | .577444 | .616196 | .659710 | .688157 | .743178 | .763125 | .802769 |
| | 7 | .541545 | .596467 | .640435 | .677130 | .717711 | .743871 | .793593 | .811314 | .846003 |
| | 8 | .605643 | .658479 | .700014 | .734139 | .771274 | .794857 | .838835 | .854214 | .883812 |
| | 9 | .667932 | .717816 | .756273 | .787333 | .820536 | .841267 | .879094 | .892033 | .916439 |
| | 10 | .728360 | .774409 | .809135 | .836636 | .865424 | .883039 | .914344 | .924765 | .943933 |
| | 11 | .786767 | .828032 | .858336 | .881759 | .905644 | .919887 | .944350 | .952204 | .966176 |
| | 12 | .842829 | .878231 | .903342 | .922128 | .940610 | .951241 | .968639 | .973938 | .982915 |
| | 13 | .895919 | .924141 | .943153 | .956688 | .969277 | .976112 | .986459 | .989345 | .993853 |
| | 14 | .944691 | .963963 | .975774 | .983424 | .989801 | .992883 | .996872 | .997797 | .999020 |
| | 15 | .985234 | .993001 | .996586 | .998314 | .999330 | .999666 | .999933 | .999967 | .999993 |
| 16 | 1 | .095696 | .134036 | .170750 | .205907 | .250106 | .281899 | .350618 | .378150 | .437658 |
| | 2 | .175833 | .222172 | .263957 | .302321 | .348838 | .381359 | .449522 | .476139 | .532527 |
| | 3 | .248848 | .299564 | .343825 | .383476 | .430493 | .462759 | .528970 | .554352 | .607310 |
| | 4 | .318016 | .371222 | .416572 | .456457 | .502936 | .534362 | .597732 | .621643 | .670874 |
| | 5 | .384522 | .438922 | .484396 | .523771 | .568971 | .599130 | .658989 | .681245 | .726494 |
| | 6 | .448934 | .503510 | .548347 | .586621 | .629945 | .658493 | .714292 | .734740 | .775789 |
| | 7 | .511556 | .565440 | .608988 | .645654 | .686591 | .713229 | .764493 | .782999 | .819660 |
| | 8 | .572552 | .624958 | .666626 | .701223 | .739308 | .763767 | .810070 | .826516 | .858628 |
| | 9 | .631994 | .682173 | .721397 | .753490 | .788284 | .810313 | .851260 | .865541 | .892970 |
| | 10 | .689880 | .737085 | .773308 | .802466 | .833540 | .852896 | .888122 | .900147 | .922792 |
| 17 | 11 | .746134 | .789587 | .822234 | .848016 | .874941 | .891385 | .920551 | .930244 | .948052 |
| | 12 | .800586 | .839441 | .867889 | .889830 | .912162 | .925460 | .948268 | .955581 | .968581 |
| | 13 | .852918 | .886198 | .909748 | .927338 | .944619 | .954549 | .970784 | .975725 | .984092 |
| | 14 | .902536 | .929034 | .946854 | .959526 | .971302 | .977692 | .987359 | .990054 | .994263 |
| | 15 | .948170 | .966251 | .977321 | .984486 | .990456 | .993342 | .997074 | .997939 | .999083 |
| | 16 | .986150 | .993437 | .996799 | .998419 | .999372 | .999687 | .999937 | .999969 | .999994 |
| | 17 | .090329 | .126674 | .161566 | .195064 | .237301 | .267774 | .333915 | .360528 | .418290 |
| | 2 | .166098 | .210211 | .250124 | .286889 | .331633 | .363028 | .429161 | .455118 | .510374 |
| | 3 | .235217 | .283702 | .326193 | .364409 | .409923 | .441292 | .506039 | .531006 | .583391 |
| | 4 | .300768 | .351869 | .395641 | .434318 | .479621 | .510404 | .572897 | .596638 | .645833 |
| 18 | 5 | .363871 | .416390 | .460549 | .498993 | .543388 | .573180 | .632772 | .655103 | .700840 |
| | 6 | .425065 | .478071 | .521918 | .559583 | .602513 | .630991 | .687154 | .707923 | .749973 |
| | 7 | .484647 | .537355 | .580295 | .616716 | .657709 | .684594 | .736874 | .755949 | .794115 |
| | 8 | .542783 | .594489 | .635991 | .670753 | .709383 | .734424 | .782415 | .799679 | .833787 |
| | 9 | .599559 | .649605 | .689170 | .721882 | .757752 | .780718 | .824045 | .839390 | .869290 |
| | 10 | .655002 | .702743 | .739886 | .770167 | .802894 | .823562 | .861874 | .875205 | .900767 |
| | 11 | .709083 | .753863 | .788092 | .815563 | .844765 | .862917 | .895880 | .907112 | .928236 |
| | 12 | .761712 | .802839 | .833637 | .857903 | .883191 | .898610 | .925912 | .934973 | .951604 |
| | 13 | .812716 | .849423 | .876229 | .896864 | .917834 | .930305 | .951667 | .958510 | .970665 |
| | 14 | .861788 | .893183 | .915355 | .931892 | .948120 | .957435 | .972654 | .977282 | .985116 |
| 15 | 15 | .908361 | .933332 | .950102 | .962015 | .973077 | .979076 | .988146 | .990675 | .994621 |
| | 16 | .951237 | .968266 | .978682 | .985421 | .991033 | .993744 | .997251 | .998064 | .999139 |
| 17 | 17 | .986960 | .993821 | .996987 | .998512 | .999409 | .999705 | .999941 | .999971 | .999994 |
| 18 | 1 | .085532 | .120077 | .153318 | .185302 | .225736 | .254985 | .318708 | .344444 | .400515 |
| | 2 | .157383 | .199468 | .237661 | .272944 | .316024 | .346349 | .410513 | .435809 | .489895 |
| | 3 | .222997 | .269424 | .310263 | .347120 | .391187 | .421672 | .484920 | .509436 | .561130 |
| | 4 | .285285 | .334413 | .376679 | .414177 | .458298 | .488408 | .549897 | .573395 | .622362 |
| | 5 | .345306 | .396022 | .438883 | .476373 | .519890 | .549240 | .608344 | .630643 | .676608 |
| | 6 | .403576 | .455021 | .497828 | .534802 | .577196 | .605480 | .661693 | .682643 | .725373 |
| | 7 | .460378 | .511836 | .554046 | .590075 | .630905 | .657862 | .710751 | .730223 | .769514 |
| | 8 | .515880 | .566715 | .607845 | .642549 | .681425 | .706821 | .756000 | .773878 | .809552 |
| | 9 | .570176 | .619800 | .659402 | .692428 | .728987 | .752609 | .797722 | .813902 | .845798 |
| | 10 | .623307 | .671154 | .708799 | .739809 | .773704 | .795347 | .836062 | .850446 | .878424 |
| 19 | 11 | .675274 | .720779 | .756039 | .784698 | .815589 | .835053 | .871051 | .883553 | .907488 |
| | 12 | .726030 | .768610 | .801047 | .827014 | .854556 | .871646 | .902621 | .913159 | .932956 |
| | 13 | .775480 | .814510 | .843656 | .866573 | .890412 | .904927 | .930591 | .939097 | .954697 |
| | 14 | .823451 | .858232 | .883574 | .903051 | .922815 | .934556 | .954645 | .961075 | .972489 |
| | 15 | .869647 | .899359 | .920305 | .935908 | .951203 | .959977 | .974298 | .978651 | .986016 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 18 | 16 | .913528 | .937140 | .952975 | .964215 | .974644 | .980297 | .988841 | .991222 | .994938 | |
| | 17 | .953961 | .970054 | .979889 | .986249 | .991543 | .994101 | .997408 | .998175 | .999188 | |
| | 18 | .987680 | .994164 | .997154 | .998594 | .999442 | .999722 | .999944 | .999972 | .999994 | |
| 19 | 1 | .081219 | .114133 | .145869 | .176467 | .215240 | .243353 | .304807 | .329712 | .384151 | |
| | 2 | .149536 | .189766 | .226374 | .260281 | .301801 | .331112 | .393376 | .418023 | .470922 | |
| | 3 | .211980 | .256507 | .295802 | .331377 | .374055 | .403679 | .465422 | .489465 | .540384 | |
| | 4 | .271310 | .318591 | .359426 | .395785 | .438734 | .468158 | .528560 | .551764 | .600358 | |
| | 5 | .328531 | .377527 | .419120 | .455653 | .498252 | .527110 | .585566 | .607753 | .653743 | |
| | 6 | .384132 | .434048 | .475797 | .512029 | .553789 | .581790 | .637816 | .658839 | .701989 | |
| | 7 | .438389 | .488564 | .529967 | .565502 | .606011 | .632910 | .686092 | .705825 | .745931 | |
| | 8 | .491464 | .541321 | .581936 | .616422 | .655319 | .680898 | .730870 | .749199 | .786082 | |
| | 9 | .543456 | .592463 | .631885 | .665002 | .701953 | .726014 | .772438 | .789263 | .822758 | |
| | 10 | .594417 | .642070 | .679913 | .711357 | .746047 | .768400 | .810963 | .826189 | .856148 | |
| | 11 | .644362 | .690166 | .726054 | .755525 | .787647 | .808111 | .846512 | .860051 | .886342 | |
| | 12 | .693274 | .736727 | .770279 | .797479 | .826726 | .845121 | .879070 | .890839 | .913345 | |
| | 13 | .741100 | .781676 | .812496 | .837114 | .863175 | .879319 | .908535 | .918460 | .937087 | |
| | 14 | .787737 | .824869 | .852530 | .874239 | .896787 | .910499 | .934710 | .942726 | .957417 | |
| | 15 | .833018 | .866064 | .890094 | .908534 | .927224 | .938316 | .957277 | .963340 | .974099 | |
| 16 | 16 | .876658 | .904858 | .924706 | .939475 | .953939 | .962231 | .975755 | .979864 | .986814 | |
| | 17 | .918143 | .940535 | .955535 | .966174 | .976039 | .981384 | .989459 | .991709 | .995219 | |
| | 18 | .956397 | .971651 | .980967 | .986988 | .991999 | .994419 | .997548 | .998273 | .999232 | |
| | 19 | .988324 | .994470 | .997304 | .998668 | .999471 | .999736 | .999947 | .999974 | .999995 | |
| | 20 | 1 | .077319 | .108749 | .139108 | .168433 | .205672 | .232729 | .292054 | .316169 | .369042 |
| | 2 | | .142432 | .180961 | .216106 | .248733 | .288790 | .317142 | .377582 | .401592 | .453305 |
| | 3 | | .201998 | .244765 | .282619 | .316983 | .358335 | .387125 | .447376 | .470934 | .521023 |
| | 4 | | .258635 | .304187 | .343664 | .378927 | .420729 | .449465 | .508729 | .531603 | .579716 |
| | 5 | | .313300 | .360662 | .401028 | .436614 | .478276 | .506609 | .564304 | .586317 | .632174 |
| | 6 | | .366459 | .414890 | .455582 | .491046 | .532106 | .559761 | .615421 | .636431 | .679796 |
| | 7 | | .418378 | .467267 | .507818 | .542789 | .582864 | .609608 | .662838 | .682722 | .723393 |
| | 8 | | .469215 | .518031 | .558035 | .592189 | .630939 | .656569 | .707020 | .725669 | .763466 |
| | 9 | | .519070 | .567329 | .606415 | .639457 | .676576 | .700905 | .748261 | .765576 | .800335 |
| | 10 | | .568000 | .615249 | .653069 | .684722 | .719920 | .742774 | .786736 | .802627 | .834199 |
| 11 | 11 | 1 | .616032 | .661829 | .698046 | .728042 | .761040 | .782252 | .822539 | .836919 | .865167 |
| | 12 | | .663164 | .707071 | .741349 | .769422 | .799945 | .819351 | .855689 | .868477 | .893276 |
| | 13 | | .709370 | .750935 | .782931 | .808810 | .836580 | .854016 | .886138 | .897258 | .918497 |
| | 14 | | .754589 | .793336 | .822689 | .846091 | .870821 | .886120 | .913766 | .923146 | .940735 |
| | 15 | | .798720 | .834128 | .860446 | .881068 | .902458 | .915450 | .938365 | .945945 | .959827 |
| 16 | 16 | 1 | .841600 | .873074 | .895919 | .913429 | .931155 | .941666 | .959618 | .965355 | .975530 |
| | 17 | | .882953 | .909787 | .928646 | .942666 | .956385 | .964244 | .977056 | .980947 | .987525 |
| | 18 | | .922290 | .943582 | .957831 | .967929 | .977289 | .982357 | .990012 | .992144 | .995470 |
| | 19 | | .958588 | .973086 | .981935 | .987651 | .992408 | .994705 | .997674 | .998362 | .999271 |
| | 20 | | .988905 | .994746 | .997439 | .998735 | .999498 | .999749 | .999950 | .999975 | .999995 |
| 21 | 1 | 1 | .073777 | .103849 | .132946 | .161098 | .196914 | .222989 | .280314 | .303681 | .355053 |
| | 2 | | .135972 | .172935 | .206725 | .238160 | .276845 | .304289 | .362982 | .386373 | .436912 |
| | 3 | | .192911 | .234047 | .270552 | .303774 | .343864 | .371850 | .430633 | .453702 | .502925 |
| | 4 | | .247C87 | .291020 | .329211 | .363424 | .404110 | .432165 | .490264 | .512782 | .560334 |
| | 5 | | .299411 | .345224 | .384408 | .419066 | .459787 | .487577 | .544431 | .566225 | .611825 |
| | 6 | 1 | .350328 | .397327 | .436976 | .471660 | .511980 | .539243 | .594403 | .615334 | .658751 |
| | 7 | | .400094 | .447711 | .487389 | .521751 | .561309 | .587825 | .640914 | .660863 | .701894 |
| | 8 | | .448864 | .496606 | .535936 | .569675 | .608155 | .633732 | .684418 | .703280 | .741748 |
| | 9 | | .496735 | .544161 | .582801 | .615646 | .652760 | .677225 | .725207 | .742887 | .778630 |
| | 10 | | .543768 | .590465 | .628099 | .659794 | .695277 | .718467 | .763465 | .779874 | .812745 |
| | 11 | 1 | .589997 | .635568 | .671891 | .702193 | .735789 | .757551 | .799299 | .814355 | .844216 |
| | 12 | | .635431 | .679487 | .714200 | .742869 | .774329 | .794511 | .832753 | .846377 | .873101 |
| | 13 | | .680060 | .722206 | .755006 | .781803 | .810877 | .829329 | .863816 | .875933 | .899401 |
| | 14 | | .723849 | .763676 | .794250 | .818928 | .845362 | .861934 | .892418 | .902956 | .923064 |
| | 15 | | .766735 | .803806 | .831824 | .854123 | .877652 | .892190 | .918427 | .927319 | .943981 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 21 | 16 | .808619 | .842452 | .867552 | .887191 | .907535 | .919879 | .941631 | .948820 | .961978 | |
| | 17 | .849341 | .879384 | .901156 | .917824 | .934682 | .944670 | .961716 | .967160 | .976810 | |
| | 18 | .888636 | .914229 | .932194 | .945536 | .958583 | .966053 | .978224 | .981918 | .988163 | |
| | 19 | .926037 | .946332 | .959900 | .969511 | .978414 | .983234 | .990510 | .992536 | .995697 | |
| | 20 | .960569 | .974383 | .982809 | .988251 | .992777 | .994963 | .997787 | .998442 | .999307 | |
| | 21 | .989430 | .994995 | .997560 | .998795 | .999522 | .999761 | .999952 | .999976 | .999995 | |
| 22 | 1 | .070544 | .099372 | .127305 | .154373 | .188869 | .214027 | .269473 | .292130 | .342066 | |
| | 2 | .130073 | .165589 | .198122 | .228444 | .265840 | .292426 | .349448 | .372241 | .421626 | |
| | 3 | .184605 | .224224 | .259467 | .291613 | .330500 | .357713 | .415063 | .437644 | .485982 | |
| | 4 | .236523 | .278938 | .315913 | .349122 | .388727 | .416112 | .473038 | .495183 | .542117 | |
| | 5 | .286695 | .331040 | .369091 | .402846 | .442633 | .469871 | .525829 | .547370 | .592620 | |
| | 6 | .335548 | .381172 | .419800 | .453704 | .493261 | .520101 | .574661 | .595462 | .638799 | |
| | 7 | .383326 | .429697 | .468495 | .502221 | .541206 | .567440 | .620241 | .640187 | .681413 | |
| | 8 | .430181 | .476841 | .515457 | .548724 | .586840 | .612287 | .663012 | .682001 | .720941 | |
| | 9 | .476209 | .522750 | .560868 | .593423 | .630402 | .654899 | .703263 | .721203 | .757699 | |
| | 10 | .521472 | .567516 | .604844 | .636453 | .672048 | .695443 | .741181 | .757988 | .791894 | |
| | 11 | .566007 | .611194 | .647456 | .677895 | .711871 | .734021 | .776884 | .792478 | .823659 | |
| | 12 | .609931 | .653812 | .688736 | .717789 | .749918 | .770685 | .810431 | .824737 | .853065 | |
| | 13 | .652945 | .695368 | .728687 | .756138 | .786194 | .805440 | .841836 | .854780 | .880138 | |
| | 14 | .695329 | .735838 | .767276 | .792907 | .820662 | .838250 | .871065 | .882578 | .904853 | |
| | 15 | .736945 | .775166 | .804437 | .828021 | .863241 | .869031 | .898035 | .908049 | .927143 | |
| | 16 | .777732 | .813261 | .840059 | .861353 | .883793 | .897642 | .922606 | .931059 | .946887 | |
| | 17 | .817588 | .849978 | .873966 | .892711 | .912107 | .923866 | .944567 | .951403 | .963909 | |
| | 18 | .856359 | .885095 | .905891 | .921794 | .937864 | .947379 | .963606 | .968785 | .977963 | |
| | 19 | .893792 | .918253 | .935404 | .948133 | .960570 | .967687 | .979279 | .982796 | .988739 | |
| | 20 | .929439 | .948826 | .961776 | .970944 | .979433 | .984027 | .990961 | .992891 | .995902 | |
| | 21 | .962369 | .975560 | .983602 | .988794 | .993112 | .995197 | .997890 | .998514 | .999339 | |
| | 22 | .989908 | .995222 | .997671 | .998850 | .999543 | .999772 | .999955 | .999977 | .999995 | |
| 23 | 1 | .067583 | .095264 | .122123 | .148185 | .181453 | .205754 | .259431 | .281417 | .329981 | |
| | 2 | .124663 | .158841 | .190204 | .219487 | .255671 | .281444 | .336872 | .359087 | .407343 | |
| | 3 | .176984 | .215189 | .249249 | .280379 | .318123 | .344595 | .400551 | .422651 | .470094 | |
| | 4 | .226822 | .267814 | .303638 | .335889 | .374451 | .401183 | .456937 | .478701 | .524574 | |
| | 5 | .275010 | .317967 | .354932 | .387812 | .426681 | .453365 | .508393 | .529656 | .574483 | |
| | 6 | .321956 | .366263 | .403899 | .437031 | .475814 | .502212 | .556099 | .576730 | .619883 | |
| | 7 | .367896 | .413053 | .450975 | .484052 | .522425 | .548339 | .600739 | .620626 | .661912 | |
| | 8 | .412974 | .458556 | .496435 | .529192 | .566874 | .592133 | .642743 | .661788 | .701037 | |
| | 9 | .457287 | .502913 | .540456 | .572656 | .609399 | .633847 | .682397 | .700512 | .737567 | |
| | 10 | .500896 | .546219 | .583155 | .614581 | .650153 | .673649 | .719888 | .736992 | .771711 | |
| | 11 | .543842 | .588531 | .624606 | .655053 | .689236 | .711648 | .755340 | .771356 | .803608 | |
| | 12 | .586145 | .629884 | .664852 | .694122 | .726707 | .747904 | .788824 | .803680 | .833339 | |
| | 13 | .627812 | .670287 | .703907 | .731804 | .762584 | .782441 | .820370 | .833997 | .860944 | |
| | 14 | .668837 | .709731 | .741757 | .768086 | .796856 | .815248 | .849969 | .862299 | .886424 | |
| | 15 | .709196 | .748183 | .778364 | .802924 | .829474 | .846274 | .877573 | .888540 | .909738 | |
| | 16 | .748850 | .785584 | .813656 | .836236 | .860349 | .875427 | .903090 | .912631 | .930807 | |
| | 17 | .787734 | .821842 | .847520 | .867897 | .889343 | .902565 | .926376 | .934431 | .949505 | |
| | 18 | .825751 | .856816 | .879785 | .897714 | .916247 | .927473 | .947220 | .953737 | .965652 | |
| | 19 | .862751 | .890289 | .910191 | .925397 | .940750 | .949834 | .965317 | .970257 | .979007 | |
| | 20 | .898491 | .921917 | .938324 | .950492 | .962375 | .969172 | .980236 | .983592 | .989261 | |
| | 21 | .932542 | .951098 | .963485 | .972248 | .980360 | .984749 | .991371 | .993214 | .996088 | |
| | 22 | .964012 | .976634 | .984326 | .989290 | .993418 | .995410 | .997984 | .998580 | .999369 | |
| | 23 | .990345 | .995430 | .997772 | .998900 | .999563 | .999782 | .999956 | .999978 | .999996 | |
| 24 | 1 | .064861 | .091482 | .117346 | .142474 | .174596 | .198093 | .250106 | .271454 | .318707 | |
| | 2 | .119685 | .152620 | .182892 | .211202 | .246246 | .271250 | .325156 | .346814 | .393971 | |
| | 3 | .169965 | .206852 | .239801 | .269973 | .306630 | .332391 | .386997 | .408623 | .455172 | |
| | 4 | .217884 | .257538 | .292273 | .323611 | .361170 | .387265 | .441860 | .463238 | .508823 | |
| | 5 | .264237 | .305879 | .341807 | .373842 | .411812 | .437946 | .492024 | .512992 | .557340 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 24 | 6 | .309417 | .352465 | .389139 | .421513 | .459520 | .485464 | .538625 | .559056 | .601944 | |
| | 7 | .353650 | .397633 | .434691 | .467113 | .504849 | .530414 | .582327 | .602112 | .643350 | |
| | 8 | .397077 | .441596 | .478728 | .510948 | .548149 | .573172 | .623547 | .642592 | .682013 | |
| | 9 | .439792 | .484491 | .521423 | .553220 | .589650 | .613986 | .662564 | .680785 | .718237 | |
| | 10 | .481855 | .526412 | .562893 | .594064 | .629507 | .653022 | .699566 | .716884 | .752230 | |
| | 11 | .523308 | .567420 | .603215 | .633569 | .667823 | .690392 | .734680 | .751022 | .784132 | |
| | 12 | .564176 | .607553 | .642436 | .671792 | .704663 | .726166 | .767985 | .783282 | .814035 | |
| | 13 | .604471 | .646828 | .680579 | .708758 | .740056 | .760377 | .799522 | .813708 | .841588 | |
| | 14 | .644191 | .685245 | .717644 | .744470 | .774008 | .793031 | .829300 | .842310 | .868007 | |
| | 15 | .683326 | .722787 | .753611 | .778903 | .806491 | .824102 | .857296 | .869067 | .892075 | |
| 20 | 16 | .721849 | .759417 | .788434 | .812007 | .837451 | .853532 | .883449 | .893920 | .914141 | |
| | 17 | .759718 | .795074 | .822039 | .843698 | .866795 | .881224 | .907664 | .916774 | .934118 | |
| | 18 | .796871 | .829666 | .854314 | .873848 | .894384 | .907035 | .929794 | .937487 | .951876 | |
| | 19 | .833213 | .863055 | .885089 | .902270 | .920013 | .930753 | .949630 | .955856 | .967235 | |
| | 20 | .868597 | .895033 | .914115 | .928681 | .943379 | .952070 | .966875 | .971596 | .979956 | |
| | 21 | .902791 | .925265 | .940992 | .952646 | .964022 | .970525 | .981108 | .984317 | .989738 | |
| | 22 | .935383 | .953177 | .965047 | .973441 | .981207 | .985408 | .991745 | .993508 | .996258 | |
| | 23 | .955518 | .977618 | .984988 | .989744 | .993697 | .995605 | .998069 | .998641 | .999395 | |
| | 24 | .990745 | .995620 | .997865 | .998946 | .999581 | .999791 | .999958 | .999979 | .999996 | |
| | 25 | 1 | .062349 | .087989 | .112928 | .137185 | .168236 | .190981 | .241422 | .262166 | .308169 |
| 25 | 2 | .115088 | .146867 | .176121 | .203517 | .237486 | .261763 | .314217 | .335339 | .381428 | |
| | 3 | .163482 | .199135 | .231040 | .260306 | .295930 | .321012 | .374311 | .395474 | .441135 | |
| | 4 | .209622 | .248018 | .281723 | .312190 | .348784 | .374262 | .427718 | .448708 | .493587 | |
| | 5 | .254273 | .294671 | .329608 | .360828 | .397923 | .423513 | .476633 | .497295 | .541123 | |
| | 6 | .297813 | .339659 | .375405 | .407037 | .444274 | .469758 | .522158 | .542365 | .584923 | |
| | 7 | .340459 | .383309 | .419520 | .451288 | .488374 | .513571 | .564931 | .584580 | .625682 | |
| | 8 | .382348 | .425824 | .462209 | .493877 | .530561 | .555316 | .605359 | .624359 | .663841 | |
| | 9 | .423570 | .467341 | .503642 | .535001 | .571061 | .595235 | .643715 | .661984 | .699700 | |
| | 10 | .464187 | .507952 | .543933 | .574794 | .610027 | .633495 | .680186 | .697649 | .733464 | |
| | 11 | .504239 | .547717 | .583162 | .613347 | .647564 | .670207 | .714899 | .731486 | .765275 | |
| 25 | 12 | .543755 | .586679 | .621378 | .650718 | .683739 | .705447 | .747938 | .763583 | .795229 | |
| | 13 | .582748 | .624859 | .658611 | .686943 | .718592 | .739256 | .779354 | .793994 | .823383 | |
| | 14 | .621223 | .662264 | .694870 | .722032 | .752138 | .771651 | .809168 | .822741 | .849766 | |
| | 15 | .659176 | .698888 | .730147 | .755976 | .784366 | .802622 | .837372 | .849818 | .874377 | |
| | 16 | .696591 | .734708 | .764414 | .788745 | .815244 | .832136 | .863931 | .875193 | .897185 | |
| | 17 | .733440 | .769684 | .797622 | .820283 | .844710 | .860129 | .888782 | .898800 | .918131 | |
| | 18 | .769682 | .803755 | .829696 | .850505 | .872669 | .886502 | .911823 | .920540 | .937125 | |
| | 19 | .805253 | .836829 | .860525 | .879283 | .898984 | .911110 | .932907 | .940270 | .954033 | |
| | 20 | .840061 | .868772 | .889944 | .906436 | .923453 | .933748 | .951829 | .957789 | .968677 | |
| | 21 | .873965 | .899382 | .917709 | .931689 | .945784 | .954115 | .968298 | .972819 | .980822 | |
| 25 | 22 | .906742 | .928338 | .943437 | .954621 | .965530 | .971765 | .981907 | .984981 | .990173 | |
| | 23 | .937994 | .955087 | .966480 | .974535 | .981984 | .986012 | .992088 | .993778 | .996414 | |
| | 24 | .966903 | .978522 | .985597 | .990160 | .993954 | .995784 | .998148 | .998696 | .999420 | |
| | 25 | .991114 | .995794 | .997950 | .998988 | .999598 | .999800 | .999960 | .999980 | .999996 | |
| | 26 | 1 | .060024 | .084753 | .108830 | .132275 | .162322 | .184359 | .233318 | .253487 | .298296 |
| 26 | 2 | .110832 | .141532 | .169831 | .196370 | .229325 | .252912 | .303981 | .324587 | .369643 | |
| | 3 | .157474 | .191971 | .222894 | .251303 | .285945 | .310376 | .362415 | .383125 | .427910 | |
| | 4 | .201962 | .239174 | .271902 | .301540 | .337208 | .362090 | .414428 | .435033 | .479197 | |
| | 5 | .245030 | .284249 | .318242 | .348679 | .384923 | .409980 | .462142 | .482488 | .525766 | |
| | 6 | .287044 | .327743 | .362595 | .393506 | .429982 | .455004 | .506619 | .526586 | .568763 | |
| | 7 | .328210 | .369968 | .405354 | .436475 | .472905 | .497720 | .548478 | .567965 | .608859 | |
| | 8 | .368663 | .411124 | .446767 | .477875 | .514019 | .538479 | .588116 | .607034 | .646486 | |
| | 9 | .408490 | .451341 | .486998 | .517896 | .553545 | .577518 | .625799 | .644069 | .681936 | |
| | 10 | .447751 | .490711 | .526162 | .556672 | .591632 | .615000 | .661709 | .679260 | .715411 | |
| | 11 | .486488 | .529295 | .564337 | .594292 | .628388 | .651038 | .695975 | .712740 | .747055 | |
| 26 | 12 | .524728 | .567135 | .601576 | .630820 | .663881 | .685710 | .728686 | .744601 | .776966 | |
| | 13 | .562489 | .604258 | .637911 | .666292 | .698157 | .719064 | .759896 | .774902 | .805207 | |
| | 14 | .599780 | .640676 | .673358 | .700728 | .731238 | .751123 | .789636 | .803674 | .831816 | |
| | 15 | .636600 | .676389 | .707918 | .734129 | .763126 | .781892 | .817911 | .830923 | .856802 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 26 | 16 | .672940 | .711385 | .741576 | .766478 | .793804 | .811352 | .844703 | .856634 | .880151 |
| | 17 | .708782 | .745637 | .774300 | .797740 | .823230 | .839461 | .869971 | .880765 | .901827 |
| | 18 | .744099 | .779105 | .806040 | .827856 | .851342 | .866153 | .893645 | .903247 | .921764 |
| | 19 | .778848 | .811727 | .836718 | .856740 | .878044 | .891327 | .915621 | .923978 | .939867 |
| | 20 | .812568 | .843412 | .866226 | .884268 | .903198 | .914842 | .935755 | .942814 | .956004 |
| | 21 | .846367 | .874030 | .894404 | .910260 | .926610 | .936494 | .953843 | .959559 | .969998 |
| | 22 | .878912 | .903385 | .921014 | .934452 | .947992 | .955992 | .969604 | .973941 | .981617 |
| | 23 | .910384 | .931168 | .945688 | .956437 | .966917 | .972904 | .982641 | .985591 | .990573 |
| | 24 | .940403 | .956846 | .967801 | .975542 | .982699 | .986569 | .992403 | .994026 | .996557 |
| | 25 | .968180 | .979356 | .986158 | .990545 | .994190 | .995949 | .998221 | .998747 | .999443 |
| | 26 | .991454 | .995956 | .998029 | .999027 | .999614 | .999807 | .999962 | .999981 | .999996 |
| 27 | 1 | .057867 | .081746 | .105019 | .127703 | .156809 | .178180 | .225736 | .245360 | .289029 |
| | 2 | .106879 | .136570 | .163974 | .189706 | .221703 | .244636 | .294384 | .314495 | .358550 |
| | 3 | .151891 | .185304 | .215300 | .242898 | .276606 | .300416 | .351240 | .371509 | .415433 |
| | 4 | .194840 | .230937 | .262739 | .291587 | .326367 | .350672 | .401920 | .422143 | .465588 |
| | 5 | .236434 | .274536 | .307626 | .337311 | .372730 | .397266 | .448476 | .468504 | .511210 |
| | 6 | .277023 | .316628 | .350620 | .380830 | .416560 | .441123 | .491937 | .511652 | .553408 |
| | 7 | .316808 | .357516 | .392098 | .422583 | .458356 | .482782 | .532903 | .552206 | .592835 |
| | 8 | .355917 | .397391 | .432302 | .462849 | .498438 | .522584 | .571758 | .590564 | .629910 |
| | 9 | .394437 | .436382 | .471392 | .501814 | .537018 | .560761 | .608761 | .626994 | .664919 |
| | 10 | .432425 | .474576 | .509478 | .539607 | .574246 | .597472 | .644093 | .661685 | .698062 |
| | 11 | .469924 | .512037 | .546640 | .576320 | .610226 | .632830 | .677882 | .694767 | .729480 |
| | 12 | .506963 | .548807 | .582931 | .612016 | .645031 | .666914 | .710217 | .726336 | .759273 |
| | 13 | .543559 | .584914 | .618387 | .646736 | .678708 | .699776 | .741159 | .756454 | .787511 |
| | 14 | .579723 | .620374 | .653028 | .680503 | .711286 | .731446 | .770743 | .785159 | .814235 |
| | 15 | .615460 | .655193 | .686861 | .713327 | .742775 | .761937 | .798983 | .812466 | .839464 |
| | 16 | .650764 | .689366 | .719880 | .745201 | .773167 | .791240 | .825876 | .838371 | .863197 |
| | 17 | .685626 | .722876 | .752066 | .776103 | .802440 | .819333 | .851395 | .862851 | .885412 |
| | 18 | .720026 | .755695 | .783383 | .805993 | .830549 | .846168 | .875492 | .885856 | .906064 |
| | 19 | .753935 | .787782 | .813780 | .834812 | .857428 | .871676 | .898097 | .907317 | .925086 |
| | 20 | .787311 | .819073 | .843181 | .862473 | .882981 | .895757 | .919104 | .927129 | .942379 |
| | 21 | .820093 | .849482 | .871478 | .888855 | .907074 | .918271 | .938370 | .945150 | .957813 |
| | 22 | .852195 | .878881 | .898515 | .913783 | .929515 | .939020 | .955696 | .961186 | .971211 |
| | 23 | .883484 | .907081 | .924064 | .937000 | .950028 | .957721 | .970806 | .974974 | .982349 |
| | 24 | .913751 | .933783 | .947767 | .958113 | .968196 | .973955 | .983317 | .986153 | .990942 |
| | 25 | .942631 | .958473 | .969022 | .976473 | .983360 | .987082 | .992695 | .994256 | .996689 |
| | 26 | .969363 | .980128 | .986677 | .990900 | .994409 | .996101 | .998288 | .998794 | .999464 |
| | 27 | .991769 | .996105 | .998102 | .999063 | .999628 | .999814 | .999963 | .999981 | .999996 |
| 28 | 1 | .055859 | .078945 | .101466 | .123436 | .151657 | .172400 | .218629 | .237735 | .280314 |
| | 2 | .103198 | .131943 | .158507 | .183478 | .214569 | .236881 | .285367 | .305004 | .348092 |
| | 3 | .146690 | .179083 | .208205 | .235035 | .267853 | .291068 | .340721 | .360564 | .403643 |
| | 4 | .188204 | .223245 | .254170 | .282264 | .316193 | .339941 | .390127 | .409975 | .452703 |
| | 5 | .228419 | .265461 | .297691 | .326653 | .361275 | .385301 | .435572 | .455280 | .497399 |
| | 6 | .267675 | .306237 | .339402 | .368933 | .403933 | .428042 | .478050 | .497503 | .538808 |
| | 7 | .306167 | .345867 | .379670 | .409531 | .444652 | .468685 | .518144 | .537247 | .577564 |
| | 8 | .344017 | .384535 | .418728 | .448715 | .483740 | .507561 | .556227 | .574897 | .614076 |
| | 9 | .381310 | .422367 | .456731 | .486668 | .521407 | .544897 | .592551 | .610716 | .648621 |
| | 10 | .418103 | .459448 | .493789 | .523516 | .557796 | .580848 | .627295 | .644888 | .681397 |
| | 11 | .454437 | .495842 | .529979 | .559350 | .593013 | .615526 | .660585 | .677545 | .712543 |
| | 12 | .490341 | .531590 | .565355 | .594232 | .627130 | .649012 | .692512 | .708780 | .742162 |
| | 13 | .525834 | .566723 | .599956 | .628206 | .660197 | .681358 | .723138 | .738659 | .770324 |
| | 14 | .560930 | .601259 | .633803 | .661301 | .692247 | .712602 | .752503 | .767225 | .797076 |
| | 15 | .595633 | .635207 | .666910 | .693529 | .723296 | .742759 | .780629 | .794500 | .822443 |
| | 16 | .629944 | .668567 | .699275 | .724891 | .753344 | .771833 | .807520 | .820490 | .846434 |
| | 17 | .663857 | .701330 | .730889 | .755376 | .782380 | .799809 | .833163 | .845182 | .869037 |
| | 18 | .697359 | .733479 | .761729 | .784957 | .810374 | .826658 | .857526 | .868544 | .890225 |
| | 19 | .730429 | .764982 | .791758 | .813593 | .837280 | .852331 | .880560 | .890527 | .909948 |
| | 20 | .763039 | .795799 | .820923 | .841224 | .863031 | .876758 | .902188 | .911056 | .928135 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 28 | 21 | .795147 | .825866 | .849149 | .867763 | .887532 | .899839 | .922309 | .930028 | .944689 | |
| | 22 | .826694 | .855098 | .876331 | .893092 | .910650 | .921435 | .940779 | .947302 | .959478 | |
| | 23 | .857595 | .883372 | .902318 | .917039 | .932199 | .941353 | .957405 | .962688 | .972330 | |
| | 24 | .887723 | .910504 | .926886 | .939357 | .951910 | .959319 | .971917 | .975928 | .983024 | |
| | 25 | .916875 | .936206 | .949692 | .959664 | .969380 | .974928 | .983943 | .986673 | .991283 | |
| | 26 | .944698 | .959982 | .970153 | .977335 | .983972 | .987558 | .992965 | .994468 | .996812 | |
| | 27 | .970461 | .980843 | .987159 | .991229 | .994612 | .996243 | .998350 | .998838 | .999483 | |
| | 28 | .992062 | .996244 | .998170 | .999096 | .999641 | .999821 | .999964 | .999982 | .999996 | |
| 29 | 1 | .053986 | .076329 | .098145 | .119445 | .146832 | .166982 | .211954 | .230566 | .272104 | |
| | 2 | .099762 | .127620 | .153392 | .177644 | .207878 | .229600 | .276882 | .296062 | .338216 | |
| | 3 | .141834 | .173265 | .201561 | .227662 | .259633 | .282279 | .330806 | .350234 | .392488 | |
| | 4 | .182003 | .216048 | .246139 | .273515 | .306628 | .329840 | .378993 | .398472 | .440488 | |
| | 5 | .220929 | .256964 | .288372 | .316641 | .350492 | .374023 | .423369 | .442757 | .484282 | |
| | 6 | .258936 | .296502 | .328873 | .357748 | .392034 | .415696 | .464897 | .484083 | .524915 | |
| | 7 | .296214 | .334946 | .367996 | .397247 | .431723 | .455362 | .504142 | .523033 | .563003 | |
| | 8 | .323283 | .372476 | .405966 | .435400 | .469858 | .493345 | .541468 | .559984 | .598945 | |
| | 9 | .369022 | .409211 | .442936 | .472384 | .506641 | .529862 | .577120 | .595191 | .633011 | |
| | 10 | .404690 | .445238 | .479012 | .508323 | .542216 | .565068 | .611272 | .628834 | .665395 | |
| | 11 | .439925 | .480617 | .514270 | .543306 | .576685 | .599072 | .644050 | .661043 | .696235 | |
| | 12 | .474758 | .515391 | .548765 | .577395 | .610120 | .631955 | .675545 | .691914 | .725634 | |
| | 13 | .509208 | .549591 | .582536 | .610637 | .642574 | .663773 | .705820 | .721512 | .753664 | |
| | 14 | .543289 | .583237 | .615608 | .643061 | .674082 | .694564 | .734919 | .749885 | .780374 | |
| | 15 | .577008 | .616341 | .647995 | .674685 | .704663 | .724349 | .762870 | .777059 | .805795 | |
| | 16 | .610368 | .648906 | .679704 | .705514 | .734327 | .753138 | .789681 | .803047 | .829942 | |
| | 17 | .643367 | .680929 | .710729 | .735545 | .763066 | .780926 | .815350 | .827845 | .852814 | |
| | 18 | .675996 | .712398 | .741056 | .764760 | .790864 | .807693 | .839857 | .851434 | .874393 | |
| | 19 | .708242 | .743294 | .770660 | .793131 | .817689 | .833406 | .863167 | .873779 | .894645 | |
| | 20 | .740083 | .773585 | .799504 | .820616 | .843493 | .858016 | .885227 | .894827 | .913520 | |
| | 21 | .771492 | .803229 | .827535 | .847154 | .868208 | .881451 | .905962 | .914503 | .930944 | |
| | 22 | .802426 | .832165 | .854678 | .872660 | .891740 | .903611 | .925269 | .932704 | .946819 | |
| | 23 | .832827 | .860309 | .880831 | .897016 | .913960 | .924361 | .943007 | .949290 | .961016 | |
| | 24 | .862614 | .887542 | .905845 | .920058 | .934685 | .943514 | .958986 | .964077 | .973365 | |
| | 25 | .891664 | .913684 | .929506 | .941544 | .953655 | .960801 | .972946 | .976812 | .983649 | |
| | 26 | .919780 | .938458 | .951480 | .961105 | .970479 | .975830 | .984523 | .987156 | .991599 | |
| | 27 | .946622 | .961384 | .971204 | .978136 | .984540 | .988000 | .993215 | .994665 | .996926 | |
| | 28 | .971483 | .981510 | .987606 | .991536 | .994800 | .996375 | .998408 | .998879 | .999501 | |
| | 29 | .992335 | .996373 | .998233 | .999127 | .999653 | .999827 | .999965 | .999983 | .999997 | |
| 30 | 1 | .052234 | .073881 | .095034 | .115703 | .142304 | .161894 | .205672 | .223814 | .264357 | |
| | 2 | .096547 | .123570 | .148596 | .172169 | .201590 | .222751 | .268882 | .287624 | .328876 | |
| | 3 | .137288 | .167813 | .195326 | .220735 | .251899 | .274001 | .321443 | .340470 | .381919 | |
| | 4 | .176197 | .209299 | .238598 | .265288 | .297619 | .320314 | .368465 | .387583 | .428895 | |
| | 5 | .213912 | .248992 | .279615 | .307218 | .340327 | .363376 | .411814 | .430885 | .471811 | |
| | 6 | .250748 | .287364 | .318971 | .347212 | .380805 | .404027 | .452424 | .471340 | .511682 | |
| | 7 | .286886 | .324689 | .357009 | .385667 | .419508 | .442756 | .490846 | .509516 | .549110 | |
| | 8 | .322442 | .361142 | .393947 | .422837 | .456727 | .479875 | .527431 | .545778 | .584479 | |
| | 9 | .357496 | .396840 | .429934 | .458894 | .492660 | .515598 | .562419 | .580375 | .618057 | |
| | 10 | .392103 | .431867 | .465073 | .493959 | .527445 | .550076 | .595981 | .613484 | .650031 | |
| | 11 | .426302 | .466281 | .499439 | .528120 | .561183 | .583416 | .628240 | .645233 | .680539 | |
| | 12 | .460122 | .500126 | .533086 | .561440 | .593947 | .615699 | .659287 | .675717 | .709683 | |
| | 13 | .493583 | .533434 | .566055 | .593965 | .625789 | .646981 | .689186 | .705003 | .737535 | |
| | 14 | .526701 | .566225 | .598371 | .625727 | .656748 | .677302 | .717984 | .733140 | .764147 | |
| | 15 | .559483 | .598512 | .630052 | .656745 | .686846 | .706689 | .745711 | .760159 | .789556 | |
| | 16 | .591935 | .630304 | .661107 | .687030 | .716095 | .735153 | .772383 | .786077 | .813779 | |
| | 17 | .624056 | .661599 | .691536 | .716582 | .744496 | .762697 | .798002 | .810898 | .836822 | |
| | 18 | .655841 | .692392 | .721330 | .745392 | .772039 | .789311 | .822558 | .834611 | .858677 | |
| | 19 | .687283 | .722668 | .750474 | .773442 | .798704 | .814972 | .846028 | .857194 | .879323 | |
| | 20 | .718365 | .752406 | .778941 | .800701 | .824456 | .839644 | .868374 | .878609 | .898721 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 30 | 21 | .749067 | .781576 | .806692 | .827126 | .849246 | .863277 | .889541 | .898800 | .916818 |
| | 22 | .779360 | .810135 | .833674 | .852655 | .873006 | .885797 | .909454 | .917692 | .933541 |
| | 23 | .809703 | .838023 | .859815 | .877205 | .895644 | .907108 | .928010 | .935182 | .948791 |
| | 24 | .838540 | .865158 | .885013 | .900662 | .917033 | .927077 | .945072 | .951134 | .962441 |
| | 25 | .867291 | .891423 | .909126 | .922864 | .936995 | .945520 | .960454 | .965366 | .974325 |
| | 26 | .895237 | .916645 | .931944 | .943578 | .955278 | .962178 | .973902 | .977633 | .984230 |
| | 27 | .922489 | .940556 | .953145 | .962447 | .971502 | .976670 | .985063 | .987604 | .991893 |
| | 28 | .948416 | .962692 | .972184 | .978883 | .985070 | .988412 | .993449 | .994849 | .997032 |
| | 29 | .972437 | .982131 | .988024 | .991827 | .994976 | .996497 | .998462 | .998917 | .999518 |
| | 30 | .992589 | .996494 | .998292 | .999156 | .999665 | .999833 | .999967 | .999983 | .999997 |
| 31 | 1 | .050593 | .071585 | .092114 | .112189 | .138046 | .157105 | .199750 | .217444 | .257036 |
| | 2 | .093533 | .119769 | .144090 | .167021 | .195669 | .216297 | .261328 | .279649 | .320032 |
| | 3 | .133024 | .162693 | .189464 | .214216 | .244610 | .266191 | .312590 | .331227 | .371892 |
| | 4 | .170750 | .202958 | .231503 | .257539 | .289119 | .311317 | .358496 | .377261 | .417878 |
| | 5 | .207327 | .241497 | .271371 | .298336 | .330727 | .353309 | .400858 | .419615 | .459941 |
| | 6 | .243060 | .278768 | .309644 | .337272 | .370190 | .392982 | .440584 | .459227 | .499069 |
| | 7 | .278124 | .315037 | .346653 | .374732 | .407951 | .430810 | .478206 | .496649 | .535844 |
| | 8 | .312634 | .350471 | .382610 | .410964 | .444292 | .467098 | .514068 | .532235 | .570643 |
| | 9 | .346664 | .385187 | .417660 | .446134 | .479404 | .502052 | .548404 | .566228 | .603727 |
| | 10 | .380269 | .419264 | .451904 | .480361 | .513424 | .535820 | .581380 | .598802 | .635279 |
| | 11 | .413488 | .452760 | .485416 | .513730 | .546451 | .568508 | .613118 | .630083 | .665436 |
| | 12 | .446350 | .485720 | .518249 | .546304 | .578557 | .600196 | .643707 | .660165 | .694297 |
| | 13 | .478875 | .518174 | .550443 | .578130 | .609795 | .630940 | .673213 | .689115 | .721936 |
| | 14 | .511077 | .550144 | .582027 | .609241 | .640203 | .660783 | .701684 | .716984 | .748407 |
| | 15 | .542968 | .581645 | .613018 | .639658 | .669808 | .689752 | .729152 | .743806 | .773748 |
| 16 | 16 | .574552 | .612687 | .643428 | .669394 | .699624 | .717864 | .755637 | .769602 | .797582 |
| | 2 | .605832 | .643271 | .673261 | .698454 | .726657 | .745125 | .781147 | .794379 | .821119 |
| | 3 | .636905 | .673395 | .702513 | .726835 | .753903 | .771531 | .805678 | .818137 | .843157 |
| | 4 | .667466 | .703051 | .731174 | .754524 | .780349 | .797070 | .829216 | .840859 | .864085 |
| | 5 | .697804 | .732223 | .759225 | .781500 | .805971 | .821714 | .851736 | .862520 | .883876 |
| | 21 | .727805 | .760890 | .786640 | .807733 | .830734 | .845428 | .873196 | .883080 | .902490 |
| | 22 | .757448 | .789020 | .813378 | .833176 | .854588 | .868158 | .893541 | .902482 | .919872 |
| | 23 | .786702 | .816571 | .839389 | .857771 | .877465 | .889834 | .912695 | .920650 | .935948 |
| | 24 | .815530 | .843484 | .864599 | .881436 | .899275 | .910360 | .930557 | .937483 | .950622 |
| | 25 | .843875 | .869680 | .888911 | .904058 | .919893 | .929604 | .946993 | .952848 | .963766 |
| | 26 | .871660 | .895044 | .912186 | .925480 | .939147 | .947389 | .961821 | .966566 | .975219 |
| | 27 | .898770 | .919410 | .934220 | .945476 | .956790 | .963462 | .974793 | .978398 | .984771 |
| | 28 | .925021 | .942516 | .954700 | .963698 | .972456 | .977453 | .985567 | .988023 | .992167 |
| | 29 | .950094 | .963914 | .973100 | .979580 | .985564 | .988797 | .993667 | .995020 | .997130 |
| | 30 | .973328 | .982712 | .988415 | .992089 | .995141 | .996612 | .998512 | .998953 | .999534 |
| 31 | 31 | .992828 | .996607 | .998347 | .999184 | .999676 | .999838 | .999968 | .999984 | .999997 |
| | 1 | .049051 | .069428 | .089368 | .108881 | .134036 | .152591 | .194158 | .211425 | .250105 |
| | 2 | .090701 | .116195 | .139849 | .162171 | .190086 | .210204 | .254183 | .272100 | .311644 |
| | 3 | .129017 | .157875 | .183943 | .208069 | .237728 | .258811 | .304205 | .322467 | .362368 |
| | 4 | .165629 | .196989 | .224816 | .250277 | .281088 | .302806 | .349043 | .367464 | .407399 |
| | 5 | .201134 | .234439 | .263597 | .289948 | .321647 | .343777 | .390457 | .408905 | .448634 |
| | 6 | .235828 | .270670 | .300842 | .327879 | .360142 | .382514 | .429330 | .447702 | .487034 |
| | 7 | .269880 | .305938 | .336874 | .364392 | .397002 | .419478 | .466178 | .484389 | .523168 |
| | 8 | .303401 | .340408 | .371899 | .399728 | .432499 | .454963 | .501337 | .519313 | .557402 |
| | 9 | .336465 | .374191 | .406057 | .434049 | .466822 | .489173 | .535033 | .552711 | .589990 |
| | 10 | .369124 | .407365 | .439447 | .467471 | .500103 | .522251 | .567430 | .584753 | .621113 |
| | 11 | .401416 | .439989 | .472140 | .500078 | .532438 | .554301 | .598648 | .615562 | .650904 |
| | 12 | .433369 | .472104 | .504191 | .531931 | .563901 | .585402 | .628774 | .645231 | .679461 |
| | 13 | .465005 | .503742 | .535639 | .563078 | .594544 | .615612 | .657875 | .673828 | .706860 |
| | 14 | .496339 | .534925 | .566513 | .593551 | .624405 | .644971 | .686000 | .701405 | .733154 |
| | 15 | .527381 | .565669 | .596832 | .623374 | .653513 | .673511 | .713182 | .727997 | .758384 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 32 | 16 | .558137 | .595985 | .626609 | .652563 | .681885 | .701251 | .739445 | .753629 | .782576 | |
| | 17 | .588611 | .625878 | .655851 | .681125 | .709530 | .728200 | .764799 | .778311 | .805743 | |
| | 18 | .618804 | .655347 | .684559 | .709060 | .736448 | .754359 | .789248 | .802049 | .827891 | |
| | 19 | .648711 | .684387 | .712725 | .736362 | .762632 | .779722 | .812783 | .824833 | .849012 | |
| | 20 | .678325 | .712989 | .740338 | .763016 | .788067 | .804270 | .835387 | .846646 | .869089 | |
| | 21 | .707637 | .741137 | .767378 | .789000 | .812727 | .827978 | .857031 | .867459 | .888094 | |
| | 22 | .736631 | .768808 | .793817 | .814281 | .836575 | .850806 | .877674 | .887230 | .905986 | |
| | 23 | .765284 | .795971 | .819615 | .838815 | .859562 | .872701 | .897259 | .905903 | .922708 | |
| | 24 | .793570 | .822583 | .844722 | .862543 | .881620 | .893594 | .915710 | .923402 | .938187 | |
| | 25 | .821449 | .848588 | .869067 | .885384 | .902661 | .913390 | .932929 | .939626 | .952325 | |
| | 26 | .848868 | .873908 | .892553 | .907228 | .922562 | .931961 | .948783 | .954445 | .965000 | |
| | 27 | .875750 | .898431 | .915045 | .927924 | .941156 | .949134 | .963096 | .967685 | .976052 | |
| | 28 | .901984 | .921997 | .936347 | .947249 | .958204 | .964661 | .975625 | .979112 | .985276 | |
| | 29 | .927392 | .944351 | .956155 | .964869 | .973349 | .978185 | .986037 | .988414 | .992424 | |
| | 30 | .951666 | .965059 | .973957 | .980233 | .986027 | .989156 | .993870 | .995181 | .997223 | |
| | 31 | .974164 | .983256 | .988781 | .992339 | .995294 | .996719 | .998560 | .998986 | .999549 | |
| | 32 | .993051 | .996713 | .998398 | .999209 | .999686 | .999843 | .999969 | .999984 | .999997 | |
| 33 | 1 | .047601 | .067397 | .086781 | .105763 | .130251 | .148329 | .188869 | .205729 | .243536 | |
| | 2 | .088036 | .112828 | .135851 | .157594 | .184810 | .204444 | .247416 | .264945 | .303679 | |
| | 3 | .125244 | .153334 | .178734 | .202264 | .231221 | .251826 | .296254 | .314152 | .353311 | |
| | 4 | .160806 | .191360 | .218503 | .243316 | .273487 | .294744 | .340069 | .358155 | .397420 | |
| | 5 | .195300 | .227780 | .256253 | .282016 | .313048 | .334740 | .380572 | .398716 | .437852 | |
| | 6 | .229012 | .263026 | .292523 | .318990 | .350618 | .372580 | .418622 | .436723 | .475543 | |
| | 7 | .262109 | .297347 | .327627 | .354601 | .386615 | .408713 | .454721 | .472697 | .511048 | |
| | 8 | .294696 | .330902 | .361764 | .389081 | .421303 | .443426 | .489195 | .506975 | .544723 | |
| | 9 | .326845 | .363799 | .395071 | .422589 | .454865 | .476917 | .522266 | .539788 | .576817 | |
| | 10 | .358608 | .396116 | .427645 | .455238 | .487432 | .509324 | .554094 | .571302 | .607506 | |
| | 11 | .390022 | .427908 | .459556 | .487111 | .519098 | .540752 | .584795 | .601639 | .636921 | |
| | 12 | .421115 | .459217 | .490856 | .518267 | .549933 | .571277 | .614457 | .630889 | .665159 | |
| | 13 | .451907 | .490074 | .521585 | .548755 | .579991 | .600956 | .643146 | .659121 | .692296 | |
| | 14 | .482414 | .520503 | .551772 | .578606 | .609312 | .629832 | .670911 | .686388 | .718386 | |
| | 15 | .512647 | .550519 | .581438 | .607847 | .637923 | .657937 | .697787 | .712725 | .743470 | |
| | 16 | .542614 | .580135 | .610597 | .636493 | .665845 | .685291 | .723800 | .738159 | .767576 | |
| | 17 | .572317 | .609357 | .639258 | .664556 | .693088 | .711907 | .748964 | .762707 | .790723 | |
| | 18 | .601760 | .638186 | .667423 | .692037 | .719658 | .737790 | .773285 | .786373 | .812918 | |
| | 19 | .630941 | .666621 | .695090 | .718934 | .745550 | .762937 | .796761 | .809157 | .834160 | |
| | 20 | .659854 | .694656 | .722251 | .745238 | .770755 | .787337 | .819380 | .831046 | .854438 | |
| | 21 | .688493 | .722278 | .748892 | .770934 | .795255 | .810971 | .841123 | .852022 | .873733 | |
| | 22 | .716847 | .749473 | .774992 | .795997 | .819023 | .833812 | .861958 | .872052 | .892014 | |
| | 23 | .744899 | .776215 | .800524 | .820395 | .842023 | .855819 | .881844 | .891094 | .909238 | |
| | 24 | .772629 | .802476 | .825447 | .844083 | .864205 | .876940 | .900724 | .909091 | .925349 | |
| | 25 | .800009 | .828212 | .849712 | .867004 | .885501 | .897105 | .918523 | .925968 | .940273 | |
| | 26 | .827000 | .853369 | .873248 | .889077 | .905826 | .916222 | .935144 | .941626 | .953915 | |
| | 27 | .853550 | .877870 | .895963 | .910196 | .925059 | .934165 | .950457 | .955937 | .966153 | |
| | 28 | .879587 | .901607 | .917725 | .930212 | .943037 | .950766 | .964289 | .968731 | .976830 | |
| | 29 | .905000 | .924423 | .938342 | .948911 | .959528 | .965784 | .976404 | .979781 | .985749 | |
| | 30 | .929618 | .946072 | .957519 | .965967 | .974185 | .978871 | .986478 | .988780 | .992664 | |
| | 31 | .953142 | .966133 | .974761 | .980845 | .986461 | .989494 | .994061 | .995331 | .997310 | |
| | 32 | .974949 | .983767 | .989124 | .992574 | .995439 | .996820 | .998604 | .999017 | .999563 | |
| | 33 | .993261 | .996812 | .998447 | .999233 | .999695 | .999848 | .999970 | .999985 | .999997 | |
| 34 | 1 | .046234 | .065481 | .084340 | .102818 | .126674 | .144298 | .183860 | .200330 | .237301 | |
| | 2 | .085522 | .109650 | .132074 | .153268 | .179819 | .198989 | .240997 | .258153 | .296106 | |
| | 3 | .121685 | .149046 | .173811 | .196773 | .225059 | .245205 | .288703 | .306249 | .344689 | |
| | 4 | .156255 | .186043 | .212534 | .236775 | .266283 | .287096 | .331538 | .349297 | .387906 | |
| | 5 | .189794 | .221488 | .249305 | .274503 | .304892 | .326159 | .371166 | .389011 | .427560 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 34 | 6 | .222579 | .255800 | .284649 | .310566 | .341579 | .363141 | .408422 | .426255 | .464562 |
| | 7 | .254772 | .289222 | .318869 | .345315 | .376748 | .398476 | .443797 | .461537 | .499450 |
| | 8 | .286475 | .321908 | .352161 | .378978 | .410660 | .432445 | .477606 | .495185 | .532575 |
| | 9 | .317758 | .353964 | .384657 | .411708 | .443491 | .465240 | .510067 | .527424 | .564177 |
| | 10 | .348672 | .385464 | .416450 | .443615 | .475368 | .496998 | .541335 | .558417 | .594431 |
| | 11 | .379253 | .416463 | .447611 | .474781 | .506384 | .527819 | .571526 | .588283 | .623464 |
| | 12 | .409528 | .447003 | .478190 | .505265 | .536609 | .557780 | .600725 | .617112 | .651372 |
| | 13 | .439181 | .477114 | .508228 | .535114 | .566096 | .586936 | .628998 | .644971 | .678231 |
| | 14 | .469239 | .506819 | .537752 | .564360 | .594884 | .615332 | .656394 | .671914 | .704094 |
| | 15 | .498701 | .536137 | .566785 | .593031 | .623002 | .642999 | .682950 | .697978 | .729004 |
| 16 | 16 | .527914 | .565077 | .595342 | .621142 | .650472 | .669959 | .708693 | .723190 | .752991 |
| | 17 | .556890 | .593650 | .623433 | .648707 | .677306 | .696228 | .733638 | .747569 | .776075 |
| | 18 | .585605 | .621857 | .651062 | .675731 | .703512 | .721812 | .757796 | .771124 | .798268 |
| | 19 | .614086 | .649699 | .678230 | .702213 | .729090 | .746714 | .781168 | .793858 | .819572 |
| | 20 | .642322 | .677173 | .704932 | .728150 | .754035 | .770926 | .803748 | .815764 | .839981 |
| | 21 | .670308 | .704271 | .731159 | .753529 | .778333 | .794437 | .825521 | .836829 | .859483 |
| | 22 | .698036 | .730980 | .756895 | .778335 | .801967 | .817224 | .846467 | .857030 | .878056 |
| | 23 | .725491 | .757285 | .782120 | .802541 | .824907 | .839260 | .866554 | .876335 | .895666 |
| | 24 | .752662 | .783161 | .806805 | .826117 | .847118 | .860504 | .885737 | .894700 | .912272 |
| | 25 | .779527 | .808577 | .830912 | .849016 | .868549 | .880904 | .903962 | .912069 | .927815 |
| 26 | 26 | .806057 | .833494 | .854389 | .871183 | .889135 | .900391 | .921154 | .928367 | .942223 |
| | 27 | .832215 | .857856 | .877170 | .892538 | .908791 | .918874 | .937217 | .943498 | .955401 |
| | 28 | .857951 | .881590 | .899163 | .912979 | .927399 | .936231 | .952024 | .957335 | .967232 |
| | 29 | .883194 | .904589 | .920240 | .932359 | .944801 | .952297 | .965406 | .969712 | .977560 |
| | 30 | .907836 | .926702 | .940214 | .950472 | .960771 | .966838 | .977135 | .980408 | .986192 |
| | 31 | .931712 | .947690 | .958800 | .966998 | .974970 | .979516 | .986892 | .989124 | .992889 |
| | 32 | .954530 | .967143 | .975517 | .981420 | .986869 | .989811 | .994241 | .995472 | .997391 |
| | 33 | .975698 | .984248 | .989447 | .992795 | .995575 | .996915 | .998645 | .999046 | .999576 |
| | 34 | .993458 | .996906 | .998493 | .999256 | .999704 | .999853 | .999971 | .999985 | .999997 |
| 35 | 1 | .044943 | .063671 | .082032 | .100032 | .123288 | .140479 | .179109 | .195206 | .231375 |
| | 2 | .093148 | .106646 | .128501 | .149172 | .175090 | .193817 | .234901 | .251698 | .288898 |
| | 3 | .118323 | .144992 | .169152 | .191571 | .219215 | .238922 | .281525 | .298731 | .336470 |
| | 4 | .151955 | .181012 | .206881 | .230575 | .259447 | .279832 | .323419 | .340861 | .378828 |
| | 5 | .194590 | .215533 | .242722 | .267378 | .297146 | .318003 | .362206 | .379758 | .417728 |
| | 6 | .216497 | .248959 | .277185 | .302571 | .332988 | .354161 | .398697 | .416265 | .454058 |
| | 7 | .247833 | .281527 | .310564 | .336498 | .367365 | .388730 | .433371 | .450875 | .488344 |
| | 8 | .278698 | .313387 | .343050 | .369379 | .400531 | .421983 | .466535 | .483908 | .520928 |
| | 9 | .309160 | .344642 | .374770 | .401363 | .432658 | .454106 | .498401 | .515586 | .552044 |
| | 10 | .339268 | .375363 | .405818 | .432559 | .463870 | .485234 | .529121 | .546066 | .5811863 |
| | 11 | .369058 | .405607 | .436260 | .463045 | .494257 | .515465 | .558809 | .575465 | .610510 |
| | 12 | .398556 | .435412 | .466147 | .492880 | .523889 | .544874 | .587549 | .603873 | .638081 |
| | 13 | .427784 | .464809 | .495519 | .522110 | .552818 | .573517 | .615405 | .631355 | .664648 |
| | 14 | .456756 | .493821 | .524404 | .550769 | .581084 | .601436 | .642427 | .657965 | .690268 |
| | 15 | .485483 | .522466 | .552824 | .578882 | .608715 | .628666 | .668653 | .683741 | .714982 |
| | 16 | .513975 | .550757 | .580796 | .606469 | .635734 | .655228 | .694109 | .708711 | .738822 |
| | 17 | .542237 | .578702 | .608330 | .633542 | .662156 | .681140 | .718815 | .732896 | .761810 |
| | 18 | .570272 | .606305 | .635432 | .660109 | .687989 | .706411 | .742782 | .756308 | .783959 |
| | 19 | .598082 | .633570 | .662105 | .686171 | .713238 | .731046 | .766015 | .778952 | .805276 |
| | 20 | .625664 | .660493 | .688347 | .711729 | .737899 | .755040 | .788511 | .800826 | .825760 |
| | 21 | .653017 | .687071 | .714151 | .736773 | .761964 | .778387 | .810263 | .821922 | .845402 |
| | 22 | .680133 | .713294 | .739508 | .761292 | .785421 | .801072 | .831254 | .842223 | .864186 |
| | 23 | .707005 | .739150 | .764400 | .785268 | .808248 | .823073 | .851461 | .861706 | .882089 |
| | 24 | .733621 | .764621 | .788808 | .803676 | .830417 | .844359 | .870851 | .880337 | .899078 |
| | 25 | .759965 | .789685 | .812701 | .831483 | .851892 | .864892 | .889381 | .898073 | .915108 |
| | 26 | .786017 | .814312 | .836043 | .853645 | .872622 | .884619 | .906995 | .914857 | .930122 |
| | 27 | .811749 | .838460 | .858783 | .875106 | .892545 | .903472 | .923619 | .930615 | .944048 |
| | 28 | .837125 | .862077 | .880856 | .895790 | .911574 | .921362 | .939161 | .945253 | .956795 |
| | 29 | .862095 | .885089 | .902172 | .915594 | .929597 | .938170 | .953495 | .958646 | .968244 |
| | 30 | .886590 | .907396 | .922606 | .934378 | .946459 | .953735 | .966456 | .970633 | .978245 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 35 | 31 | .910508 | .928848 | .941977 | .951939 | .961939 | .967829 | .977821 | .980997 | .986609 |
| | 32 | .933685 | .949213 | .960007 | .967969 | .975709 | .980122 | .987281 | .989447 | .993101 |
| | 33 | .955838 | .968094 | .976229 | .981962 | .987253 | .990109 | .994410 | .995605 | .997468 |
| | 34 | .976385 | .984701 | .989751 | .993003 | .995703 | .997004 | .998685 | .999074 | .999598 |
| | 35 | .993645 | .996994 | .998536 | .999277 | .999713 | .999857 | .999971 | .999986 | .999997 |
| 36 | 1 | .043722 | .061958 | .079847 | .097394 | .120077 | .136857 | .174596 | .190336 | .225736 |
| | 2 | .080903 | .103803 | .125116 | .145289 | .170602 | .188906 | .229104 | .245556 | .282029 |
| | 3 | .115141 | .141152 | .164735 | .186637 | .213665 | .232951 | .274691 | .291569 | .328629 |
| | 4 | .147885 | .176246 | .201520 | .224690 | .252951 | .272923 | .315684 | .332816 | .370157 |
| | 5 | .179663 | .209889 | .236476 | .260611 | .289781 | .310240 | .353661 | .370927 | .408326 |
| | 6 | .210737 | .242473 | .270100 | .294975 | .324814 | .345608 | .389415 | .406721 | .444004 |
| | 7 | .241261 | .274229 | .302677 | .328116 | .358432 | .379441 | .423411 | .440679 | .477702 |
| | 8 | .271330 | .305303 | .334393 | .360248 | .390881 | .412003 | .455948 | .473116 | .509754 |
| | 9 | .301013 | .335794 | .365373 | .391518 | .422330 | .443478 | .487236 | .504244 | .540391 |
| | 10 | .330355 | .365774 | .395707 | .422030 | .452900 | .473996 | .517421 | .534220 | .569777 |
| | 11 | .359393 | .395296 | .425460 | .451861 | .482679 | .503654 | .546614 | .563159 | .598038 |
| | 12 | .388153 | .424398 | .454684 | .481071 | .511736 | .532525 | .574900 | .591146 | .625266 |
| | 13 | .416654 | .453112 | .483415 | .509703 | .540121 | .560664 | .602341 | .618249 | .651533 |
| | 14 | .444912 | .481460 | .511683 | .537791 | .567875 | .588114 | .628986 | .644520 | .676896 |
| | 15 | .472938 | .509460 | .539511 | .565362 | .595026 | .614909 | .654875 | .669998 | .701396 |
| | 16 | .500742 | .537124 | .566914 | .592435 | .621599 | .641072 | .680034 | .694711 | .725066 |
| | 17 | .528329 | .564463 | .593905 | .619023 | .647608 | .666622 | .704484 | .718683 | .747930 |
| | 18 | .555704 | .591482 | .620491 | .645136 | .673064 | .691569 | .728238 | .741926 | .770003 |
| | 19 | .582868 | .618184 | .646676 | .670778 | .697972 | .715919 | .751305 | .764449 | .791293 |
| | 20 | .609921 | .644569 | .672459 | .695949 | .722334 | .739674 | .773683 | .786252 | .811804 |
| | 21 | .636562 | .670634 | .697838 | .720646 | .746143 | .762828 | .795370 | .807332 | .831530 |
| | 22 | .663086 | .696373 | .722805 | .744859 | .769392 | .785371 | .816354 | .827676 | .850462 |
| | 23 | .689387 | .721778 | .747348 | .768576 | .792064 | .807288 | .836618 | .847269 | .868581 |
| | 24 | .715456 | .746834 | .771452 | .791777 | .814140 | .828555 | .856137 | .866084 | .885862 |
| | 25 | .741281 | .771525 | .795094 | .814438 | .835589 | .849143 | .874878 | .884087 | .902271 |
| | 26 | .766848 | .795827 | .818246 | .836526 | .856375 | .869011 | .892797 | .901236 | .917765 |
| | 27 | .792134 | .819711 | .840871 | .857998 | .876450 | .888109 | .909840 | .917473 | .932285 |
| | 28 | .817115 | .843137 | .862919 | .878797 | .895750 | .906368 | .925935 | .932726 | .945762 |
| | 29 | .841755 | .866053 | .884326 | .898849 | .914192 | .923702 | .940988 | .946902 | .958104 |
| | 30 | .866004 | .888388 | .905006 | .918056 | .931666 | .939995 | .954878 | .959879 | .969195 |
| | 31 | .889795 | .910042 | .924835 | .936280 | .948020 | .955089 | .967444 | .971500 | .978889 |
| | 32 | .913028 | .930872 | .943638 | .953322 | .963040 | .968762 | .978468 | .981552 | .987001 |
| | 33 | .935546 | .950650 | .961145 | .968884 | .976406 | .980693 | .987648 | .989752 | .993300 |
| | 34 | .957074 | .968992 | .976901 | .982474 | .987615 | .990390 | .994569 | .995731 | .997540 |
| | 35 | .977042 | .985129 | .990039 | .993200 | .995824 | .997089 | .998722 | .999100 | .999600 |
| | 36 | .993821 | .997078 | .998576 | .999297 | .999721 | .999861 | .999972 | .999986 | .999997 |
| 37 | 1 | .042566 | .060335 | .077775 | .094891 | .117030 | .133417 | .170304 | .185703 | .220364 |
| | 2 | .078775 | .101106 | .121905 | .141603 | .166338 | .184237 | .223584 | .239704 | .275476 |
| | 3 | .112126 | .137509 | .160542 | .181949 | .208389 | .227270 | .268179 | .284738 | .321139 |
| | 4 | .144026 | .171725 | .196429 | .219096 | .246770 | .266345 | .308306 | .325137 | .361866 |
| | 5 | .174991 | .204532 | .230543 | .254176 | .282769 | .302843 | .345504 | .362490 | .399328 |
| | 6 | .205275 | .236315 | .263366 | .287748 | .317027 | .337453 | .380547 | .397595 | .434371 |
| | 7 | .235027 | .267298 | .295179 | .320137 | .349917 | .370578 | .413887 | .430922 | .467496 |
| | 8 | .264341 | .297623 | .326159 | .351552 | .381678 | .402476 | .445818 | .462777 | .499028 |
| | 9 | .293282 | .327386 | .356431 | .382136 | .412474 | .433325 | .476542 | .493370 | .529192 |
| | 10 | .321897 | .356658 | .386081 | .411992 | .442425 | .463252 | .506204 | .522852 | .558151 |
| | 11 | .350219 | .385490 | .415174 | .441194 | .471616 | .492353 | .534913 | .551336 | .586025 |
| | 12 | .378274 | .413921 | .443760 | .469800 | .500114 | .520699 | .562750 | .578907 | .612907 |
| | 13 | .406083 | .441980 | .471875 | .497853 | .527971 | .548345 | .589779 | .605631 | .638868 |
| | 14 | .433660 | .469691 | .499549 | .525389 | .555224 | .575334 | .616048 | .631560 | .663964 |
| | 15 | .461017 | .497070 | .526803 | .552432 | .581905 | .601699 | .641595 | .656732 | .688237 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 37 | 16 | .488164 | .524133 | .553656 | .579003 | .608036 | .627464 | .666449 | .681178 | .711719 |
| | 17 | .515105 | .550887 | .580119 | .605116 | .633634 | .652649 | .690632 | .704920 | .734437 |
| | 18 | .541847 | .577340 | .606200 | .630780 | .658710 | .677265 | .714157 | .727974 | .756405 |
| | 19 | .568391 | .603496 | .631905 | .656003 | .683273 | .701320 | .737035 | .750350 | .777637 |
| | 20 | .594739 | .629356 | .657235 | .680786 | .707324 | .724818 | .759268 | .772051 | .798136 |
| | 21 | .620888 | .654919 | .682189 | .705127 | .730861 | .747756 | .780856 | .793077 | .817901 |
| | 22 | .646838 | .680180 | .706761 | .729021 | .753878 | .770129 | .801791 | .813419 | .836925 |
| | 23 | .672593 | .705134 | .730945 | .752458 | .776365 | .791923 | .820261 | .833066 | .855197 |
| | 24 | .698117 | .729770 | .754727 | .775424 | .798305 | .813123 | .841647 | .851998 | .872697 |
| | 25 | .723430 | .754076 | .778091 | .797900 | .819677 | .833705 | .860525 | .870190 | .889399 |
| | 26 | .748511 | .778033 | .801015 | .819861 | .840452 | .853639 | .878659 | .887608 | .905268 |
| | 27 | .773345 | .801619 | .823471 | .841275 | .860594 | .872885 | .896008 | .904207 | .920260 |
| | 28 | .797911 | .824805 | .845421 | .862097 | .880053 | .891392 | .912517 | .919932 | .934318 |
| | 29 | .822184 | .847550 | .866819 | .882275 | .898769 | .909095 | .928113 | .934712 | .947373 |
| | 30 | .846128 | .869806 | .887600 | .901734 | .916659 | .925907 | .942708 | .948454 | .959335 |
| | 31 | .869697 | .891502 | .907680 | .920379 | .933617 | .941715 | .956181 | .961041 | .970091 |
| | 32 | .892823 | .912541 | .926939 | .938074 | .949493 | .956366 | .968375 | .972317 | .979497 |
| | 33 | .915411 | .932783 | .945207 | .954628 | .964079 | .969643 | .979078 | .982075 | .987370 |
| | 34 | .937306 | .952008 | .962220 | .969748 | .977064 | .981232 | .987994 | .990039 | .993488 |
| | 35 | .958242 | .969841 | .977535 | .982956 | .987957 | .990656 | .994720 | .995849 | .997608 |
| | 36 | .977665 | .985534 | .990310 | .993385 | .995938 | .997168 | .998757 | .999125 | .999511 |
| | 37 | .993987 | .997156 | .998615 | .999316 | .999728 | .999865 | .999973 | .999986 | .999997 |
| 38 | 1 | .041469 | .058795 | .075808 | .092513 | .114133 | .130146 | .166218 | .181289 | .215240 |
| | 2 | .076757 | .098547 | .118854 | .138099 | .162282 | .179793 | .218323 | .234123 | .269218 |
| | 3 | .109265 | .134050 | .156557 | .177491 | .203366 | .221858 | .261965 | .278218 | .313579 |
| | 4 | .140364 | .167428 | .191588 | .213773 | .240882 | .260074 | .301260 | .317801 | .353933 |
| | 5 | .170556 | .199441 | .224899 | .248049 | .276086 | .295787 | .337710 | .354422 | .390709 |
| | 6 | .200089 | .230462 | .256958 | .280864 | .309602 | .329670 | .372066 | .388861 | .425136 |
| | 7 | .229107 | .260707 | .288040 | .312534 | .341792 | .362114 | .404773 | .421577 | .457702 |
| | 8 | .257702 | .290317 | .318318 | .343262 | .372891 | .393371 | .436116 | .452867 | .488725 |
| | 9 | .285937 | .319386 | .347911 | .373188 | .403060 | .423615 | .466292 | .482938 | .518424 |
| | 10 | .313858 | .347982 | .376906 | .402412 | .432412 | .452971 | .495445 | .511936 | .546960 |
| | 11 | .341498 | .376154 | .405366 | .431008 | .461035 | .481531 | .523679 | .539973 | .574450 |
| | 12 | .368883 | .403942 | .433339 | .459032 | .488992 | .509367 | .551075 | .567132 | .600985 |
| | 13 | .396031 | .431374 | .460861 | .486527 | .516334 | .536532 | .577695 | .593479 | .626636 |
| | 14 | .422958 | .458474 | .487962 | .513527 | .543099 | .563068 | .603589 | .619063 | .651458 |
| | 15 | .449676 | .485258 | .514663 | .540057 | .569319 | .589009 | .628793 | .643925 | .675492 |
| | 16 | .476193 | .511740 | .540982 | .566138 | .595015 | .614379 | .653337 | .668096 | .698773 |
| | 17 | .502517 | .537930 | .566932 | .591786 | .620206 | .639198 | .677244 | .691597 | .721326 |
| | 18 | .528651 | .563837 | .592521 | .617009 | .644904 | .663479 | .700528 | .714446 | .743168 |
| | 19 | .554600 | .589463 | .617756 | .641817 | .669117 | .687232 | .723200 | .736655 | .764314 |
| | 20 | .580365 | .614812 | .642639 | .666211 | .692850 | .710461 | .745267 | .758229 | .784769 |
| | 21 | .605945 | .639884 | .667171 | .690193 | .716103 | .733166 | .766728 | .779169 | .804534 |
| | 22 | .631339 | .664675 | .691349 | .713758 | .738871 | .755344 | .787581 | .799472 | .823608 |
| | 23 | .656545 | .689183 | .715167 | .736902 | .761149 | .776987 | .807816 | .819128 | .841981 |
| | 24 | .681556 | .713399 | .738616 | .759612 | .782923 | .798082 | .827420 | .838124 | .859638 |
| | 25 | .706367 | .737313 | .761683 | .781875 | .804178 | .818612 | .846374 | .856440 | .876561 |
| | 26 | .730967 | .760912 | .784352 | .803671 | .824892 | .838553 | .864651 | .874050 | .892721 |
| | 27 | .755347 | .784179 | .806601 | .824975 | .845034 | .857873 | .882218 | .890919 | .908085 |
| | 28 | .779489 | .807090 | .828402 | .845754 | .864570 | .876535 | .899031 | .907004 | .922607 |
| | 29 | .803375 | .829617 | .849718 | .865966 | .883451 | .894488 | .915038 | .922249 | .936232 |
| | 30 | .826979 | .851722 | .870502 | .885558 | .901617 | .911667 | .930167 | .936983 | .948892 |
| | 31 | .850266 | .873354 | .890693 | .904459 | .918988 | .927987 | .944330 | .949918 | .960496 |
| | 32 | .873191 | .894446 | .910207 | .922573 | .935459 | .943339 | .957411 | .962137 | .970936 |
| | 33 | .895690 | .914905 | .928929 | .939770 | .950884 | .957572 | .969255 | .973088 | .980070 |
| | 34 | .917667 | .934592 | .946691 | .955863 | .965061 | .970475 | .979654 | .982569 | .987720 |
| | 35 | .938973 | .953294 | .963237 | .970565 | .977686 | .981742 | .988322 | .990311 | .993666 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 38 | 36 | .959348 | .970645 | .978136 | .983414 | .988281 | .990908 | .994862 | .995961 | .997673 | |
| | 37 | .978254 | .985917 | .990568 | .993561 | .996046 | .997244 | .998790 | .999148 | .999621 | |
| | 38 | .994145 | .997231 | .998651 | .999334 | .999736 | .999868 | .999974 | .999987 | .999997 | |
| 39 | 1 | .040428 | .057332 | .073938 | .090251 | .111376 | .127030 | .162322 | .177079 | .210347 | |
| | 2 | .074839 | .096113 | .115952 | .134764 | .158418 | .175557 | .213302 | .228795 | .263235 | |
| | 3 | .106546 | .130760 | .152765 | .173245 | .198578 | .216696 | .256031 | .271987 | .307128 | |
| | 4 | .136883 | .163342 | .186980 | .208702 | .235267 | .254089 | .294527 | .310784 | .346334 | |
| | 5 | .166340 | .194597 | .219523 | .242210 | .269709 | .289050 | .330254 | .346699 | .382447 | |
| | 6 | .195158 | .224890 | .250853 | .274299 | .302513 | .322234 | .363949 | .380495 | .416275 | |
| | 7 | .223477 | .254432 | .281236 | .305280 | .334032 | .354022 | .396043 | .412618 | .448297 | |
| | 8 | .251387 | .283360 | .310841 | .335350 | .364494 | .384661 | .426816 | .443360 | .478821 | |
| | 9 | .278950 | .311765 | .339786 | .364644 | .394057 | .414322 | .456460 | .472921 | .508065 | |
| | 10 | .306210 | .339714 | .368153 | .393262 | .422833 | .443124 | .485116 | .501447 | .536183 | |
| | 11 | .333199 | .367256 | .396005 | .421274 | .450906 | .471161 | .512885 | .529045 | .563292 | |
| | 12 | .359943 | .394428 | .423388 | .448736 | .478339 | .498500 | .539849 | .555798 | .589482 | |
| | 13 | .386461 | .421259 | .450340 | .475691 | .505181 | .525195 | .566067 | .581770 | .614820 | |
| | 14 | .412767 | .447771 | .476888 | .502172 | .531471 | .551288 | .591588 | .607011 | .639362 | |
| | 15 | .438873 | .473983 | .503055 | .528205 | .557239 | .576811 | .616449 | .631560 | .663150 | |
| | 16 | .464788 | .499907 | .528857 | .553809 | .582509 | .601791 | .640681 | .655449 | .686218 | |
| | 17 | .490520 | .525554 | .554309 | .579001 | .607298 | .626246 | .664304 | .678701 | .708597 | |
| | 18 | .516072 | .550932 | .579419 | .603792 | .631619 | .650191 | .687338 | .701333 | .730290 | |
| | 19 | .541450 | .576045 | .604194 | .628189 | .655483 | .673636 | .707972 | .723359 | .751327 | |
| | 20 | .566653 | .600898 | .628639 | .652198 | .678894 | .696587 | .731674 | .744785 | .771712 | |
| | 21 | .591685 | .625491 | .652754 | .675819 | .701854 | .719047 | .752988 | .765615 | .791447 | |
| | 22 | .616542 | .649822 | .676539 | .699052 | .724361 | .741014 | .773731 | .785848 | .810533 | |
| | 23 | .641225 | .673890 | .699989 | .721892 | .746412 | .762482 | .793899 | .805477 | .828963 | |
| | 24 | .665728 | .697688 | .723099 | .744332 | .767997 | .783443 | .813481 | .824494 | .846728 | |
| | 25 | .690047 | .721210 | .745857 | .766361 | .789105 | .803883 | .832462 | .842882 | .863812 | |
| | 26 | .714175 | .744444 | .768253 | .787963 | .809716 | .823785 | .850824 | .860622 | .880195 | |
| | 27 | .738103 | .767377 | .790268 | .809119 | .829811 | .843123 | .868538 | .877686 | .895848 | |
| | 28 | .761819 | .789992 | .811881 | .829804 | .849359 | .861868 | .885572 | .894040 | .910738 | |
| | 29 | .785308 | .812266 | .833064 | .849986 | .868325 | .879981 | .901883 | .909641 | .924819 | |
| | 30 | .808550 | .834172 | .853781 | .869623 | .886661 | .897411 | .917417 | .924434 | .938038 | |
| | 31 | .831521 | .855670 | .873987 | .888663 | .904309 | .914096 | .932106 | .938350 | .950324 | |
| | 32 | .854187 | .876713 | .893620 | .907036 | .921190 | .929954 | .945863 | .951301 | .961593 | |
| | 33 | .876503 | .897235 | .912599 | .924650 | .937201 | .944875 | .958573 | .963173 | .971735 | |
| | 34 | .898407 | .917144 | .930813 | .941376 | .952201 | .958713 | .970086 | .973817 | .980612 | |
| | 35 | .919805 | .936306 | .948096 | .957032 | .965991 | .971263 | .980199 | .983037 | .988050 | |
| 36 | 1 | .940553 | .954512 | .964201 | .971340 | .978275 | .982225 | .988632 | .990569 | .993835 | |
| | 2 | .960397 | .971406 | .978706 | .983847 | .988588 | .991146 | .994997 | .996067 | .997734 | |
| | 3 | .978813 | .986280 | .990811 | .993728 | .996149 | .997315 | .998821 | .999170 | .999631 | |
| | 4 | .994295 | .997302 | .998686 | .999351 | .999742 | .999871 | .999974 | .999987 | .999997 | |
| | 5 | 1 | .039437 | .055939 | .072158 | .088097 | .108749 | .124060 | .158605 | .173059 | .205671 |
| | 2 | .073015 | .093797 | .113188 | .131586 | .154733 | .171515 | .208507 | .223702 | .257510 | |
| | 3 | .103958 | .127628 | .149152 | .169197 | .194010 | .211768 | .250358 | .266026 | .300565 | |
| | 4 | .133571 | .159449 | .182587 | .203865 | .229907 | .248372 | .288085 | .304067 | .339049 | |
| | 5 | .162328 | .189982 | .214398 | .236637 | .263619 | .282611 | .323117 | .339301 | .374520 | |
| | 6 | .190464 | .219580 | .245031 | .268033 | .295738 | .315122 | .356173 | .372474 | .407767 | |
| | 7 | .218117 | .248451 | .274745 | .298353 | .326612 | .346279 | .387674 | .404023 | .439258 | |
| | 8 | .245374 | .276727 | .303706 | .327790 | .356462 | .376323 | .417895 | .434232 | .469297 | |
| | 9 | .272295 | .304497 | .332028 | .356478 | .385442 | .405419 | .447023 | .463298 | .498094 | |
| | 10 | .298924 | .331827 | .359792 | .384512 | .413661 | .433687 | .475194 | .491362 | .525801 | |
| | 11 | .325292 | .358765 | .387060 | .411962 | .441202 | .461215 | .502510 | .518529 | .552533 | |
| | 12 | .351424 | .385347 | .413877 | .438883 | .468127 | .488071 | .529049 | .544882 | .578378 | |
| | 13 | .377339 | .411601 | .440280 | .465316 | .494484 | .514308 | .554870 | .570484 | .603403 | |
| | 14 | .403051 | .437550 | .466295 | .491295 | .520311 | .539968 | .580023 | .595383 | .627662 | |
| | 15 | .428572 | .463211 | .491946 | .516844 | .545639 | .565081 | .604543 | .619619 | .651198 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 40 | 16 | .453911 | .488598 | .517248 | .541985 | .570490 | .589675 | .628460 | .643223 | .674045 |
| | 17 | .479075 | .513721 | .542217 | .566733 | .594883 | .613769 | .651798 | .666219 | .696228 |
| | 18 | .504069 | .538588 | .566861 | .591099 | .618832 | .637378 | .674574 | .688625 | .717767 |
| | 19 | .528897 | .563205 | .591188 | .615093 | .642347 | .660513 | .696800 | .710455 | .738678 |
| | 20 | .553561 | .587576 | .615203 | .638720 | .665434 | .683182 | .718485 | .731717 | .758570 |
| | 21 | .578064 | .611703 | .638908 | .661982 | .688096 | .705387 | .739633 | .752416 | .778649 |
| | 22 | .602404 | .635585 | .662304 | .684880 | .710335 | .727129 | .760246 | .772554 | .797715 |
| | 23 | .626580 | .659221 | .685387 | .707412 | .732146 | .748405 | .780319 | .792127 | .816167 |
| | 24 | .650590 | .682606 | .708153 | .729571 | .753524 | .769209 | .799847 | .811128 | .833998 |
| | 25 | .674430 | .705736 | .730596 | .751350 | .774460 | .789531 | .818817 | .829546 | .851195 |
| | 26 | .698095 | .728603 | .752705 | .772737 | .794940 | .809357 | .837215 | .847365 | .867743 |
| | 27 | .721578 | .751195 | .774468 | .793718 | .814947 | .828668 | .855021 | .864564 | .883619 |
| | 28 | .744869 | .773500 | .795866 | .814271 | .834460 | .847440 | .872206 | .881116 | .898797 |
| | 29 | .767957 | .795499 | .816879 | .834373 | .853448 | .865643 | .888739 | .896986 | .913241 |
| | 30 | .790827 | .817171 | .837478 | .853991 | .871876 | .883238 | .904577 | .912132 | .926908 |
| | 31 | .813460 | .838488 | .857630 | .873085 | .889699 | .900176 | .919666 | .926500 | .939743 |
| | 32 | .835831 | .859413 | .877288 | .891603 | .906857 | .916396 | .933941 | .940021 | .951679 |
| | 33 | .857907 | .879899 | .896394 | .909478 | .923275 | .931815 | .947313 | .952609 | .962630 |
| | 34 | .879646 | .899880 | .914867 | .926617 | .938851 | .946329 | .959674 | .964154 | .972491 |
| | 35 | .900985 | .919268 | .932599 | .942898 | .953449 | .959794 | .970874 | .974508 | .981125 |
| | 36 | .921935 | .937932 | .949430 | .958140 | .966872 | .972009 | .980716 | .983481 | .988363 |
| | 37 | .942053 | .955668 | .965115 | .972075 | .978834 | .982683 | .988925 | .990813 | .993995 |
| | 38 | .961393 | .972130 | .979246 | .984258 | .988879 | .991372 | .995125 | .996168 | .997792 |
| | 39 | .979344 | .986625 | .991043 | .993886 | .996246 | .997383 | .998851 | .999191 | .999640 |
| | 40 | .994437 | .997369 | .998718 | .999367 | .999749 | .999875 | .999975 | .999987 | .999997 |
| 41 | 1 | .038494 | .054613 | .070461 | .086044 | .106243 | .121226 | .155053 | .169218 | .201198 |
| | 2 | .071277 | .091590 | .110553 | .128554 | .151216 | .167655 | .203921 | .218830 | .252028 |
| | 3 | .101494 | .124542 | .145705 | .165333 | .189646 | .207058 | .244930 | .260320 | .294275 |
| | 4 | .130415 | .155738 | .178395 | .199246 | .224784 | .242905 | .281916 | .297631 | .332060 |
| | 5 | .158504 | .185580 | .209505 | .231315 | .257795 | .276450 | .316278 | .332208 | .366908 |
| | 6 | .185990 | .214515 | .239471 | .262045 | .289258 | .308314 | .348717 | .364779 | .399592 |
| | 7 | .213007 | .242744 | .268544 | .291730 | .319512 | .338864 | .379646 | .395772 | .430567 |
| | 8 | .239640 | .270396 | .296888 | .320561 | .348772 | .368333 | .409331 | .425464 | .460131 |
| | 9 | .265949 | .297559 | .324613 | .348665 | .377190 | .396884 | .437957 | .454046 | .488490 |
| | 10 | .291975 | .324296 | .351799 | .376137 | .404872 | .424634 | .465656 | .481659 | .515793 |
| | 11 | .317750 | .350654 | .378506 | .403046 | .431898 | .451669 | .492530 | .508406 | .542153 |
| | 12 | .343297 | .376670 | .404778 | .429445 | .458331 | .478057 | .518653 | .534365 | .567656 |
| | 13 | .368635 | .402371 | .430652 | .459374 | .484217 | .503848 | .544085 | .559601 | .592368 |
| | 14 | .393779 | .427779 | .456153 | .480866 | .509594 | .529083 | .568873 | .584161 | .616343 |
| | 15 | .418739 | .452910 | .481305 | .505947 | .534492 | .553795 | .593055 | .608084 | .639623 |
| | 16 | .443526 | .477780 | .506124 | .530637 | .558934 | .578010 | .616659 | .631401 | .662241 |
| | 17 | .468145 | .502397 | .530625 | .554952 | .582938 | .601747 | .639708 | .654136 | .684225 |
| | 18 | .492603 | .526772 | .554816 | .578904 | .606519 | .625022 | .662222 | .676309 | .705593 |
| | 19 | .516904 | .550909 | .578707 | .602502 | .629688 | .647846 | .684212 | .697933 | .726363 |
| | 20 | .541049 | .574813 | .602302 | .625752 | .652451 | .670228 | .705690 | .719019 | .746544 |
| | 21 | .565042 | .598486 | .625604 | .648658 | .674813 | .692172 | .726659 | .739572 | .766145 |
| | 22 | .588882 | .621930 | .648615 | .671221 | .696776 | .713680 | .747124 | .759595 | .785167 |
| | 23 | .612569 | .645142 | .671334 | .693441 | .718338 | .734751 | .767081 | .779087 | .803611 |
| | 24 | .636101 | .668122 | .693758 | .715313 | .739496 | .755380 | .786528 | .798043 | .821471 |
| | 25 | .659475 | .690865 | .715880 | .736832 | .760243 | .775561 | .805456 | .816456 | .838741 |
| | 26 | .682688 | .713364 | .737695 | .757989 | .780568 | .795283 | .823853 | .834313 | .855406 |
| | 27 | .705734 | .735611 | .759191 | .778772 | .800458 | .814531 | .841704 | .851597 | .871450 |
| | 28 | .728605 | .757597 | .780355 | .799166 | .819896 | .833286 | .858986 | .868288 | .886852 |
| | 29 | .751293 | .779367 | .801171 | .819151 | .838859 | .851525 | .875674 | .884357 | .901582 |
| | 30 | .773785 | .800723 | .821617 | .838701 | .857319 | .869216 | .891735 | .899772 | .915607 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 41 | 31 | .796068 | .821825 | .841665 | .857787 | .875240 | .886323 | .907126 | .914489 | .928883 |
| | 32 | .818123 | .842585 | .861281 | .876368 | .892577 | .902796 | .921796 | .928455 | .941357 |
| | 33 | .839925 | .862967 | .880421 | .894392 | .909273 | .918575 | .935678 | .941603 | .952961 |
| | 34 | .861443 | .882923 | .899027 | .911794 | .925253 | .933580 | .948688 | .953849 | .963613 |
| | 35 | .882633 | .902397 | .917021 | .928485 | .940417 | .947709 | .960717 | .965083 | .973207 |
| | 36 | .903436 | .921286 | .934296 | .944343 | .954633 | .960820 | .971622 | .975164 | .981617 |
| | 37 | .923765 | .939477 | .950696 | .959193 | .967709 | .972718 | .981207 | .983901 | .988660 |
| | 38 | .943480 | .956767 | .965984 | .972773 | .979364 | .983118 | .989205 | .991044 | .994146 |
| | 39 | .962340 | .972817 | .979760 | .984649 | .989156 | .991587 | .995247 | .996264 | .997847 |
| | 40 | .979849 | .986954 | .991263 | .994037 | .996338 | .997448 | .998879 | .999211 | .999649 |
| | 41 | .994572 | .997434 | .998750 | .999383 | .999755 | .999878 | .999976 | .999988 | .999998 |
| 42 | 1 | .037595 | .053348 | .068843 | .084084 | .103850 | .118518 | .151657 | .165543 | .196914 |
| | 2 | .069620 | .089484 | .108038 | .125659 | .147854 | .163965 | .199531 | .214164 | .246772 |
| | 3 | .099144 | .121793 | .142414 | .161642 | .185474 | .202552 | .239730 | .254851 | .288239 |
| | 4 | .127405 | .152195 | .174392 | .194831 | .219884 | .237673 | .276004 | .291459 | .325349 |
| | 5 | .154855 | .181377 | .204831 | .226225 | .252222 | .270549 | .309719 | .325402 | .359595 |
| | 6 | .181721 | .209677 | .234157 | .256317 | .283054 | .301791 | .341563 | .357391 | .391730 |
| | 7 | .208130 | .237292 | .262616 | .285394 | .312710 | .331755 | .371937 | .387844 | .422203 |
| | 8 | .234168 | .264347 | .290368 | .313641 | .341403 | .360670 | .401103 | .417033 | .451304 |
| | 9 | .259891 | .290928 | .317520 | .341184 | .369278 | .388695 | .429242 | .445146 | .479235 |
| | 10 | .285341 | .317097 | .344150 | .368116 | .396441 | .415943 | .456483 | .472319 | .506142 |
| | 11 | .310548 | .342900 | .370318 | .394502 | .422971 | .442501 | .482924 | .498653 | .532135 |
| | 12 | .335535 | .368372 | .396066 | .420397 | .448927 | .468433 | .508641 | .524227 | .557300 |
| | 13 | .360322 | .393541 | .421429 | .445839 | .474356 | .493789 | .533691 | .549102 | .581700 |
| | 14 | .384921 | .418429 | .446435 | .470861 | .499295 | .518611 | .558120 | .573326 | .605390 |
| | 15 | .409344 | .443051 | .471105 | .495487 | .523774 | .542931 | .581966 | .596938 | .628411 |
| | 16 | .433600 | .467422 | .495457 | .519739 | .547816 | .566773 | .605258 | .619967 | .650797 |
| | 17 | .457698 | .491553 | .519503 | .543632 | .571439 | .590157 | .628019 | .642440 | .672573 |
| | 18 | .481641 | .515451 | .543255 | .567179 | .594658 | .613101 | .650268 | .664374 | .693761 |
| | 19 | .505434 | .539124 | .566721 | .590389 | .617484 | .635615 | .672018 | .685786 | .714377 |
| | 20 | .529080 | .562575 | .589906 | .613268 | .639925 | .657708 | .693279 | .706684 | .734434 |
| | 21 | .552582 | .585808 | .612814 | .635822 | .661986 | .679387 | .714059 | .727078 | .753538 |
| | 22 | .575940 | .608825 | .635448 | .658052 | .683670 | .700654 | .734362 | .746969 | .772895 |
| | 23 | .599153 | .631624 | .657806 | .679959 | .704977 | .721510 | .754186 | .766360 | .791305 |
| | 24 | .622223 | .654206 | .679888 | .701541 | .725905 | .741951 | .773531 | .785248 | .809167 |
| | 25 | .645145 | .676566 | .701689 | .722793 | .746449 | .761974 | .792301 | .803627 | .826473 |
| | 26 | .667917 | .698700 | .723205 | .743709 | .766601 | .781569 | .810756 | .821487 | .843216 |
| | 27 | .690535 | .720603 | .744426 | .764279 | .786351 | .800726 | .828614 | .838817 | .859382 |
| | 28 | .712993 | .742265 | .765343 | .784492 | .805685 | .819429 | .845949 | .855598 | .874554 |
| | 29 | .735285 | .763676 | .785942 | .804332 | .824586 | .837660 | .862739 | .871810 | .889908 |
| | 30 | .757400 | .784822 | .806206 | .823779 | .843030 | .855395 | .878958 | .887426 | .904217 |
| | 31 | .779327 | .805686 | .826114 | .842809 | .860990 | .872603 | .894573 | .902410 | .917847 |
| | 32 | .801053 | .826248 | .845660 | .861390 | .878431 | .889248 | .909542 | .916722 | .930754 |
| | 33 | .822558 | .846479 | .864748 | .879484 | .895309 | .905281 | .923815 | .930308 | .942886 |
| | 34 | .843820 | .866345 | .883397 | .897040 | .911566 | .920643 | .937326 | .943104 | .954177 |
| | 35 | .864906 | .885799 | .901529 | .913994 | .927130 | .935256 | .949993 | .955025 | .964545 |
| | 36 | .885475 | .904782 | .919068 | .930259 | .941905 | .949020 | .961708 | .965966 | .973887 |
| | 37 | .905769 | .923206 | .935909 | .945716 | .955758 | .961795 | .972332 | .975786 | .982C74 |
| | 38 | .925601 | .940947 | .951901 | .960194 | .968505 | .973392 | .981673 | .984301 | .988943 |
| | 39 | .944837 | .957813 | .966811 | .973436 | .979869 | .983532 | .989470 | .991265 | .994291 |
| | 40 | .963242 | .973472 | .980249 | .985020 | .989419 | .991792 | .995363 | .996355 | .997900 |
| | 41 | .980329 | .987266 | .991473 | .994180 | .996426 | .997509 | .998906 | .999230 | .999658 |
| | 42 | .994701 | .997495 | .998779 | .999397 | .999761 | .999881 | .999976 | .999988 | .999998 |
| 43 | 1 | .C36737 | .052140 | .067297 | .082211 | .101561 | .115928 | .148406 | .162023 | .192809 |
| | 2 | .C68039 | .087473 | .105634 | .122890 | .144639 | .160433 | .195326 | .209693 | .241729 |
| | 3 | .C96900 | .119071 | .139269 | .158111 | .181481 | .198238 | .234745 | .249605 | .282444 |
| | 4 | .124530 | .148810 | .170563 | .190607 | .215192 | .232660 | .270332 | .285535 | .318901 |
| | 5 | .151371 | .177360 | .200359 | .221353 | .246883 | .264894 | .303424 | .318865 | .352562 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 43 | 6 | .177643 | .205053 | .229072 | .250832 | .277108 | .295537 | .334692 | .350291 | .384166 |
| | 7 | .203472 | .232079 | .256943 | .279325 | .306190 | .324936 | .364530 | .380221 | .414150 |
| | 8 | .228940 | .258561 | .284126 | .307011 | .334335 | .353316 | .393193 | .408923 | .442799 |
| | 9 | .254103 | .284584 | .310728 | .334014 | .361687 | .380831 | .420859 | .436579 | .470311 |
| | 10 | .279001 | .310208 | .336824 | .360475 | .388349 | .407594 | .447653 | .463323 | .496830 |
| | 11 | .303664 | .335478 | .362472 | .386308 | .414398 | .433689 | .473674 | .489254 | .522462 |
| | 12 | .328115 | .360429 | .387715 | .411716 | .439892 | .459178 | .498993 | .514450 | .547292 |
| | 13 | .352372 | .385087 | .412587 | .436687 | .464878 | .484112 | .523668 | .538970 | .571384 |
| | 14 | .376449 | .409474 | .437115 | .461253 | .489391 | .508531 | .547744 | .562862 | .594789 |
| | 15 | .400357 | .433606 | .461320 | .485440 | .513462 | .532466 | .571259 | .586164 | .617550 |
| | 16 | .424106 | .457497 | .485219 | .509266 | .537113 | .555942 | .594241 | .608907 | .639699 |
| | 17 | .447701 | .481157 | .508826 | .532749 | .560362 | .578980 | .616714 | .631115 | .661263 |
| | 18 | .471149 | .504596 | .532152 | .555900 | .583226 | .601596 | .638696 | .652808 | .682263 |
| | 19 | .494455 | .527819 | .555204 | .578730 | .605714 | .623802 | .660202 | .674001 | .702716 |
| | 20 | .517621 | .550833 | .577989 | .601246 | .627835 | .645607 | .681243 | .694705 | .722635 |
| | 21 | .540649 | .573639 | .600512 | .623453 | .649596 | .667019 | .701825 | .714928 | .742029 |
| | 22 | .563542 | .596239 | .622775 | .645353 | .670999 | .688040 | .721954 | .734676 | .760902 |
| | 23 | .586299 | .618636 | .644778 | .666949 | .692047 | .708672 | .741632 | .753949 | .779258 |
| | 24 | .608919 | .640828 | .666521 | .688238 | .712738 | .728915 | .760858 | .772749 | .797095 |
| | 25 | .631403 | .662812 | .688002 | .709219 | .733069 | .748765 | .779628 | .791070 | .814411 |
| | 26 | .653747 | .684586 | .709216 | .729886 | .753035 | .768216 | .797936 | .808906 | .831199 |
| | 27 | .675948 | .706145 | .730157 | .750232 | .772627 | .787260 | .815771 | .826247 | .847448 |
| | 28 | .698001 | .727483 | .750817 | .770248 | .791834 | .805883 | .833121 | .843080 | .863144 |
| | 29 | .719902 | .748590 | .771186 | .789922 | .810643 | .824073 | .849970 | .859388 | .878269 |
| | 30 | .741642 | .769455 | .791249 | .809237 | .829035 | .841809 | .866295 | .875148 | .892802 |
| | 31 | .763213 | .790067 | .810991 | .828175 | .846989 | .859067 | .882071 | .890334 | .906714 |
| | 32 | .784604 | .810407 | .830390 | .846711 | .864476 | .875819 | .897265 | .904912 | .919570 |
| | 33 | .805799 | .830455 | .849420 | .864814 | .881463 | .892025 | .911836 | .918841 | .932529 |
| | 34 | .826782 | .850184 | .868047 | .882446 | .897904 | .907642 | .925732 | .932068 | .944337 |
| | 35 | .847529 | .869560 | .886228 | .899559 | .913746 | .922608 | .938892 | .944529 | .955331 |
| | 36 | .868009 | .888537 | .903910 | .916088 | .928916 | .936849 | .951232 | .956143 | .965430 |
| | 37 | .888193 | .907056 | .921016 | .931948 | .943320 | .950266 | .962650 | .966805 | .974533 |
| | 38 | .907991 | .925034 | .937444 | .947023 | .956829 | .962723 | .973007 | .976378 | .982514 |
| | 39 | .927351 | .942347 | .953048 | .961148 | .969262 | .974034 | .982116 | .984682 | .989211 |
| | 40 | .946132 | .958809 | .967598 | .974069 | .980350 | .983926 | .989723 | .991474 | .994428 |
| | 41 | .964102 | .974095 | .980715 | .985375 | .989670 | .991986 | .995473 | .996441 | .997950 |
| | 42 | .980788 | .987564 | .991673 | .994317 | .996510 | .997568 | .998932 | .999248 | .999666 |
| | 43 | .994824 | .997553 | .998808 | .999411 | .999766 | .999883 | .999977 | .999988 | .999998 |
| 44 | 1 | .035917 | .050586 | .065819 | .080420 | .099372 | .113449 | .145291 | .158650 | .188869 |
| | 2 | .066527 | .085550 | .103335 | .120242 | .141560 | .157049 | .191294 | .205403 | .236887 |
| | 3 | .094755 | .116467 | .136259 | .154732 | .177656 | .194102 | .229962 | .244570 | .276874 |
| | 4 | .121782 | .145571 | .166899 | .186562 | .210695 | .227852 | .264887 | .279846 | .312700 |
| | 5 | .148040 | .173517 | .196078 | .216687 | .241765 | .259469 | .297377 | .312583 | .345795 |
| | 6 | .173744 | .200627 | .224203 | .245577 | .271406 | .289534 | .328089 | .343464 | .376882 |
| | 7 | .199017 | .227089 | .251508 | .273507 | .299934 | .318388 | .357408 | .372887 | .406391 |
| | 8 | .223939 | .253022 | .278145 | .300653 | .327551 | .346251 | .385583 | .401115 | .434600 |
| | 9 | .248566 | .278510 | .304218 | .327137 | .354398 | .373274 | .412789 | .428326 | .461702 |
| | 10 | .272935 | .303611 | .329800 | .353045 | .380576 | .399568 | .439150 | .454652 | .487840 |
| | 11 | .297077 | .328369 | .354949 | .378443 | .406159 | .425213 | .464760 | .480190 | .513118 |
| | 12 | .321015 | .352818 | .379706 | .403380 | .431206 | .450272 | .489690 | .505015 | .537617 |
| | 13 | .344764 | .376985 | .404104 | .427896 | .455761 | .474796 | .513998 | .529186 | .561403 |
| | 14 | .368341 | .400890 | .428170 | .452022 | .479861 | .498821 | .537728 | .552751 | .584525 |
| | 15 | .391754 | .424550 | .451926 | .475781 | .503535 | .522380 | .560917 | .575747 | .607025 |
| | 16 | .415014 | .447978 | .475387 | .499195 | .526804 | .545499 | .583592 | .598205 | .628935 |
| | 17 | .438128 | .471185 | .498568 | .522279 | .549688 | .568196 | .605778 | .620149 | .650283 |
| | 18 | .461100 | .494180 | .521480 | .545045 | .572202 | .590489 | .627494 | .641598 | .671090 |
| | 19 | .483936 | .516969 | .544130 | .567504 | .594358 | .612389 | .648753 | .662568 | .691373 |
| | 20 | .506640 | .539557 | .566526 | .589663 | .616163 | .633907 | .669568 | .683071 | .711144 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 44 | 21 | .529212 | .561949 | .588672 | .611528 | .637625 | .655050 | .689947 | .703116 | .730414 |
| | 22 | .551656 | .584146 | .610572 | .631102 | .658748 | .675823 | .709895 | .722709 | .749189 |
| | 23 | .573571 | .606150 | .632226 | .654388 | .679535 | .696227 | .729415 | .741852 | .767473 |
| | 24 | .596159 | .627961 | .653635 | .675386 | .699984 | .716264 | .748508 | .760547 | .785266 |
| | 25 | .618217 | .649577 | .674797 | .696093 | .720095 | .735931 | .767171 | .778791 | .802567 |
| | 26 | .640144 | .670996 | .695710 | .716506 | .739864 | .755224 | .785400 | .796579 | .819371 |
| | 27 | .661939 | .692215 | .716368 | .736621 | .759283 | .774136 | .803188 | .813905 | .835670 |
| | 28 | .683597 | .713229 | .736766 | .756428 | .778346 | .792658 | .820524 | .830757 | .851454 |
| | 29 | .705114 | .734030 | .756894 | .775920 | .797040 | .810779 | .837396 | .847122 | .866707 |
| | 30 | .726484 | .754610 | .776743 | .795083 | .815352 | .828482 | .853785 | .862982 | .881413 |
| | 31 | .747700 | .774958 | .796299 | .813901 | .833263 | .845749 | .869671 | .878316 | .895547 |
| | 32 | .768754 | .795062 | .815545 | .832356 | .850752 | .862557 | .885028 | .893096 | .909883 |
| | 33 | .789633 | .814904 | .834460 | .850423 | .867791 | .878875 | .899822 | .907289 | .921986 |
| | 34 | .810324 | .834463 | .853018 | .868073 | .884346 | .894667 | .914015 | .920854 | .934214 |
| | 35 | .830809 | .853715 | .871187 | .885266 | .900374 | .909887 | .927555 | .933741 | .945716 |
| | 36 | .851066 | .872624 | .888925 | .901957 | .915821 | .924478 | .940381 | .945885 | .956428 |
| | 37 | .871065 | .891147 | .906178 | .918081 | .930616 | .938366 | .952412 | .957207 | .966272 |
| | 38 | .890765 | .909225 | .922872 | .933557 | .944668 | .951452 | .963547 | .967604 | .975148 |
| | 39 | .910111 | .926776 | .938908 | .948269 | .957849 | .963606 | .973650 | .976942 | .982932 |
| | 40 | .929021 | .943683 | .954141 | .962056 | .969984 | .974645 | .982539 | .985044 | .989467 |
| | 41 | .947366 | .959759 | .968349 | .974672 | .980808 | .984302 | .989963 | .991674 | .994559 |
| | 42 | .964922 | .974690 | .981160 | .985712 | .989909 | .992172 | .995578 | .996524 | .997998 |
| | 43 | .981225 | .987848 | .991863 | .994447 | .996591 | .997623 | .998957 | .999265 | .999673 |
| | 44 | .994941 | .997608 | .998835 | .999425 | .999772 | .999886 | .999977 | .999989 | .999998 |
| 45 | 1 | .035133 | .049881 | .064404 | .078705 | .097275 | .111073 | .142304 | .155414 | .185087 |
| | 2 | .065082 | .083710 | .101134 | .117704 | .138609 | .153805 | .187424 | .201285 | .232234 |
| | 3 | .092703 | .113975 | .133376 | .151493 | .173988 | .190136 | .225369 | .239732 | .271519 |
| | 4 | .119153 | .142471 | .163388 | .182684 | .206381 | .223239 | .259656 | .274376 | .306733 |
| | 5 | .144853 | .169816 | .191976 | .212212 | .236853 | .254260 | .291565 | .306541 | .339279 |
| | 6 | .170012 | .196388 | .219536 | .240536 | .265931 | .283768 | .321738 | .336894 | .369865 |
| | 7 | .194753 | .222308 | .246298 | .267925 | .293926 | .312096 | .350554 | .365826 | .398911 |
| | 8 | .219152 | .247715 | .272410 | .294552 | .321034 | .339460 | .378257 | .393594 | .426690 |
| | 9 | .243264 | .272689 | .297974 | .320534 | .347394 | .366007 | .405017 | .420372 | .453393 |
| | 10 | .267127 | .297287 | .323061 | .345958 | .373103 | .391846 | .430956 | .446290 | .479157 |
| | 11 | .290769 | .321553 | .347729 | .370888 | .398236 | .417055 | .456165 | .471444 | .504087 |
| | 12 | .314213 | .345520 | .372016 | .395371 | .422850 | .441698 | .480717 | .495906 | .528261 |
| | 13 | .337476 | .369214 | .395958 | .419447 | .446988 | .465821 | .504665 | .519735 | .551744 |
| | 14 | .360572 | .392655 | .419579 | .443145 | .470686 | .489463 | .528055 | .542978 | .574585 |
| | 15 | .383510 | .415860 | .442900 | .466491 | .493972 | .512656 | .550922 | .565672 | .596824 |
| | 16 | .406301 | .438842 | .465938 | .489504 | .516870 | .535424 | .573295 | .587846 | .618495 |
| | 17 | .428951 | .461611 | .488706 | .512199 | .530397 | .557787 | .595196 | .609526 | .639625 |
| | 18 | .451466 | .484177 | .511216 | .534590 | .561569 | .579761 | .616646 | .630730 | .660233 |
| | 19 | .473851 | .506546 | .533476 | .556686 | .583397 | .601359 | .637658 | .651475 | .680339 |
| | 20 | .496108 | .528723 | .555493 | .578497 | .604890 | .622593 | .658245 | .671774 | .699955 |
| | 21 | .518241 | .550713 | .577272 | .600027 | .626057 | .643468 | .678416 | .691634 | .719091 |
| | 22 | .540252 | .572518 | .598816 | .621280 | .646900 | .663990 | .698176 | .711063 | .737756 |
| | 23 | .562141 | .594140 | .620128 | .642260 | .667424 | .684163 | .717529 | .730065 | .755953 |
| | 24 | .583909 | .615579 | .641207 | .662966 | .687629 | .703988 | .736477 | .748642 | .773685 |
| | 25 | .605555 | .636835 | .662055 | .683399 | .707515 | .723463 | .755020 | .766793 | .790950 |
| | 26 | .627079 | .657906 | .682667 | .703556 | .727079 | .742587 | .773154 | .784514 | .807747 |
| | 27 | .648478 | .678789 | .703042 | .723433 | .746316 | .761354 | .790873 | .801801 | .824069 |
| | 28 | .669750 | .699481 | .723174 | .743024 | .765220 | .779757 | .808171 | .818645 | .839908 |
| | 29 | .690891 | .719976 | .743056 | .762322 | .783782 | .797787 | .825036 | .835036 | .855253 |
| | 30 | .711898 | .740267 | .762680 | .781316 | .801990 | .815431 | .841455 | .850958 | .870088 |
| | 31 | .732763 | .760347 | .782035 | .799994 | .819831 | .832674 | .857410 | .866396 | .884396 |
| | 32 | .753480 | .780203 | .801108 | .818341 | .837286 | .849497 | .872880 | .881325 | .898154 |
| | 33 | .774040 | .799823 | .819883 | .836337 | .854334 | .865877 | .887839 | .895721 | .911334 |
| | 34 | .794432 | .819191 | .838338 | .853959 | .870947 | .881783 | .902255 | .909549 | .923902 |
| | 35 | .814642 | .838286 | .856448 | .871177 | .887092 | .897182 | .916089 | .922770 | .935817 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 45 | 36 | .834653 | .857082 | .874181 | .887954 | .902727 | .912026 | .929290 | .935333 | .947028 | |
| | 37 | .854443 | .875546 | .891497 | .904243 | .917798 | .926260 | .941799 | .947176 | .957473 | |
| | 38 | .873982 | .893636 | .908341 | .919982 | .932237 | .939811 | .953536 | .958220 | .967074 | |
| | 39 | .893231 | .911294 | .924643 | .935091 | .945953 | .952584 | .964402 | .968365 | .975734 | |
| | 40 | .912136 | .928440 | .940305 | .949458 | .958822 | .964449 | .974263 | .977479 | .983331 | |
| | 41 | .930616 | .944958 | .955185 | .962923 | .970672 | .975228 | .982942 | .985390 | .989711 | |
| | 42 | .948546 | .960667 | .969066 | .975247 | .981246 | .984660 | .990193 | .991865 | .994684 | |
| | 43 | .965706 | .975259 | .981584 | .986035 | .990137 | .992349 | .995678 | .996603 | .998043 | |
| | 44 | .981643 | .988119 | .992046 | .994572 | .996667 | .997677 | .998980 | .999282 | .999681 | |
| | 45 | .995054 | .997661 | .998861 | .999438 | .999777 | .999889 | .999978 | .999989 | .999998 | |
| 46 | 1 | .034383 | .048824 | .063049 | .077062 | .095264 | .108795 | .139437 | .152307 | .181453 | |
| | 2 | .063698 | .081947 | .099024 | .115272 | .135778 | .150692 | .183707 | .197328 | .227759 | |
| | 3 | .090738 | .111588 | .130612 | .148387 | .170469 | .186327 | .220955 | .235081 | .266364 | |
| | 4 | .116634 | .139499 | .160022 | .178964 | .202240 | .218808 | .254626 | .269115 | .300987 | |
| | 5 | .141799 | .166308 | .188042 | .207917 | .232136 | .249254 | .285973 | .300726 | .333000 | |
| | 6 | .166437 | .192324 | .215059 | .235697 | .260672 | .278225 | .315626 | .330567 | .363099 | |
| | 7 | .190667 | .217724 | .241298 | .262565 | .288152 | .306046 | .343955 | .359023 | .391695 | |
| | 8 | .214565 | .242625 | .266905 | .288691 | .314769 | .332927 | .371200 | .386344 | .419056 | |
| | 9 | .238183 | .267104 | .291979 | .314191 | .340657 | .359014 | .397526 | .412702 | .445368 | |
| | 10 | .261560 | .291219 | .316590 | .339148 | .365914 | .384412 | .423054 | .438223 | .470767 | |
| | 11 | .284723 | .315012 | .340794 | .363624 | .390611 | .409199 | .447874 | .463000 | .495355 | |
| | 12 | .307693 | .338515 | .364629 | .387669 | .414805 | .433436 | .472055 | .487108 | .519210 | |
| | 13 | .330489 | .361754 | .388130 | .411319 | .438538 | .457170 | .495652 | .510602 | .542393 | |
| | 14 | .353122 | .384748 | .411320 | .434604 | .461846 | .480440 | .518709 | .533528 | .564955 | |
| | 15 | .375604 | .407514 | .434221 | .457549 | .484756 | .503274 | .541260 | .555923 | .586936 | |
| | 16 | .397944 | .430066 | .456849 | .480172 | .507291 | .525699 | .563333 | .577817 | .608367 | |
| | 17 | .420148 | .452413 | .479218 | .502490 | .529469 | .547734 | .584954 | .599234 | .629276 | |
| | 18 | .442223 | .474564 | .501339 | .524515 | .551306 | .569395 | .606139 | .620194 | .649683 | |
| | 19 | .464172 | .496527 | .523220 | .546259 | .572813 | .590696 | .626904 | .640712 | .669607 | |
| | 20 | .486000 | .518306 | .544868 | .567728 | .593999 | .611647 | .647261 | .660802 | .689061 | |
| | 21 | .507709 | .539906 | .566289 | .588929 | .614873 | .632255 | .667220 | .680473 | .708056 | |
| | 22 | .529302 | .561330 | .587486 | .609866 | .635439 | .652527 | .686787 | .699732 | .726600 | |
| | 23 | .550779 | .582580 | .608461 | .630544 | .655701 | .672466 | .705967 | .718585 | .744698 | |
| | 24 | .572141 | .603657 | .629218 | .650962 | .675661 | .692075 | .724762 | .737033 | .762353 | |
| | 25 | .593388 | .624561 | .649754 | .671121 | .695318 | .711353 | .743173 | .755077 | .779566 | |
| | 26 | .614520 | .645290 | .670069 | .691021 | .714671 | .730300 | .761198 | .772716 | .796336 | |
| | 27 | .635535 | .665843 | .690161 | .710657 | .733718 | .748911 | .778832 | .789945 | .812658 | |
| | 28 | .656431 | .686218 | .710025 | .730025 | .752452 | .767181 | .796071 | .806759 | .828525 | |
| | 29 | .677206 | .706409 | .729657 | .749121 | .770868 | .785102 | .812905 | .823148 | .843930 | |
| | 30 | .697855 | .726411 | .749050 | .767934 | .788955 | .802665 | .829324 | .839102 | .858860 | |
| | 31 | .718375 | .746218 | .768195 | .786456 | .806703 | .819858 | .845314 | .854606 | .873301 | |
| | 32 | .738759 | .765820 | .787081 | .804675 | .824096 | .836665 | .860857 | .869642 | .887233 | |
| | 33 | .759000 | .785208 | .805695 | .822573 | .841118 | .853066 | .875933 | .884189 | .900634 | |
| | 34 | .779089 | .804368 | .824021 | .840133 | .857747 | .869039 | .890515 | .898220 | .913476 | |
| | 35 | .799016 | .823283 | .842038 | .857331 | .873955 | .884555 | .904572 | .911701 | .925727 | |
| | 36 | .818768 | .841935 | .859721 | .874139 | .889710 | .899579 | .918064 | .924595 | .937344 | |
| | 37 | .838326 | .860297 | .877039 | .890518 | .904971 | .914065 | .930944 | .936850 | .948279 | |
| | 38 | .857669 | .878338 | .893952 | .906424 | .919684 | .927960 | .943151 | .948406 | .958469 | |
| | 39 | .876769 | .896015 | .910407 | .921797 | .933783 | .941190 | .954608 | .959186 | .967839 | |
| | 40 | .895587 | .913271 | .926335 | .936556 | .947179 | .953663 | .965217 | .969091 | .976293 | |
| | 41 | .914071 | .930030 | .941639 | .950593 | .959752 | .965253 | .974848 | .977992 | .983712 | |
| | 42 | .932140 | .946176 | .956182 | .963752 | .971330 | .975785 | .983327 | .985720 | .989444 | |
| | 43 | .949674 | .961534 | .969751 | .975797 | .981663 | .985002 | .990413 | .992047 | .994803 | |
| | 44 | .966456 | .975802 | .981990 | .986343 | .990355 | .992519 | .995774 | .996678 | .998086 | |
| | 45 | .982043 | .988379 | .992220 | .994691 | .996740 | .997728 | .999003 | .999298 | .999688 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 46 | 46 | .995161 | .997712 | .998886 | .999450 | .999782 | .999891 | .999978 | .999989 | .999998 | |
| 47 | 1 | .033664 | .047810 | .061750 | .075486 | .093335 | .106608 | .136683 | .149322 | .177958 | |
| | 2 | .062371 | .080257 | .097001 | .112938 | .133061 | .147703 | .180134 | .193522 | .223452 | |
| | 3 | .088855 | .109298 | .127961 | .145405 | .167088 | .182668 | .216710 | .230606 | .261401 | |
| | 4 | .114220 | .136649 | .156792 | .175392 | .198261 | .214548 | .249785 | .264050 | .295450 | |
| | 5 | .138872 | .162924 | .184265 | .203793 | .227602 | .244441 | .280589 | .295125 | .326946 | |
| | 6 | .163009 | .188424 | .210760 | .231048 | .255616 | .272893 | .309739 | .324470 | .356572 | |
| | 7 | .186749 | .213325 | .236497 | .257414 | .282599 | .300223 | .337596 | .352464 | .384730 | |
| | 8 | .210165 | .237739 | .261617 | .283058 | .308741 | .326638 | .364396 | .379351 | .411683 | |
| | 9 | .233310 | .261744 | .286219 | .308091 | .334175 | .352279 | .390302 | .405300 | .437615 | |
| | 10 | .256220 | .285394 | .310372 | .332597 | .358993 | .377250 | .415431 | .430434 | .462656 | |
| | 11 | .278922 | .308731 | .334127 | .356637 | .383269 | .401628 | .439871 | .454845 | .486909 | |
| | 12 | .301437 | .331787 | .357527 | .380257 | .407055 | .425471 | .463691 | .478606 | .510449 | |
| | 13 | .323783 | .354587 | .380601 | .403495 | .430395 | .448827 | .486944 | .501771 | .533337 | |
| | 14 | .345572 | .377150 | .403376 | .426380 | .453323 | .471733 | .509674 | .524386 | .555624 | |
| | 15 | .368015 | .399493 | .425871 | .448936 | .475867 | .494218 | .531914 | .546487 | .577347 | |
| | 16 | .389921 | .421629 | .448103 | .471181 | .498049 | .516308 | .553694 | .568103 | .598539 | |
| | 17 | .411696 | .443568 | .470084 | .493132 | .519887 | .538022 | .575036 | .589260 | .619226 | |
| | 18 | .433347 | .465319 | .491827 | .514802 | .541396 | .559376 | .595959 | .609975 | .639430 | |
| | 19 | .454877 | .486889 | .513340 | .536201 | .562588 | .580383 | .616477 | .630267 | .659169 | |
| | 20 | .476291 | .508283 | .534629 | .557336 | .583473 | .601055 | .636605 | .650146 | .678456 | |
| | 21 | .497591 | .529505 | .555701 | .578215 | .604058 | .621398 | .656350 | .669624 | .697302 | |
| | 22 | .518780 | .550559 | .576559 | .598843 | .624349 | .641420 | .675721 | .688708 | .715717 | |
| | 23 | .539859 | .571448 | .597206 | .619222 | .644350 | .661125 | .694722 | .707404 | .733706 | |
| | 24 | .560829 | .592172 | .617645 | .639355 | .664064 | .680516 | .713357 | .725715 | .751272 | |
| | 25 | .581690 | .612732 | .637875 | .659243 | .683491 | .699593 | .731626 | .743642 | .768419 | |
| | 26 | .602442 | .633127 | .657896 | .678885 | .702630 | .718355 | .749530 | .761184 | .785144 | |
| | 27 | .623084 | .653356 | .677707 | .698278 | .721481 | .736801 | .767066 | .778340 | .801446 | |
| | 28 | .643614 | .673418 | .697305 | .717421 | .740037 | .754927 | .784229 | .795105 | .817320 | |
| | 29 | .664031 | .693307 | .716685 | .736308 | .758295 | .772726 | .801013 | .811471 | .832759 | |
| | 30 | .684331 | .713022 | .735842 | .754932 | .776247 | .790191 | .817409 | .827430 | .847753 | |
| | 31 | .704511 | .732555 | .754769 | .773286 | .793894 | .807312 | .833405 | .842970 | .862291 | |
| | 32 | .724566 | .751900 | .773458 | .791359 | .811194 | .824076 | .848989 | .858077 | .876356 | |
| | 33 | .744491 | .771048 | .791897 | .809139 | .828163 | .840468 | .864141 | .872733 | .889932 | |
| | 34 | .764277 | .789989 | .810074 | .826611 | .844773 | .856469 | .878842 | .886917 | .902994 | |
| | 35 | .783917 | .808710 | .827972 | .843756 | .861003 | .872055 | .893066 | .900601 | .915516 | |
| | 36 | .803400 | .827194 | .845572 | .860551 | .876826 | .887199 | .906781 | .913753 | .927465 | |
| | 37 | .822713 | .845423 | .862848 | .876967 | .892209 | .901866 | .919949 | .926335 | .938799 | |
| | 38 | .841839 | .863371 | .879770 | .892968 | .907113 | .916012 | .932522 | .938297 | .945471 | |
| | 39 | .860756 | .881007 | .896298 | .908508 | .921485 | .929582 | .944441 | .949580 | .959419 | |
| | 40 | .879436 | .898280 | .912382 | .923531 | .935261 | .942507 | .955631 | .960108 | .968569 | |
| | 41 | .897842 | .915162 | .927952 | .937956 | .948351 | .954695 | .965996 | .969784 | .976827 | |
| | 42 | .915922 | .931550 | .942915 | .951678 | .960640 | .966022 | .975407 | .978482 | .984076 | |
| | 43 | .933599 | .947342 | .957136 | .964544 | .971959 | .976317 | .983695 | .986035 | .990166 | |
| | 44 | .950753 | .962364 | .970406 | .976323 | .982063 | .985330 | .990622 | .992222 | .994917 | |
| | 45 | .967173 | .976322 | .982378 | .986638 | .990564 | .992681 | .995866 | .996750 | .998128 | |
| | 46 | .982426 | .988628 | .992386 | .994804 | .996810 | .997777 | .999024 | .999313 | .999694 | |
| | 47 | .995264 | .997761 | .998909 | .999461 | .999786 | .999893 | .999979 | .999989 | .999998 | |
| 48 | 1 | .C32974 | .046838 | .060503 | .073973 | .091482 | .104508 | .134036 | .146451 | .174596 | |
| | 2 | .061099 | .078635 | .095059 | .110696 | .130450 | .144829 | .176697 | .189861 | .219304 | |
| | 3 | .087048 | .107100 | .125414 | .142541 | .163839 | .179149 | .212624 | .226298 | .256617 | |
| | 4 | .111904 | .133913 | .153689 | .171960 | .194436 | .210451 | .245124 | .259170 | .290111 | |
| | 5 | .136063 | .159674 | .180637 | .199828 | .223241 | .239810 | .275403 | .289726 | .321106 | |
| | 6 | .159719 | .184679 | .206629 | .226578 | .250751 | .267760 | .304065 | .318592 | .350272 | |
| | 7 | .182988 | .209100 | .231882 | .252461 | .277254 | .294616 | .331465 | .346138 | .378004 | |
| | 8 | .205942 | .233046 | .256534 | .277638 | .302938 | .320580 | .357834 | .372603 | .404560 | |
| | 9 | .228632 | .256593 | .280681 | .302222 | .327931 | .345789 | .383331 | .398154 | .430119 | |
| | 10 | .251092 | .279795 | .304391 | .326293 | .352326 | .370346 | .408071 | .422910 | .454811 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 48 | 11 | .273351 | .302693 | .327715 | .349910 | .376193 | .394326 | .432141 | .446964 | .478735 | |
| | 12 | .295430 | .325319 | .350693 | .373120 | .399585 | .417788 | .455609 | .470385 | .501966 | |
| | 13 | .317343 | .347696 | .373356 | .395959 | .422544 | .440776 | .478527 | .493228 | .524564 | |
| | 14 | .339105 | .369844 | .395729 | .418456 | .445103 | .463328 | .500936 | .515538 | .546578 | |
| | 15 | .360725 | .391779 | .417831 | .440635 | .467291 | .485473 | .522872 | .537349 | .568045 | |
| | 16 | .382213 | .413514 | .439679 | .462514 | .489128 | .507235 | .544362 | .558692 | .588999 | |
| | 17 | .403575 | .435059 | .461285 | .484108 | .510634 | .528634 | .565430 | .579590 | .609465 | |
| | 18 | .424817 | .456422 | .482662 | .505432 | .531822 | .549687 | .586093 | .600064 | .629465 | |
| | 19 | .445943 | .477612 | .503816 | .526494 | .552706 | .570406 | .606367 | .620128 | .649015 | |
| | 20 | .466957 | .498632 | .524757 | .547304 | .573294 | .590802 | .626264 | .639796 | .668131 | |
| | 21 | .487863 | .519488 | .545489 | .567868 | .593595 | .610883 | .645795 | .659079 | .686824 | |
| | 22 | .508662 | .540184 | .566017 | .588192 | .613615 | .630657 | .664967 | .677984 | .705103 | |
| | 23 | .529356 | .560721 | .586343 | .608278 | .633357 | .650127 | .683785 | .696517 | .722974 | |
| | 24 | .549947 | .581101 | .606470 | .628130 | .652826 | .669298 | .702254 | .714683 | .740442 | |
| | 25 | .570434 | .601326 | .626400 | .647748 | .672022 | .688170 | .720376 | .732484 | .757509 | |
| | 26 | .590817 | .621394 | .646131 | .667134 | .690945 | .706745 | .738150 | .749920 | .774176 | |
| | 27 | .611097 | .641306 | .665664 | .686285 | .709595 | .725020 | .755575 | .766989 | .790441 | |
| | 28 | .631272 | .661060 | .684996 | .705199 | .727968 | .742992 | .772649 | .783689 | .806302 | |
| | 29 | .651340 | .680653 | .704123 | .723873 | .746060 | .760658 | .789365 | .800013 | .821753 | |
| | 30 | .671299 | .700082 | .723042 | .742301 | .763866 | .778011 | .805718 | .815956 | .836786 | |
| | 31 | .691147 | .719342 | .741747 | .760478 | .781378 | .795043 | .821698 | .831507 | .851391 | |
| | 32 | .710879 | .738427 | .760231 | .778394 | .798587 | .811743 | .837294 | .846655 | .865557 | |
| | 33 | .730490 | .757332 | .778485 | .796040 | .815480 | .828100 | .852491 | .861386 | .879267 | |
| | 34 | .749975 | .776046 | .796499 | .813404 | .832045 | .844097 | .867273 | .875680 | .892504 | |
| | 35 | .769328 | .794561 | .814259 | .830469 | .848263 | .859717 | .881618 | .889518 | .905245 | |
| | 36 | .788538 | .812862 | .831749 | .847218 | .864112 | .874935 | .895500 | .902872 | .917462 | |
| | 37 | .807597 | .830935 | .848951 | .863628 | .879568 | .889725 | .908890 | .915711 | .929123 | |
| | 38 | .826490 | .848760 | .865838 | .879670 | .894597 | .904051 | .921749 | .927996 | .940189 | |
| | 39 | .845202 | .866312 | .882382 | .895309 | .909161 | .917872 | .934029 | .939680 | .950609 | |
| | 40 | .863711 | .883561 | .898543 | .910502 | .923208 | .931133 | .945674 | .950702 | .960326 | |
| | 41 | .881990 | .900466 | .914271 | .925189 | .936673 | .943767 | .956610 | .960990 | .969266 | |
| | 42 | .900002 | .916972 | .929499 | .939296 | .949473 | .955682 | .966741 | .970447 | .977337 | |
| | 43 | .917696 | .933006 | .944136 | .952716 | .961489 | .966758 | .975942 | .978951 | .984424 | |
| | 44 | .934997 | .948458 | .958049 | .965302 | .972561 | .976826 | .984047 | .986337 | .990379 | |
| | 45 | .951787 | .963159 | .971034 | .976827 | .982446 | .985643 | .990823 | .992388 | .995026 | |
| | 46 | .967860 | .976820 | .982750 | .986921 | .990764 | .992836 | .995954 | .996819 | .998168 | |
| | 47 | .982793 | .988866 | .992546 | .994914 | .996877 | .997823 | .999045 | .999327 | .999701 | |
| | 48 | .995162 | .997807 | .998932 | .999473 | .999791 | .999896 | .999979 | .999990 | .999998 | |
| 49 | 1 | .032312 | .045905 | .059306 | .072519 | .089702 | .102488 | .131489 | .143688 | .171357 | |
| | 2 | .059877 | .077078 | .093192 | .108542 | .127940 | .142065 | .173389 | .186334 | .215307 | |
| | 3 | .085313 | .104989 | .122968 | .139787 | .160713 | .175763 | .208689 | .222146 | .252004 | |
| | 4 | .109680 | .131284 | .150706 | .168659 | .190754 | .206506 | .240633 | .254467 | .284959 | |
| | 5 | .133365 | .156551 | .177148 | .196014 | .219043 | .235349 | .270404 | .284520 | .315468 | |
| | 6 | .156560 | .181080 | .202656 | .222277 | .246066 | .262816 | .298593 | .312921 | .344187 | |
| | 7 | .179376 | .205038 | .227443 | .247693 | .272107 | .289214 | .325551 | .340031 | .371505 | |
| | 8 | .201885 | .228534 | .251643 | .272422 | .297348 | .314740 | .351501 | .366086 | .397673 | |
| | 9 | .224137 | .251640 | .275352 | .296571 | .321915 | .339531 | .376600 | .391250 | .422869 | |
| | 10 | .246166 | .274411 | .298634 | .320221 | .345900 | .363687 | .400963 | .415639 | .447219 | |
| | 11 | .267999 | .296887 | .321542 | .343430 | .369370 | .387282 | .424673 | .439345 | .470821 | |
| | 12 | .289656 | .319097 | .344114 | .366243 | .392379 | .410372 | .447797 | .462434 | .493749 | |
| | 13 | .311153 | .341066 | .366379 | .388696 | .414968 | .433002 | .470386 | .484962 | .516061 | |
| | 14 | .332503 | .362813 | .388363 | .410817 | .437169 | .455209 | .492483 | .506971 | .537806 | |
| | 15 | .353717 | .384354 | .410085 | .432630 | .459010 | .477022 | .514120 | .528498 | .559021 | |
| | 16 | .374802 | .405702 | .431561 | .454152 | .480512 | .498465 | .535325 | .549571 | .579738 | |
| | 17 | .395766 | .426865 | .452804 | .475401 | .501694 | .519556 | .556122 | .570214 | .599983 | |
| | 18 | .416113 | .447854 | .473825 | .496387 | .522569 | .540313 | .576528 | .590447 | .619777 | |
| | 19 | .437350 | .468675 | .494632 | .517122 | .543151 | .560749 | .596559 | .610284 | .639138 | |
| | 20 | .457579 | .489334 | .515233 | .537615 | .563448 | .580873 | .616228 | .629741 | .658080 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 49 | 21 | .478504 | .509835 | .535634 | .557871 | .583470 | .600695 | .635544 | .648826 | .676615 |
| | 22 | .498926 | .530183 | .555840 | .577896 | .603221 | .620223 | .654515 | .667550 | .694752 |
| | 23 | .519248 | .550378 | .575853 | .597695 | .627708 | .639460 | .673148 | .685917 | .712499 |
| | 24 | .539471 | .570424 | .595676 | .617269 | .641933 | .658410 | .691447 | .703933 | .729859 |
| | 25 | .559596 | .590322 | .615310 | .636622 | .660898 | .677076 | .709415 | .721600 | .746837 |
| | 26 | .579623 | .610072 | .634756 | .655753 | .679604 | .695459 | .727052 | .738920 | .763433 |
| | 27 | .599551 | .629673 | .654014 | .674661 | .698050 | .713558 | .744357 | .755892 | .779648 |
| | 28 | .619390 | .649125 | .673082 | .693346 | .716235 | .731371 | .761330 | .772514 | .795479 |
| | 29 | .639109 | .668425 | .691958 | .711805 | .734155 | .748894 | .777966 | .788781 | .810923 |
| | 30 | .658736 | .687572 | .710638 | .730033 | .751807 | .766124 | .794260 | .804689 | .825973 |
| | 31 | .678258 | .706561 | .729118 | .748026 | .769183 | .783053 | .810204 | .820230 | .840621 |
| | 32 | .697673 | .725387 | .747392 | .765776 | .786276 | .799673 | .825789 | .835394 | .854858 |
| | 33 | .716576 | .744046 | .765454 | .783276 | .803078 | .815973 | .841004 | .850170 | .868670 |
| | 34 | .736163 | .762530 | .783293 | .800515 | .819575 | .831942 | .855834 | .864542 | .882043 |
| | 35 | .755229 | .780830 | .800901 | .817481 | .835754 | .847564 | .870262 | .878493 | .894958 |
| | 36 | .774166 | .798937 | .818263 | .834158 | .851598 | .862820 | .884268 | .892002 | .907393 |
| | 37 | .792965 | .816838 | .835364 | .850529 | .867085 | .877688 | .897826 | .905042 | .919320 |
| | 38 | .811618 | .834517 | .852184 | .866571 | .882190 | .892139 | .910905 | .917582 | .930707 |
| | 39 | .830110 | .851956 | .868700 | .882257 | .896881 | .906141 | .923469 | .929584 | .941516 |
| | 40 | .848425 | .869129 | .884882 | .897551 | .911120 | .919652 | .935471 | .941001 | .951698 |
| | 41 | .866543 | .886008 | .900692 | .912410 | .924856 | .932618 | .946854 | .951775 | .961194 |
| | 42 | .884438 | .902551 | .916080 | .926777 | .938026 | .944972 | .957546 | .961833 | .969934 |
| | 43 | .902072 | .918707 | .930982 | .940578 | .950546 | .956626 | .967453 | .971082 | .977826 |
| | 44 | .919396 | .934401 | .945307 | .953711 | .962303 | .967462 | .976454 | .979399 | .984756 |
| | 45 | .936337 | .949528 | .958924 | .966028 | .973137 | .977314 | .984384 | .986626 | .990583 |
| | 46 | .952778 | .963921 | .971635 | .977309 | .982812 | .985944 | .991016 | .992548 | .995131 |
| | 47 | .964520 | .977298 | .983106 | .987192 | .990955 | .992985 | .996038 | .996886 | .998206 |
| | 48 | .983145 | .989094 | .992699 | .995018 | .996942 | .997868 | .999064 | .999341 | .999707 |
| | 49 | .995456 | .997852 | .998954 | .999483 | .999795 | .999898 | .999980 | .999990 | .999998 |
| 50 | 1 | .031676 | .045007 | .058155 | .071122 | .087989 | .100545 | .129036 | .141027 | .168236 |
| | 2 | .058704 | .075581 | .091398 | .106470 | .125524 | .139404 | .170201 | .182936 | .211452 |
| | 3 | .083646 | .102959 | .120614 | .137138 | .157704 | .172502 | .204896 | .218143 | .247553 |
| | 4 | .107542 | .128756 | .147837 | .165482 | .187209 | .202706 | .236302 | .249930 | .279986 |
| | 5 | .130772 | .153548 | .173791 | .192343 | .215000 | .231051 | .265581 | .279496 | .310023 |
| | 6 | .153522 | .177618 | .198833 | .218135 | .241553 | .258050 | .293313 | .307445 | .338307 |
| | 7 | .175904 | .201131 | .223170 | .243101 | .267146 | .284004 | .319841 | .334133 | .365221 |
| | 8 | .197985 | .224192 | .246935 | .267396 | .291958 | .309107 | .345385 | .359790 | .391012 |
| | 9 | .219815 | .246874 | .270220 | .291126 | .316113 | .333494 | .370098 | .384577 | .415853 |
| | 10 | .241428 | .269230 | .293091 | .314369 | .339701 | .357260 | .394093 | .408609 | .439870 |
| | 11 | .262851 | .291297 | .315596 | .337183 | .362788 | .380480 | .417452 | .431974 | .463156 |
| | 12 | .284103 | .313107 | .337774 | .359612 | .385425 | .403210 | .440241 | .454739 | .485786 |
| | 13 | .305199 | .334683 | .359653 | .381691 | .407654 | .425492 | .462510 | .476958 | .507818 |
| | 14 | .326153 | .356043 | .381264 | .403448 | .429508 | .447364 | .484300 | .498674 | .529297 |
| | 15 | .346974 | .377207 | .402617 | .424905 | .451011 | .468853 | .505644 | .519921 | .550262 |
| | 16 | .367671 | .398176 | .423733 | .446082 | .472187 | .489983 | .526570 | .540728 | .570745 |
| | 17 | .388251 | .418971 | .444623 | .466994 | .493052 | .510774 | .547100 | .561119 | .590770 |
| | 18 | .408718 | .439598 | .465299 | .487652 | .513622 | .531241 | .567253 | .581113 | .610358 |
| | 19 | .429079 | .460063 | .485769 | .508069 | .533908 | .551398 | .587044 | .600726 | .629528 |
| | 20 | .449336 | .480371 | .506041 | .528251 | .553920 | .571255 | .606484 | .619971 | .648295 |
| | 21 | .469492 | .500528 | .526120 | .548206 | .573667 | .590822 | .625586 | .638859 | .666668 |
| | 22 | .489551 | .520537 | .546011 | .567940 | .593155 | .610105 | .644357 | .657398 | .684659 |
| | 23 | .509514 | .540401 | .565718 | .587456 | .612389 | .629110 | .662802 | .675596 | .702275 |
| | 24 | .529381 | .560122 | .585243 | .606758 | .631372 | .647841 | .680928 | .693458 | .719521 |
| | 25 | .549155 | .579701 | .604588 | .625848 | .650107 | .666300 | .698737 | .710986 | .736401 |
| | 26 | .568836 | .599140 | .623754 | .644727 | .668595 | .684490 | .716231 | .728182 | .752917 |
| | 27 | .588423 | .618437 | .642741 | .663395 | .686837 | .702409 | .733410 | .745048 | .769069 |
| | 28 | .607917 | .637593 | .661548 | .681851 | .704831 | .720057 | .750272 | .761580 | .784857 |
| | 29 | .627316 | .656606 | .680174 | .700093 | .722574 | .737431 | .766816 | .777778 | .800277 |
| | 30 | .646618 | .675475 | .698616 | .718118 | .740064 | .754528 | .783037 | .793636 | .815325 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 50 | 31 | .665923 | .694195 | .716869 | .735922 | .757296 | .771343 | .798929 | .809149 | .829995 |
| | 32 | .684927 | .712764 | .734931 | .753499 | .774263 | .787868 | .814485 | .824308 | .844278 |
| | 33 | .703928 | .731176 | .752794 | .770843 | .790958 | .804096 | .829695 | .839105 | .858165 |
| | 34 | .722821 | .749427 | .770452 | .787945 | .807371 | .820016 | .844547 | .853526 | .871642 |
| | 35 | .741602 | .767509 | .787896 | .804796 | .823491 | .835616 | .859028 | .867557 | .884694 |
| | 36 | .760266 | .785414 | .805115 | .821382 | .839302 | .850879 | .873119 | .881181 | .897302 |
| | 37 | .778805 | .803131 | .822097 | .837689 | .854789 | .865788 | .886802 | .894376 | .909445 |
| | 38 | .797211 | .820648 | .838825 | .853699 | .869930 | .880321 | .900049 | .907117 | .921096 |
| | 39 | .815474 | .837950 | .855282 | .869390 | .884700 | .894450 | .912833 | .919372 | .932222 |
| | 40 | .833581 | .855019 | .871443 | .884734 | .899068 | .908142 | .925115 | .931104 | .942785 |
| | 41 | .851516 | .871830 | .887278 | .899698 | .912996 | .921355 | .936850 | .942266 | .952739 |
| | 42 | .869260 | .888353 | .902752 | .914238 | .926434 | .934039 | .947983 | .952803 | .962025 |
| | 43 | .886786 | .904551 | .917815 | .928299 | .939321 | .946126 | .958442 | .962641 | .970572 |
| | 44 | .904058 | .920370 | .932403 | .941808 | .951575 | .957531 | .968136 | .971689 | .978293 |
| | 45 | .921028 | .935740 | .946429 | .954665 | .963083 | .968137 | .976945 | .979829 | .985075 |
| | 46 | .937623 | .950554 | .959763 | .966725 | .973690 | .977782 | .984707 | .986903 | .990779 |
| | 47 | .953730 | .964652 | .972212 | .977772 | .983164 | .986232 | .991200 | .992701 | .995231 |
| | 48 | .969152 | .977756 | .983448 | .987451 | .991139 | .993128 | .996119 | .996949 | .998243 |
| | 49 | .983483 | .989313 | .992846 | .995119 | .997003 | .997911 | .999083 | .999354 | .999713 |
| | 50 | .995547 | .997895 | .998975 | .999494 | .999799 | .999900 | .999980 | .999990 | .999998 |
| 52 | 26 | .548402 | .578374 | .602804 | .623687 | .647531 | .663459 | .695399 | .707474 | .732558 |
| | 27 | .567338 | .597085 | .621263 | .641880 | .665362 | .681012 | .712307 | .724106 | .748557 |
| | 28 | .586198 | .615668 | .639560 | .659881 | .682968 | .698320 | .728928 | .740436 | .764223 |
| | 29 | .604954 | .634123 | .657693 | .677690 | .700350 | .715382 | .745261 | .756463 | .779557 |
| | 30 | .623634 | .652449 | .675662 | .695304 | .717504 | .732195 | .761305 | .772185 | .794557 |
| | 31 | .642227 | .670643 | .693464 | .712722 | .734429 | .748756 | .777055 | .787598 | .809217 |
| | 32 | .660731 | .688703 | .711096 | .729940 | .751119 | .765061 | .792506 | .802698 | .823534 |
| | 33 | .679144 | .706627 | .728554 | .746953 | .767570 | .781105 | .807653 | .817477 | .837500 |
| | 34 | .697465 | .724410 | .745833 | .763756 | .783776 | .796880 | .822487 | .831928 | .851106 |
| | 35 | .715689 | .742048 | .762929 | .780342 | .799728 | .812378 | .836999 | .846041 | .864342 |
| | 36 | .733812 | .759534 | .779832 | .796702 | .815417 | .827588 | .851176 | .859803 | .877196 |
| | 37 | .751831 | .776863 | .796536 | .812827 | .830831 | .842498 | .865006 | .873199 | .889650 |
| | 38 | .769740 | .794026 | .813028 | .828703 | .845956 | .857093 | .878470 | .886213 | .901688 |
| | 39 | .787532 | .811012 | .829298 | .844317 | .860775 | .871354 | .891549 | .898823 | .913287 |
| | 40 | .805198 | .827810 | .845329 | .859651 | .875269 | .885260 | .904218 | .911004 | .924422 |
| | 41 | .822729 | .844405 | .861102 | .874684 | .889412 | .898785 | .916447 | .922726 | .935060 |
| | 42 | .840114 | .860779 | .876597 | .889388 | .903175 | .911897 | .928203 | .933953 | .945165 |
| | 43 | .857335 | .876909 | .891783 | .903732 | .916520 | .924554 | .939439 | .944640 | .954692 |
| | 44 | .874375 | .892767 | .906625 | .917674 | .929401 | .936709 | .950103 | .954731 | .963583 |
| | 45 | .891207 | .908314 | .921077 | .931161 | .941757 | .948296 | .960126 | .964158 | .971772 |
| | 46 | .907798 | .923501 | .935077 | .944121 | .953509 | .959232 | .969419 | .972831 | .979172 |
| | 47 | .924100 | .938259 | .948540 | .956459 | .964550 | .969406 | .977867 | .980637 | .985675 |
| | 48 | .940044 | .952487 | .961343 | .968036 | .974730 | .978662 | .985315 | .987424 | .991146 |
| | 49 | .955522 | .966029 | .973299 | .978643 | .983826 | .986774 | .991547 | .992989 | .995419 |
| | 50 | .970344 | .978619 | .984092 | .987941 | .991485 | .993396 | .996271 | .997069 | .998311 |
| | 51 | .984119 | .989726 | .993123 | .995308 | .997119 | .997992 | .999119 | .999380 | .999724 |
| | 52 | .995718 | .997976 | .999014 | .999513 | .999807 | .999904 | .999981 | .999990 | .999998 |
| 54 | 26 | .529362 | .558959 | .583161 | .603905 | .627662 | .643576 | .675605 | .687757 | .713083 |
| | 27 | .547684 | .577112 | .601111 | .621635 | .645085 | .660761 | .692226 | .704134 | .728898 |
| | 28 | .565928 | .595149 | .618913 | .639190 | .662303 | .677721 | .708585 | .720236 | .744409 |
| | 29 | .584096 | .613069 | .636568 | .656570 | .679317 | .694457 | .724683 | .736062 | .759617 |
| | 30 | .602186 | .630872 | .654073 | .673775 | .696126 | .710969 | .740517 | .751612 | .774571 |
| | 31 | .620198 | .648557 | .671429 | .690804 | .712728 | .727254 | .756087 | .766883 | .789119 |
| | 32 | .638130 | .666123 | .688633 | .707653 | .729120 | .743310 | .771390 | .781872 | .803407 |
| | 33 | .655983 | .683567 | .705682 | .724320 | .745300 | .759132 | .786420 | .796576 | .817382 |
| | 34 | .673753 | .700888 | .722574 | .740802 | .761262 | .774718 | .801174 | .810988 | .831036 |
| | 35 | .691439 | .718081 | .739305 | .757093 | .777002 | .790060 | .815644 | .825102 | .844364 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 54 | 36 | .709038 | .735143 | .755869 | .773188 | .792513 | .805151 | .829821 | .838909 | .857356 |
| | 37 | .726547 | .752069 | .772260 | .789080 | .807787 | .819982 | .843697 | .852400 | .870001 |
| | 38 | .743962 | .768854 | .788472 | .804761 | .822813 | .834544 | .857260 | .865560 | .882286 |
| | 39 | .761279 | .785491 | .804496 | .820220 | .837581 | .848824 | .870495 | .878378 | .894196 |
| | 40 | .778492 | .801971 | .820322 | .835445 | .852078 | .862807 | .883385 | .890834 | .905713 |
| | 41 | .795595 | .818285 | .835936 | .850423 | .866285 | .876475 | .895912 | .902909 | .916815 |
| | 42 | .812579 | .834421 | .851326 | .865137 | .880185 | .889807 | .908051 | .914578 | .927478 |
| | 43 | .829446 | .850365 | .866472 | .879564 | .893753 | .902778 | .919773 | .925812 | .937670 |
| | 44 | .846152 | .866099 | .881353 | .893681 | .906960 | .915356 | .931045 | .936576 | .947355 |
| | 45 | .862715 | .881601 | .895941 | .907455 | .919769 | .927503 | .941824 | .946825 | .956489 |
| | 46 | .879104 | .896844 | .910202 | .920846 | .932137 | .939171 | .952057 | .956508 | .965019 |
| | 47 | .895295 | .911791 | .924090 | .933802 | .944004 | .950297 | .961678 | .965556 | .972877 |
| | 48 | .911257 | .926394 | .937547 | .946257 | .955294 | .960802 | .970603 | .973885 | .979982 |
| | 49 | .926942 | .940587 | .950491 | .958116 | .965905 | .970578 | .978719 | .981383 | .986228 |
| | 50 | .942285 | .954274 | .962803 | .969247 | .975691 | .979475 | .985876 | .987905 | .991486 |
| 51 | .957181 | .967303 | .974303 | .979449 | .984437 | .987274 | .991868 | .993256 | .995593 | |
| | .971448 | .979418 | .984688 | .988393 | .991805 | .993645 | .996411 | .997179 | .998375 | |
| | .984708 | .990108 | .993379 | .995483 | .997227 | .998067 | .999152 | .999403 | .999734 | |
| | .995876 | .998051 | .999051 | .999531 | .999814 | .999907 | .999981 | .999991 | .999998 | |
| | | | | | | | | | | |
| 56 | 26 | .511581 | .540774 | .564713 | .585283 | .608903 | .624766 | .656793 | .668983 | .694465 |
| | 27 | .529325 | .558396 | .582175 | .602564 | .625925 | .641583 | .673119 | .685095 | .710076 |
| | 28 | .546997 | .575912 | .599501 | .619684 | .642759 | .658194 | .689204 | .700952 | .725406 |
| | 29 | .564600 | .593320 | .616692 | .636645 | .659406 | .674600 | .705049 | .716556 | .740459 |
| | 30 | .582132 | .610623 | .633747 | .653445 | .675865 | .690801 | .720654 | .731908 | .755233 |
| | 31 | .599593 | .627818 | .650666 | .670085 | .692137 | .706796 | .736019 | .747007 | .766728 |
| | 32 | .616933 | .644906 | .667449 | .686564 | .708219 | .722584 | .751141 | .761850 | .783942 |
| | 33 | .634300 | .661884 | .684092 | .702879 | .724110 | .738162 | .766018 | .776435 | .797873 |
| | 34 | .651545 | .678753 | .700596 | .719028 | .739808 | .753528 | .780646 | .790759 | .811516 |
| | 35 | .668715 | .695508 | .716955 | .735009 | .755307 | .768677 | .795022 | .804817 | .824867 |
| | 36 | .685808 | .712148 | .733169 | .750816 | .770604 | .783604 | .809139 | .818603 | .837920 |
| | 37 | .702822 | .728669 | .749231 | .766445 | .785692 | .798304 | .822991 | .832110 | .850666 |
| | 38 | .719756 | .745067 | .765137 | .781891 | .800566 | .812769 | .836569 | .845329 | .863097 |
| | 39 | .736604 | .761338 | .780881 | .797145 | .815218 | .826991 | .849864 | .858250 | .875202 |
| | 40 | .753365 | .777476 | .796457 | .812201 | .829636 | .840958 | .862863 | .870861 | .886968 |
| 41 | .770032 | .793474 | .811855 | .827048 | .843812 | .854659 | .875552 | .883148 | .898380 | |
| | .786602 | .809324 | .827065 | .841675 | .857730 | .868080 | .887917 | .895093 | .909419 | |
| | .803067 | .825017 | .842076 | .856067 | .871375 | .881202 | .899936 | .906677 | .920066 | |
| | .819420 | .840542 | .856874 | .870208 | .884727 | .894006 | .911588 | .917875 | .930295 | |
| | .835652 | .855884 | .871441 | .884078 | .897765 | .906467 | .922844 | .928660 | .940077 | |
| | 46 | .851751 | .871026 | .885755 | .897652 | .910459 | .918553 | .933671 | .938997 | .949376 |
| | 47 | .867703 | .885948 | .899790 | .910899 | .922775 | .930229 | .944028 | .948845 | .958149 |
| | 48 | .883490 | .900622 | .913514 | .923781 | .934668 | .941448 | .953864 | .958150 | .966345 |
| | 49 | .899087 | .915013 | .926881 | .936249 | .946084 | .952149 | .963114 | .966849 | .973899 |
| | 50 | .914465 | .929077 | .939836 | .948235 | .956947 | .962256 | .971698 | .974859 | .980731 |
| | 51 | .929579 | .942747 | .952300 | .959652 | .967160 | .971664 | .979507 | .982074 | .986740 |
| | 52 | .944364 | .955931 | .964157 | .970370 | .976582 | .980228 | .986396 | .988351 | .991800 |
| | 53 | .958720 | .968484 | .975235 | .980196 | .985004 | .987739 | .992166 | .993502 | .995755 |
| | 54 | .972472 | .980159 | .985241 | .988813 | .992102 | .993875 | .996541 | .997281 | .998434 |
| | 55 | .985255 | .990463 | .993617 | .995645 | .997327 | .998137 | .999182 | .999424 | .999744 |
| 56 | .996023 | .998120 | .999084 | .999548 | .999821 | .999910 | .999982 | .999991 | .999998 | |
| | 26 | .494941 | .523710 | .547361 | .567730 | .591175 | .606955 | .638909 | .651107 | .676670 |
| | 27 | .512140 | .540828 | .564355 | .584577 | .607804 | .623409 | .654936 | .666944 | .692062 |
| | 28 | .529273 | .557846 | .581223 | .601275 | .624260 | .639673 | .670740 | .682546 | .707195 |
| | 29 | .546341 | .574767 | .597967 | .617826 | .640543 | .655748 | .686322 | .697915 | .722070 |
| | 30 | .563345 | .591590 | .614587 | .634231 | .656655 | .671634 | .701684 | .713052 | .736689 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 58 | 31 | .580284 | .608316 | .631082 | .650489 | .672594 | .687332 | .716825 | .727956 | .751053 |
| | 32 | .597159 | .624943 | .647453 | .666600 | .688362 | .702842 | .731745 | .742627 | .765159 |
| | 33 | .613968 | .641472 | .663698 | .682562 | .703956 | .718161 | .746443 | .757064 | .779008 |
| | 34 | .630711 | .657901 | .679817 | .698375 | .719374 | .733288 | .760915 | .771265 | .792595 |
| | 35 | .647387 | .674229 | .695806 | .714037 | .734615 | .748220 | .775160 | .785225 | .805919 |
| | 36 | .663995 | .690454 | .711665 | .729543 | .749675 | .762955 | .789174 | .798942 | .818975 |
| | 37 | .680533 | .706574 | .727390 | .744892 | .764550 | .777486 | .802951 | .812410 | .831757 |
| | 38 | .697000 | .722586 | .742978 | .760079 | .779235 | .791811 | .816486 | .825623 | .844260 |
| | 39 | .713392 | .738486 | .758424 | .775099 | .793726 | .805921 | .829771 | .838573 | .856474 |
| | 40 | .729709 | .754271 | .773723 | .789946 | .808014 | .819811 | .842799 | .851253 | .868391 |
| | 41 | .745945 | .769936 | .788870 | .804614 | .822092 | .833471 | .855559 | .863652 | .880001 |
| | 42 | .762099 | .785475 | .803858 | .819093 | .835951 | .846890 | .868040 | .875757 | .891290 |
| | 43 | .778165 | .800882 | .818677 | .833375 | .849579 | .860059 | .880228 | .887556 | .902244 |
| | 44 | .794138 | .816149 | .833319 | .847448 | .862964 | .872960 | .892108 | .899030 | .912845 |
| | 45 | .810011 | .831267 | .847772 | .861299 | .876089 | .885580 | .903660 | .910162 | .923072 |
| | 46 | .825779 | .846225 | .862022 | .874911 | .888937 | .897896 | .914862 | .920927 | .932902 |
| | 47 | .841431 | .861009 | .876052 | .888265 | .901484 | .909885 | .925688 | .931297 | .942305 |
| | 48 | .856956 | .875603 | .889842 | .901336 | .913704 | .921518 | .936104 | .941241 | .951247 |
| | 49 | .872341 | .889986 | .903365 | .914096 | .925563 | .932758 | .946070 | .950716 | .959687 |
| | 50 | .887568 | .904133 | .916590 | .926507 | .937017 | .943560 | .955539 | .959673 | .967575 |
| | 51 | .902614 | .918009 | .929474 | .938520 | .948014 | .953868 | .964447 | .968049 | .974847 |
| | 52 | .917450 | .931570 | .941963 | .950073 | .958483 | .963606 | .972715 | .975764 | .981426 |
| | 53 | .932032 | .944755 | .953981 | .961079 | .968326 | .972672 | .980239 | .982715 | .987215 |
| | 54 | .946299 | .957472 | .965416 | .971414 | .977409 | .980928 | .986879 | .988765 | .992097 |
| | 55 | .960153 | .969583 | .976102 | .980891 | .985532 | .988170 | .992442 | .993732 | .995905 |
| | 56 | .973425 | .980849 | .985755 | .989204 | .992378 | .994089 | .996663 | .997377 | .998489 |
| | 57 | .985764 | .990793 | .993839 | .995796 | .997420 | .998202 | .999211 | .999444 | .999753 |
| | 58 | .996160 | .998185 | .999116 | .999564 | .999827 | .999914 | .999983 | .999991 | .999998 |
| 60 | 26 | .479338 | .507670 | .531015 | .551162 | .574402 | .590075 | .621898 | .634077 | .659662 |
| | 27 | .496022 | .524307 | .547561 | .567590 | .590649 | .606174 | .637625 | .649637 | .674826 |
| | 28 | .512645 | .540853 | .563990 | .583881 | .606735 | .622095 | .653145 | .664979 | .689749 |
| | 29 | .529209 | .557309 | .580304 | .600035 | .622662 | .637841 | .668459 | .680104 | .704433 |
| | 30 | .545713 | .573674 | .596504 | .616054 | .638429 | .653413 | .683569 | .695014 | .718879 |
| | 31 | .562157 | .589950 | .612589 | .631938 | .654039 | .668812 | .698476 | .709709 | .733089 |
| | 32 | .578542 | .606136 | .628560 | .647687 | .669490 | .684038 | .713180 | .724191 | .747063 |
| | 33 | .594486 | .622231 | .644416 | .663301 | .684783 | .699089 | .727680 | .738457 | .760800 |
| | 34 | .611134 | .638237 | .660157 | .678778 | .699916 | .713966 | .741975 | .752508 | .774298 |
| | 35 | .627339 | .654150 | .675782 | .694119 | .714888 | .728666 | .756063 | .766341 | .787557 |
| | 36 | .643482 | .669971 | .691289 | .709319 | .729697 | .743187 | .769941 | .779954 | .800573 |
| | 37 | .659564 | .685698 | .706675 | .724378 | .744340 | .757526 | .783607 | .793342 | .813342 |
| | 38 | .675581 | .701328 | .721939 | .739293 | .758814 | .771680 | .797056 | .806502 | .825859 |
| | 39 | .691533 | .716859 | .737078 | .754059 | .773114 | .785644 | .810283 | .819428 | .838120 |
| | 40 | .707418 | .732289 | .752087 | .768674 | .787236 | .799412 | .823282 | .832114 | .850117 |
| | 41 | .723234 | .747614 | .766963 | .783131 | .801174 | .812980 | .836047 | .844554 | .861843 |
| | 42 | .738977 | .762831 | .781701 | .797424 | .814922 | .826338 | .848567 | .856737 | .873289 |
| | 43 | .754645 | .777934 | .796294 | .811549 | .828471 | .839480 | .860835 | .868654 | .884442 |
| | 44 | .770234 | .792917 | .810737 | .825495 | .841812 | .852394 | .872838 | .880294 | .895292 |
| | 45 | .785740 | .807776 | .825021 | .839254 | .854935 | .865069 | .884564 | .891642 | .905823 |
| | 46 | .801158 | .822502 | .839136 | .852814 | .867825 | .877492 | .895996 | .902682 | .916019 |
| | 47 | .816482 | .837085 | .853071 | .866163 | .880470 | .889645 | .907116 | .913395 | .925859 |
| | 48 | .831704 | .851517 | .866812 | .879284 | .892849 | .901509 | .917902 | .923759 | .935319 |
| | 49 | .846816 | .865782 | .880344 | .892159 | .904942 | .913062 | .928329 | .933746 | .944373 |
| | 50 | .861807 | .879866 | .893646 | .904764 | .916722 | .924273 | .938364 | .943325 | .952985 |
| | 51 | .876664 | .893748 | .906693 | .917071 | .928156 | .935109 | .947969 | .952455 | .961116 |
| | 52 | .891370 | .907404 | .919455 | .929044 | .939203 | .945526 | .957096 | .961088 | .968717 |
| | 53 | .905903 | .920800 | .931890 | .940636 | .949812 | .955468 | .965686 | .969164 | .975728 |
| | 54 | .920233 | .933894 | .943945 | .951785 | .959912 | .964862 | .973661 | .976605 | .982073 |
| | 55 | .934320 | .946626 | .955547 | .962409 | .969412 | .973611 | .980921 | .983312 | .987658 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 60 | 56 | .948103 | .958909 | .966589 | .972387 | .978180 | .981580 | .987329 | .989151 | .992364 | |
| | 57 | .961489 | .970608 | .976909 | .981538 | .986023 | .988573 | .992700 | .993946 | .996045 | |
| | 58 | .974314 | .981492 | .986235 | .989568 | .992636 | .994289 | .996776 | .997466 | .998540 | |
| | 59 | .986240 | .991101 | .994045 | .995937 | .997506 | .998262 | .999237 | .999463 | .999761 | |
| | 60 | .996288 | .998246 | .999145 | .999578 | .999833 | .999916 | .999983 | .999992 | .999998 | |
| 62 | 31 | .545110 | .572629 | .595106 | .614361 | .636409 | .651183 | .680936 | .692237 | .715822 | |
| | 32 | .561031 | .588392 | .610690 | .629756 | .651547 | .666123 | .695414 | .706516 | .729645 | |
| | 33 | .576897 | .604072 | .626169 | .645027 | .666539 | .680903 | .709704 | .720598 | .743249 | |
| | 34 | .592709 | .619669 | .641542 | .660173 | .681385 | .695522 | .723806 | .734481 | .756634 | |
| | 35 | .608465 | .635182 | .656808 | .675194 | .696083 | .709980 | .737719 | .748165 | .769799 | |
| 36 | .624165 | .650611 | .671968 | .690088 | .710633 | .724275 | .751441 | .761647 | .782742 | | |
| | 37 | .639809 | .665955 | .687019 | .704854 | .725033 | .738406 | .764970 | .774926 | .795461 | |
| | 38 | .655395 | .681212 | .701959 | .719489 | .739280 | .752369 | .778302 | .787998 | .807952 | |
| | 39 | .670923 | .696380 | .716787 | .733991 | .753371 | .766161 | .791436 | .800861 | .820211 | |
| | 40 | .686391 | .711459 | .731500 | .748358 | .767303 | .779780 | .804365 | .813508 | .832234 | |
| 41 | .701798 | .726444 | .746095 | .762586 | .781072 | .793219 | .817085 | .825935 | .844015 | | |
| | 42 | .717141 | .741334 | .760569 | .776670 | .794673 | .806474 | .829590 | .838136 | .855547 | |
| | 43 | .732419 | .756124 | .774916 | .790605 | .808101 | .819539 | .841873 | .850104 | .866823 | |
| | 44 | .747629 | .770812 | .789132 | .804386 | .821347 | .832407 | .853925 | .861828 | .877832 | |
| | 45 | .762767 | .785392 | .803212 | .818006 | .834406 | .845069 | .865738 | .873301 | .888565 | |
| 46 | .777830 | .799859 | .817149 | .831457 | .847267 | .857514 | .877299 | .884509 | .899009 | | |
| | 47 | .792814 | .814207 | .830934 | .844730 | .859920 | .869733 | .888595 | .895440 | .909149 | |
| | 48 | .807715 | .828429 | .844559 | .857814 | .872353 | .881710 | .899612 | .906078 | .918970 | |
| | 49 | .822525 | .842515 | .858012 | .870696 | .884550 | .893431 | .910332 | .916403 | .928451 | |
| | 50 | .837239 | .856455 | .871280 | .883361 | .896494 | .904875 | .920732 | .926395 | .937569 | |
| 51 | .851848 | .870237 | .884348 | .895790 | .908165 | .916022 | .930788 | .936026 | .946297 | | |
| | 52 | .866340 | .883846 | .897195 | .907962 | .919535 | .926842 | .940469 | .945265 | .954603 | |
| | 53 | .880705 | .897261 | .909799 | .919847 | .930574 | .937301 | .949738 | .954075 | .962447 | |
| | 54 | .894924 | .910459 | .922129 | .931411 | .941242 | .947359 | .958548 | .962408 | .969782 | |
| | 55 | .908977 | .923408 | .934145 | .942610 | .951489 | .956960 | .966842 | .970205 | .976549 | |
| 56 | .922835 | .936066 | .945796 | .953383 | .961246 | .966034 | .974544 | .977391 | .982676 | | |
| | 57 | .936459 | .948375 | .957010 | .963650 | .970426 | .974488 | .981557 | .983869 | .988070 | |
| | 58 | .949790 | .960252 | .967686 | .973295 | .978900 | .982189 | .987749 | .989511 | .992617 | |
| | 59 | .962739 | .971566 | .977665 | .982143 | .986482 | .988949 | .992940 | .994145 | .996175 | |
| | 60 | .975146 | .982094 | .986683 | .989908 | .992876 | .994476 | .996881 | .997549 | .998588 | |
| 61 | .986684 | .991390 | .994238 | .996069 | .997587 | .998319 | .999262 | .999480 | .999769 | | |
| | 62 | .996407 | .998302 | .999173 | .999592 | .999838 | .999919 | .999984 | .999992 | .999998 | |
| 64 | 31 | .529051 | .556271 | .578557 | .597690 | .619648 | .634392 | .664167 | .675507 | .699233 | |
| | 32 | .544531 | .571629 | .593768 | .612741 | .634477 | .649048 | .678414 | .689577 | .712891 | |
| | 33 | .559961 | .586910 | .608881 | .627677 | .649171 | .663555 | .692487 | .703463 | .726346 | |
| | 34 | .575340 | .602114 | .623897 | .642498 | .663730 | .677915 | .706386 | .717165 | .739599 | |
| | 35 | .590669 | .617242 | .638815 | .657203 | .678153 | .692126 | .720111 | .730684 | .752649 | |
| 36 | .605946 | .632293 | .653635 | .671793 | .692441 | .706188 | .733661 | .744018 | .765495 | | |
| | 37 | .621172 | .647266 | .668356 | .686265 | .706591 | .720099 | .747033 | .757166 | .778135 | |
| | 38 | .636346 | .662160 | .682977 | .700619 | .720602 | .733858 | .760228 | .770126 | .790567 | |
| | 39 | .651467 | .676974 | .697496 | .714853 | .734472 | .747463 | .773241 | .782895 | .802790 | |
| | 40 | .666534 | .691707 | .711911 | .728964 | .748199 | .760910 | .786070 | .795469 | .814798 | |
| 41 | .681546 | .706356 | .726221 | .742951 | .761780 | .774197 | .798712 | .807846 | .826588 | | |
| | 42 | .696502 | .720921 | .740422 | .756810 | .775211 | .787320 | .811161 | .820020 | .838154 | |
| | 43 | .711399 | .735397 | .754511 | .770537 | .788487 | .800273 | .823412 | .831987 | .849492 | |
| | 44 | .726237 | .749784 | .768486 | .784128 | .801605 | .813053 | .835460 | .843738 | .860595 | |
| | 45 | .741013 | .764076 | .782341 | .797579 | .814558 | .825652 | .847297 | .855269 | .871453 | |
| 46 | .755724 | .778271 | .796072 | .810883 | .827339 | .838064 | .858915 | .866568 | .882059 | | |
| | 47 | .770367 | .792364 | .809674 | .824034 | .839942 | .850279 | .870305 | .877628 | .892402 | |
| | 48 | .784939 | .806349 | .823139 | .837024 | .852357 | .862290 | .881455 | .888437 | .902469 | |
| | 49 | .799436 | .820221 | .836459 | .849844 | .864573 | .874083 | .892353 | .898980 | .912247 | |
| | 50 | .813852 | .833972 | .849627 | .862485 | .876579 | .885647 | .902985 | .909244 | .921719 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 64 | 51 | .828183 | .847593 | .862630 | .874932 | .888360 | .896965 | .913331 | .919209 | .930867 |
| | 52 | .842421 | .861076 | .875457 | .887171 | .899899 | .908018 | .923373 | .928854 | .939666 |
| | 53 | .856559 | .874406 | .888092 | .899185 | .911176 | .918786 | .933084 | .938154 | .948092 |
| | 54 | .870585 | .887570 | .900516 | .910951 | .922165 | .929241 | .942435 | .947078 | .956113 |
| | 55 | .884488 | .900549 | .912705 | .922443 | .932835 | .939350 | .951391 | .955588 | .963690 |
| | 56 | .898252 | .913318 | .924631 | .933626 | .943149 | .949072 | .959905 | .963641 | .970777 |
| | 57 | .911856 | .925849 | .936255 | .944457 | .953057 | .958355 | .967922 | .971177 | .977317 |
| | 58 | .925272 | .938099 | .947528 | .954879 | .962495 | .967131 | .975369 | .978125 | .983240 |
| | 59 | .938463 | .950014 | .958380 | .964813 | .971375 | .975308 | .982151 | .984390 | .988457 |
| | 60 | .951371 | .961511 | .968712 | .974146 | .979574 | .982759 | .988142 | .989847 | .992855 |
| | 61 | .963910 | .972464 | .978372 | .982710 | .986912 | .989300 | .993165 | .994332 | .996297 |
| | 62 | .975926 | .982657 | .987103 | .990227 | .993102 | .994651 | .996980 | .997626 | .998633 |
| | 63 | .987101 | .991660 | .994419 | .996193 | .997663 | .998371 | .999285 | .999497 | .999776 |
| | 64 | .996519 | .998355 | .999199 | .999604 | .999843 | .999922 | .999984 | .999992 | .999998 |
| 66 | 31 | .513899 | .540801 | .562875 | .581863 | .603699 | .618390 | .648132 | .659487 | .683297 |
| | 32 | .528961 | .555771 | .577726 | .596580 | .618225 | .632765 | .662145 | .673341 | .696781 |
| | 33 | .543975 | .570670 | .592486 | .611190 | .632626 | .647002 | .675996 | .687025 | .710776 |
| | 34 | .558943 | .585498 | .607156 | .625693 | .646901 | .661102 | .689686 | .700538 | .723183 |
| | 35 | .573864 | .600255 | .621736 | .640089 | .661051 | .675064 | .703214 | .713881 | .736102 |
| | 36 | .588738 | .614941 | .636226 | .654379 | .675075 | .688889 | .716581 | .727054 | .748832 |
| | 37 | .603565 | .629555 | .650624 | .668561 | .688973 | .702575 | .729785 | .740055 | .761373 |
| | 38 | .618344 | .644098 | .664930 | .682634 | .702744 | .716121 | .742825 | .752883 | .773123 |
| | 39 | .633075 | .658567 | .679144 | .696598 | .716387 | .729527 | .755700 | .765537 | .785880 |
| | 40 | .647757 | .672963 | .693264 | .710451 | .729899 | .742790 | .768407 | .778014 | .797842 |
| | 41 | .662390 | .687284 | .707288 | .724191 | .743279 | .755907 | .780944 | .790312 | .809605 |
| | 42 | .676971 | .701528 | .721215 | .737815 | .756523 | .768876 | .793307 | .802426 | .821167 |
| | 43 | .691501 | .715694 | .735041 | .751322 | .769630 | .781694 | .805492 | .814354 | .832523 |
| | 44 | .705978 | .729779 | .748766 | .764708 | .782594 | .794356 | .817496 | .826089 | .843668 |
| | 45 | .720399 | .743781 | .762384 | .777969 | .795413 | .806859 | .829313 | .837628 | .854595 |
| | 46 | .734764 | .757697 | .775894 | .791102 | .808081 | .819196 | .840936 | .848963 | .865299 |
| | 47 | .749070 | .771524 | .789290 | .804100 | .820592 | .831362 | .852359 | .860087 | .875771 |
| | 48 | .763314 | .785259 | .802569 | .816960 | .832941 | .843349 | .863573 | .870992 | .886002 |
| | 49 | .777494 | .798896 | .815723 | .829673 | .845119 | .855150 | .874570 | .881669 | .895982 |
| | 50 | .791606 | .812430 | .828747 | .842234 | .857117 | .866754 | .885338 | .892105 | .905700 |
| | 51 | .805646 | .825856 | .841634 | .854632 | .868926 | .878151 | .895866 | .902288 | .915140 |
| | 52 | .819609 | .839167 | .854374 | .866857 | .880534 | .889329 | .906137 | .912203 | .924288 |
| | 53 | .833491 | .852354 | .866958 | .878898 | .891927 | .900271 | .916137 | .921831 | .933124 |
| | 54 | .847283 | .865407 | .879371 | .890740 | .903087 | .910960 | .925843 | .931154 | .941627 |
| | 55 | .860979 | .878315 | .891601 | .902365 | .913995 | .921374 | .935232 | .940144 | .949771 |
| | 56 | .874568 | .891063 | .903628 | .913752 | .924677 | .931488 | .944276 | .948773 | .957525 |
| | 57 | .888039 | .903632 | .915429 | .924875 | .934953 | .941269 | .952938 | .957005 | .964853 |
| | 58 | .901376 | .916001 | .926977 | .935702 | .944936 | .950678 | .961176 | .964795 | .971708 |
| | 59 | .914558 | .928139 | .938235 | .946189 | .954527 | .959663 | .968934 | .972088 | .978036 |
| | 60 | .927560 | .940007 | .949153 | .956282 | .963665 | .968159 | .976142 | .978812 | .983768 |
| | 61 | .940344 | .951551 | .959666 | .965903 | .972264 | .976077 | .982709 | .984878 | .988818 |
| | 62 | .952856 | .962691 | .969676 | .974944 | .980207 | .983294 | .988511 | .990163 | .993078 |
| | 63 | .965010 | .973307 | .979036 | .983242 | .987315 | .989631 | .993377 | .994507 | .996412 |
| | 64 | .976658 | .983186 | .987498 | .990526 | .993313 | .994815 | .997073 | .997699 | .998675 |
| | 65 | .987492 | .991913 | .994589 | .996309 | .997734 | .998421 | .999307 | .999512 | .999783 |
| | 66 | .996625 | .998405 | .999223 | .999616 | .999848 | .999924 | .999985 | .999992 | .999998 |
| 68 | 31 | .499580 | .526151 | .547997 | .566822 | .588512 | .603129 | .632791 | .644141 | .667989 |
| | 32 | .514244 | .540750 | .562501 | .581215 | .602741 | .617228 | .646570 | .657778 | .681293 |
| | 33 | .528864 | .555283 | .576921 | .595508 | .616854 | .631197 | .660198 | .671256 | .694420 |
| | 34 | .543440 | .569749 | .591257 | .609702 | .630850 | .645039 | .673675 | .684574 | .707371 |
| | 35 | .557973 | .584150 | .605509 | .623796 | .644729 | .658753 | .687002 | .697735 | .720147 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 68 | 36 | .572463 | .598485 | .619677 | .637792 | .658492 | .672339 | .700178 | .710736 | .732748 | |
| | 37 | .586908 | .612754 | .633762 | .651688 | .672139 | .685798 | .713204 | .723579 | .745173 | |
| | 38 | .601310 | .626957 | .647761 | .665484 | .685668 | .699127 | .726079 | .736263 | .757421 | |
| | 39 | .615668 | .641093 | .661676 | .679180 | .699079 | .712327 | .738802 | .748786 | .769493 | |
| | 40 | .629981 | .655162 | .675504 | .692774 | .712371 | .725396 | .751371 | .761146 | .781384 | |
| | 41 | .644249 | .669162 | .689246 | .706265 | .725542 | .738333 | .763785 | .773343 | .793095 | |
| | 42 | .658470 | .683092 | .702899 | .719651 | .738591 | .751135 | .776040 | .785373 | .804621 | |
| | 43 | .672645 | .696952 | .716461 | .732931 | .751514 | .763799 | .788135 | .797233 | .815961 | |
| | 44 | .686772 | .710739 | .729932 | .746102 | .764310 | .776324 | .800065 | .808921 | .827109 | |
| | 45 | .700850 | .724452 | .743308 | .759162 | .776975 | .788705 | .811828 | .820431 | .838062 | |
| | 46 | .714878 | .738089 | .756587 | .772106 | .789505 | .800939 | .823417 | .831759 | .848815 | |
| | 47 | .728853 | .751647 | .769766 | .784933 | .801897 | .813021 | .834829 | .842900 | .859361 | |
| | 48 | .742774 | .765123 | .782840 | .797637 | .814145 | .824946 | .846057 | .853847 | .869694 | |
| | 49 | .756640 | .778515 | .795807 | .810213 | .826245 | .836707 | .857094 | .864594 | .879806 | |
| | 50 | .770446 | .791818 | .808662 | .822657 | .838188 | .848299 | .867932 | .875131 | .889688 | |
| | 51 | .784191 | .805028 | .821398 | .834962 | .849969 | .859712 | .878562 | .885449 | .899331 | |
| | 52 | .797871 | .818140 | .834010 | .847120 | .861579 | .870937 | .888974 | .895538 | .908722 | |
| | 53 | .811483 | .831149 | .846491 | .859122 | .873007 | .881964 | .899155 | .905385 | .917848 | |
| | 54 | .825021 | .844046 | .858831 | .870960 | .884243 | .892781 | .909091 | .914974 | .926693 | |
| | 55 | .838480 | .856826 | .871020 | .882620 | .895271 | .903371 | .918765 | .924289 | .935239 | |
| | 56 | .851854 | .869477 | .883047 | .894089 | .906077 | .913719 | .928158 | .933309 | .943465 | |
| | 57 | .865135 | .881988 | .894896 | .905350 | .916641 | .923802 | .937247 | .942010 | .951345 | |
| | 58 | .878314 | .894345 | .906551 | .916382 | .926939 | .933597 | .946002 | .950364 | .958850 | |
| | 59 | .891378 | .906530 | .917989 | .927160 | .936942 | .943070 | .954390 | .958334 | .965943 | |
| | 60 | .904313 | .918522 | .929182 | .937652 | .946614 | .952185 | .962368 | .965878 | .972581 | |
| | 61 | .917100 | .930292 | .940095 | .947816 | .955908 | .960891 | .969884 | .972943 | .978711 | |
| | 62 | .929712 | .941801 | .950681 | .957600 | .964764 | .969124 | .976869 | .979458 | .984264 | |
| | 63 | .942114 | .952996 | .960874 | .966928 | .973101 | .976799 | .983233 | .985337 | .989158 | |
| | 64 | .954252 | .963802 | .970582 | .975695 | .980801 | .983796 | .988857 | .990460 | .993287 | |
| | 65 | .966045 | .974099 | .979660 | .983742 | .987695 | .989941 | .993575 | .994672 | .996520 | |
| | 66 | .977347 | .983684 | .987869 | .990808 | .993512 | .994970 | .997160 | .997768 | .998715 | |
| | 67 | .987861 | .992152 | .994749 | .996418 | .997802 | .998468 | .999328 | .999527 | .999790 | |
| | 68 | .996724 | .998452 | .999246 | .999628 | .999852 | .999926 | .999985 | .999993 | .999999 | |
| 70 | 31 | .486029 | .512250 | .533864 | .552513 | .574036 | .588565 | .618109 | .629436 | .653283 | |
| | 32 | .500315 | .526503 | .548036 | .566593 | .587978 | .602392 | .631655 | .642856 | .666402 | |
| | 33 | .514559 | .540685 | .562128 | .580579 | .601809 | .616099 | .645059 | .656126 | .679356 | |
| | 34 | .528762 | .554806 | .576141 | .594472 | .615531 | .629686 | .658321 | .669246 | .692144 | |
| | 35 | .542925 | .568865 | .590077 | .608273 | .629145 | .643154 | .671444 | .682219 | .704769 | |
| | 36 | .557048 | .582863 | .603934 | .621982 | .642650 | .656503 | .684426 | .695044 | .717230 | |
| | 37 | .571129 | .596799 | .617713 | .635598 | .656047 | .669733 | .697269 | .707721 | .729527 | |
| | 38 | .585171 | .610675 | .631414 | .649122 | .669335 | .682843 | .709971 | .720250 | .741661 | |
| | 39 | .599171 | .624488 | .645036 | .662552 | .682514 | .695834 | .722533 | .732630 | .753630 | |
| | 40 | .613131 | .638239 | .658580 | .675889 | .695583 | .708704 | .734952 | .744861 | .765433 | |
| | 41 | .627049 | .651928 | .672043 | .689132 | .708541 | .721452 | .747229 | .756941 | .777070 | |
| | 42 | .640925 | .665553 | .685425 | .702279 | .721387 | .734077 | .759361 | .768868 | .788537 | |
| | 43 | .654758 | .679113 | .698725 | .715329 | .734119 | .746577 | .771345 | .780640 | .799834 | |
| | 44 | .668548 | .692608 | .711942 | .728280 | .746735 | .758950 | .783181 | .792254 | .810956 | |
| | 45 | .682294 | .706036 | .725073 | .741130 | .759233 | .771193 | .794864 | .803708 | .821901 | |
| | 46 | .695994 | .719396 | .738117 | .753877 | .771610 | .783303 | .806392 | .814998 | .832665 | |
| | 47 | .709647 | .732684 | .751071 | .766518 | .783862 | .795277 | .817760 | .826120 | .843243 | |
| | 48 | .723253 | .745901 | .763933 | .779051 | .795987 | .807111 | .828963 | .837068 | .853431 | |
| | 49 | .736809 | .759042 | .776700 | .791470 | .807980 | .818800 | .839998 | .847838 | .863822 | |
| | 50 | .750314 | .772106 | .789367 | .803773 | .819836 | .830339 | .850857 | .858424 | .873809 | |
| | 51 | .763765 | .785089 | .801932 | .815954 | .831550 | .841723 | .861533 | .868817 | .883586 | |
| | 52 | .777160 | .797987 | .814389 | .828009 | .843115 | .852944 | .872020 | .879011 | .893143 | |
| | 53 | .790496 | .810796 | .826733 | .839930 | .854525 | .863994 | .882308 | .888995 | .902470 | |
| | 54 | .803770 | .823512 | .838959 | .851711 | .865770 | .874865 | .892386 | .898759 | .911556 | |
| | 55 | .816978 | .836128 | .851057 | .863343 | .876841 | .885545 | .902243 | .908291 | .920387 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 70 | 56 | .830116 | .848638 | .863022 | .874816 | .887727 | .896023 | .911864 | .917576 | .928949 | |
| | 57 | .843178 | .861034 | .874841 | .886120 | .898415 | .906284 | .921234 | .926596 | .937224 | |
| | 58 | .856159 | .873307 | .886504 | .897239 | .908888 | .916312 | .930333 | .935333 | .945190 | |
| | 59 | .869049 | .885445 | .897997 | .908158 | .919128 | .926085 | .939139 | .943763 | .952823 | |
| | 60 | .881841 | .897435 | .909302 | .918856 | .929112 | .935579 | .947624 | .951858 | .960094 | |
| | 61 | .894523 | .909259 | .920397 | .929310 | .938812 | .944764 | .955755 | .959583 | .966968 | |
| | 62 | .907081 | .920897 | .931257 | .939487 | .948192 | .953602 | .963490 | .966897 | .973403 | |
| | 63 | .919494 | .932319 | .941846 | .949348 | .957207 | .962046 | .970778 | .973747 | .979345 | |
| | 64 | .931740 | .943490 | .952119 | .958840 | .965799 | .970033 | .977552 | .980066 | .984731 | |
| | 65 | .943781 | .954358 | .962012 | .967892 | .973888 | .977479 | .983726 | .985768 | .989478 | |
| | 66 | .955568 | .964848 | .971435 | .976402 | .981361 | .984269 | .989183 | .990740 | .993484 | |
| | 67 | .967020 | .974846 | .980248 | .984213 | .988052 | .990233 | .993762 | .994827 | .996621 | |
| | 68 | .977997 | .984154 | .988218 | .991073 | .993700 | .995115 | .997242 | .997833 | .998752 | |
| | 69 | .988208 | .992377 | .994900 | .996521 | .997865 | .998512 | .999347 | .999540 | .999796 | |
| | 70 | .996817 | .998496 | .999268 | .999638 | .999856 | .999928 | .999986 | .999993 | .999999 | |
| 72 | 36 | .542429 | .568014 | .588942 | .606900 | .627506 | .641342 | .669298 | .679952 | .702262 | |
| | 37 | .556163 | .581631 | .602426 | .620243 | .640656 | .654344 | .681953 | .692458 | .714423 | |
| | 38 | .569860 | .595191 | .615837 | .633500 | .653705 | .667236 | .694478 | .704826 | .726431 | |
| | 39 | .583519 | .628693 | .629174 | .646670 | .666653 | .680016 | .706872 | .717055 | .738286 | |
| | 40 | .597140 | .622138 | .642439 | .659754 | .679500 | .692684 | .719134 | .729146 | .749988 | |
| | 41 | .610722 | .635525 | .655630 | .677751 | .692243 | .705239 | .731264 | .741098 | .761534 | |
| | 42 | .624266 | .648853 | .668746 | .685659 | .704884 | .717682 | .743260 | .752908 | .772925 | |
| | 43 | .637771 | .662122 | .681787 | .698479 | .717419 | .730009 | .755122 | .764576 | .784158 | |
| | 44 | .651236 | .675332 | .694752 | .711208 | .729849 | .742220 | .766846 | .776099 | .795231 | |
| | 45 | .664661 | .688480 | .707639 | .723845 | .742171 | .754312 | .778432 | .787476 | .806143 | |
| | 46 | .678045 | .701566 | .720447 | .736389 | .754383 | .766284 | .789876 | .798704 | .816889 | |
| | 47 | .691387 | .714589 | .733174 | .748837 | .766483 | .778133 | .801176 | .809779 | .827467 | |
| | 48 | .704686 | .727546 | .745817 | .761187 | .778468 | .789856 | .812327 | .820698 | .837872 | |
| | 49 | .717940 | .740437 | .758376 | .773437 | .790335 | .801449 | .823327 | .831457 | .848101 | |
| | 50 | .731149 | .753258 | .770847 | .785582 | .802080 | .812909 | .834170 | .842050 | .858148 | |
| | 51 | .744310 | .766008 | .783226 | .797620 | .813699 | .824230 | .844851 | .852474 | .868007 | |
| | 52 | .757423 | .778684 | .795512 | .809547 | .825187 | .835409 | .855365 | .862721 | .877671 | |
| | 53 | .770484 | .791282 | .807699 | .821357 | .836539 | .846438 | .865704 | .872784 | .887134 | |
| | 54 | .783491 | .803800 | .819783 | .833046 | .847750 | .857312 | .875861 | .882656 | .896386 | |
| | 55 | .796443 | .816232 | .831758 | .844607 | .858810 | .868022 | .885828 | .892327 | .905418 | |
| | 56 | .809334 | .828575 | .843620 | .856034 | .869714 | .878559 | .895593 | .901787 | .914219 | |
| | 57 | .822162 | .840822 | .855360 | .867318 | .880450 | .888914 | .905146 | .911023 | .922774 | |
| | 58 | .834923 | .852967 | .866970 | .878449 | .891008 | .899075 | .914472 | .920022 | .931071 | |
| | 59 | .847611 | .865002 | .878442 | .889416 | .901375 | .909026 | .923557 | .928767 | .939090 | |
| | 60 | .860220 | .876918 | .889763 | .900206 | .911536 | .918753 | .932380 | .937238 | .946812 | |
| | 61 | .872743 | .888705 | .900920 | .910804 | .921472 | .928234 | .940921 | .945414 | .954213 | |
| | 62 | .885170 | .900349 | .911895 | .921188 | .931160 | .937446 | .949151 | .953265 | .961265 | |
| | 63 | .897492 | .911833 | .922668 | .931336 | .940574 | .946360 | .957040 | .960760 | .967933 | |
| | 64 | .909693 | .923136 | .933214 | .941217 | .949680 | .954938 | .964546 | .967857 | .974176 | |
| | 65 | .921755 | .934232 | .943498 | .950792 | .958432 | .963135 | .971620 | .974505 | .979943 | |
| | 66 | .933654 | .945084 | .953476 | .960010 | .966775 | .970890 | .978196 | .980639 | .985171 | |
| | 67 | .945355 | .955643 | .963086 | .968802 | .974630 | .978121 | .984191 | .986175 | .989779 | |
| | 68 | .956810 | .965836 | .972240 | .977068 | .981889 | .984715 | .989491 | .991003 | .993669 | |
| | 69 | .967941 | .975551 | .980803 | .984657 | .988389 | .990509 | .993939 | .994974 | .996717 | |
| | 70 | .978610 | .984597 | .988548 | .991324 | .993877 | .995252 | .997320 | .997894 | .998787 | |
| | 71 | .988536 | .992589 | .995042 | .996618 | .997924 | .998554 | .999365 | .999553 | .999801 | |
| | 72 | .996906 | .998538 | .999288 | .999648 | .999860 | .999930 | .999986 | .999993 | .999999 | |
| 74 | 36 | .528547 | .553886 | .574652 | .592502 | .613020 | .626820 | .654764 | .665437 | .687829 | |
| | 37 | .541949 | .567195 | .587850 | .605579 | .625928 | .639598 | .667231 | .677768 | .699847 | |
| | 38 | .555317 | .580451 | .600980 | .618575 | .638742 | .652271 | .679575 | .689971 | .711721 | |
| | 39 | .568649 | .593653 | .614041 | .631491 | .651461 | .664841 | .691797 | .702044 | .723453 | |
| | 40 | .581945 | .606802 | .627035 | .644326 | .664086 | .677306 | .703897 | .713988 | .735042 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 74 | 41 | .595207 | .619897 | .639960 | .657080 | .676616 | .689667 | .715873 | .725802 | .746486 | |
| | 42 | .608432 | .632938 | .652816 | .669753 | .689049 | .701923 | .727726 | .737486 | .757786 | |
| | 43 | .621622 | .645925 | .665603 | .682344 | .701387 | .714073 | .739454 | .749037 | .768940 | |
| | 44 | .634775 | .658856 | .678319 | .694851 | .713626 | .726116 | .751056 | .760456 | .779946 | |
| | 45 | .647891 | .671732 | .690964 | .707274 | .725767 | .738050 | .762531 | .771740 | .790804 | |
| | 46 | .660969 | .684551 | .703537 | .719612 | .737807 | .749874 | .773875 | .782887 | .801510 | |
| | 47 | .674010 | .697312 | .716037 | .731863 | .749745 | .761585 | .785088 | .793895 | .812062 | |
| | 48 | .687011 | .710014 | .728460 | .744025 | .761579 | .773182 | .796166 | .804761 | .822457 | |
| | 49 | .699972 | .722655 | .740808 | .756095 | .773306 | .784662 | .807107 | .815482 | .832692 | |
| | 50 | .712893 | .735235 | .753076 | .768073 | .784923 | .796027 | .817907 | .826054 | .842763 | |
| | 51 | .725771 | .747750 | .765262 | .779954 | .796428 | .807258 | .828561 | .836473 | .852664 | |
| | 52 | .738605 | .760200 | .777365 | .791736 | .807817 | .818367 | .839066 | .846735 | .862392 | |
| | 53 | .751395 | .772581 | .789381 | .803416 | .819085 | .829343 | .849417 | .856834 | .871941 | |
| | 54 | .764137 | .784892 | .801307 | .814989 | .830228 | .840183 | .859607 | .866764 | .881303 | |
| | 55 | .776830 | .797128 | .813138 | .826451 | .841241 | .850880 | .869630 | .876517 | .890472 | |
| | 56 | .789472 | .809287 | .824870 | .837796 | .852117 | .861427 | .879478 | .886087 | .899438 | |
| | 57 | .802060 | .821364 | .836499 | .849018 | .862850 | .871817 | .889143 | .895464 | .908193 | |
| | 58 | .814591 | .833354 | .848018 | .860111 | .873432 | .882042 | .898614 | .904638 | .916725 | |
| | 59 | .827060 | .845253 | .859420 | .871067 | .883853 | .892091 | .907881 | .913597 | .925022 | |
| | 60 | .839465 | .857054 | .870698 | .881876 | .894102 | .901952 | .916931 | .922327 | .933069 | |
| | 61 | .851800 | .868749 | .881841 | .892527 | .904167 | .911612 | .925746 | .930813 | .940848 | |
| | 62 | .864058 | .880330 | .892839 | .903007 | .914034 | .921055 | .934310 | .939034 | .948341 | |
| | 63 | .876233 | .891785 | .903679 | .913301 | .923683 | .930262 | .942601 | .946969 | .955524 | |
| | 64 | .888317 | .903102 | .914344 | .923389 | .933093 | .939208 | .950592 | .954592 | .962369 | |
| | 65 | .900297 | .914265 | .924814 | .931249 | .942238 | .947866 | .958253 | .961870 | .968843 | |
| | 66 | .912161 | .925253 | .935063 | .942850 | .951084 | .956200 | .965543 | .968762 | .974906 | |
| | 67 | .923891 | .936040 | .945058 | .952156 | .959589 | .964164 | .972415 | .975220 | .980507 | |
| | 68 | .935463 | .946591 | .954757 | .961116 | .967697 | .971699 | .978805 | .981179 | .985586 | |
| | 69 | .946844 | .956858 | .964100 | .969662 | .975331 | .978727 | .984630 | .986560 | .990064 | |
| | 70 | .957985 | .966770 | .973001 | .977698 | .982387 | .985137 | .989781 | .991252 | .993845 | |
| | 71 | .968811 | .976218 | .981328 | .985078 | .988708 | .990770 | .994106 | .995112 | .996807 | |
| | 72 | .979190 | .985015 | .988860 | .991560 | .994044 | .995382 | .997393 | .997951 | .998820 | |
| | 73 | .988846 | .992790 | .995177 | .996710 | .997981 | .998593 | .999382 | .999565 | .999807 | |
| | 74 | .996989 | .998577 | .999307 | .999658 | .999864 | .999932 | .999986 | .999993 | .999999 | |
| 76 | 36 | .515349 | .540429 | .561019 | .578745 | .599155 | .612903 | .640798 | .651473 | .673909 | |
| | 37 | .528434 | .553442 | .573940 | .591563 | .611826 | .625459 | .653076 | .663629 | .685780 | |
| | 38 | .541487 | .566406 | .586798 | .604306 | .624409 | .637917 | .665239 | .675663 | .697516 | |
| | 39 | .554506 | .579319 | .599592 | .616973 | .636903 | .650278 | .677287 | .687576 | .709118 | |
| | 40 | .567492 | .592183 | .612322 | .629565 | .649309 | .662542 | .689221 | .699368 | .720585 | |
| | 41 | .580445 | .604996 | .624989 | .642082 | .661625 | .674708 | .701039 | .711039 | .731918 | |
| | 42 | .593365 | .617759 | .637591 | .654522 | .673853 | .686776 | .712743 | .722589 | .743116 | |
| | 43 | .606252 | .630472 | .650129 | .666887 | .685991 | .698745 | .724330 | .734016 | .754179 | |
| | 44 | .619105 | .643134 | .662602 | .679174 | .698039 | .710616 | .735801 | .745319 | .765105 | |
| | 45 | .631924 | .655744 | .675009 | .691384 | .709996 | .722386 | .747154 | .756498 | .775893 | |
| | 46 | .644708 | .668302 | .687350 | .703515 | .721860 | .734055 | .758387 | .767551 | .786541 | |
| | 47 | .657458 | .680807 | .699623 | .715567 | .733631 | .745621 | .769499 | .778476 | .797047 | |
| | 48 | .670171 | .693258 | .711827 | .727537 | .745306 | .757082 | .780489 | .789271 | .807410 | |
| | 49 | .682849 | .705654 | .723962 | .739424 | .756883 | .768436 | .791352 | .799934 | .817627 | |
| | 50 | .695489 | .717994 | .736025 | .751227 | .768362 | .779681 | .802088 | .810461 | .827693 | |
| | 51 | .708091 | .730276 | .748014 | .762943 | .779739 | .790815 | .812692 | .820850 | .837607 | |
| | 52 | .720655 | .742499 | .759929 | .774570 | .791011 | .801834 | .823162 | .831097 | .847364 | |
| | 53 | .733177 | .754661 | .771765 | .786105 | .802176 | .812734 | .833493 | .841198 | .856960 | |
| | 54 | .745658 | .766761 | .783521 | .797546 | .813279 | .823513 | .843680 | .851148 | .866389 | |
| | 55 | .758096 | .778794 | .795194 | .808888 | .824167 | .834165 | .853720 | .860942 | .875646 | |
| | 56 | .770489 | .790760 | .806781 | .820128 | .834985 | .844686 | .863606 | .870574 | .884724 | |
| | 57 | .782835 | .802655 | .818277 | .831261 | .845678 | .855070 | .873331 | .880037 | .893617 | |
| | 58 | .795131 | .814475 | .829678 | .842282 | .856240 | .865310 | .882889 | .889323 | .902315 | |
| | 59 | .807376 | .826216 | .840979 | .853185 | .866664 | .875400 | .892270 | .898423 | .910809 | |
| | 60 | .819565 | .837875 | .852175 | .863964 | .876943 | .885329 | .901465 | .907328 | .919089 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 76 | 61 | .831696 | .849445 | .863258 | .874610 | .887066 | .895090 | .910463 | .916026 | .927142 |
| | 62 | .843763 | .860920 | .874221 | .885115 | .897025 | .904670 | .919251 | .924503 | .934954 |
| | 63 | .855764 | .872293 | .885055 | .895467 | .906805 | .914055 | .927813 | .932744 | .942508 |
| | 64 | .867691 | .883556 | .895749 | .905655 | .916394 | .923231 | .936133 | .940730 | .949785 |
| | 65 | .879537 | .894698 | .906289 | .915662 | .925773 | .932178 | .944188 | .948439 | .956762 |
| | 66 | .891295 | .905707 | .916660 | .925471 | .934920 | .940874 | .951954 | .955846 | .963412 |
| | 67 | .902953 | .916566 | .926843 | .935058 | .943811 | .949290 | .959399 | .962918 | .969703 |
| | 68 | .914499 | .927256 | .936811 | .944396 | .952412 | .957392 | .966486 | .969618 | .975595 |
| | 69 | .925914 | .937751 | .946535 | .953446 | .960683 | .965136 | .973166 | .975896 | .981040 |
| | 70 | .937177 | .948017 | .955971 | .962162 | .968568 | .972464 | .979380 | .981691 | .985978 |
| | 71 | .948253 | .958007 | .965061 | .970476 | .975995 | .979300 | .985046 | .986923 | .990333 |
| | 72 | .959098 | .967653 | .973721 | .978295 | .982860 | .985536 | .990056 | .991488 | .994011 |
| | 73 | .969636 | .976849 | .981825 | .985475 | .989009 | .991017 | .994263 | .995243 | .996893 |
| | 74 | .979739 | .985412 | .989156 | .991784 | .994203 | .995505 | .997463 | .998006 | .998852 |
| | 75 | .989140 | .992981 | .995304 | .996797 | .998034 | .998630 | .999399 | .999577 | .999812 |
| | 76 | .997068 | .998615 | .999325 | .999667 | .999868 | .999934 | .999987 | .999993 | .999999 |
| 78 | 36 | .502797 | .527598 | .548000 | .565591 | .585875 | .599559 | .627373 | .638036 | .660484 |
| | 37 | .515569 | .540327 | .560655 | .578158 | .598315 | .611896 | .639463 | .650015 | .672205 |
| | 38 | .528320 | .553009 | .573249 | .590654 | .610671 | .624142 | .651444 | .661880 | .683798 |
| | 39 | .541040 | .565644 | .585784 | .603079 | .622944 | .636297 | .663317 | .673631 | .695265 |
| | 40 | .553728 | .578233 | .598259 | .615434 | .635134 | .648360 | .675083 | .685269 | .706606 |
| | 41 | .566396 | .590774 | .610674 | .627718 | .647241 | .660332 | .686741 | .696793 | .717821 |
| | 42 | .579013 | .603269 | .623029 | .639931 | .659264 | .672212 | .698291 | .708203 | .728909 |
| | 43 | .591609 | .615716 | .635324 | .652073 | .671204 | .684001 | .709734 | .719498 | .739871 |
| | 44 | .604174 | .628116 | .647559 | .664143 | .683061 | .695697 | .721067 | .730679 | .750706 |
| | 45 | .616707 | .640469 | .659733 | .676142 | .694832 | .707300 | .732291 | .741744 | .761412 |
| | 46 | .629208 | .652773 | .671845 | .688067 | .706518 | .718810 | .743404 | .752692 | .771988 |
| | 47 | .641677 | .665028 | .683895 | .699919 | .718117 | .730224 | .754406 | .763522 | .782434 |
| | 48 | .654113 | .677234 | .695882 | .711697 | .729629 | .741542 | .765294 | .774233 | .792747 |
| | 49 | .666516 | .689390 | .707805 | .723398 | .741052 | .752762 | .776067 | .784822 | .802925 |
| | 50 | .678P85 | .701494 | .719663 | .735023 | .752383 | .763882 | .786722 | .795287 | .812967 |
| | 51 | .691219 | .713546 | .731454 | .746568 | .763623 | .774901 | .797258 | .805626 | .822868 |
| | 52 | .703518 | .725544 | .743176 | .759033 | .774767 | .785815 | .807672 | .815835 | .832627 |
| | 53 | .715781 | .737487 | .754829 | .769415 | .785814 | .796623 | .817960 | .825913 | .842240 |
| | 54 | .728006 | .749374 | .766410 | .780711 | .796761 | .807322 | .828120 | .835854 | .851702 |
| | 55 | .740193 | .761202 | .777916 | .791920 | .807606 | .817907 | .838146 | .845656 | .861010 |
| | 56 | .752340 | .772970 | .789345 | .803038 | .818343 | .828375 | .848036 | .855313 | .870159 |
| | 57 | .764445 | .784676 | .800694 | .814062 | .828970 | .838722 | .857783 | .864820 | .879141 |
| | 58 | .776507 | .796315 | .811961 | .824987 | .839492 | .848942 | .867383 | .874171 | .887953 |
| | 59 | .788524 | .807887 | .823140 | .835810 | .849873 | .859031 | .876828 | .883360 | .896585 |
| | 60 | .800493 | .819387 | .834228 | .846525 | .860139 | .868981 | .886112 | .892379 | .905031 |
| | 61 | .812412 | .830811 | .845220 | .857127 | .870272 | .878787 | .895225 | .901219 | .913280 |
| | 62 | .824279 | .842155 | .856110 | .867609 | .880264 | .888438 | .904160 | .909870 | .921322 |
| | 63 | .836088 | .853414 | .866892 | .877963 | .890107 | .897926 | .912904 | .918322 | .929145 |
| | 64 | .847838 | .864582 | .877558 | .888180 | .899790 | .907240 | .921445 | .926560 | .936735 |
| | 65 | .859521 | .875651 | .888099 | .898251 | .909302 | .916366 | .929768 | .934570 | .944077 |
| | 66 | .871134 | .886614 | .898504 | .908162 | .918628 | .925290 | .937857 | .942333 | .951150 |
| | 67 | .882670 | .897459 | .908761 | .917898 | .927751 | .933992 | .945690 | .949829 | .957933 |
| | 68 | .894119 | .908175 | .918855 | .927442 | .936650 | .942450 | .953242 | .957032 | .964399 |
| | 69 | .905472 | .918747 | .928765 | .936772 | .945301 | .950638 | .960484 | .963911 | .970517 |
| | 70 | .916715 | .929154 | .938469 | .945860 | .953670 | .958521 | .967378 | .970428 | .976248 |
| | 71 | .927833 | .939373 | .947934 | .954669 | .961719 | .966057 | .973878 | .976536 | .981545 |
| | 72 | .938801 | .949366 | .957120 | .963153 | .969394 | .973189 | .979925 | .982175 | .986350 |
| | 73 | .949590 | .959098 | .965971 | .971247 | .976624 | .979843 | .985439 | .987268 | .990588 |
| | 74 | .960153 | .968492 | .974404 | .978860 | .983307 | .985914 | .990317 | .991711 | .994168 |
| | 75 | .970418 | .977447 | .982296 | .985853 | .989295 | .991250 | .994413 | .995367 | .996974 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 78 | 76 | .980260 | .985788 | .989436 | .991997 | .994353 | .995622 | .997528 | .998058 | .998881 |
| | 77 | .989419 | .993161 | .995425 | .996880 | .998085 | .998665 | .999414 | .999588 | .999817 |
| | 78 | .997143 | .998650 | .999343 | .999675 | .999871 | .999936 | .999987 | .999994 | .999999 |
| 80 | 36 | .490817 | .515351 | .535558 | .553002 | .573147 | .586755 | .614462 | .625101 | .647535 |
| | 37 | .503308 | .527807 | .547954 | .565326 | .585361 | .598879 | .626365 | .636905 | .659103 |
| | 38 | .515770 | .540219 | .560294 | .577582 | .597496 | .610917 | .638165 | .648600 | .670551 |
| | 39 | .528203 | .552586 | .572578 | .589772 | .609552 | .622868 | .649864 | .660188 | .681880 |
| | 40 | .540607 | .564909 | .584805 | .601895 | .621530 | .634733 | .661461 | .671669 | .693090 |
| 41 | 41 | .552982 | .577188 | .596976 | .613952 | .633431 | .646513 | .672958 | .683043 | .704182 |
| | 42 | .565128 | .589424 | .609091 | .625943 | .645253 | .658206 | .684353 | .694310 | .715154 |
| | 43 | .577644 | .601615 | .621150 | .637866 | .656997 | .669814 | .695647 | .705471 | .726008 |
| | 44 | .589932 | .613762 | .633153 | .649724 | .668662 | .681335 | .706839 | .716523 | .736743 |
| | 45 | .602190 | .625864 | .645099 | .661514 | .680249 | .692770 | .717929 | .727468 | .747358 |
| 46 | 46 | .614419 | .637922 | .656987 | .673236 | .691756 | .704117 | .728915 | .738304 | .757852 |
| | 47 | .626617 | .649935 | .668819 | .684890 | .703182 | .715377 | .739799 | .749030 | .768225 |
| | 48 | .638786 | .661901 | .680591 | .696475 | .714528 | .726547 | .750577 | .759645 | .778474 |
| | 49 | .650924 | .673822 | .692305 | .707991 | .725792 | .737627 | .761248 | .770148 | .788600 |
| | 50 | .663030 | .685695 | .703958 | .719435 | .736972 | .748615 | .771812 | .780537 | .798598 |
| 51 | 51 | .675105 | .697520 | .715551 | .730807 | .748067 | .759509 | .782266 | .790810 | .808469 |
| | 52 | .687148 | .709297 | .727081 | .742105 | .759075 | .770309 | .792609 | .800965 | .818209 |
| | 53 | .699158 | .721023 | .738548 | .753328 | .769996 | .781012 | .802837 | .811000 | .827815 |
| | 54 | .711134 | .732699 | .749949 | .764474 | .780825 | .791615 | .812947 | .820911 | .837284 |
| | 55 | .723075 | .744321 | .761283 | .775540 | .791561 | .802116 | .822938 | .830695 | .846614 |
| 56 | 56 | .734990 | .755890 | .772548 | .786525 | .802202 | .812512 | .832806 | .840349 | .855799 |
| | 57 | .746848 | .767402 | .783742 | .797426 | .812744 | .822799 | .842546 | .849869 | .864836 |
| | 58 | .758678 | .778857 | .794862 | .808240 | .823183 | .832974 | .852154 | .859250 | .873720 |
| | 59 | .770468 | .790251 | .805906 | .818962 | .833517 | .843033 | .861626 | .868486 | .882445 |
| | 60 | .782217 | .801583 | .816869 | .829591 | .843739 | .852970 | .870955 | .877573 | .891005 |
| 61 | 61 | .793922 | .812849 | .827749 | .840120 | .853846 | .862780 | .880136 | .886504 | .899392 |
| | 62 | .805581 | .824045 | .838541 | .850546 | .863831 | .872457 | .889161 | .895270 | .907599 |
| | 63 | .817192 | .835169 | .849240 | .860863 | .873688 | .881994 | .898022 | .903864 | .915617 |
| | 64 | .828752 | .846216 | .859841 | .871064 | .883410 | .891383 | .906710 | .912276 | .923435 |
| | 65 | .840258 | .857180 | .870337 | .881141 | .892987 | .900613 | .915215 | .920495 | .931041 |
| 66 | 66 | .851704 | .868056 | .880721 | .891086 | .902411 | .909675 | .923523 | .928508 | .938422 |
| | 67 | .863088 | .878837 | .890985 | .900889 | .911668 | .918556 | .931620 | .936299 | .945562 |
| | 68 | .874403 | .889514 | .901117 | .910538 | .920745 | .927240 | .939490 | .943852 | .952442 |
| | 69 | .885643 | .900079 | .911106 | .920018 | .929626 | .935710 | .947112 | .951146 | .959042 |
| | 70 | .896799 | .910517 | .920936 | .929312 | .938290 | .943944 | .954463 | .958156 | .965334 |
| 71 | 71 | .907862 | .920816 | .930589 | .938398 | .946713 | .951916 | .961512 | .964851 | .971288 |
| | 72 | .918820 | .930956 | .940041 | .947248 | .954864 | .959592 | .968224 | .971196 | .976867 |
| | 73 | .929654 | .940912 | .949262 | .955829 | .962702 | .966931 | .974553 | .977143 | .982024 |
| | 74 | .940344 | .950652 | .958211 | .964094 | .970178 | .973877 | .980441 | .982634 | .986702 |
| | 75 | .950860 | .960132 | .966835 | .971979 | .977221 | .980358 | .985812 | .987594 | .990830 |
| 76 | 76 | .961155 | .969287 | .975053 | .979397 | .983732 | .986273 | .990564 | .991922 | .994317 |
| | 77 | .971161 | .978016 | .982743 | .986211 | .989566 | .991472 | .994555 | .995485 | .997051 |
| | 78 | .980755 | .986146 | .989702 | .992199 | .994495 | .995732 | .997591 | .998107 | .998910 |
| | 79 | .989694 | .993333 | .995540 | .996958 | .998133 | .998699 | .999429 | .999598 | .999821 |
| | 80 | .997215 | .998684 | .999359 | .999684 | .999874 | .999937 | .999987 | .999994 | .999999 |
| 82 | 41 | .540189 | .564199 | .583860 | .600752 | .620165 | .633223 | .659668 | .669773 | .690987 |
| | 42 | .552265 | .576184 | .595742 | .612525 | .631789 | .644731 | .670907 | .680895 | .701840 |
| | 43 | .564313 | .588127 | .607571 | .624236 | .643339 | .656159 | .682051 | .691917 | .712580 |
| | 44 | .576334 | .600029 | .619348 | .635884 | .654816 | .667507 | .693099 | .702837 | .723209 |
| | 45 | .588328 | .611890 | .631071 | .647469 | .666219 | .678772 | .704051 | .713657 | .733775 |
| 46 | 46 | .600295 | .623709 | .642741 | .658991 | .677548 | .689957 | .714907 | .724375 | .744129 |
| | 47 | .612233 | .635485 | .654358 | .670450 | .688802 | .701059 | .725667 | .734990 | .754419 |
| | 48 | .624143 | .647220 | .665920 | .681844 | .699980 | .712078 | .736328 | .745503 | .764595 |
| | 49 | .636025 | .658911 | .677427 | .693174 | .711083 | .723014 | .746891 | .755911 | .774654 |
| | 50 | .647879 | .670559 | .688879 | .704438 | .722108 | .733865 | .757354 | .766213 | .784597 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|----|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 51 | .659703 | .682162 | .700275 | .715635 | .733055 | .744630 | .767716 | .776409 | .794421 | | |
| 52 | .671497 | .693721 | .711613 | .726765 | .743923 | .755307 | .777975 | .786496 | .804125 | | |
| 53 | .683262 | .705234 | .722894 | .737826 | .754709 | .765896 | .788129 | .796472 | .813706 | | |
| 54 | .694995 | .716700 | .734114 | .748816 | .765412 | .776393 | .798176 | .806335 | .823162 | | |
| 55 | .706697 | .728119 | .745274 | .759735 | .776031 | .786798 | .808114 | .816083 | .832490 | | |
| 56 | .718366 | .739488 | .756371 | .770579 | .786564 | .797107 | .817939 | .825712 | .841687 | | |
| 57 | .730003 | .750807 | .767404 | .781347 | .797007 | .807318 | .827650 | .835220 | .850750 | | |
| 58 | .741604 | .762074 | .778371 | .792037 | .807358 | .817428 | .837242 | .844603 | .859674 | | |
| 59 | .753170 | .773288 | .789269 | .802647 | .817614 | .827435 | .846711 | .853857 | .868456 | | |
| 60 | .764700 | .784445 | .800097 | .813172 | .827771 | .837333 | .856054 | .862977 | .877091 | | |
| 61 | .776191 | .795545 | .810850 | .823610 | .837827 | .847119 | .865265 | .871958 | .885572 | | |
| 62 | .787642 | .806584 | .821527 | .833957 | .847776 | .856788 | .874339 | .880795 | .893894 | | |
| 63 | .799051 | .817560 | .832123 | .844209 | .857613 | .866334 | .883270 | .889482 | .902050 | | |
| 64 | .810416 | .828469 | .842634 | .854361 | .867333 | .875753 | .892051 | .898010 | .910032 | | |
| 65 | .821734 | .839308 | .853056 | .864408 | .876929 | .885036 | .900673 | .906371 | .917831 | | |
| 66 | .833003 | .850072 | .863382 | .874342 | .886395 | .894175 | .909128 | .914557 | .925437 | | |
| 67 | .844220 | .860757 | .873608 | .884157 | .895721 | .903162 | .917406 | .922555 | .932838 | | |
| 68 | .855379 | .871356 | .883725 | .893845 | .904898 | .911986 | .925493 | .930354 | .940021 | | |
| 69 | .866478 | .881863 | .893726 | .903395 | .913914 | .920634 | .933377 | .937940 | .946970 | | |
| 70 | .877510 | .892270 | .903599 | .912795 | .922755 | .929092 | .941040 | .945293 | .953668 | | |
| 71 | .888469 | .902567 | .913333 | .922032 | .931407 | .937342 | .948462 | .952396 | .960093 | | |
| 72 | .899347 | .912743 | .922914 | .931088 | .939848 | .945363 | .955621 | .959223 | .966221 | | |
| 73 | .910135 | .922783 | .932322 | .939942 | .948054 | .953130 | .962488 | .965744 | .972020 | | |
| 74 | .920820 | .932668 | .941535 | .948568 | .955997 | .960609 | .969027 | .971925 | .977454 | | |
| 75 | .931386 | .942375 | .950524 | .956931 | .963636 | .967760 | .975194 | .977719 | .982478 | | |
| 76 | .941811 | .951872 | .959249 | .964987 | .970923 | .974530 | .980932 | .983071 | .987037 | | |
| 77 | .952067 | .961116 | .967656 | .972675 | .977787 | .980848 | .986167 | .987905 | .991060 | | |
| 78 | .962108 | .970044 | .975669 | .979907 | .984135 | .986614 | .990799 | .992124 | .994459 | | |
| 79 | .971868 | .978556 | .983168 | .986551 | .989824 | .991683 | .994690 | .995597 | .997124 | | |
| 80 | .981226 | .986486 | .989955 | .992391 | .994631 | .995837 | .997650 | .998153 | .998937 | | |
| 81 | .989936 | .993496 | .995649 | .997032 | .998179 | .998731 | .999443 | .999608 | .999826 | | |
| 82 | .997282 | .998716 | .999375 | .999691 | .999877 | .999939 | .999988 | .999994 | .999999 | | |
| 84 | 41 | .527966 | .551768 | .571290 | .588086 | .607417 | .620436 | .646852 | .656963 | .678223 | |
| 42 | .539783 | .563512 | .582946 | .599647 | .618846 | .631762 | .657934 | .667939 | .688952 | | |
| 43 | .551574 | .575216 | .594552 | .611150 | .630206 | .643013 | .668977 | .678820 | .699575 | | |
| 44 | .563340 | .586882 | .606109 | .622593 | .641497 | .654187 | .679829 | .689606 | .710093 | | |
| 45 | .575080 | .598508 | .617616 | .633978 | .652718 | .665285 | .690642 | .700297 | .720506 | | |
| 46 | .586793 | .610095 | .629073 | .645303 | .663870 | .676306 | .701365 | .710893 | .730812 | | |
| 47 | .598481 | .621643 | .640479 | .656569 | .674952 | .687251 | .711997 | .721393 | .741012 | | |
| 48 | .610143 | .633152 | .651836 | .667775 | .685963 | .698118 | .722537 | .731796 | .751105 | | |
| 49 | .621778 | .644620 | .663141 | .678921 | .696904 | .708907 | .732986 | .742103 | .761090 | | |
| 50 | .633387 | .656048 | .674394 | .690006 | .707773 | .719617 | .743341 | .752311 | .770967 | | |
| 51 | .644969 | .667435 | .685596 | .701029 | .718569 | .730248 | .753603 | .762420 | .780733 | | |
| 52 | .656523 | .678781 | .696745 | .711990 | .729292 | .740798 | .763769 | .772428 | .790387 | | |
| 53 | .668049 | .690084 | .707840 | .722887 | .739940 | .751265 | .773839 | .782334 | .799928 | | |
| 54 | .679548 | .701345 | .718880 | .733719 | .750512 | .761650 | .783810 | .792136 | .809354 | | |
| 55 | .691017 | .712562 | .729865 | .744486 | .761007 | .771949 | .793681 | .801832 | .818662 | | |
| 56 | .702457 | .723734 | .740792 | .755185 | .771422 | .782160 | .803450 | .811420 | .827850 | | |
| 57 | .713866 | .734861 | .751661 | .765815 | .781757 | .792283 | .813114 | .820897 | .836916 | | |
| 58 | .725245 | .745940 | .762471 | .776374 | .792008 | .802315 | .822670 | .830261 | .845857 | | |
| 59 | .736591 | .756971 | .773218 | .786860 | .802173 | .812252 | .832115 | .839508 | .854668 | | |
| 60 | .747904 | .767952 | .783902 | .797271 | .812250 | .822092 | .841447 | .848635 | .863346 | | |
| 61 | .759184 | .778881 | .794520 | .807604 | .822236 | .831832 | .850661 | .857637 | .871886 | | |
| 62 | .770428 | .789757 | .805070 | .817856 | .832126 | .841468 | .859752 | .866511 | .880285 | | |
| 63 | .781634 | .800577 | .815549 | .828024 | .841919 | .850996 | .868717 | .875251 | .888536 | | |
| 64 | .792803 | .811339 | .825953 | .838105 | .851608 | .860412 | .877550 | .883852 | .896634 | | |
| 65 | .803930 | .822039 | .836280 | .848094 | .861190 | .869709 | .886244 | .892307 | .904571 | | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 84 | 66 | .815016 | .832675 | .846524 | .857986 | .870658 | .878882 | .894793 | .900609 | .912339 |
| | 67 | .876056 | .843243 | .856683 | .867776 | .880008 | .887924 | .903190 | .908750 | .919931 |
| | 68 | .837048 | .853739 | .866749 | .877458 | .889230 | .896827 | .911424 | .916721 | .927336 |
| | 69 | .847990 | .864158 | .876718 | .887024 | .898318 | .905583 | .919486 | .924511 | .934543 |
| | 70 | .858876 | .874495 | .886582 | .896467 | .907260 | .914181 | .927365 | .932108 | .941538 |
| | 71 | .869704 | .884742 | .896332 | .905776 | .916048 | .922609 | .935045 | .939497 | .948307 |
| | 72 | .880467 | .894892 | .905960 | .914941 | .924666 | .930852 | .942512 | .946662 | .954832 |
| | 73 | .891159 | .904935 | .915452 | .921946 | .933099 | .938893 | .949745 | .953583 | .961093 |
| | 74 | .901773 | .914861 | .924795 | .932776 | .941328 | .946712 | .956723 | .960236 | .967063 |
| | 75 | .912299 | .924654 | .933970 | .941411 | .949330 | .954283 | .963416 | .966593 | .972715 |
| | 76 | .922724 | .934297 | .942956 | .949823 | .957074 | .961576 | .969790 | .972618 | .978012 |
| | 77 | .933034 | .943767 | .951724 | .957980 | .964524 | .968549 | .975803 | .978267 | .982910 |
| | 78 | .943208 | .953033 | .960235 | .965838 | .971631 | .975152 | .981399 | .983485 | .987355 |
| | 79 | .953216 | .962053 | .968438 | .973337 | .978327 | .981314 | .986504 | .988200 | .991278 |
| | 80 | .963015 | .970764 | .976255 | .980392 | .984519 | .986938 | .991022 | .992315 | .994594 |
| | 81 | .972540 | .979071 | .983573 | .986875 | .990070 | .991884 | .994818 | .995703 | .997194 |
| | 82 | .981674 | .986809 | .990196 | .992573 | .994760 | .995937 | .997707 | .998198 | .998962 |
| | 83 | .990175 | .993651 | .995753 | .997103 | .998222 | .998761 | .999456 | .999617 | .999830 |
| | 84 | .997347 | .998746 | .999390 | .999699 | .999880 | .999940 | .999988 | .999994 | .999999 |
| 86 | 41 | .516278 | .539863 | .559235 | .575924 | .595158 | .608128 | .634488 | .644593 | .665873 |
| | 42 | .527846 | .551374 | .570672 | .587279 | .606396 | .619275 | .645414 | .655423 | .676477 |
| | 43 | .539390 | .562847 | .582062 | .598578 | .617569 | .630350 | .656256 | .666163 | .686980 |
| | 44 | .550910 | .574284 | .593405 | .609822 | .628677 | .641353 | .667013 | .676813 | .697384 |
| | 45 | .562405 | .585684 | .604701 | .621011 | .639720 | .652284 | .677685 | .687374 | .707689 |
| | 46 | .573876 | .597047 | .615951 | .632143 | .650697 | .663143 | .688272 | .697845 | .717893 |
| | 47 | .585323 | .608373 | .627153 | .643220 | .661608 | .673930 | .698774 | .708226 | .727998 |
| | 48 | .596745 | .619662 | .638308 | .654241 | .672454 | .684645 | .709190 | .718516 | .738002 |
| | 49 | .608142 | .630914 | .649415 | .665206 | .683233 | .695287 | .719520 | .728716 | .747905 |
| | 50 | .619515 | .642128 | .660474 | .676113 | .693946 | .705855 | .729764 | .738823 | .757706 |
| | 51 | .630862 | .653304 | .671485 | .686963 | .704590 | .716348 | .739919 | .748838 | .767404 |
| | 52 | .642184 | .664442 | .682446 | .697755 | .715167 | .726767 | .749987 | .758760 | .776598 |
| | 53 | .653481 | .675541 | .693358 | .709489 | .725674 | .737110 | .759964 | .768587 | .786488 |
| | 54 | .664751 | .686600 | .704219 | .719162 | .736111 | .747375 | .769851 | .778317 | .795870 |
| | 55 | .675995 | .697619 | .715029 | .729775 | .746476 | .757562 | .779645 | .787950 | .805144 |
| | 56 | .687211 | .708597 | .725787 | .740326 | .755769 | .767669 | .789344 | .797483 | .814308 |
| | 57 | .698400 | .719533 | .736491 | .750813 | .766998 | .777694 | .798948 | .806915 | .823359 |
| | 58 | .709561 | .730426 | .747141 | .761236 | .777130 | .787636 | .808453 | .816243 | .832295 |
| | 59 | .720692 | .741275 | .757735 | .771593 | .787195 | .797492 | .817858 | .825464 | .841113 |
| | 60 | .731794 | .752079 | .768271 | .781882 | .797179 | .807260 | .827159 | .834577 | .849810 |
| | 61 | .742865 | .762836 | .778747 | .792100 | .807082 | .816938 | .836354 | .843577 | .858384 |
| | 62 | .753904 | .773545 | .789163 | .802246 | .816899 | .826523 | .845439 | .852461 | .866829 |
| | 63 | .764910 | .784205 | .799515 | .812317 | .826628 | .836011 | .854411 | .861226 | .875141 |
| | 64 | .775882 | .794813 | .809801 | .822310 | .836266 | .845398 | .863265 | .869866 | .883317 |
| | 65 | .786819 | .805367 | .820019 | .832223 | .845808 | .854682 | .871996 | .878378 | .891350 |
| | 66 | .797718 | .815865 | .830164 | .842050 | .855252 | .863856 | .880600 | .886755 | .899235 |
| | 67 | .808578 | .826303 | .840235 | .851789 | .864591 | .872916 | .889070 | .894991 | .906964 |
| | 68 | .819397 | .836680 | .850227 | .861434 | .873821 | .881857 | .897400 | .903079 | .914531 |
| | 69 | .830173 | .846990 | .860135 | .870980 | .882935 | .890670 | .905581 | .911011 | .921927 |
| | 70 | .840902 | .857231 | .869954 | .880422 | .891927 | .899350 | .913606 | .918779 | .929141 |
| | 71 | .851581 | .867398 | .879678 | .889752 | .900788 | .907886 | .921464 | .926371 | .936164 |
| | 72 | .862208 | .877484 | .889301 | .898962 | .909509 | .916269 | .929144 | .933775 | .942981 |
| | 73 | .872777 | .887483 | .898814 | .908043 | .918078 | .924487 | .936632 | .940979 | .949579 |
| | 74 | .883284 | .897389 | .908207 | .916983 | .926484 | .932526 | .943912 | .947964 | .955939 |
| | 75 | .893722 | .907191 | .917469 | .925769 | .934710 | .940369 | .950966 | .954713 | .962043 |
| | 76 | .904084 | .916878 | .926586 | .934384 | .942738 | .947995 | .957770 | .961201 | .967865 |
| | 77 | .914360 | .926437 | .935540 | .942809 | .950544 | .955382 | .964299 | .967401 | .973376 |
| | 78 | .924539 | .935850 | .944310 | .951018 | .958101 | .962496 | .970517 | .973278 | .978543 |
| | 79 | .934605 | .945094 | .952868 | .958978 | .965370 | .969301 | .976383 | .978789 | .983321 |
| | 80 | .944539 | .954140 | .961175 | .966648 | .972305 | .975744 | .981843 | .983880 | .987658 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 86 | 81 | .954311 | .962945 | .969182 | .973968 | .978841 | .981758 | .986926 | .988481 | .991487 |
| | 82 | .963880 | .971450 | .976814 | .980855 | .984885 | .987247 | .991235 | .992497 | .994722 |
| | 83 | .973182 | .979561 | .983959 | .987184 | .990304 | .992076 | .994941 | .995805 | .997260 |
| | 84 | .982102 | .987117 | .990426 | .992748 | .994883 | .996033 | .997761 | .998240 | .998987 |
| | 85 | .990404 | .993799 | .995852 | .997171 | .998264 | .998790 | .999469 | .999626 | .999834 |
| | 86 | .997409 | .998776 | .999404 | .999706 | .999883 | .999942 | .999988 | .999994 | .999999 |
| 88 | 41 | .505091 | .528452 | .547666 | .564239 | .583363 | .596275 | .622556 | .632646 | .653923 |
| | 42 | .516420 | .539737 | .558890 | .575393 | .594415 | .607246 | .633328 | .643330 | .664400 |
| | 43 | .527726 | .550988 | .570071 | .586495 | .605405 | .618148 | .644020 | .653929 | .674782 |
| | 44 | .539009 | .562203 | .581206 | .597544 | .616334 | .628982 | .654631 | .664443 | .685070 |
| | 45 | .550269 | .573384 | .592298 | .608541 | .627201 | .639749 | .665162 | .674872 | .695263 |
| | 46 | .561506 | .584531 | .603345 | .619485 | .638006 | .650447 | .675612 | .685217 | .705362 |
| | 47 | .572721 | .595642 | .614348 | .630376 | .648749 | .661078 | .685983 | .695476 | .715367 |
| | 48 | .583912 | .606719 | .625307 | .641215 | .659430 | .671640 | .696273 | .705650 | .725277 |
| | 49 | .595080 | .617760 | .636220 | .652002 | .670049 | .682134 | .706482 | .715739 | .735092 |
| | 50 | .606225 | .628767 | .647089 | .662734 | .680605 | .692559 | .716610 | .725742 | .744811 |
| 51 | .617346 | .639738 | .657912 | .673413 | .691098 | .702915 | .726655 | .735658 | .754434 | |
| | 52 | .628444 | .650673 | .668690 | .684038 | .701527 | .713200 | .736618 | .745487 | .763960 |
| | 53 | .639518 | .661571 | .679421 | .694609 | .711892 | .723415 | .746498 | .755227 | .773388 |
| | 54 | .650568 | .672433 | .690106 | .705123 | .722192 | .733558 | .756293 | .764878 | .782717 |
| | 55 | .661593 | .683258 | .700743 | .715582 | .732425 | .743628 | .766002 | .774438 | .791945 |
| 56 | .672593 | .694045 | .711332 | .725983 | .742592 | .753624 | .775624 | .783906 | .801071 | |
| | 57 | .683567 | .704794 | .721871 | .736326 | .752689 | .763545 | .785157 | .793281 | .810093 |
| | 58 | .694516 | .715503 | .732361 | .746610 | .762718 | .773389 | .794600 | .802560 | .819009 |
| | 59 | .705438 | .726172 | .742799 | .756833 | .772674 | .783155 | .803950 | .811742 | .827816 |
| | 60 | .716332 | .736799 | .753185 | .766994 | .782558 | .792841 | .813207 | .820823 | .836514 |
| 61 | .727199 | .747385 | .763516 | .777092 | .792367 | .802444 | .822366 | .829803 | .845098 | |
| | 62 | .738038 | .757927 | .773793 | .787123 | .802099 | .811963 | .831426 | .838678 | .853565 |
| | 63 | .748846 | .768424 | .784012 | .797088 | .811751 | .821395 | .840383 | .847444 | .861913 |
| | 64 | .759624 | .778875 | .794172 | .806982 | .821322 | .830737 | .849234 | .856098 | .870138 |
| | 65 | .770370 | .789278 | .804272 | .816804 | .830808 | .839986 | .857976 | .864638 | .878234 |
| 66 | .781084 | .799631 | .814307 | .826551 | .840205 | .849137 | .866605 | .873057 | .886198 | |
| | 67 | .791762 | .809932 | .824276 | .836220 | .849511 | .858188 | .875115 | .881351 | .894025 |
| | 68 | .802405 | .820178 | .834176 | .845807 | .858720 | .867134 | .883501 | .889516 | .901708 |
| | 69 | .813010 | .830367 | .844004 | .855308 | .867829 | .875969 | .891758 | .897544 | .909241 |
| | 70 | .823576 | .840497 | .853754 | .864718 | .876832 | .884688 | .899880 | .905429 | .916616 |
| 71 | .834099 | .850562 | .863424 | .874033 | .885723 | .893285 | .907858 | .913163 | .923825 | |
| | 72 | .844577 | .860560 | .873008 | .883247 | .894496 | .901751 | .915683 | .920737 | .930859 |
| | 73 | .855007 | .870486 | .882500 | .892352 | .903141 | .910079 | .923347 | .928141 | .937706 |
| | 74 | .865386 | .880334 | .891893 | .901340 | .911650 | .918258 | .930838 | .935363 | .944354 |
| | 75 | .875709 | .890097 | .901179 | .910203 | .920013 | .926276 | .938143 | .942389 | .95C789 |
| 76 | .885972 | .899770 | .910349 | .918930 | .928216 | .934121 | .945246 | .949204 | .956993 | |
| | 77 | .896167 | .909341 | .919392 | .927506 | .936245 | .941775 | .952128 | .955788 | .962948 |
| | 78 | .906289 | .918802 | .928294 | .935917 | .944081 | .949219 | .958769 | .962119 | .968628 |
| | 79 | .916327 | .928137 | .937037 | .944142 | .951702 | .956428 | .965140 | .968170 | .974007 |
| | 80 | .926270 | .937330 | .945601 | .952157 | .959079 | .963374 | .971210 | .973906 | .979049 |
| 81 | .936104 | .946360 | .953958 | .959930 | .966177 | .970017 | .976936 | .979286 | .983713 | |
| | 82 | .945809 | .955195 | .962072 | .967420 | .972949 | .976308 | .982267 | .984257 | .987947 |
| | 83 | .955356 | .963797 | .969893 | .974569 | .979331 | .982181 | .987132 | .988749 | .991695 |
| | 84 | .964706 | .972105 | .977348 | .981296 | .985234 | .987542 | .991438 | .992671 | .994844 |
| | 85 | .973794 | .980029 | .984327 | .987478 | .990527 | .992258 | .995057 | .995902 | .997324 |
| 86 | .982510 | .987412 | .990645 | .992914 | .995000 | .996124 | .997812 | .998281 | .999010 | |
| | 87 | .990622 | .993940 | .995947 | .997236 | .998304 | .998818 | .999481 | .999635 | .999838 |
| | 88 | .997467 | .998803 | .999417 | .999712 | .999886 | .999943 | .999989 | .999994 | .999999 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 90 | 41 | .494373 | .517504 | .536554 | .553004 | .572008 | .584854 | .611037 | .621104 | .642358 |
| | 42 | .505472 | .528573 | .547573 | .563963 | .582879 | .595652 | .621657 | .631643 | .652708 |
| | 43 | .516550 | .539608 | .558550 | .574873 | .593690 | .606385 | .632199 | .642101 | .662967 |
| | 44 | .527605 | .550610 | .569485 | .585732 | .604443 | .617054 | .642665 | .652479 | .673137 |
| | 45 | .538639 | .561579 | .580378 | .596542 | .615137 | .627658 | .653056 | .662776 | .683217 |
| | 46 | .549651 | .572516 | .591228 | .607302 | .625773 | .638197 | .663370 | .672993 | .693208 |
| | 47 | .560642 | .583419 | .602037 | .618013 | .636350 | .648673 | .673608 | .683129 | .703110 |
| | 48 | .571610 | .594290 | .612805 | .628673 | .646869 | .659084 | .683771 | .693185 | .712922 |
| | 49 | .582558 | .605128 | .623529 | .639284 | .657329 | .669431 | .693857 | .703161 | .722644 |
| | 50 | .593483 | .615933 | .634212 | .649845 | .667731 | .679713 | .703867 | .713056 | .732277 |
| | 51 | .604386 | .626704 | .644852 | .660356 | .678073 | .689930 | .713799 | .722869 | .741819 |
| | 52 | .615267 | .637442 | .655450 | .670816 | .688355 | .700081 | .723655 | .732600 | .751270 |
| | 53 | .626126 | .648146 | .666004 | .681224 | .698577 | .710166 | .733432 | .742249 | .760630 |
| | 54 | .636962 | .658816 | .676514 | .691581 | .708739 | .720184 | .743130 | .751814 | .769896 |
| | 55 | .647775 | .669451 | .686981 | .701886 | .718838 | .730134 | .752748 | .761295 | .779069 |
| | 56 | .658565 | .680051 | .697402 | .712138 | .728876 | .740015 | .762285 | .770690 | .788146 |
| | 57 | .669332 | .690615 | .707778 | .722335 | .738850 | .749827 | .771740 | .779998 | .797127 |
| | 58 | .680074 | .701143 | .718108 | .732478 | .748759 | .759568 | .781112 | .789218 | .806011 |
| | 59 | .690792 | .711634 | .728391 | .742566 | .758603 | .769237 | .790398 | .798348 | .814794 |
| | 60 | .701485 | .722087 | .738625 | .752596 | .768380 | .778833 | .799597 | .807387 | .823475 |
| | 61 | .712153 | .732502 | .748810 | .762568 | .778088 | .788353 | .808708 | .816331 | .832053 |
| | 62 | .722795 | .742877 | .758945 | .772480 | .787726 | .797795 | .817728 | .825180 | .840524 |
| | 63 | .733409 | .753212 | .769028 | .782330 | .797292 | .807159 | .826655 | .833930 | .848886 |
| | 64 | .743996 | .763504 | .779057 | .792118 | .806784 | .816441 | .835485 | .842579 | .857136 |
| | 65 | .754555 | .773754 | .789031 | .801841 | .816199 | .825639 | .844217 | .851123 | .865270 |
| | 66 | .765084 | .783958 | .798949 | .811496 | .825536 | .834750 | .852847 | .859560 | .873285 |
| | 67 | .775582 | .794117 | .808807 | .821081 | .834790 | .843772 | .861371 | .867885 | .881177 |
| | 68 | .786048 | .804227 | .818604 | .830594 | .843959 | .852699 | .869785 | .876094 | .888940 |
| | 69 | .796482 | .814287 | .828337 | .840031 | .853039 | .861529 | .878084 | .884182 | .896571 |
| | 70 | .806880 | .824294 | .838003 | .849388 | .862026 | .870257 | .886265 | .892145 | .904062 |
| | 71 | .817242 | .834246 | .847598 | .858663 | .870916 | .878879 | .894319 | .899975 | .911408 |
| | 72 | .827565 | .844139 | .857119 | .867850 | .879703 | .887387 | .902242 | .907667 | .918601 |
| | 73 | .837847 | .853971 | .866562 | .876944 | .888381 | .895777 | .910026 | .915212 | .925633 |
| | 74 | .848086 | .863737 | .875921 | .885940 | .896945 | .904041 | .917663 | .922602 | .932495 |
| | 75 | .858278 | .873433 | .885191 | .894831 | .905385 | .912170 | .925142 | .929827 | .939175 |
| | 76 | .868421 | .883054 | .894366 | .903609 | .913693 | .920154 | .932453 | .936875 | .945663 |
| | 77 | .878509 | .892593 | .903436 | .912264 | .921858 | .927983 | .939583 | .943734 | .951942 |
| | 78 | .888518 | .902043 | .912394 | .920787 | .929869 | .935642 | .946517 | .950386 | .957998 |
| | 79 | .898502 | .911395 | .921227 | .929164 | .937710 | .943116 | .953237 | .956814 | .963810 |
| | 80 | .908394 | .920639 | .929924 | .937379 | .945363 | .950386 | .959721 | .962996 | .969356 |
| | 81 | .918205 | .929761 | .938466 | .945414 | .952806 | .957427 | .965943 | .968904 | .974608 |
| | 82 | .927924 | .938744 | .946834 | .953245 | .960012 | .964211 | .971871 | .974506 | .979532 |
| | 83 | .937536 | .947568 | .955000 | .960839 | .966946 | .970701 | .977464 | .979761 | .984087 |
| | 84 | .947022 | .956203 | .962928 | .968157 | .973563 | .976847 | .982671 | .984616 | .988223 |
| | 85 | .956355 | .964610 | .970571 | .975143 | .979799 | .982585 | .987424 | .989005 | .991874 |
| | 86 | .965494 | .972731 | .977857 | .981717 | .985568 | .987824 | .991632 | .992837 | .994961 |
| | 87 | .974379 | .980476 | .984678 | .987759 | .990740 | .992433 | .995169 | .995994 | .997384 |
| | 88 | .982899 | .987693 | .990854 | .993072 | .995112 | .996211 | .997861 | .998319 | .999032 |
| | 89 | .990831 | .994075 | .996037 | .997297 | .998342 | .998844 | .999493 | .999643 | .999841 |
| | 90 | .997524 | .998830 | .999430 | .999719 | .999888 | .999944 | .999989 | .999994 | .999999 |
| 92 | 46 | .538280 | .560574 | .579574 | .595571 | .613977 | .626373 | .651528 | .661159 | .681419 |
| | 47 | .549055 | .571677 | .590194 | .606104 | .624391 | .636696 | .661635 | .671172 | .691216 |
| | 48 | .559809 | .582348 | .600775 | .616591 | .634751 | .646957 | .671669 | .681109 | .700927 |
| | 49 | .570543 | .592988 | .611316 | .627030 | .645054 | .657158 | .681632 | .690969 | .710554 |
| | 50 | .581256 | .603597 | .621818 | .637422 | .655302 | .667298 | .691522 | .700754 | .720096 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 92 | 51 | .591949 | .614175 | .632279 | .647767 | .665495 | .677376 | .701340 | .710461 | .729553 |
| | 52 | .602620 | .624721 | .642700 | .658065 | .675631 | .687392 | .711084 | .720092 | .738924 |
| | 53 | .613271 | .635235 | .653080 | .668314 | .685711 | .697347 | .720756 | .729645 | .748209 |
| | 54 | .623901 | .645718 | .663420 | .678515 | .695734 | .707239 | .730353 | .739120 | .757406 |
| | 55 | .634509 | .656168 | .673718 | .688667 | .705699 | .717067 | .739876 | .748515 | .766516 |
| | 56 | .645096 | .666585 | .683975 | .698769 | .715606 | .726831 | .749323 | .757831 | .775537 |
| | 57 | .655661 | .676969 | .694189 | .708822 | .725454 | .736531 | .758694 | .767066 | .784468 |
| | 58 | .666203 | .687320 | .704360 | .718823 | .735243 | .746165 | .767987 | .776219 | .793308 |
| | 59 | .676723 | .697636 | .714488 | .728773 | .744970 | .755732 | .777201 | .785288 | .802056 |
| | 60 | .687220 | .707917 | .724571 | .738671 | .754636 | .765231 | .786335 | .794273 | .810709 |
| | 61 | .697694 | .718163 | .734609 | .748514 | .764238 | .774660 | .795387 | .803171 | .819266 |
| | 62 | .708143 | .728373 | .744601 | .758303 | .773777 | .784019 | .804356 | .811981 | .827725 |
| | 63 | .718568 | .738545 | .754545 | .768036 | .783249 | .793305 | .813239 | .820701 | .836085 |
| | 64 | .728968 | .748680 | .764441 | .777711 | .792653 | .802517 | .822035 | .829328 | .844341 |
| | 65 | .739342 | .758775 | .774287 | .787328 | .801988 | .811653 | .830740 | .837860 | .852493 |
| | 66 | .749689 | .768830 | .784081 | .796883 | .811252 | .820710 | .839353 | .846294 | .860516 |
| | 67 | .760009 | .778843 | .793822 | .806375 | .820441 | .829685 | .847871 | .854628 | .868467 |
| | 68 | .770300 | .788813 | .803508 | .815802 | .829554 | .838577 | .856290 | .862858 | .876283 |
| | 69 | .780562 | .798738 | .813137 | .825162 | .838588 | .847382 | .864606 | .870979 | .883980 |
| | 70 | .790793 | .808616 | .822706 | .834452 | .847540 | .856096 | .872816 | .878988 | .891553 |
| | 71 | .800991 | .818446 | .832214 | .843668 | .856405 | .864716 | .880916 | .886881 | .898997 |
| | 72 | .811156 | .828225 | .841656 | .852807 | .865180 | .873237 | .888899 | .894651 | .906306 |
| | 73 | .821286 | .837950 | .851030 | .861866 | .873861 | .881654 | .896761 | .902294 | .913474 |
| | 74 | .831378 | .847619 | .860333 | .870840 | .882442 | .889963 | .904496 | .909801 | .920493 |
| | 75 | .841430 | .857227 | .869559 | .879724 | .890918 | .898156 | .912095 | .917167 | .927357 |
| | 76 | .851440 | .866772 | .878704 | .888512 | .899282 | .906226 | .919551 | .924382 | .934055 |
| | 77 | .861405 | .876249 | .887762 | .897198 | .907527 | .914165 | .926855 | .931436 | .940577 |
| | 78 | .871321 | .885653 | .896728 | .905775 | .915643 | .921964 | .933994 | .938319 | .946911 |
| | 79 | .881185 | .894977 | .905592 | .914232 | .923620 | .929612 | .940958 | .945017 | .953043 |
| | 80 | .890991 | .904215 | .914347 | .922561 | .931447 | .937094 | .947731 | .951514 | .958957 |
| | 81 | .900734 | .913357 | .922981 | .930747 | .939108 | .944397 | .954295 | .957793 | .964634 |
| | 82 | .910407 | .922394 | .931481 | .938777 | .946587 | .951500 | .960630 | .963832 | .970051 |
| | 83 | .920001 | .931312 | .939832 | .946630 | .953861 | .958381 | .966709 | .969605 | .975182 |
| | 84 | .929505 | .940096 | .948011 | .954284 | .960904 | .965011 | .972502 | .975079 | .979993 |
| | 85 | .938905 | .948723 | .955995 | .961708 | .967682 | .971354 | .977968 | .980214 | .984444 |
| | 86 | .948182 | .957167 | .963747 | .968862 | .974149 | .977361 | .983058 | .984960 | .988486 |
| | 87 | .957309 | .965387 | .971219 | .975692 | .980246 | .982971 | .987704 | .989249 | .992055 |
| | 88 | .966248 | .973329 | .978344 | .987120 | .985886 | .988093 | .991817 | .992996 | .995073 |
| | 89 | .974938 | .980903 | .985015 | .988028 | .990944 | .992599 | .995275 | .996083 | .997442 |
| | 90 | .983272 | .987962 | .991054 | .993224 | .995220 | .996294 | .997908 | .998356 | .999053 |
| | 91 | .991031 | .994205 | .996124 | .997356 | .998378 | .998870 | .999504 | .999651 | .999845 |
| | 92 | .997577 | .998855 | .999443 | .999725 | .999891 | .999946 | .999989 | .999995 | .999999 |
| 94 | 46 | .527364 | .549879 | .568357 | .584268 | .602597 | .614956 | .640071 | .649700 | .669984 |
| | 47 | .537931 | .560387 | .578795 | .594629 | .612852 | .625127 | .650046 | .659590 | .679674 |
| | 48 | .548478 | .570865 | .589194 | .604945 | .623054 | .635241 | .659953 | .669407 | .689283 |
| | 49 | .559006 | .581314 | .599556 | .615217 | .633203 | .645298 | .669791 | .679152 | .698812 |
| | 50 | .569515 | .591733 | .609881 | .625444 | .643301 | .655296 | .679561 | .688824 | .708260 |
| | 51 | .580004 | .602123 | .620167 | .635626 | .653345 | .665237 | .689263 | .698424 | .717628 |
| | 52 | .590474 | .612483 | .630416 | .645764 | .663337 | .675119 | .698896 | .707952 | .726915 |
| | 53 | .600924 | .622813 | .640626 | .655856 | .673275 | .684943 | .708459 | .717406 | .736120 |
| | 54 | .611354 | .633113 | .650799 | .665903 | .683160 | .694708 | .717954 | .726786 | .745244 |
| | 55 | .621764 | .643382 | .660932 | .675904 | .692991 | .704413 | .727378 | .736093 | .754285 |
| | 56 | .632153 | .653621 | .671026 | .685859 | .702767 | .714059 | .736731 | .745324 | .763242 |
| | 57 | .642523 | .663829 | .681081 | .695766 | .712489 | .723644 | .746013 | .754480 | .772116 |
| | 58 | .652871 | .674006 | .691096 | .705627 | .722154 | .733168 | .755222 | .763560 | .780905 |
| | 59 | .663199 | .684151 | .701071 | .715440 | .731763 | .742629 | .764358 | .772562 | .789607 |
| | 60 | .673506 | .694264 | .711004 | .725203 | .741315 | .752027 | .773419 | .781485 | .798222 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 94 | 61 | .683790 | .704344 | .720895 | .734918 | .750808 | .761362 | .782405 | .790327 | .806748 |
| | 62 | .694053 | .714390 | .730743 | .744581 | .760242 | .770630 | .791313 | .799089 | .815183 |
| | 63 | .704293 | .724402 | .740548 | .754193 | .769615 | .779832 | .800143 | .807767 | .823526 |
| | 64 | .714510 | .734379 | .750309 | .763752 | .778926 | .788966 | .808892 | .816360 | .831774 |
| | 65 | .724703 | .744321 | .760023 | .773257 | .788173 | .798030 | .817559 | .824866 | .839926 |
| | 66 | .734872 | .754225 | .769691 | .782707 | .797355 | .807022 | .826141 | .833283 | .847979 |
| | 67 | .745016 | .764092 | .779311 | .797099 | .806471 | .815941 | .834636 | .841608 | .855930 |
| | 68 | .755134 | .773920 | .788880 | .801433 | .815516 | .824783 | .843042 | .849838 | .863777 |
| | 69 | .765226 | .783707 | .798399 | .810706 | .824491 | .833547 | .851356 | .857971 | .871515 |
| | 70 | .775290 | .793453 | .807864 | .819916 | .833391 | .842230 | .859574 | .866003 | .879142 |
| | 71 | .785325 | .803156 | .817274 | .829060 | .842215 | .850828 | .867693 | .873931 | .886653 |
| | 72 | .795331 | .812813 | .826626 | .838137 | .850959 | .859339 | .875709 | .881750 | .894045 |
| | 73 | .805305 | .822423 | .835919 | .847143 | .859620 | .867759 | .883618 | .889456 | .901311 |
| | 74 | .815247 | .831983 | .845148 | .856074 | .868193 | .876082 | .891414 | .897043 | .908446 |
| | 75 | .825154 | .841492 | .854311 | .864927 | .876675 | .884305 | .899093 | .904507 | .915445 |
| | 76 | .835025 | .850946 | .863404 | .873697 | .885060 | .892423 | .906647 | .911839 | .922300 |
| | 77 | .844858 | .860341 | .872424 | .882381 | .893342 | .900428 | .914071 | .919034 | .929002 |
| | 78 | .854649 | .869675 | .881364 | .890971 | .901516 | .908313 | .921355 | .926081 | .935544 |
| | 79 | .864397 | .878943 | .890221 | .899462 | .909574 | .916072 | .928490 | .932973 | .941915 |
| | 80 | .874097 | .888139 | .898987 | .907846 | .917507 | .923694 | .935467 | .939698 | .948103 |
| | 81 | .883746 | .897258 | .907654 | .916114 | .925304 | .931169 | .942272 | .946243 | .954094 |
| | 82 | .893339 | .906292 | .916215 | .924257 | .932955 | .938483 | .948891 | .952592 | .959873 |
| | 83 | .902871 | .915234 | .924658 | .932262 | .940445 | .945621 | .955307 | .958729 | .965421 |
| | 84 | .912334 | .924073 | .932971 | .940113 | .947757 | .952566 | .961499 | .964632 | .97C715 |
| | 85 | .921720 | .932797 | .941138 | .947793 | .954870 | .959293 | .967442 | .970275 | .975730 |
| | 86 | .931019 | .941389 | .949138 | .955278 | .961757 | .965776 | .973105 | .975626 | .980433 |
| | 87 | .940216 | .949828 | .956947 | .962539 | .968385 | .971978 | .978450 | .980647 | .984786 |
| | 88 | .949293 | .958089 | .964530 | .969536 | .974711 | .977854 | .983427 | .985288 | .988738 |
| | 89 | .958223 | .966131 | .971840 | .976217 | .980674 | .983340 | .987971 | .989483 | .992228 |
| | 90 | .966970 | .973901 | .978810 | .982506 | .986191 | .988350 | .991994 | .993148 | .995180 |
| | 91 | .975473 | .981313 | .985336 | .988286 | .991139 | .992759 | .995377 | .996167 | .997497 |
| | 92 | .983629 | .988219 | .991246 | .993369 | .995322 | .996373 | .997953 | .998392 | .999074 |
| | 93 | .991222 | .994328 | .996206 | .997413 | .998412 | .998894 | .999515 | .999658 | .999848 |
| | 94 | .997629 | .998880 | .999454 | .999731 | .999893 | .999947 | .999989 | .999995 | .999999 |
| 96 | 46 | .516877 | .539207 | .557555 | .573372 | .591613 | .603926 | .628983 | .638603 | .658891 |
| | 47 | .527243 | .549526 | .567815 | .583564 | .601711 | .613950 | .638927 | .648368 | .668472 |
| | 48 | .537591 | .559817 | .578038 | .593714 | .611760 | .623918 | .648607 | .658066 | .677578 |
| | 49 | .547921 | .570080 | .588226 | .603822 | .621758 | .633832 | .658322 | .667694 | .687407 |
| | 50 | .558232 | .580315 | .598378 | .613888 | .631706 | .643691 | .667971 | .677254 | .696759 |
| | 51 | .568525 | .590522 | .608494 | .623911 | .641605 | .653495 | .677556 | .686746 | .706036 |
| | 52 | .578799 | .600701 | .618575 | .633892 | .651454 | .663244 | .687076 | .696168 | .715235 |
| | 53 | .589055 | .610852 | .628619 | .643830 | .661252 | .672937 | .696531 | .705522 | .724358 |
| | 54 | .599292 | .620975 | .638628 | .653725 | .671000 | .682576 | .705920 | .714806 | .733403 |
| | 55 | .609510 | .631069 | .648600 | .663577 | .680697 | .692158 | .715243 | .724020 | .742371 |
| | 56 | .619709 | .641134 | .658535 | .673386 | .690343 | .701684 | .724500 | .733164 | .751260 |
| | 57 | .629889 | .651170 | .668433 | .683151 | .699937 | .711153 | .733689 | .742236 | .760070 |
| | 58 | .640050 | .661177 | .678294 | .692871 | .709480 | .720565 | .742810 | .751238 | .768801 |
| | 59 | .650191 | .671155 | .688117 | .702547 | .718969 | .729919 | .751863 | .760166 | .777451 |
| | 60 | .660312 | .681102 | .697901 | .712177 | .728405 | .739214 | .760847 | .769021 | .786019 |
| | 61 | .670413 | .691019 | .707647 | .721761 | .737786 | .748449 | .769759 | .777801 | .794504 |
| | 62 | .680494 | .700905 | .717353 | .731298 | .747113 | .757623 | .778601 | .786506 | .802905 |
| | 63 | .690554 | .710759 | .727019 | .740788 | .756383 | .766736 | .787369 | .795134 | .811221 |
| | 64 | .700592 | .720580 | .736643 | .750228 | .765596 | .775786 | .796063 | .803683 | .819449 |
| | 65 | .710609 | .730369 | .746226 | .759619 | .774750 | .784771 | .804681 | .812151 | .827588 |
| | 66 | .720604 | .740125 | .755766 | .768959 | .783845 | .793690 | .813221 | .820538 | .835636 |
| | 67 | .730575 | .749845 | .765261 | .778247 | .792878 | .802542 | .821682 | .828841 | .843590 |
| | 68 | .740524 | .759531 | .774711 | .787482 | .801848 | .811325 | .830061 | .837057 | .851449 |
| | 69 | .750448 | .769179 | .784115 | .796661 | .810753 | .820037 | .838356 | .845185 | .859210 |
| | 70 | .760347 | .778790 | .793470 | .805783 | .819592 | .828675 | .846565 | .853221 | .866869 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 96 | 71 | .770220 | .788362 | .802776 | .814847 | .828361 | .837237 | .854685 | .861163 | .874424 |
| | 72 | .780067 | .797894 | .812031 | .823849 | .837059 | .845720 | .862711 | .869008 | .881871 |
| | 73 | .789886 | .807383 | .821231 | .832788 | .845682 | .854122 | .870642 | .876751 | .889206 |
| | 74 | .799676 | .816829 | .830376 | .841662 | .854228 | .862439 | .878473 | .884388 | .896424 |
| | 75 | .809436 | .826229 | .839463 | .850466 | .862693 | .870667 | .886200 | .891916 | .903521 |
| | 76 | .819164 | .835581 | .848489 | .859198 | .871074 | .878803 | .893818 | .899329 | .910491 |
| | 77 | .828859 | .844882 | .857450 | .867855 | .879365 | .886840 | .901321 | .906621 | .917328 |
| | 78 | .838518 | .854131 | .866344 | .876431 | .887563 | .894775 | .908704 | .913787 | .924025 |
| | 79 | .848140 | .863323 | .875165 | .884922 | .895661 | .902600 | .915959 | .920818 | .930575 |
| | 80 | .857722 | .872454 | .883910 | .893323 | .903653 | .910310 | .923079 | .927706 | .936968 |
| | 81 | .867262 | .881521 | .892574 | .901627 | .911532 | .917896 | .930054 | .934443 | .943194 |
| | 82 | .876755 | .890519 | .901149 | .909828 | .919290 | .925349 | .936875 | .941016 | .949242 |
| | 83 | .886199 | .899441 | .909628 | .917915 | .926916 | .932658 | .943528 | .947415 | .955099 |
| | 84 | .895588 | .908282 | .918003 | .925880 | .934399 | .939811 | .950000 | .953623 | .960749 |
| | 85 | .904917 | .917032 | .926264 | .933711 | .941725 | .946793 | .956274 | .959624 | .966173 |
| | 86 | .914179 | .925682 | .934397 | .941392 | .948877 | .953585 | .962330 | .965397 | .971350 |
| | 87 | .923367 | .934219 | .942388 | .948906 | .955836 | .960166 | .968143 | .970916 | .976255 |
| | 88 | .932468 | .942627 | .950217 | .956230 | .962574 | .966508 | .973683 | .976150 | .980855 |
| | 89 | .941471 | .950887 | .957859 | .963334 | .969059 | .972576 | .978911 | .981062 | .985112 |
| | 90 | .950356 | .958972 | .965280 | .970182 | .975248 | .978325 | .983781 | .985602 | .988979 |
| | 91 | .959099 | .966844 | .972434 | .976720 | .981083 | .983694 | .988227 | .989707 | .992394 |
| | 92 | .967661 | .974449 | .979256 | .982875 | .986483 | .988597 | .992164 | .993293 | .995282 |
| | 93 | .975986 | .981705 | .985644 | .988532 | .991326 | .992911 | .995475 | .996248 | .997550 |
| | 94 | .983971 | .988466 | .991429 | .993509 | .995420 | .996450 | .997996 | .998425 | .999093 |
| | 95 | .991405 | .994447 | .996286 | .997467 | .998446 | .998917 | .999525 | .999665 | .999851 |
| | 96 | .997678 | .998903 | .999466 | .999736 | .999895 | .999948 | .999990 | .999995 | .999999 |
| 98 | 46 | .506794 | .528934 | .547146 | .562862 | .581007 | .593267 | .618248 | .627851 | .648127 |
| | 47 | .516968 | .539070 | .557233 | .572890 | .590952 | .603145 | .627964 | .637495 | .657601 |
| | 48 | .527123 | .549180 | .567285 | .582879 | .600849 | .612971 | .637617 | .647072 | .667001 |
| | 49 | .537261 | .559263 | .577303 | .592826 | .610699 | .622744 | .647209 | .656585 | .676330 |
| | 50 | .547382 | .569320 | .587288 | .602734 | .620501 | .632465 | .656739 | .666032 | .685585 |
| | 51 | .557485 | .579350 | .597238 | .612601 | .630256 | .642134 | .666207 | .675414 | .694768 |
| | 52 | .567571 | .589353 | .607155 | .622429 | .639964 | .651751 | .675614 | .684731 | .703878 |
| | 53 | .577638 | .599330 | .617037 | .632215 | .649624 | .661316 | .684959 | .693982 | .712915 |
| | 54 | .587689 | .609280 | .626885 | .641962 | .659237 | .670828 | .694241 | .703168 | .721879 |
| | 55 | .597721 | .619204 | .636699 | .651668 | .668801 | .680287 | .703462 | .712288 | .730769 |
| | 56 | .607736 | .629100 | .646479 | .661332 | .678318 | .689693 | .712619 | .721341 | .739586 |
| | 57 | .617733 | .638969 | .656223 | .670956 | .687785 | .699046 | .721714 | .730327 | .748328 |
| | 58 | .627711 | .648810 | .665933 | .680538 | .697204 | .708345 | .730745 | .739246 | .756995 |
| | 59 | .637671 | .658623 | .675607 | .690077 | .706573 | .717590 | .739711 | .748097 | .765587 |
| | 60 | .647613 | .668409 | .685245 | .699575 | .715893 | .726779 | .748612 | .756879 | .774102 |
| | 61 | .657536 | .678166 | .694846 | .709029 | .725161 | .735913 | .757448 | .765592 | .782539 |
| | 62 | .667440 | .687894 | .704411 | .718440 | .734378 | .744990 | .766216 | .774233 | .790898 |
| | 63 | .677324 | .697593 | .713939 | .727806 | .743543 | .754009 | .774917 | .782803 | .799176 |
| | 64 | .687189 | .707261 | .723428 | .737127 | .752655 | .762970 | .783548 | .791300 | .807374 |
| | 65 | .697033 | .716900 | .732878 | .746402 | .761712 | .771872 | .792110 | .799723 | .815489 |
| | 66 | .706857 | .726507 | .742289 | .755630 | .770714 | .780713 | .800599 | .808069 | .823520 |
| | 67 | .716660 | .736083 | .751659 | .764810 | .779660 | .789491 | .809016 | .816339 | .831465 |
| | 68 | .726442 | .745626 | .760988 | .773941 | .788548 | .798207 | .817357 | .824529 | .839323 |
| | 69 | .736202 | .755136 | .770274 | .783022 | .797377 | .806857 | .825622 | .832638 | .847089 |
| | 70 | .745939 | .764611 | .779517 | .792050 | .806145 | .815440 | .833807 | .840664 | .854764 |
| | 71 | .755652 | .774051 | .788714 | .801026 | .814850 | .823954 | .841912 | .848603 | .862343 |
| | 72 | .765342 | .783454 | .797865 | .809946 | .823490 | .832397 | .849933 | .856455 | .869824 |
| | 73 | .775006 | .792820 | .806967 | .818809 | .832064 | .840766 | .857867 | .864214 | .877204 |
| | 74 | .784445 | .802147 | .816020 | .827614 | .840568 | .849059 | .865711 | .871880 | .884479 |
| | 75 | .794257 | .811432 | .825021 | .836357 | .849000 | .857273 | .873462 | .879447 | .891646 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 98 | 76 | .803840 | .820676 | .833967 | .845036 | .857357 | .865405 | .881117 | .886911 | .898699 |
| | 77 | .813395 | .829875 | .842858 | .853648 | .865635 | .873450 | .888670 | .894269 | .905634 |
| | 78 | .822918 | .839027 | .851688 | .862190 | .873831 | .881406 | .896117 | .901515 | .912447 |
| | 79 | .832409 | .848131 | .860457 | .870658 | .881941 | .889266 | .903453 | .908644 | .919129 |
| | 80 | .841666 | .857182 | .869159 | .879048 | .889959 | .897026 | .910672 | .915650 | .925676 |
| | 81 | .851286 | .866179 | .877791 | .887356 | .897880 | .904680 | .917766 | .922525 | .932079 |
| | 82 | .860668 | .875117 | .886349 | .895576 | .905699 | .912221 | .924729 | .929261 | .938330 |
| | 83 | .870008 | .883992 | .894828 | .903701 | .913407 | .919642 | .931551 | .935849 | .944418 |
| | 84 | .879303 | .892800 | .903220 | .911726 | .920997 | .926933 | .938223 | .942278 | .950333 |
| | 85 | .888550 | .901534 | .911519 | .919640 | .928459 | .934084 | .944731 | .948537 | .956061 |
| | 86 | .897743 | .910188 | .919717 | .927436 | .935782 | .941083 | .951063 | .954610 | .961587 |
| | 87 | .906878 | .918755 | .927802 | .935100 | .942951 | .947915 | .957201 | .960481 | .966893 |
| | 88 | .915948 | .927223 | .935764 | .942618 | .949951 | .954562 | .961126 | .966129 | .971959 |
| | 89 | .924945 | .935581 | .943587 | .949972 | .956761 | .961002 | .968814 | .971529 | .976757 |
| | 90 | .933858 | .943814 | .951251 | .957142 | .963356 | .967210 | .974236 | .976652 | .981259 |
| | 91 | .942675 | .951902 | .958733 | .964097 | .969704 | .973149 | .979353 | .981459 | .985425 |
| | 92 | .951376 | .959819 | .965998 | .970801 | .975763 | .978777 | .984120 | .985903 | .989210 |
| | 93 | .959938 | .967527 | .973004 | .977203 | .981476 | .984032 | .988472 | .989922 | .992553 |
| | 94 | .968325 | .974975 | .979684 | .983229 | .986763 | .988833 | .992327 | .993432 | .995380 |
| | 95 | .976478 | .982080 | .985940 | .988769 | .991505 | .993058 | .995569 | .996326 | .997601 |
| | 96 | .984299 | .988702 | .991605 | .993642 | .995515 | .996523 | .998038 | .998458 | .999112 |
| | 97 | .991580 | .994560 | .996362 | .997519 | .998477 | .998939 | .999534 | .999672 | .999854 |
| | 98 | .997726 | .998925 | .999477 | .999742 | .999897 | .999949 | .999990 | .999995 | .999999 |
| 100 | 46 | .497094 | .519038 | .537110 | .552720 | .570761 | .582962 | .607853 | .617433 | .637681 |
| | 47 | .507081 | .528998 | .547029 | .562588 | .580556 | .592697 | .617441 | .626955 | .647047 |
| | 48 | .517050 | .538932 | .556915 | .572419 | .590305 | .602182 | .626969 | .636414 | .656343 |
| | 49 | .527004 | .548841 | .566768 | .582210 | .600009 | .612017 | .636439 | .645811 | .665569 |
| | 50 | .536940 | .558725 | .576589 | .591964 | .609668 | .621603 | .645850 | .655145 | .674726 |
| | 51 | .546860 | .568583 | .586378 | .601679 | .619283 | .631139 | .655202 | .664418 | .683814 |
| | 52 | .556763 | .578416 | .596135 | .611356 | .628852 | .640625 | .664495 | .673629 | .692833 |
| | 53 | .566650 | .588224 | .605859 | .620995 | .638376 | .650062 | .673730 | .682777 | .701783 |
| | 54 | .576519 | .598007 | .615551 | .630595 | .647854 | .659449 | .682906 | .691863 | .710663 |
| | 55 | .586372 | .607764 | .625211 | .640157 | .657288 | .668786 | .692023 | .700887 | .719474 |
| | 56 | .596208 | .617495 | .634838 | .649680 | .666675 | .678073 | .701081 | .709847 | .728214 |
| | 57 | .606027 | .627201 | .644432 | .659164 | .676017 | .687309 | .710079 | .718745 | .736885 |
| | 58 | .615829 | .636881 | .653993 | .668609 | .685313 | .696495 | .719016 | .727579 | .745484 |
| | 59 | .625614 | .646535 | .663520 | .678014 | .694562 | .705629 | .727894 | .736349 | .754012 |
| | 60 | .635382 | .656162 | .673014 | .687380 | .703765 | .714712 | .736710 | .745054 | .762469 |
| | 61 | .645131 | .665763 | .682474 | .696705 | .712919 | .723742 | .745464 | .753694 | .770852 |
| | 62 | .654863 | .675336 | .691899 | .705990 | .722026 | .732720 | .754155 | .762268 | .779162 |
| | 63 | .664577 | .684883 | .701290 | .715233 | .731084 | .741644 | .762784 | .770775 | .787397 |
| | 64 | .674273 | .694401 | .710645 | .724433 | .740092 | .750513 | .771348 | .779213 | .795556 |
| | 65 | .683950 | .703891 | .719963 | .733592 | .749050 | .759327 | .779846 | .787583 | .803639 |
| | 66 | .693607 | .713353 | .729246 | .742706 | .757957 | .768085 | .788278 | .795882 | .811643 |
| | 67 | .703246 | .722785 | .738490 | .751776 | .766812 | .776785 | .796642 | .804109 | .819568 |
| | 68 | .712865 | .732187 | .747697 | .760801 | .775613 | .785426 | .804937 | .812263 | .827411 |
| | 69 | .722463 | .741558 | .756864 | .769780 | .784360 | .794008 | .813161 | .820343 | .835172 |
| | 70 | .732041 | .750898 | .765991 | .778711 | .793051 | .802528 | .821313 | .828345 | .842847 |
| | 71 | .741597 | .760206 | .775077 | .787594 | .801684 | .810985 | .829390 | .836270 | .850435 |
| | 72 | .751132 | .769480 | .784120 | .796426 | .810259 | .819378 | .837391 | .844113 | .857933 |
| | 73 | .760644 | .778721 | .793120 | .805206 | .818772 | .827703 | .845314 | .851873 | .865339 |
| | 74 | .770132 | .787925 | .802075 | .813934 | .827223 | .835960 | .853155 | .859548 | .872650 |
| | 75 | .779596 | .797094 | .810983 | .822606 | .835610 | .844145 | .860912 | .867134 | .879863 |
| | 76 | .789036 | .806224 | .819843 | .831220 | .843929 | .852256 | .868582 | .874628 | .886974 |
| | 77 | .798449 | .815315 | .828652 | .839775 | .852177 | .860291 | .876162 | .882027 | .893980 |
| | 78 | .807835 | .824364 | .837409 | .848268 | .860353 | .868245 | .883647 | .889326 | .900876 |
| | 79 | .817192 | .833371 | .846111 | .856696 | .868453 | .876116 | .891034 | .896521 | .907657 |
| | 80 | .826519 | .842332 | .854755 | .865056 | .876473 | .883899 | .898319 | .903608 | .914318 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 100 | 81 | .835815 | .851245 | .863339 | .873344 | .884408 | .891589 | .905494 | .910581 | .920854 |
| | 82 | .845078 | .860108 | .871858 | .881557 | .892255 | .899183 | .912556 | .917434 | .927257 |
| | 83 | .854305 | .868918 | .880309 | .889689 | .900007 | .906673 | .919497 | .924160 | .933520 |
| | 84 | .863494 | .877671 | .888688 | .897735 | .907660 | .914053 | .926310 | .930750 | .939634 |
| | 85 | .872643 | .886362 | .896989 | .905690 | .915205 | .921315 | .932986 | .937196 | .945591 |
| | 86 | .881748 | .894987 | .905206 | .913546 | .922634 | .928452 | .939514 | .943488 | .951378 |
| | 87 | .890806 | .903541 | .913332 | .921295 | .929935 | .935451 | .945883 | .949612 | .956983 |
| | 88 | .899812 | .912017 | .921360 | .928927 | .937107 | .942303 | .952081 | .955556 | .962391 |
| | 89 | .908761 | .920407 | .929278 | .936431 | .944126 | .948991 | .958089 | .961302 | .967584 |
| | 90 | .917646 | .928702 | .937075 | .943793 | .950980 | .955498 | .963889 | .966831 | .972542 |
| 91 | 91 | .926460 | .936889 | .944737 | .950995 | .957648 | .961804 | .969458 | .972118 | .977239 |
| | 92 | .935192 | .944953 | .952243 | .958016 | .964106 | .967882 | .974766 | .977133 | .981646 |
| | 93 | .943830 | .952876 | .959571 | .964828 | .970323 | .973699 | .979777 | .981840 | .985725 |
| | 94 | .952355 | .960631 | .966688 | .971395 | .976257 | .979210 | .984445 | .986192 | .989431 |
| | 95 | .960744 | .968183 | .973550 | .977665 | .981853 | .984357 | .988707 | .990127 | .992705 |
| | 96 | .968961 | .975480 | .980094 | .983568 | .987031 | .989060 | .992483 | .993566 | .995474 |
| | 97 | .976950 | .982441 | .986223 | .988995 | .991676 | .993198 | .995658 | .996400 | .997649 |
| | 98 | .984613 | .988929 | .991774 | .993770 | .995605 | .996593 | .998077 | .998489 | .999130 |
| | 99 | .991749 | .994669 | .996435 | .997569 | .998508 | .998960 | .999544 | .999679 | .999857 |
| | 100 | .997771 | .998947 | .999487 | .999747 | .999899 | .999950 | .999990 | .999995 | .999999 |
| 110 | 55 | .535454 | .556242 | .573299 | .587989 | .604920 | .616343 | .639582 | .648504 | .667323 |
| | 60 | .580445 | .600911 | .617626 | .631963 | .648421 | .659483 | .681887 | .690450 | .708444 |
| | 65 | .625104 | .645076 | .661308 | .675172 | .691020 | .701632 | .723017 | .731153 | .748178 |
| | 70 | .669418 | .688719 | .704322 | .717591 | .732688 | .742754 | .762931 | .770569 | .786477 |
| | 75 | .713366 | .731805 | .746627 | .759168 | .773364 | .782784 | .801554 | .808618 | .823255 |
| | 80 | .756910 | .774280 | .788151 | .799820 | .812951 | .821617 | .838762 | .845170 | .858367 |
| | 85 | .799995 | .816060 | .828788 | .839421 | .851301 | .859089 | .874364 | .880025 | .891594 |
| | 90 | .842530 | .857007 | .868363 | .877767 | .888176 | .894940 | .908058 | .912865 | .922589 |
| | 95 | .884362 | .896892 | .906586 | .914514 | .923176 | .928734 | .939340 | .943163 | .950780 |
| | 100 | .925200 | .935277 | .942902 | .949014 | .955549 | .959655 | .967276 | .969946 | .975127 |
| 105 | 105 | .964331 | .971100 | .975982 | .979722 | .983527 | .985803 | .989753 | .991042 | .993382 |
| | 110 | .997973 | .999043 | .999534 | .999770 | .999909 | .999954 | .999991 | .999995 | .999999 |
| 120 | 60 | .534138 | .554055 | .570406 | .584496 | .600747 | .611719 | .634065 | .642654 | .660793 |
| | 65 | .575420 | .595068 | .611133 | .624927 | .640781 | .651451 | .673095 | .681382 | .698824 |
| | 70 | .616435 | .635677 | .651342 | .664744 | .680091 | .690384 | .711177 | .719106 | .735735 |
| | 75 | .657175 | .675867 | .691017 | .703928 | .718654 | .728496 | .748285 | .755798 | .771494 |
| | 80 | .697624 | .715618 | .730130 | .742446 | .756432 | .765742 | .784367 | .791405 | .806043 |
| | 85 | .737760 | .754894 | .768636 | .780244 | .793361 | .802054 | .819344 | .825841 | .839286 |
| | 90 | .777548 | .793640 | .806467 | .817241 | .829348 | .837328 | .853094 | .858979 | .871086 |
| | 95 | .816933 | .831778 | .843521 | .853319 | .864252 | .871411 | .885437 | .890630 | .901232 |
| | 100 | .855832 | .869180 | .879636 | .888286 | .897850 | .904060 | .916091 | .920497 | .929401 |
| | 105 | .894105 | .905636 | .914546 | .921827 | .929776 | .934873 | .944592 | .948093 | .955065 |
| 110 | 110 | .931485 | .940742 | .947741 | .953348 | .959339 | .963102 | .970081 | .972526 | .977267 |
| | 115 | .967318 | .973528 | .978004 | .981432 | .984919 | .987003 | .990621 | .991801 | .993943 |
| | 120 | .998142 | .999122 | .999573 | .999789 | .999916 | .999958 | .999992 | .999996 | .999999 |
| 130 | 65 | .532963 | .552110 | .567836 | .581393 | .597040 | .607610 | .629160 | .637451 | .654976 |
| | 70 | .571100 | .590020 | .605503 | .618809 | .634118 | .644431 | .665381 | .673415 | .690345 |
| | 75 | .609019 | .627598 | .642745 | .655722 | .670603 | .680598 | .700826 | .708555 | .724794 |
| | 80 | .646714 | .664837 | .679554 | .692119 | .706479 | .716094 | .735475 | .742853 | .758301 |
| | 85 | .684174 | .701720 | .715907 | .727977 | .741719 | .750889 | .769293 | .776270 | .790825 |
| | 90 | .721384 | .738223 | .751776 | .763260 | .776281 | .784937 | .802226 | .808749 | .822302 |
| 95 | 95 | .758321 | .774312 | .787116 | .797915 | .810103 | .818170 | .834193 | .840207 | .852639 |
| | 100 | .794951 | .809936 | .821861 | .831866 | .843095 | .850489 | .865079 | .870520 | .881702 |
| | 105 | .831224 | .845018 | .855915 | .864998 | .875123 | .881748 | .894713 | .899508 | .909293 |
| | 110 | .867061 | .879442 | .889129 | .897136 | .905982 | .911721 | .922832 | .926898 | .935110 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 130 | 115 | .902334 | .913011 | .921255 | .927987 | .935331 | .940038 | .949007 | .952236 | .958663 | |
| | 120 | .536795 | .945355 | .951823 | .957002 | .962533 | .966005 | .972443 | .974697 | .979068 | |
| | 125 | .569843 | .975579 | .979712 | .982877 | .986094 | .988017 | .991354 | .992442 | .994417 | |
| | 130 | .998285 | .999190 | .999606 | .999805 | .999923 | .999961 | .999992 | .999996 | .999999 | |
| 140 | 70 | .531905 | .550365 | .565532 | .578613 | .593718 | .603929 | .624760 | .632782 | .645752 | |
| | 75 | .567342 | .585607 | .600566 | .613431 | .628246 | .638234 | .658549 | .666348 | .682804 | |
| | 80 | .602598 | .620574 | .635247 | .647831 | .662280 | .671996 | .691691 | .699229 | .715090 | |
| | 85 | .637669 | .655260 | .669569 | .681804 | .695809 | .705202 | .724173 | .731410 | .746592 | |
| | 90 | .672546 | .689654 | .703517 | .715333 | .728816 | .737830 | .755970 | .762865 | .777283 | |
| 150 | 95 | .707220 | .723738 | .737070 | .748394 | .761269 | .769849 | .787044 | .793553 | .807118 | |
| | 100 | .741675 | .757489 | .770197 | .780950 | .793126 | .801211 | .817339 | .823417 | .836032 | |
| | 105 | .775887 | .790874 | .802855 | .812949 | .824328 | .831851 | .846779 | .852375 | .863935 | |
| | 110 | .809926 | .823842 | .834982 | .844319 | .854787 | .861674 | .875251 | .880309 | .890698 | |
| | 115 | .843443 | .856324 | .866488 | .874952 | .884380 | .890544 | .902597 | .907051 | .916135 | |
| 160 | 120 | .876666 | .888210 | .897233 | .904685 | .912914 | .918248 | .928570 | .932343 | .939563 | |
| | 125 | .509375 | .919317 | .926987 | .933246 | .940071 | .944443 | .952769 | .955766 | .961728 | |
| | 130 | .941341 | .949302 | .955314 | .960125 | .965262 | .968485 | .974460 | .976551 | .980604 | |
| | 135 | .572006 | .977335 | .981174 | .984112 | .987099 | .988842 | .991980 | .992990 | .994872 | |
| | 140 | .538407 | .999248 | .999634 | .999819 | .999928 | .999964 | .999993 | .999996 | .999999 | |
| 170 | 75 | .530945 | .548787 | .563451 | .576103 | .590719 | .600604 | .620785 | .628561 | .645026 | |
| | 80 | .564039 | .581712 | .596195 | .608660 | .623023 | .632715 | .652446 | .660028 | .676464 | |
| | 85 | .596981 | .614406 | .628643 | .640865 | .654912 | .664368 | .683561 | .690917 | .706415 | |
| | 90 | .629767 | .646864 | .660789 | .672712 | .686377 | .695554 | .714122 | .721217 | .736127 | |
| | 95 | .667392 | .679077 | .692623 | .704188 | .717405 | .726257 | .744110 | .750910 | .765159 | |
| 180 | 100 | .694848 | .711035 | .724129 | .735275 | .747974 | .756455 | .773497 | .779966 | .793480 | |
| | 105 | .727125 | .742720 | .755287 | .765948 | .778054 | .786113 | .802244 | .808344 | .821042 | |
| | 110 | .759206 | .774108 | .786065 | .796171 | .807603 | .815187 | .830298 | .835987 | .847784 | |
| | 115 | .791070 | .805167 | .816422 | .825895 | .836564 | .843612 | .857583 | .862815 | .873617 | |
| | 120 | .822687 | .835850 | .846300 | .855051 | .864855 | .871300 | .883994 | .888719 | .898419 | |
| 190 | 125 | .854012 | .866091 | .875614 | .883538 | .892357 | .898120 | .909380 | .913539 | .922015 | |
| | 130 | .884977 | .895788 | .904232 | .911202 | .918892 | .923876 | .933512 | .937033 | .944141 | |
| | 135 | .915469 | .924770 | .931940 | .937789 | .944164 | .948245 | .956015 | .958810 | .964369 | |
| | 140 | .945276 | .952717 | .958333 | .962825 | .967620 | .970628 | .976201 | .978151 | .981931 | |
| | 145 | .973879 | .978856 | .982439 | .985181 | .987968 | .989634 | .992522 | .993464 | .995172 | |
| 200 | 150 | .998513 | .999298 | .999658 | .999831 | .999933 | .999967 | .999993 | .999997 | .999999 | |
| | 210 | | | | | | | | | | |
| 210 | 80 | .530069 | .547351 | .561559 | .573822 | .587994 | .597582 | .617169 | .624722 | .640723 | |
| | 85 | .561111 | .578245 | .592295 | .604393 | .618343 | .627762 | .646953 | .654335 | .669941 | |
| | 90 | .592022 | .608942 | .622778 | .634665 | .648339 | .657551 | .676273 | .683456 | .698607 | |
| | 95 | .622902 | .639439 | .653005 | .664632 | .677974 | .686944 | .705120 | .712076 | .726713 | |
| | 100 | .653346 | .669729 | .682967 | .694285 | .707240 | .715928 | .733482 | .740181 | .754242 | |
| 220 | 105 | .683948 | .699804 | .712655 | .723612 | .736119 | .744486 | .761339 | .767750 | .781171 | |
| | 110 | .714300 | .729651 | .742051 | .752593 | .764591 | .772595 | .788661 | .794752 | .807466 | |
| | 115 | .744491 | .759254 | .771136 | .781204 | .792625 | .800222 | .815410 | .821147 | .833087 | |
| | 120 | .774506 | .788590 | .799878 | .809409 | .820181 | .827321 | .841533 | .846879 | .857958 | |
| | 125 | .804324 | .817628 | .828239 | .837162 | .847203 | .853832 | .866960 | .871873 | .882009 | |
| 230 | 130 | .833917 | .846323 | .856164 | .864397 | .873614 | .879670 | .891589 | .896023 | .905119 | |
| | 135 | .863243 | .874614 | .883571 | .890109 | .899304 | .904714 | .915279 | .919179 | .927124 | |
| | 140 | .892237 | .902403 | .910338 | .916884 | .924102 | .928778 | .937814 | .941115 | .947774 | |
| | 145 | .920795 | .929532 | .936264 | .941753 | .947733 | .951560 | .958842 | .961461 | .966669 | |
| | 150 | .948717 | .955701 | .960970 | .965183 | .969678 | .972498 | .977720 | .979547 | .983087 | |
| 240 | 155 | .975517 | .980185 | .983545 | .986116 | .988728 | .990289 | .992995 | .993878 | .995478 | |
| | 160 | .998676 | .999342 | .999679 | .999942 | .999937 | .999969 | .999994 | .999997 | .999999 | |
| 250 | 85 | .529266 | .546038 | .559830 | .571737 | .585502 | .594814 | .613863 | .621210 | .636784 | |
| | 90 | .558494 | .575136 | .588788 | .600550 | .614119 | .623286 | .641979 | .649175 | .664398 | |
| | 95 | .587611 | .604065 | .617530 | .629106 | .642432 | .651418 | .669696 | .676716 | .691538 | |
| | 100 | .616615 | .632822 | .646051 | .657400 | .670436 | .679208 | .697007 | .703827 | .718195 | |
| | 105 | .645502 | .661403 | .674347 | .685426 | .698123 | .706649 | .723901 | .730497 | .744358 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 170 | 110 | .674269 | .689801 | .702409 | .713175 | .725482 | .733728 | .750367 | .756710 | .770010 |
| | 115 | .702909 | .718006 | .730225 | .740631 | .752496 | .760426 | .776380 | .782443 | .795124 |
| | 120 | .731415 | .746007 | .757779 | .767777 | .779144 | .786720 | .801912 | .807667 | .819669 |
| | 125 | .759775 | .773787 | .785051 | .794587 | .805395 | .812578 | .826925 | .832341 | .843598 |
| | 130 | .787975 | .801324 | .812012 | .821029 | .831211 | .837955 | .851369 | .856411 | .866852 |
| | 135 | .815995 | .828589 | .838625 | .847057 | .856539 | .862795 | .875175 | .879806 | .889353 |
| | 140 | .843808 | .855539 | .864836 | .872609 | .881306 | .887017 | .898249 | .902425 | .910989 |
| | 145 | .871375 | .882116 | .890570 | .897596 | .905407 | .910505 | .920456 | .924128 | .931604 |
| | 150 | .898635 | .908229 | .915712 | .921882 | .928683 | .933087 | .941593 | .944699 | .950963 |
| | 155 | .925490 | .933728 | .940072 | .945242 | .950872 | .954475 | .961328 | .963792 | .968690 |
| | 160 | .951751 | .958331 | .963292 | .967259 | .971490 | .974144 | .979057 | .980775 | .984104 |
| | 165 | .976962 | .981357 | .984520 | .986939 | .989397 | .990866 | .993412 | .994242 | .995748 |
| | 170 | .998688 | .999380 | .999698 | .999851 | .999941 | .999971 | .999994 | .999997 | .999999 |
| 180 | 90 | .528525 | .544829 | .558240 | .569821 | .583213 | .592281 | .610823 | .617980 | .633160 |
| | 95 | .556141 | .572329 | .585616 | .597067 | .610285 | .619219 | .637448 | .644470 | .659337 |
| | 100 | .583659 | .599682 | .612803 | .624090 | .637092 | .645865 | .663726 | .670592 | .685101 |
| | 105 | .611080 | .626887 | .639800 | .650887 | .663632 | .672216 | .689653 | .696341 | .710447 |
| | 110 | .638400 | .653939 | .666602 | .677452 | .689899 | .698266 | .715220 | .721709 | .735366 |
| | 115 | .665617 | .680833 | .693203 | .703778 | .715883 | .724004 | .740417 | .746684 | .759844 |
| | 120 | .692726 | .707564 | .719594 | .729855 | .741573 | .749416 | .765227 | .771247 | .783862 |
| | 125 | .719720 | .734121 | .745763 | .755668 | .766951 | .774485 | .789628 | .795378 | .807395 |
| | 130 | .746592 | .760493 | .771694 | .781199 | .791995 | .799187 | .813593 | .819046 | .830410 |
| | 135 | .773332 | .786662 | .797368 | .806424 | .816679 | .823490 | .837084 | .842211 | .852862 |
| | 140 | .799924 | .812610 | .822756 | .831310 | .840963 | .847353 | .860052 | .864823 | .874696 |
| | 145 | .826351 | .838306 | .847824 | .855816 | .864798 | .870720 | .882433 | .886812 | .895834 |
| | 150 | .852587 | .863711 | .872521 | .879882 | .888114 | .893517 | .904137 | .908084 | .916173 |
| | 155 | .878594 | .888770 | .896775 | .903424 | .910812 | .915632 | .925036 | .928505 | .935564 |
| | 160 | .904316 | .913397 | .920477 | .926312 | .932742 | .936903 | .944938 | .947871 | .953785 |
| | 165 | .929659 | .937451 | .943449 | .948337 | .953656 | .957060 | .963531 | .965857 | .970479 |
| | 170 | .954446 | .960666 | .965354 | .969102 | .973098 | .975604 | .980242 | .981864 | .985006 |
| | 175 | .978246 | .982398 | .985386 | .987671 | .989992 | .991378 | .993782 | .994566 | .995987 |
| | 180 | .998761 | .999415 | .999715 | .999859 | .999944 | .999972 | .999994 | .999997 | .999999 |
| 190 | 95 | .527839 | .543713 | .556773 | .568052 | .581101 | .589937 | .608016 | .614998 | .629811 |
| | 100 | .554010 | .569781 | .582729 | .593893 | .606785 | .615502 | .633299 | .640160 | .654692 |
| | 105 | .580097 | .595720 | .608521 | .619538 | .632238 | .640811 | .658279 | .665000 | .679211 |
| | 110 | .606098 | .621530 | .634147 | .644986 | .657458 | .665863 | .682953 | .689514 | .703366 |
| | 115 | .632011 | .647207 | .659603 | .670233 | .682439 | .690652 | .707313 | .713697 | .727148 |
| | 120 | .657835 | .672748 | .684885 | .695272 | .707176 | .715170 | .731351 | .737537 | .750547 |
| | 125 | .683566 | .698147 | .709985 | .720096 | .731658 | .739407 | .755055 | .761023 | .773547 |
| | 130 | .709198 | .723397 | .734895 | .744693 | .755872 | .763349 | .778407 | .784136 | .796131 |
| | 135 | .734727 | .748489 | .759603 | .769050 | .779803 | .786979 | .801388 | .806854 | .818272 |
| | 140 | .760144 | .773412 | .784093 | .793149 | .803429 | .810271 | .823968 | .829148 | .839938 |
| | 145 | .785438 | .798148 | .808346 | .816967 | .826723 | .833198 | .846112 | .850980 | .861087 |
| | 150 | .810597 | .822680 | .832337 | .840473 | .849648 | .855718 | .867775 | .872301 | .881664 |
| | 155 | .835603 | .846979 | .856030 | .863625 | .872156 | .877779 | .888892 | .893044 | .901597 |
| | 160 | .860431 | .871008 | .879378 | .886369 | .894183 | .899309 | .909380 | .913121 | .920786 |
| | 165 | .885046 | .894713 | .902313 | .908624 | .915632 | .920203 | .929117 | .932404 | .939091 |
| | 170 | .909394 | .918015 | .924733 | .930267 | .936363 | .940308 | .947921 | .950699 | .956300 |
| | 175 | .933386 | .940778 | .946467 | .951100 | .956142 | .959366 | .965496 | .967699 | .972075 |
| | 180 | .956856 | .962753 | .967197 | .970748 | .974534 | .976907 | .981301 | .982836 | .985811 |
| | 185 | .979394 | .983329 | .986160 | .988325 | .990523 | .991836 | .994113 | .994855 | .996200 |
| | 190 | .998826 | .999446 | .999730 | .999867 | .999947 | .999994 | .999995 | .999997 | .999999 |
| 200 | 100 | .527202 | .542678 | .555412 | .566413 | .579142 | .587766 | .605414 | .612232 | .626704 |
| | 105 | .552072 | .567455 | .580089 | .590986 | .603574 | .612089 | .629484 | .636192 | .650411 |
| | 110 | .576868 | .592119 | .604621 | .615387 | .627802 | .636188 | .653287 | .659869 | .673799 |
| | 115 | .601588 | .616670 | .629008 | .639614 | .651826 | .660061 | .676820 | .683260 | .696866 |
| | 120 | .626232 | .641104 | .653246 | .663665 | .675640 | .683703 | .700078 | .706359 | .719606 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL RÉDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 200 | 125 | .650798 | .665419 | .677331 | .687535 | .699240 | .707108 | .723055 | .729159 | .742010 |
| | 130 | .675282 | .689610 | .701258 | .711216 | .722618 | .730269 | .745740 | .751649 | .764067 |
| | 135 | .699682 | .713673 | .725020 | .734702 | .745765 | .753173 | .768120 | .773816 | .785761 |
| | 140 | .723992 | .737599 | .748608 | .757981 | .768666 | .775808 | .790179 | .795643 | .807074 |
| | 145 | .748206 | .761381 | .772010 | .781039 | .791308 | .798156 | .811897 | .817106 | .827981 |
| | 150 | .772317 | .785006 | .795212 | .803859 | .813668 | .820193 | .833245 | .838178 | .848449 |
| | 155 | .796316 | .808459 | .818195 | .826419 | .835721 | .841891 | .854190 | .858823 | .868438 |
| | 160 | .820188 | .831722 | .840933 | .848689 | .857431 | .863212 | .874688 | .879993 | .887897 |
| | 165 | .843918 | .854768 | .863395 | .870631 | .878754 | .884105 | .894677 | .898626 | .906755 |
| | 170 | .867482 | .877562 | .885535 | .892191 | .899626 | .904502 | .914079 | .917635 | .924918 |
| | 175 | .890846 | .900053 | .907287 | .913297 | .919958 | .924304 | .932777 | .935899 | .942251 |
| | 180 | .913959 | .922165 | .928556 | .933819 | .939614 | .943363 | .950597 | .953236 | .958554 |
| | 185 | .936738 | .943770 | .949178 | .953582 | .958374 | .961438 | .967260 | .969352 | .973508 |
| | 190 | .959023 | .964629 | .968853 | .972228 | .975825 | .978079 | .982251 | .983710 | .986534 |
| | 195 | .980428 | .984167 | .986856 | .988913 | .991001 | .992248 | .994410 | .995115 | .996392 |
| | 200 | .998885 | .999473 | .999744 | .999873 | .999950 | .999975 | .999995 | .999997 | .999999 |
| 210 | 105 | .526608 | .541714 | .554146 | .564888 | .577321 | .585745 | .602992 | .609657 | .623811 |
| | 110 | .550300 | .565322 | .577664 | .588312 | .600616 | .608942 | .625960 | .632526 | .646449 |
| | 115 | .573926 | .588831 | .601053 | .611583 | .623732 | .631941 | .648691 | .655143 | .668805 |
| | 120 | .597486 | .612238 | .624314 | .634701 | .646666 | .654740 | .671183 | .677506 | .690876 |
| | 125 | .620979 | .635543 | .647443 | .657662 | .669416 | .677334 | .693432 | .699612 | .712657 |
| | 130 | .644402 | .658744 | .670438 | .680464 | .691976 | .699721 | .715433 | .721454 | .734143 |
| | 135 | .667754 | .681835 | .693294 | .703102 | .714342 | .721892 | .737178 | .743024 | .755324 |
| | 140 | .691032 | .704814 | .716006 | .725567 | .736505 | .743839 | .758656 | .764311 | .776187 |
| | 145 | .714233 | .727675 | .738567 | .747853 | .758456 | .765552 | .779855 | .785302 | .796718 |
| | 150 | .737350 | .750411 | .760967 | .769949 | .780181 | .787016 | .800758 | .805979 | .816897 |
| | 155 | .760380 | .773013 | .783196 | .791841 | .801666 | .808215 | .821345 | .826321 | .836701 |
| | 160 | .783314 | .795469 | .805240 | .813512 | .822890 | .829126 | .841591 | .846299 | .856097 |
| | 165 | .806143 | .817766 | .827079 | .834941 | .843828 | .849721 | .861460 | .865880 | .875049 |
| | 170 | .828854 | .839885 | .848690 | .856100 | .864447 | .869965 | .880912 | .885018 | .893505 |
| | 175 | .851432 | .861802 | .870043 | .876951 | .884703 | .889808 | .899889 | .903652 | .911398 |
| | 180 | .873854 | .883482 | .891093 | .897444 | .904537 | .909186 | .918314 | .921702 | .928639 |
| | 185 | .896089 | .904877 | .911779 | .917506 | .923861 | .928004 | .936076 | .939050 | .945099 |
| | 190 | .918087 | .925914 | .932009 | .937026 | .942549 | .946121 | .953012 | .955525 | .960588 |
| | 195 | .939769 | .946473 | .951628 | .955825 | .960390 | .963308 | .968853 | .970844 | .974800 |
| | 200 | .960983 | .966326 | .970350 | .973565 | .976991 | .979137 | .983110 | .984498 | .987187 |
| | 205 | .981362 | .984924 | .987486 | .989444 | .991433 | .992620 | .994679 | .995350 | .996566 |
| | 210 | .998938 | .999498 | .999756 | .999879 | .999952 | .999976 | .999995 | .999998 | 1.000000 |
| 220 | 110 | .526051 | .540813 | .552964 | .563465 | .575621 | .583859 | .600731 | .607254 | .621109 |
| | 115 | .548672 | .563358 | .575426 | .585842 | .597881 | .606030 | .622692 | .629125 | .642770 |
| | 120 | .571235 | .585814 | .597775 | .608083 | .619981 | .628024 | .644443 | .650772 | .664179 |
| | 125 | .593738 | .608180 | .620008 | .630187 | .641919 | .649839 | .665981 | .672193 | .685335 |
| | 130 | .616181 | .630455 | .642125 | .652153 | .663694 | .671474 | .687304 | .693386 | .706234 |
| | 135 | .638563 | .652637 | .664123 | .673977 | .685301 | .692924 | .708406 | .714344 | .726870 |
| | 140 | .660883 | .674724 | .685998 | .695656 | .706735 | .714183 | .729281 | .735061 | .747235 |
| | 145 | .683136 | .696711 | .707747 | .717184 | .727992 | .735246 | .749921 | .755530 | .767321 |
| | 150 | .705322 | .718594 | .729362 | .738554 | .749062 | .756102 | .770317 | .775738 | .787116 |
| | 155 | .727436 | .740369 | .750838 | .759758 | .769935 | .776742 | .790454 | .795672 | .806603 |
| | 160 | .749474 | .762027 | .772166 | .780786 | .790601 | .797153 | .810318 | .815316 | .825764 |
| | 165 | .771429 | .783561 | .793334 | .801625 | .811042 | .817316 | .829888 | .834648 | .844576 |
| | 170 | .793296 | .804960 | .814329 | .822258 | .831241 | .837211 | .849138 | .853642 | .863009 |
| | 175 | .815064 | .826210 | .835134 | .842664 | .851172 | .856811 | .868039 | .872264 | .881025 |
| | 180 | .836723 | .847293 | .855725 | .862818 | .870804 | .876081 | .886547 | .890470 | .898577 |
| | 185 | .858256 | .868186 | .876073 | .882682 | .890096 | .894976 | .904609 | .908203 | .915600 |
| | 190 | .879642 | .888855 | .896136 | .902209 | .908988 | .913431 | .922151 | .925386 | .932008 |
| | 195 | .900851 | .909257 | .915856 | .921329 | .927402 | .931359 | .939067 | .941906 | .947679 |
| | 200 | .921837 | .929319 | .935143 | .939937 | .945212 | .948623 | .955201 | .957599 | .962431 |
| | 205 | .942522 | .948929 | .953853 | .957861 | .962219 | .965005 | .970298 | .972198 | .975973 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 220 | 210 | .962764 | .967867 | .971710 | .974779 | .978049 | .980098 | .983889 | .985214 | .987780 |
| | 215 | .982211 | .985612 | .988058 | .989927 | .991825 | .992958 | .994923 | .995563 | .996724 |
| | 220 | .998986 | .999521 | .999767 | .999885 | .999954 | .999977 | .999995 | .999998 | 1.000000 |
| 230 | 115 | .525529 | .539970 | .551857 | .562132 | .574029 | .582093 | .598613 | .605002 | .618577 |
| | 120 | .547172 | .561543 | .573355 | .583552 | .595342 | .603324 | .619653 | .625959 | .639342 |
| | 125 | .568762 | .583036 | .594751 | .604850 | .616511 | .624397 | .640504 | .646716 | .659881 |
| | 130 | .590299 | .604449 | .616043 | .626025 | .637536 | .645310 | .661165 | .667270 | .680193 |
| | 135 | .611782 | .625781 | .637232 | .647077 | .658415 | .666062 | .681633 | .687619 | .700275 |
| | 140 | .633211 | .647030 | .658315 | .668003 | .679144 | .686649 | .701904 | .707760 | .720123 |
| | 145 | .654584 | .668193 | .679288 | .688799 | .699720 | .707066 | .721973 | .727687 | .739730 |
| | 150 | .675899 | .689269 | .700149 | .709462 | .720137 | .727309 | .741835 | .747392 | .759089 |
| | 155 | .697154 | .710253 | .720893 | .729985 | .740390 | .747370 | .761479 | .766868 | .778190 |
| | 160 | .718346 | .731142 | .741514 | .750363 | .760471 | .767240 | .780897 | .786102 | .797021 |
| | 165 | .739471 | .751929 | .762006 | .770586 | .780370 | .786910 | .800076 | .805083 | .815567 |
| | 170 | .760526 | .772609 | .782360 | .790646 | .800074 | .806365 | .818999 | .823793 | .833809 |
| | 175 | .781503 | .793172 | .802564 | .810528 | .819570 | .825590 | .837648 | .842212 | .851725 |
| | 180 | .802398 | .813608 | .822607 | .830218 | .838838 | .844564 | .855998 | .860314 | .869285 |
| | 185 | .823200 | .833905 | .842471 | .849696 | .857855 | .863261 | .874019 | .878066 | .886455 |
| | 190 | .843899 | .854045 | .862134 | .868936 | .876591 | .881648 | .891672 | .895428 | .903187 |
| | 195 | .864480 | .874005 | .881568 | .887903 | .895005 | .899680 | .908903 | .912343 | .919421 |
| | 200 | .884921 | .893755 | .900732 | .906551 | .913043 | .917297 | .925643 | .928738 | .935073 |
| | 205 | .905196 | .913251 | .919572 | .924813 | .930627 | .934414 | .941790 | .944506 | .950028 |
| | 210 | .925258 | .932425 | .938002 | .942590 | .947639 | .950903 | .957195 | .959489 | .964110 |
| | 215 | .945035 | .951168 | .955882 | .959717 | .963887 | .966553 | .971614 | .973431 | .977041 |
| | 220 | .964390 | .969274 | .972951 | .975887 | .979015 | .980975 | .984600 | .985867 | .988320 |
| | 225 | .982987 | .986240 | .988579 | .990368 | .992183 | .993267 | .995145 | .995758 | .996867 |
| | 230 | .999030 | .999542 | .999777 | .999890 | .999956 | .999978 | .999996 | .999998 | 1.000000 |
| 240 | 120 | .525038 | .539177 | .550818 | .560881 | .572534 | .580435 | .596625 | .602888 | .616199 |
| | 125 | .545783 | .559858 | .571430 | .581421 | .592977 | .600803 | .616817 | .623004 | .636138 |
| | 130 | .566491 | .580468 | .591951 | .601853 | .613291 | .621028 | .636839 | .642939 | .655874 |
| | 135 | .587131 | .601006 | .612379 | .622174 | .633475 | .641110 | .656690 | .662693 | .675406 |
| | 140 | .607733 | .621470 | .632714 | .642385 | .653527 | .661047 | .676368 | .682263 | .694732 |
| | 145 | .628287 | .641861 | .652953 | .662482 | .673446 | .680836 | .695870 | .701646 | .713847 |
| | 150 | .648790 | .662175 | .673095 | .682464 | .693227 | .700474 | .715191 | .720837 | .732747 |
| | 155 | .669242 | .682411 | .693137 | .702326 | .712868 | .719955 | .734326 | .739830 | .751425 |
| | 160 | .689640 | .702565 | .713075 | .722064 | .732362 | .739275 | .753269 | .758619 | .769874 |
| | 165 | .709982 | .722635 | .732904 | .741674 | .751703 | .758427 | .772011 | .777195 | .788083 |
| | 170 | .730266 | .742616 | .752619 | .761147 | .770884 | .777401 | .790541 | .795547 | .806041 |
| | 175 | .750488 | .762502 | .772213 | .780478 | .789896 | .796188 | .808849 | .813662 | .823733 |
| | 180 | .770643 | .782287 | .791678 | .799654 | .808725 | .814775 | .826918 | .831523 | .841141 |
| | 185 | .790726 | .801964 | .811004 | .818665 | .827359 | .833146 | .844729 | .849111 | .858243 |
| | 190 | .810731 | .821521 | .830177 | .837495 | .845779 | .851280 | .862260 | .866402 | .875011 |
| | 195 | .830650 | .840947 | .849182 | .856125 | .863963 | .869154 | .879480 | .883363 | .891410 |
| | 200 | .850471 | .860224 | .867997 | .874530 | .881881 | .886735 | .896353 | .899956 | .907396 |
| | 205 | .870180 | .879332 | .886596 | .892678 | .899495 | .903980 | .912827 | .916126 | .922911 |
| | 210 | .889757 | .898241 | .904939 | .910523 | .916752 | .920832 | .928835 | .931802 | .937874 |
| | 215 | .909175 | .916908 | .922974 | .928002 | .933578 | .937210 | .944280 | .946883 | .952174 |
| | 220 | .928392 | .935269 | .940619 | .945019 | .949860 | .952989 | .959020 | .961218 | .965644 |
| | 225 | .947338 | .953220 | .957740 | .961417 | .965414 | .967969 | .972819 | .974560 | .978018 |
| | 230 | .965880 | .970562 | .974087 | .976901 | .979899 | .981777 | .985251 | .986464 | .988814 |
| | 235 | .983697 | .986816 | .989058 | .990771 | .992511 | .993549 | .995349 | .995936 | .996999 |
| | 240 | .999071 | .999561 | .999786 | .999895 | .999958 | .999979 | .999996 | .999998 | 1.000000 |
| 250 | 125 | .524575 | .538430 | .549839 | .559703 | .571127 | .578874 | .594753 | .600897 | .613958 |
| | 130 | .544494 | .558291 | .569636 | .579434 | .590768 | .598446 | .614163 | .620236 | .633135 |
| | 135 | .564370 | .578087 | .589350 | .599066 | .610293 | .617890 | .633419 | .639413 | .652128 |
| | 140 | .584204 | .597817 | .608981 | .618599 | .629700 | .637203 | .652521 | .658426 | .670937 |
| | 145 | .603994 | .617482 | .628528 | .638032 | .648988 | .656386 | .671467 | .677273 | .689560 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 250 | 150 | .623740 | .637080 | .647988 | .657364 | .668156 | .675436 | .690254 | .695951 | .707993 | |
| | 155 | .643441 | .656610 | .667362 | .676590 | .687201 | .694349 | .708878 | .714456 | .726232 | |
| | 160 | .663096 | .676069 | .686645 | .695710 | .706120 | .713123 | .727336 | .732785 | .744273 | |
| | 165 | .682703 | .695456 | .705835 | .714720 | .724907 | .731752 | .745621 | .750930 | .762108 | |
| | 170 | .702260 | .714767 | .724928 | .733614 | .743558 | .750231 | .763728 | .768885 | .779729 | |
| | 175 | .721766 | .733999 | .743921 | .752389 | .762068 | .768553 | .781647 | .786642 | .797127 | |
| | 180 | .741216 | .753148 | .762807 | .771036 | .780427 | .786710 | .799369 | .804189 | .814291 | |
| | 185 | .760609 | .772209 | .781579 | .789549 | .798627 | .804690 | .816882 | .821514 | .831205 | |
| | 190 | .779939 | .791174 | .800230 | .807918 | .816657 | .822483 | .834171 | .838602 | .847852 | |
| | 195 | .799201 | .810038 | .818750 | .826131 | .834503 | .840072 | .851217 | .855432 | .864211 | |
| | 200 | .818390 | .828789 | .837127 | .844173 | .852147 | .857439 | .867999 | .871981 | .880254 | |
| | 205 | .837497 | .847415 | .855344 | .862027 | .869567 | .874559 | .884487 | .888219 | .895950 | |
| | 210 | .856511 | .865902 | .873382 | .879667 | .886736 | .891402 | .900646 | .904107 | .911254 | |
| | 215 | .875419 | .884227 | .891214 | .897063 | .903616 | .907927 | .916426 | .919595 | .926110 | |
| | 220 | .894203 | .902363 | .908803 | .914171 | .920157 | .924077 | .931764 | .934613 | .940443 | |
| | 225 | .912835 | .920269 | .926099 | .930931 | .936288 | .939776 | .946566 | .949065 | .954144 | |
| | 230 | .931274 | .937884 | .943024 | .947251 | .951900 | .954905 | .960695 | .962805 | .967053 | |
| | 235 | .949455 | .955106 | .959448 | .962979 | .966817 | .969270 | .973926 | .975597 | .978915 | |
| | 240 | .967250 | .971747 | .975132 | .977834 | .980712 | .982514 | .985849 | .987013 | .989268 | |
| | 245 | .984351 | .987345 | .989498 | .991143 | .992812 | .993809 | .995537 | .996100 | .997120 | |
| | 250 | .999108 | .999579 | .999795 | .999899 | .999960 | .999980 | .999996 | .999998 | 1.000000 | |
| 260 | 130 | .524137 | .537726 | .548916 | .558592 | .569800 | .577402 | .592986 | .599018 | .611843 | |
| | 135 | .543293 | .556828 | .567959 | .577574 | .588700 | .596238 | .611672 | .617639 | .630314 | |
| | 140 | .562411 | .575871 | .586928 | .596468 | .607493 | .614957 | .630219 | .636112 | .648618 | |
| | 145 | .581489 | .594856 | .605821 | .615271 | .626181 | .633558 | .648626 | .654436 | .666755 | |
| | 150 | .600529 | .613781 | .624637 | .633984 | .644761 | .652041 | .666891 | .672611 | .684722 | |
| | 155 | .619528 | .632645 | .643377 | .652604 | .663232 | .670404 | .685012 | .690632 | .702518 | |
| | 160 | .638487 | .651448 | .662037 | .671130 | .681592 | .688643 | .702987 | .708498 | .720140 | |
| | 165 | .657405 | .670188 | .680616 | .689561 | .699838 | .706757 | .720811 | .726204 | .737581 | |
| | 170 | .676279 | .688862 | .699111 | .707891 | .717966 | .724741 | .738481 | .743745 | .754838 | |
| | 175 | .695109 | .707468 | .717520 | .726119 | .735973 | .742590 | .755990 | .761116 | .771904 | |
| | 180 | .713893 | .726005 | .735839 | .744240 | .753852 | .760299 | .773332 | .778310 | .788770 | |
| | 185 | .732627 | .744467 | .754062 | .762248 | .771599 | .777861 | .790499 | .795317 | .805428 | |
| | 190 | .751311 | .762851 | .772186 | .780137 | .789204 | .795268 | .807481 | .812128 | .821864 | |
| | 195 | .769940 | .781152 | .790204 | .797899 | .806660 | .812510 | .824265 | .828730 | .838066 | |
| | 200 | .788510 | .799363 | .808107 | .815526 | .823956 | .829574 | .840839 | .845108 | .854017 | |
| | 205 | .807016 | .817478 | .825886 | .833005 | .841077 | .846446 | .857184 | .861243 | .869695 | |
| | 210 | .825452 | .835487 | .843529 | .850323 | .858008 | .863107 | .873278 | .877112 | .885075 | |
| | 215 | .843811 | .853378 | .861022 | .867462 | .874727 | .879535 | .889094 | .892686 | .900125 | |
| | 220 | .862082 | .871135 | .878344 | .884399 | .891207 | .895699 | .904597 | .907927 | .914803 | |
| | 225 | .880252 | .888740 | .895470 | .901103 | .907412 | .911561 | .919740 | .922788 | .929055 | |
| | 230 | .898304 | .906164 | .912366 | .917533 | .923295 | .927067 | .934461 | .937202 | .942808 | |
| | 235 | .916210 | .923369 | .928981 | .933631 | .938785 | .942141 | .948672 | .951075 | .955958 | |
| | 240 | .933933 | .940295 | .945241 | .949308 | .953781 | .956670 | .962238 | .964267 | .968351 | |
| | 245 | .951408 | .956846 | .961023 | .964420 | .968111 | .970469 | .974946 | .976552 | .979742 | |
| | 250 | .968514 | .972840 | .976095 | .978694 | .981461 | .983195 | .986400 | .987520 | .989687 | |
| | 255 | .984954 | .987834 | .989903 | .991485 | .993091 | .994049 | .995710 | .996251 | .997232 | |
| | 260 | .999142 | .999595 | .999803 | .999903 | .999961 | .999981 | .999996 | .999998 | 1.000000 | |
| 270 | 135 | .523723 | .537059 | .548043 | .557541 | .568545 | .576009 | .591315 | .597240 | .609843 | |
| | 140 | .542172 | .555458 | .566388 | .575830 | .586757 | .594162 | .609329 | .615194 | .627657 | |
| | 145 | .560586 | .573805 | .584665 | .594037 | .604873 | .612209 | .627217 | .633014 | .645319 | |
| | 150 | .578965 | .592097 | .602873 | .612163 | .622892 | .630149 | .644977 | .650697 | .662829 | |
| | 155 | .597309 | .610336 | .621012 | .630207 | .640813 | .647981 | .662608 | .668244 | .680186 | |
| | 160 | .615616 | .628519 | .639081 | .648166 | .658636 | .665703 | .680108 | .685653 | .697387 | |
| | 165 | .633887 | .646647 | .657078 | .666041 | .676357 | .683314 | .697476 | .702920 | .714429 | |
| | 170 | .652119 | .664717 | .675001 | .683828 | .693976 | .700811 | .714707 | .720042 | .731308 | |
| | 175 | .670313 | .682729 | .692850 | .701526 | .711488 | .718191 | .731799 | .737016 | .748020 | |
| | 180 | .688467 | .700680 | .710620 | .719130 | .728890 | .735450 | .748746 | .753837 | .764560 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|---------|------------------------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 270 | 185 | .706580 | .718567 | .728309 | .736639 | .746179 | .752583 | .765543 | .770498 | .780921 |
| 190 | .724649 | .736388 | .745914 | .754047 | .763349 | .769584 | .782183 | .786692 | .797095 | |
| 195 | .742672 | .754140 | .763429 | .771349 | .780393 | .786447 | .798658 | .803312 | .813072 | |
| 200 | .760647 | .771818 | .780851 | .788540 | .797305 | .803164 | .814959 | .819446 | .828842 | |
| 205 | .778570 | .789418 | .798172 | .805610 | .814076 | .819725 | .831075 | .835383 | .844390 | |
| 210 | .796438 | .806934 | .815385 | .822553 | .830695 | .836119 | .846990 | .851109 | .859700 | |
| 215 | .814245 | .824357 | .832481 | .839356 | .847149 | .852330 | .862689 | .866604 | .874753 | |
| 220 | .831986 | .841681 | .849447 | .856006 | .863422 | .868342 | .878150 | .881846 | .889522 | |
| 225 | .849653 | .858891 | .866270 | .872485 | .879494 | .884131 | .893347 | .896809 | .903977 | |
| 230 | .867237 | .875976 | .882932 | .888772 | .895338 | .899669 | .908245 | .911455 | .918078 | |
| 235 | .884724 | .892914 | .899406 | .904838 | .910920 | .914919 | .922801 | .925737 | .931773 | |
| 240 | .902098 | .909680 | .915660 | .920642 | .926195 | .929830 | .936953 | .939593 | .944991 | |
| 245 | .919334 | .926236 | .931646 | .936128 | .941094 | .944327 | .950617 | .952932 | .957633 | |
| 250 | .936394 | .942526 | .947293 | .951211 | .955520 | .958303 | .963665 | .965618 | .969551 | |
| 255 | .953216 | .958457 | .962480 | .965752 | .969308 | .971579 | .975889 | .977436 | .980506 | |
| 260 | .969684 | .973852 | .976987 | .979490 | .982155 | .983824 | .986910 | .987988 | .990074 | |
| 265 | .985512 | .988286 | .990279 | .991802 | .993348 | .994271 | .995870 | .996391 | .997335 | |
| 270 | .999174 | .999610 | .999810 | .999906 | .999963 | .999981 | .999996 | .999998 | 1.000000 | |
| 280 | 140 | .523329 | .536427 | .547215 | .556545 | .567356 | .574690 | .589732 | .595556 | .607946 |
| 145 | .541122 | .554174 | .564911 | .574189 | .584929 | .592208 | .607121 | .612889 | .625149 | |
| 150 | .558883 | .571872 | .582546 | .591759 | .602413 | .609629 | .624394 | .630099 | .642213 | |
| 155 | .576612 | .589521 | .600117 | .609254 | .619810 | .626952 | .641550 | .647185 | .659138 | |
| 160 | .594309 | .607121 | .617625 | .626674 | .637117 | .644177 | .658589 | .664146 | .675923 | |
| 165 | .611972 | .624671 | .635069 | .644018 | .654335 | .661302 | .675509 | .680981 | .692566 | |
| 170 | .629602 | .642170 | .652448 | .661284 | .671460 | .678325 | .692308 | .697687 | .709063 | |
| 175 | .647198 | .659617 | .669760 | .678471 | .688491 | .695245 | .708983 | .714261 | .725414 | |
| 180 | .664748 | .677010 | .687004 | .695577 | .705427 | .712059 | .725531 | .730701 | .741613 | |
| 185 | .682283 | .694349 | .704178 | .712599 | .722263 | .728763 | .741949 | .747002 | .757655 | |
| 190 | .699770 | .711630 | .721278 | .729534 | .738996 | .745353 | .758231 | .763159 | .773536 | |
| 195 | .717217 | .728852 | .738302 | .746378 | .755623 | .761825 | .774372 | .779167 | .789249 | |
| 200 | .734624 | .746012 | .755247 | .763128 | .772137 | .778174 | .790366 | .795017 | .804786 | |
| 205 | .751988 | .763106 | .772108 | .779778 | .788533 | .794392 | .806204 | .810703 | .820137 | |
| 210 | .769306 | .780131 | .788879 | .796323 | .804805 | .810472 | .821877 | .826214 | .835292 | |
| 215 | .786576 | .797082 | .805556 | .812754 | .820942 | .826405 | .837375 | .841538 | .850237 | |
| 220 | .803792 | .813953 | .822130 | .829064 | .836936 | .842178 | .852683 | .856661 | .864957 | |
| 225 | .820951 | .830736 | .838593 | .845241 | .852773 | .857779 | .867785 | .871565 | .879432 | |
| 230 | .838048 | .847424 | .854933 | .861272 | .868438 | .873190 | .882661 | .886229 | .893637 | |
| 235 | .855073 | .864005 | .871137 | .877141 | .883910 | .888389 | .897285 | .900626 | .907543 | |
| 240 | .872020 | .880465 | .887186 | .892827 | .899156 | .903348 | .911624 | .914721 | .921111 | |
| 245 | .888874 | .896786 | .903056 | .908301 | .914172 | .918032 | .925636 | .928469 | .934291 | |
| 250 | .905620 | .912942 | .918716 | .923524 | .928883 | .932391 | .939263 | .941809 | .947015 | |
| 255 | .922233 | .928897 | .934119 | .938444 | .943235 | .946354 | .952421 | .954653 | .959186 | |
| 260 | .938678 | .944597 | .949196 | .952977 | .957133 | .959817 | .964988 | .966871 | .970662 | |
| 265 | .954895 | .959951 | .963833 | .966989 | .970418 | .972608 | .976764 | .978255 | .981215 | |
| 270 | .970771 | .974791 | .977815 | .980228 | .982798 | .984407 | .987383 | .988422 | .990434 | |
| 275 | .986031 | .988706 | .990628 | .992096 | .993587 | .994477 | .996018 | .996521 | .997431 | |
| 280 | .999203 | .999624 | .999817 | .999910 | .999964 | .999982 | .999996 | .999998 | 1.000000 | |
| 290 | 145 | .522955 | .535826 | .546429 | .555600 | .566227 | .573438 | .588229 | .593957 | .606145 |
| 150 | .540137 | .552965 | .563521 | .572643 | .583204 | .590363 | .605034 | .610710 | .622777 | |
| 155 | .557289 | .570059 | .580556 | .589618 | .600100 | .607200 | .621733 | .627350 | .639282 | |
| 160 | .574412 | .587109 | .597533 | .606525 | .616915 | .623947 | .638326 | .643877 | .655659 | |
| 165 | .591506 | .604113 | .614453 | .623363 | .633649 | .640604 | .654810 | .660290 | .671908 | |
| 170 | .608569 | .621072 | .631314 | .640131 | .650300 | .657170 | .671186 | .676587 | .688027 | |
| 175 | .625602 | .637984 | .648115 | .656829 | .666868 | .673643 | .687452 | .692766 | .704013 | |
| 180 | .642603 | .654848 | .664856 | .673454 | .683349 | .690022 | .703604 | .708826 | .719865 | |
| 185 | .659572 | .671664 | .681534 | .690005 | .699744 | .706304 | .719641 | .724763 | .735579 | |
| 190 | .676509 | .688430 | .698149 | .706480 | .716048 | .722486 | .735559 | .740573 | .751151 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|---------|------------------------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 290 | 195 | .693412 | .705145 | .714697 | .722876 | .732259 | .738566 | .751355 | .756253 | .766576 |
| 200 | 710279 | .721806 | .731176 | .739191 | .748373 | .754538 | .767023 | .771798 | .781849 | |
| 205 | .727109 | .738410 | .747584 | .755420 | .764386 | .770400 | .782558 | .787202 | .796964 | |
| 210 | .743901 | .754957 | .763917 | .771560 | .780294 | .786144 | .797954 | .802458 | .811912 | |
| 215 | .760653 | .771441 | .780170 | .787606 | .796090 | .801766 | .813202 | .817557 | .826685 | |
| 220 | .777360 | .787859 | .796339 | .803552 | .811768 | .817256 | .828295 | .832491 | .841272 | |
| 225 | .794022 | .804207 | .812418 | .819390 | .827318 | .832606 | .843221 | .847247 | .855660 | |
| 230 | .810633 | .820479 | .828399 | .835113 | .842732 | .847805 | .857966 | .861813 | .869833 | |
| 235 | .827190 | .836668 | .844275 | .850709 | .857997 | .862840 | .872516 | .876170 | .883773 | |
| 240 | .843687 | .852766 | .860033 | .866166 | .873097 | .877693 | .886849 | .890298 | .897456 | |
| 245 | .860117 | .868761 | .875661 | .881469 | .888015 | .892344 | .900942 | .904171 | .910853 | |
| 250 | .876470 | .884641 | .891141 | .896596 | .902725 | .906766 | .914764 | .917755 | .923927 | |
| 255 | .892736 | .900388 | .906450 | .911520 | .917195 | .920925 | .928271 | .931007 | .936629 | |
| 260 | .908897 | .915977 | .921558 | .926205 | .931383 | .934771 | .941409 | .943868 | .948894 | |
| 265 | .924931 | .931372 | .936419 | .940597 | .945226 | .948238 | .954097 | .956252 | .960629 | |
| 270 | .940804 | .946523 | .950966 | .954619 | .958632 | .961225 | .966218 | .968036 | .971696 | |
| 275 | .956457 | .961341 | .965091 | .968139 | .971450 | .973565 | .977577 | .979017 | .981874 | |
| 280 | .971782 | .975664 | .978585 | .980915 | .983397 | .984950 | .987823 | .988826 | .990768 | |
| 285 | .986513 | .989096 | .990952 | .992370 | .993809 | .994668 | .996157 | .996641 | .997520 | |
| 290 | .999231 | .999637 | .999823 | .999913 | .999965 | .999983 | .999997 | .999998 | 1.000000 | |
| 300 | 150 | .522599 | .535255 | .545682 | .554701 | .565154 | .572247 | .586799 | .592436 | .604431 |
| 155 | .539210 | .551826 | .562209 | .571183 | .581573 | .588619 | .603059 | .608647 | .620529 | |
| 160 | .555794 | .568356 | .578684 | .587602 | .597919 | .604909 | .619221 | .624754 | .636510 | |
| 165 | .572351 | .584845 | .595106 | .603959 | .614191 | .621117 | .635285 | .640757 | .652373 | |
| 170 | .588881 | .601293 | .611475 | .620252 | .630387 | .637242 | .651250 | .656655 | .668119 | |
| 175 | .605384 | .617699 | .627791 | .636481 | .646508 | .653284 | .667115 | .672447 | .683745 | |
| 180 | .621858 | .634062 | .644051 | .652646 | .662552 | .669241 | .682879 | .688131 | .699250 | |
| 185 | .638304 | .650381 | .660256 | .668744 | .678518 | .685111 | .698540 | .703706 | .714632 | |
| 190 | .654720 | .666656 | .676404 | .684775 | .694404 | .700893 | .714095 | .719168 | .729887 | |
| 195 | .671107 | .682886 | .692494 | .700736 | .710207 | .716584 | .729542 | .734515 | .745013 | |
| 200 | .687462 | .699069 | .708524 | .716626 | .725926 | .732182 | .744876 | .749743 | .760005 | |
| 205 | .703786 | .715203 | .724491 | .732442 | .741557 | .747682 | .760096 | .764849 | .774860 | |
| 210 | .720076 | .731286 | .740394 | .748180 | .757097 | .763082 | .775195 | .779826 | .789571 | |
| 215 | .736332 | .747317 | .756229 | .763838 | .772541 | .778376 | .790168 | .794671 | .804132 | |
| 220 | .752551 | .763292 | .771992 | .779412 | .787886 | .793560 | .805010 | .809375 | .818535 | |
| 225 | .768731 | .779208 | .787681 | .794896 | .803124 | .808627 | .819712 | .823931 | .832772 | |
| 230 | .784871 | .795061 | .803289 | .810284 | .818250 | .823570 | .834265 | .838329 | .846832 | |
| 235 | .800966 | .810848 | .818812 | .825571 | .833255 | .838379 | .848660 | .852559 | .860703 | |
| 240 | .817013 | .826562 | .834241 | .840747 | .848130 | .853044 | .862883 | .866607 | .874369 | |
| 245 | .833009 | .842197 | .849570 | .855804 | .862863 | .867552 | .876919 | .880455 | .887812 | |
| 250 | .848947 | .857745 | .864786 | .870727 | .877438 | .881887 | .890749 | .894085 | .901010 | |
| 255 | .864820 | .873195 | .879878 | .885502 | .891839 | .896028 | .904348 | .907471 | .913934 | |
| 260 | .880621 | .888535 | .894828 | .900109 | .906040 | .909951 | .917687 | .920581 | .926549 | |
| 265 | .896338 | .903747 | .909615 | .914521 | .920012 | .923620 | .930725 | .933371 | .938807 | |
| 270 | .911954 | .918807 | .924207 | .928704 | .933713 | .936990 | .943408 | .945786 | .950645 | |
| 275 | .927448 | .933681 | .938563 | .942605 | .947082 | .949995 | .955660 | .957743 | .961973 | |
| 280 | .942787 | .948320 | .952618 | .956150 | .960031 | .962537 | .967364 | .969122 | .972659 | |
| 285 | .957914 | .962639 | .966264 | .969212 | .972413 | .974457 | .978336 | .979727 | .982489 | |
| 290 | .972725 | .976480 | .979303 | .981557 | .983955 | .985457 | .988233 | .989203 | .991079 | |
| 295 | .986964 | .989461 | .991255 | .992626 | .994017 | .994847 | .996285 | .996754 | .997604 | |
| 300 | .999256 | .999649 | .999829 | .999916 | .999966 | .999983 | .999997 | .999998 | 1.000000 | |
| 310 | 155 | .522259 | .534711 | .544969 | .553845 | .564131 | .571112 | .585437 | .590986 | .602799 |
| 160 | .538336 | .550750 | .560968 | .569801 | .580029 | .586966 | .601185 | .606689 | .618395 | |
| 165 | .554388 | .566753 | .576919 | .585699 | .595859 | .602744 | .616844 | .622296 | .633884 | |
| 170 | .570416 | .582717 | .592821 | .601540 | .611621 | .618446 | .632412 | .637807 | .649265 | |
| 175 | .586418 | .598643 | .608674 | .617323 | .627313 | .634073 | .647889 | .653222 | .664537 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 310 | 180 | .602395 | .614530 | .624478 | .633047 | .642936 | .649622 | .663274 | .668539 | .679699 | |
| | 185 | .618347 | .630378 | .640231 | .648711 | .658489 | .665093 | .678566 | .683756 | .694750 | |
| | 190 | .634272 | .646187 | .655933 | .664315 | .673969 | .680485 | .693763 | .698873 | .709687 | |
| | 195 | .650170 | .661954 | .671584 | .679856 | .689376 | .695796 | .708863 | .713887 | .724509 | |
| | 200 | .666041 | .677680 | .687181 | .695334 | .704708 | .711023 | .723864 | .728795 | .739212 | |
| | 205 | .681883 | .693363 | .702722 | .710746 | .719962 | .726165 | .738763 | .743595 | .753793 | |
| | 210 | .697697 | .709002 | .718208 | .726092 | .735137 | .741219 | .753556 | .758283 | .768248 | |
| | 215 | .713480 | .724595 | .733634 | .741367 | .750229 | .756181 | .768240 | .772855 | .782573 | |
| | 220 | .729232 | .740140 | .748999 | .756569 | .765234 | .771048 | .782811 | .787306 | .796762 | |
| | 225 | .744951 | .755635 | .764300 | .771695 | .780149 | .785816 | .797262 | .801631 | .810809 | |
| | 230 | .760635 | .771077 | .779533 | .786740 | .794969 | .800478 | .811588 | .815822 | .824706 | |
| | 235 | .776282 | .786463 | .794694 | .801700 | .809688 | .815028 | .825781 | .829873 | .838444 | |
| | 240 | .791490 | .801790 | .809780 | .816570 | .824300 | .829461 | .839833 | .843773 | .852015 | |
| | 245 | .807456 | .817053 | .824783 | .831343 | .838797 | .843766 | .853734 | .857513 | .865404 | |
| | 250 | .822977 | .832247 | .839698 | .846010 | .853169 | .857934 | .867470 | .871078 | .878598 | |
| | 255 | .838448 | .847364 | .854516 | .860562 | .867406 | .871951 | .881028 | .884454 | .891579 | |
| | 260 | .853864 | .862399 | .869227 | .874986 | .881492 | .885803 | .894388 | .897620 | .904325 | |
| | 265 | .869218 | .877340 | .883818 | .889269 | .895410 | .899469 | .907527 | .910552 | .916809 | |
| | 270 | .884502 | .892174 | .898274 | .903391 | .909137 | .912925 | .920417 | .923218 | .928996 | |
| | 275 | .899705 | .906886 | .912572 | .917325 | .922644 | .926137 | .933017 | .935579 | .940840 | |
| | 280 | .914813 | .921452 | .926684 | .931039 | .935889 | .939062 | .945276 | .947577 | .952280 | |
| | 285 | .929802 | .935840 | .940568 | .944482 | .948816 | .951636 | .957119 | .959135 | .963229 | |
| | 290 | .944642 | .950000 | .954161 | .957581 | .961338 | .963764 | .968435 | .970136 | .973559 | |
| | 295 | .959277 | .963852 | .967362 | .970215 | .973313 | .975291 | .979045 | .980391 | .983063 | |
| | 300 | .973608 | .977242 | .979975 | .982156 | .984477 | .985930 | .988617 | .989555 | .991371 | |
| | 305 | .987385 | .989802 | .991538 | .992865 | .994211 | .995014 | .996406 | .996860 | .997682 | |
| | 310 | .999280 | .999660 | .999835 | .999918 | .999968 | .999984 | .999997 | .999998 | 1.000000 | |
| 320 | 160 | .521934 | .534191 | .544290 | .553028 | .563156 | .570030 | .584138 | .588604 | .601240 | |
| | 165 | .537511 | .549732 | .559793 | .568491 | .578564 | .585397 | .599406 | .604829 | .616366 | |
| | 170 | .553064 | .565239 | .575252 | .583901 | .593910 | .600694 | .614591 | .619966 | .631392 | |
| | 175 | .568595 | .580711 | .590665 | .599257 | .609192 | .615921 | .629692 | .635014 | .646319 | |
| | 180 | .584102 | .596147 | .606034 | .614560 | .624411 | .631078 | .644710 | .649973 | .661144 | |
| | 185 | .599586 | .611548 | .621357 | .629809 | .639566 | .646164 | .659642 | .664842 | .675869 | |
| | 190 | .615046 | .626913 | .636633 | .645002 | .654655 | .661178 | .674489 | .679619 | .690491 | |
| | 195 | .630483 | .642241 | .651863 | .660140 | .669679 | .676119 | .689248 | .694304 | .705008 | |
| | 200 | .645894 | .657531 | .667044 | .675221 | .684634 | .690985 | .703919 | .708894 | .719418 | |
| | 205 | .661280 | .672783 | .682177 | .690243 | .699521 | .705775 | .718498 | .723387 | .733720 | |
| | 210 | .676641 | .687996 | .697259 | .705205 | .714337 | .720486 | .732983 | .737781 | .747910 | |
| | 215 | .691975 | .703169 | .712290 | .720106 | .729080 | .735117 | .747372 | .752072 | .761385 | |
| | 220 | .707281 | .718300 | .727266 | .734943 | .743747 | .749664 | .761662 | .766257 | .775941 | |
| | 225 | .722559 | .733387 | .742187 | .749714 | .758335 | .764125 | .775848 | .780333 | .789773 | |
| | 230 | .737807 | .748428 | .757050 | .764415 | .772842 | .778495 | .789926 | .794293 | .803476 | |
| | 235 | .753023 | .763422 | .771852 | .779044 | .787263 | .792770 | .803890 | .808133 | .817044 | |
| | 240 | .768207 | .778366 | .786589 | .793596 | .801593 | .806945 | .817736 | .821847 | .830469 | |
| | 245 | .783355 | .793257 | .801259 | .808067 | .815828 | .821014 | .831455 | .835426 | .843744 | |
| | 250 | .798466 | .808091 | .815855 | .822452 | .829960 | .834970 | .845039 | .848862 | .856857 | |
| | 255 | .813537 | .822863 | .830373 | .836744 | .843982 | .848805 | .858478 | .862144 | .869798 | |
| | 260 | .828564 | .837570 | .844806 | .850935 | .857884 | .862508 | .871760 | .875260 | .882552 | |
| | 265 | .843544 | .852204 | .859147 | .865015 | .871657 | .876067 | .884871 | .888193 | .895101 | |
| | 270 | .858470 | .866758 | .873358 | .878974 | .885285 | .889467 | .897792 | .900926 | .907426 | |
| | 275 | .873338 | .881222 | .887508 | .892796 | .898752 | .902689 | .910502 | .913433 | .919498 | |
| | 280 | .888139 | .895584 | .901501 | .906464 | .912036 | .915708 | .922971 | .925686 | .931285 | |
| | 285 | .902861 | .909827 | .915342 | .919951 | .925107 | .928494 | .935162 | .937644 | .942742 | |
| | 290 | .917491 | .923931 | .929004 | .933226 | .937927 | .941003 | .947024 | .949253 | .953809 | |
| | 295 | .932008 | .937862 | .942446 | .946240 | .950440 | .953173 | .958485 | .960439 | .964404 | |
| | 300 | .946380 | .951574 | .955608 | .958921 | .962562 | .964913 | .969438 | .971086 | .974401 | |
| | 305 | .960555 | .964988 | .968390 | .971154 | .974156 | .976073 | .979709 | .981013 | .983601 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 320 | 310 | .974435 | .977957 | .980605 | .982718 | .984966 | .986374 | .988976 | .989885 | .991643 |
| | 315 | .987780 | .990122 | .991804 | .993089 | .994393 | .995171 | .996519 | .996958 | .997754 |
| | 320 | .999303 | .999671 | .999840 | .999921 | .999969 | .999984 | .999997 | .999998 | 1.000000 |
| 330 | 165 | .521623 | .533694 | .543641 | .552247 | .562224 | .568996 | .582896 | .588283 | .599751 |
| | 170 | .536729 | .548768 | .558678 | .567247 | .577172 | .583905 | .597712 | .603059 | .614434 |
| | 175 | .551814 | .563808 | .573674 | .582197 | .592062 | .598749 | .612451 | .617753 | .629024 |
| | 180 | .566878 | .578817 | .588628 | .597098 | .606894 | .613529 | .627114 | .632365 | .643522 |
| | 185 | .581920 | .593793 | .603541 | .611949 | .621666 | .628244 | .641698 | .646894 | .657926 |
| | 190 | .596940 | .608736 | .618411 | .626750 | .636380 | .642893 | .656203 | .661340 | .672237 |
| | 195 | .611939 | .623645 | .633239 | .641500 | .651033 | .657476 | .670630 | .675702 | .686453 |
| | 200 | .626915 | .638521 | .648023 | .656199 | .665625 | .671991 | .684975 | .689977 | .700572 |
| | 205 | .641869 | .653362 | .662763 | .670845 | .680154 | .686437 | .699239 | .704166 | .714593 |
| | 210 | .656799 | .668168 | .677457 | .685437 | .694620 | .700813 | .713418 | .718265 | .728514 |
| 215 | 215 | .671706 | .682938 | .692106 | .699974 | .709021 | .715116 | .727511 | .732273 | .742332 |
| | 220 | .686588 | .697671 | .706707 | .714455 | .723355 | .729346 | .741516 | .746186 | .756044 |
| | 225 | .701445 | .712365 | .721259 | .728877 | .737620 | .743500 | .755430 | .760003 | .769647 |
| | 230 | .716276 | .727020 | .735760 | .743239 | .751813 | .757574 | .769249 | .773720 | .783137 |
| | 235 | .731079 | .741633 | .750207 | .757537 | .765931 | .771565 | .782970 | .787331 | .796509 |
| | 240 | .745854 | .756203 | .764600 | .771770 | .779971 | .785471 | .796588 | .800834 | .809759 |
| | 245 | .760600 | .770728 | .778934 | .785934 | .793930 | .799286 | .810998 | .814222 | .822880 |
| | 250 | .775314 | .785205 | .793208 | .800024 | .807802 | .813006 | .823494 | .827489 | .835864 |
| | 255 | .789994 | .799631 | .807415 | .814038 | .821583 | .826624 | .836769 | .840627 | .848705 |
| | 260 | .804639 | .814002 | .821554 | .827968 | .835265 | .840135 | .849916 | .853629 | .861392 |
| 265 | 265 | .819245 | .828315 | .835617 | .841809 | .848843 | .853529 | .862923 | .866483 | .873913 |
| | 270 | .833809 | .842565 | .849599 | .855554 | .862306 | .866796 | .875780 | .879178 | .886256 |
| | 275 | .848328 | .856745 | .863492 | .869193 | .875644 | .879926 | .888473 | .891698 | .898402 |
| | 280 | .862796 | .870848 | .877287 | .882715 | .888843 | .892903 | .900984 | .904025 | .910331 |
| | 285 | .877207 | .884865 | .890971 | .896106 | .901888 | .905709 | .913291 | .916135 | .922018 |
| | 290 | .891553 | .898784 | .904529 | .909347 | .914755 | .918320 | .925366 | .928000 | .933431 |
| | 295 | .905825 | .912588 | .917942 | .922415 | .927419 | .930705 | .937174 | .939581 | .944525 |
| | 300 | .920007 | .926258 | .931181 | .935278 | .939840 | .942823 | .948664 | .950826 | .955244 |
| | 305 | .934079 | .939761 | .944209 | .947889 | .951965 | .954615 | .959767 | .961661 | .965507 |
| | 310 | .948012 | .953052 | .956965 | .960180 | .963711 | .965991 | .970380 | .971977 | .975191 |
| 315 | 315 | .961755 | .966056 | .969355 | .972036 | .974948 | .976806 | .980332 | .981596 | .984105 |
| | 320 | .975212 | .978628 | .981196 | .983245 | .985426 | .986791 | .989314 | .990195 | .991899 |
| | 325 | .988151 | .990422 | .992053 | .993299 | .994563 | .995318 | .996625 | .997051 | .997823 |
| | 330 | .999324 | .999681 | .999845 | .999923 | .999970 | .999985 | .999997 | .999998 | 1.000000 |
| | 340 | | | | | | | | | |
| 340 | 170 | .521326 | .533219 | .543020 | .551500 | .561332 | .568006 | .581708 | .587018 | .598327 |
| | 175 | .535989 | .547851 | .557618 | .566063 | .575847 | .582484 | .596098 | .601371 | .612591 |
| | 180 | .550633 | .562454 | .572178 | .580580 | .590308 | .596902 | .610417 | .615647 | .626769 |
| | 185 | .565256 | .577026 | .586700 | .595052 | .604714 | .611260 | .624665 | .629848 | .640862 |
| | 190 | .579860 | .591568 | .601182 | .609477 | .619066 | .625557 | .638840 | .643971 | .654869 |
| 195 | 195 | .594444 | .606079 | .615626 | .623856 | .633362 | .639794 | .652942 | .658017 | .668788 |
| | 200 | .609007 | .620560 | .630030 | .638188 | .647603 | .653969 | .666970 | .671985 | .682619 |
| | 205 | .623550 | .635009 | .644394 | .652472 | .661787 | .668081 | .680924 | .685874 | .696361 |
| | 210 | .638072 | .649426 | .658717 | .666707 | .675914 | .682130 | .694802 | .699681 | .710012 |
| | 215 | .652572 | .663811 | .672998 | .680893 | .689982 | .696114 | .708602 | .713407 | .723570 |
| 220 | 220 | .667051 | .678163 | .687236 | .695028 | .703990 | .710031 | .722323 | .727048 | .737034 |
| | 225 | .681507 | .692480 | .701431 | .709110 | .717936 | .723880 | .735963 | .740602 | .750400 |
| | 230 | .695940 | .706762 | .715581 | .723139 | .731819 | .737659 | .749518 | .754067 | .763666 |
| | 235 | .710349 | .721008 | .729684 | .737113 | .745636 | .751366 | .762987 | .767441 | .776828 |
| | 240 | .724733 | .735216 | .743738 | .751029 | .759384 | .764997 | .776366 | .780718 | .789883 |
| 245 | 245 | .739091 | .749384 | .757743 | .764885 | .773062 | .778549 | .789652 | .793896 | .802825 |
| | 250 | .753422 | .763511 | .771694 | .778679 | .786666 | .792020 | .802839 | .806970 | .815651 |
| | 255 | .767725 | .777595 | .785590 | .792406 | .800191 | .805404 | .815923 | .819934 | .828354 |
| | 260 | .781997 | .791634 | .799427 | .806063 | .813633 | .818697 | .828899 | .832783 | .840926 |
| | 265 | .796238 | .805623 | .813202 | .819647 | .826988 | .831893 | .841758 | .845509 | .853361 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 340 | 270 | .810444 | .819561 | .826910 | .833151 | .840250 | .844985 | .854494 | .858104 | .865648 |
| | 275 | .824613 | .833442 | .840546 | .846570 | .853410 | .857966 | .867098 | .870557 | .877776 |
| | 280 | .838743 | .847262 | .854104 | .859896 | .865460 | .870825 | .879556 | .882857 | .889732 |
| | 285 | .852828 | .861016 | .867577 | .873120 | .879390 | .883552 | .891856 | .894989 | .901500 |
| | 290 | .866864 | .874695 | .880955 | .886231 | .892187 | .896132 | .903982 | .906935 | .913060 |
| | 295 | .880846 | .888292 | .894226 | .899217 | .904834 | .908546 | .915911 | .918673 | .924386 |
| | 300 | .894765 | .901794 | .907377 | .912058 | .917312 | .920774 | .927617 | .930174 | .935447 |
| | 305 | .908612 | .915185 | .920387 | .924732 | .929592 | .932783 | .939064 | .941402 | .946201 |
| | 310 | .922373 | .928446 | .933229 | .937208 | .941638 | .944535 | .950205 | .952304 | .956593 |
| | 315 | .936028 | .941547 | .945867 | .949441 | .953398 | .955971 | .960972 | .962811 | .966543 |
| 350 | 320 | .949548 | .954443 | .958243 | .961364 | .964792 | .967005 | .971265 | .972815 | .975934 |
| | 325 | .962884 | .967060 | .970263 | .972866 | .975692 | .977496 | .980918 | .982145 | .984580 |
| | 330 | .975943 | .979259 | .981752 | .983741 | .985858 | .987182 | .989631 | .990486 | .992140 |
| | 335 | .988500 | .990704 | .992287 | .993497 | .994724 | .995456 | .996725 | .997138 | .997887 |
| | 340 | .999344 | .999690 | .999849 | .999926 | .999970 | .999985 | .999997 | .999999 | 1.000000 |
| | 175 | .521040 | .532763 | .542424 | .550785 | .560478 | .567059 | .580570 | .585807 | .596961 |
| | 180 | .535286 | .546980 | .556609 | .564936 | .574584 | .581130 | .594558 | .599760 | .610830 |
| | 185 | .549513 | .561168 | .570758 | .579044 | .588639 | .595145 | .608480 | .613642 | .624620 |
| | 190 | .563722 | .575329 | .584871 | .593110 | .602644 | .609104 | .622335 | .627453 | .638330 |
| | 195 | .577912 | .589461 | .598948 | .607134 | .616598 | .623007 | .636123 | .641192 | .651195 |
| 200 | 200 | .592094 | .603566 | .612988 | .621113 | .630501 | .636853 | .649843 | .654860 | .665508 |
| | 205 | .606237 | .617641 | .626992 | .635049 | .644352 | .650642 | .663495 | .668455 | .678974 |
| | 210 | .620371 | .631687 | .640958 | .648941 | .658150 | .664374 | .677078 | .681976 | .692358 |
| | 215 | .634485 | .645704 | .654887 | .662788 | .671895 | .678046 | .690590 | .695422 | .705657 |
| | 220 | .648579 | .659691 | .668777 | .676589 | .685586 | .691658 | .704030 | .708792 | .718871 |
| | 225 | .662653 | .673646 | .682628 | .690342 | .699221 | .705208 | .717397 | .722084 | .731996 |
| | 230 | .676707 | .687571 | .696438 | .704048 | .712799 | .718696 | .730689 | .735296 | .745032 |
| | 235 | .690739 | .701463 | .710206 | .717704 | .726319 | .732119 | .743903 | .748426 | .757976 |
| | 240 | .704749 | .715321 | .723932 | .731310 | .739778 | .745475 | .757038 | .761471 | .770824 |
| | 245 | .718736 | .729145 | .737613 | .744862 | .753175 | .758762 | .770090 | .774429 | .783573 |
| 250 | 250 | .732700 | .742932 | .751248 | .758360 | .766507 | .771977 | .783056 | .787295 | .796220 |
| | 255 | .746639 | .756681 | .764835 | .771800 | .779770 | .785118 | .795933 | .800066 | .808760 |
| | 260 | .760552 | .770393 | .778372 | .785180 | .792963 | .798179 | .808716 | .812738 | .821188 |
| | 265 | .774438 | .784063 | .791855 | .798498 | .806082 | .811159 | .821401 | .825305 | .833498 |
| | 270 | .788295 | .797688 | .805283 | .811748 | .819121 | .824051 | .833981 | .837762 | .845684 |
| | 275 | .802121 | .811267 | .818650 | .824927 | .832076 | .836850 | .846451 | .850100 | .857738 |
| | 280 | .815914 | .824796 | .831954 | .839030 | .844940 | .849549 | .858802 | .862313 | .869650 |
| | 285 | .829672 | .838271 | .845188 | .851051 | .857708 | .862141 | .871025 | .874389 | .881409 |
| | 290 | .843391 | .851687 | .858347 | .863983 | .870371 | .874617 | .883109 | .886318 | .893003 |
| | 295 | .857068 | .865039 | .871424 | .876817 | .882917 | .886965 | .895040 | .898086 | .904415 |
| 300 | 300 | .870698 | .878320 | .884410 | .889543 | .895335 | .899171 | .906803 | .909674 | .915627 |
| | 305 | .884276 | .891520 | .897293 | .902147 | .907609 | .911218 | .918377 | .921062 | .926613 |
| | 310 | .897793 | .904629 | .910059 | .914611 | .919719 | .923085 | .929736 | .932221 | .937344 |
| | 315 | .911240 | .917632 | .922690 | .926915 | .931639 | .934741 | .940844 | .943115 | .947778 |
| | 320 | .924604 | .930509 | .935159 | .939026 | .943332 | .946147 | .951657 | .953696 | .95786? |
| | 325 | .937865 | .943230 | .947429 | .950903 | .954748 | .957248 | .962108 | .963893 | .967518 |
| | 330 | .950996 | .955753 | .959446 | .962479 | .965810 | .967960 | .972098 | .973604 | .976634 |
| | 335 | .963948 | .968006 | .971119 | .973648 | .976393 | .978146 | .981470 | .982662 | .985027 |
| | 340 | .976632 | .979854 | .982277 | .984209 | .986265 | .987552 | .989930 | .990761 | .992367 |
| | 345 | .988829 | .990971 | .992509 | .993684 | .994876 | .995587 | .996819 | .997221 | .997948 |
| 350 | 350 | .999363 | .999699 | .999853 | .999928 | .999971 | .999986 | .999997 | .999999 | 1.000000 |
| | 180 | .520767 | .532326 | .541854 | .550099 | .559659 | .566150 | .579479 | .584646 | .595652 |
| | 185 | .534618 | .546150 | .555647 | .563860 | .573378 | .579836 | .593087 | .598220 | .609147 |
| | 190 | .548451 | .559948 | .569407 | .577583 | .587050 | .593470 | .606633 | .611728 | .622568 |
| | 195 | .562268 | .573719 | .583134 | .591265 | .600675 | .607052 | .620116 | .625170 | .635915 |
| | 200 | .576068 | .587464 | .596827 | .604908 | .614252 | .620582 | .633538 | .638546 | .649187 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|----------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 360 | 205 | .589950 | .601183 | .610486 | .618510 | .627782 | .634058 | .646896 | .651855 | .662383 |
| | 210 | .603615 | .614875 | .624111 | .632072 | .641264 | .647482 | .660191 | .665096 | .675504 |
| | 215 | .617362 | .628540 | .637702 | .645592 | .654697 | .660852 | .673421 | .678268 | .688547 |
| | 220 | .631090 | .642178 | .651257 | .659070 | .668080 | .674167 | .686585 | .691371 | .701512 |
| | 225 | .644801 | .655788 | .664776 | .672506 | .681413 | .687426 | .699683 | .704403 | .714397 |
| | 230 | .658492 | .669369 | .678259 | .685899 | .694694 | .700628 | .712713 | .717363 | .727200 |
| | 235 | .672165 | .682921 | .691704 | .699246 | .707923 | .713771 | .725673 | .730249 | .739921 |
| | 240 | .685818 | .696443 | .705111 | .712549 | .721097 | .726856 | .738562 | .743058 | .752555 |
| | 245 | .699450 | .709934 | .718479 | .725804 | .734216 | .739878 | .751378 | .755790 | .765102 |
| | 250 | .713062 | .723393 | .731805 | .739010 | .747277 | .752837 | .764117 | .768441 | .777559 |
| | 255 | .726651 | .736820 | .745090 | .752166 | .760279 | .765730 | .776777 | .781008 | .789920 |
| | 260 | .740218 | .750211 | .758330 | .765270 | .773218 | .778554 | .789356 | .793488 | .802185 |
| | 265 | .753762 | .763567 | .771524 | .778319 | .786093 | .791306 | .801849 | .805877 | .814346 |
| | 270 | .767281 | .776886 | .784670 | .791310 | .798899 | .803984 | .814252 | .818171 | .826401 |
| | 275 | .780773 | .790164 | .797765 | .804241 | .811634 | .816582 | .826561 | .830364 | .838343 |
| | 280 | .794238 | .803400 | .810806 | .817108 | .824293 | .829097 | .838770 | .842452 | .850165 |
| | 285 | .807674 | .816592 | .823789 | .829907 | .836872 | .841522 | .850873 | .854426 | .861186 |
| | 290 | .821077 | .829736 | .836711 | .842632 | .849363 | .853852 | .862861 | .866279 | .873420 |
| | 295 | .834447 | .842827 | .849567 | .855279 | .861762 | .866078 | .874726 | .878001 | .884832 |
| | 300 | .847780 | .855862 | .862350 | .867839 | .874058 | .878192 | .886457 | .889581 | .896085 |
| | 305 | .861071 | .868836 | .875054 | .880305 | .886243 | .890183 | .898042 | .901005 | .907162 |
| | 310 | .874318 | .881740 | .887670 | .892667 | .898305 | .902038 | .909464 | .912257 | .918047 |
| | 315 | .887513 | .894567 | .900187 | .904911 | .910227 | .913739 | .920703 | .923314 | .928713 |
| | 320 | .900651 | .907306 | .912591 | .917020 | .921991 | .925264 | .931734 | .934151 | .939133 |
| | 325 | .913720 | .919947 | .924863 | .928974 | .933570 | .936587 | .942523 | .944732 | .949266 |
| | 330 | .926709 | .932456 | .936980 | .940742 | .944930 | .947668 | .953026 | .955009 | .959059 |
| | 335 | .939600 | .944819 | .948904 | .952782 | .956022 | .958453 | .963178 | .964915 | .968439 |
| | 340 | .952363 | .956991 | .960582 | .963532 | .966771 | .968862 | .972885 | .974349 | .977294 |
| | 345 | .964953 | .968900 | .971927 | .974386 | .977056 | .978759 | .981991 | .983150 | .985448 |
| | 350 | .977283 | .980416 | .982772 | .984650 | .986649 | .987900 | .990213 | .991020 | .992582 |
| | 355 | .989140 | .991222 | .992717 | .9931860 | .995019 | .995710 | .996908 | .997298 | .998005 |
| | 360 | .999380 | .999707 | .999858 | .999930 | .999972 | .999986 | .999997 | .999999 | 1.000000 |
| 370 | 185 | .520503 | .531907 | .541305 | .549440 | .558872 | .565277 | .578430 | .583530 | .594394 |
| | 190 | .533981 | .545358 | .554729 | .562833 | .572225 | .578599 | .591678 | .596746 | .607535 |
| | 195 | .547443 | .558786 | .568121 | .576190 | .585534 | .591872 | .604868 | .609900 | .620607 |
| | 200 | .560889 | .572189 | .581482 | .589509 | .598799 | .605097 | .618000 | .622993 | .633609 |
| | 205 | .574318 | .585568 | .594812 | .602791 | .612020 | .618272 | .631074 | .636023 | .646542 |
| | 210 | .587732 | .598922 | .608110 | .616036 | .625197 | .631399 | .644088 | .648991 | .659404 |
| | 215 | .601129 | .612251 | .621376 | .629242 | .638328 | .644476 | .657044 | .661896 | .672195 |
| | 220 | .614509 | .625555 | .634610 | .642410 | .651414 | .657502 | .669939 | .674737 | .684914 |
| | 225 | .627873 | .638833 | .647811 | .655539 | .664454 | .670477 | .682773 | .687513 | .697560 |
| | 230 | .641220 | .652086 | .660978 | .668629 | .677446 | .683401 | .695545 | .700223 | .710132 |
| | 235 | .654549 | .665312 | .674112 | .681678 | .690391 | .696271 | .708254 | .712866 | .722628 |
| | 240 | .667861 | .678511 | .687211 | .694685 | .703287 | .709088 | .720898 | .725440 | .735047 |
| | 245 | .681154 | .691682 | .700275 | .707651 | .716133 | .721849 | .733476 | .737944 | .747387 |
| | 250 | .694428 | .704824 | .713302 | .720573 | .728927 | .734553 | .745986 | .750376 | .759645 |
| | 255 | .707683 | .717937 | .726291 | .733450 | .741668 | .747198 | .758426 | .762733 | .771820 |
| | 260 | .720918 | .731020 | .739241 | .746280 | .754355 | .759783 | .770793 | .775012 | .783907 |
| | 265 | .734132 | .744071 | .752151 | .759063 | .766984 | .772305 | .783085 | .787212 | .795905 |
| | 270 | .747325 | .757089 | .765018 | .771795 | .779553 | .784761 | .795299 | .799329 | .807809 |
| | 275 | .760495 | .770073 | .777842 | .784475 | .792061 | .797148 | .807431 | .811358 | .819615 |
| | 280 | .773641 | .783020 | .790619 | .797099 | .804504 | .809463 | .819476 | .823296 | .831318 |
| | 285 | .786762 | .795930 | .803347 | .809666 | .816877 | .821702 | .831431 | .835138 | .842913 |
| | 290 | .799857 | .808799 | .816024 | .822171 | .829178 | .833861 | .843290 | .846877 | .854393 |
| | 295 | .812923 | .821625 | .828645 | .834611 | .841401 | .845934 | .855046 | .858508 | .865751 |
| | 300 | .825959 | .834404 | .841207 | .846979 | .853541 | .857915 | .866693 | .870022 | .876977 |
| | 305 | .838961 | .847134 | .853705 | .859272 | .865590 | .869796 | .878221 | .881410 | .888062 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 370 | 310 | .851928 | .859809 | .866133 | .871482 | .877542 | .881569 | .889619 | .892661 | .898994 |
| | 315 | .864856 | .872425 | .878485 | .883601 | .889386 | .893224 | .900877 | .903762 | .909756 |
| | 320 | .877740 | .884974 | .890751 | .895619 | .901110 | .904746 | .911976 | .914695 | .920331 |
| | 325 | .890575 | .897448 | .902922 | .907523 | .912700 | .916120 | .922900 | .925442 | .930696 |
| | 330 | .903353 | .909836 | .914984 | .919297 | .924137 | .927324 | .933621 | .935974 | .940822 |
| | 335 | .916066 | .922126 | .926918 | .930921 | .935395 | .938332 | .944109 | .946259 | .950671 |
| | 340 | .928701 | .934297 | .938701 | .942364 | .946441 | .949106 | .954320 | .956249 | .960190 |
| | 345 | .941240 | .946322 | .950298 | .953587 | .957226 | .959593 | .964190 | .965880 | .969309 |
| | 350 | .953656 | .958160 | .961656 | .964527 | .967679 | .969714 | .973628 | .975053 | .977918 |
| | 355 | .965903 | .969745 | .972691 | .975084 | .977682 | .979339 | .982483 | .983611 | .985647 |
| | 360 | .977898 | .980948 | .983240 | .985068 | .987012 | .988230 | .990479 | .991265 | .992784 |
| | 365 | .999434 | .991460 | .992915 | .994026 | .995154 | .995827 | .996992 | .997372 | .998060 |
| | 370 | .999397 | .999715 | .999861 | .999932 | .999973 | .999986 | .999997 | .999999 | 1.000000 |
| 380 | 190 | .520250 | .531503 | .540778 | .548806 | .558116 | .564439 | .577423 | .582458 | .593185 |
| | 195 | .533374 | .544603 | .553851 | .561851 | .571122 | .577415 | .590329 | .595334 | .605990 |
| | 200 | .546483 | .557679 | .566894 | .574860 | .584087 | .590346 | .603181 | .608152 | .618730 |
| | 205 | .559577 | .570733 | .579909 | .587835 | .597011 | .603231 | .615979 | .620913 | .631405 |
| | 210 | .572656 | .583765 | .592894 | .600775 | .609893 | .616071 | .628722 | .633615 | .644015 |
| | 215 | .585720 | .596773 | .605849 | .613680 | .622734 | .628864 | .641410 | .646259 | .656559 |
| | 220 | .598769 | .609757 | .618774 | .626550 | .635532 | .641611 | .654043 | .658844 | .669037 |
| | 225 | .611802 | .622719 | .631670 | .639383 | .648288 | .654312 | .666620 | .671370 | .681447 |
| | 230 | .624820 | .635656 | .644535 | .652180 | .661002 | .666964 | .679139 | .683834 | .693789 |
| | 235 | .637821 | .648569 | .657369 | .664941 | .673671 | .679568 | .691601 | .696238 | .706062 |
| | 240 | .650807 | .661458 | .670171 | .677663 | .686296 | .692123 | .704004 | .708578 | .718265 |
| | 245 | .663776 | .674321 | .682941 | .690347 | .698875 | .704628 | .716346 | .720855 | .730396 |
| | 250 | .676727 | .687159 | .695677 | .702992 | .711408 | .717081 | .728627 | .733067 | .742453 |
| | 255 | .689652 | .699970 | .708380 | .715597 | .723892 | .729481 | .740845 | .745211 | .754434 |
| | 260 | .702578 | .712754 | .721048 | .728160 | .736328 | .741827 | .752998 | .757286 | .766338 |
| | 265 | .715476 | .725510 | .733680 | .740680 | .748713 | .754117 | .765084 | .769290 | .778161 |
| | 270 | .728355 | .738236 | .746275 | .753155 | .761045 | .766348 | .777101 | .781220 | .789902 |
| | 275 | .741214 | .750933 | .758831 | .765585 | .773323 | .778520 | .789046 | .793074 | .801556 |
| | 280 | .754053 | .763597 | .771346 | .777966 | .785544 | .790628 | .800915 | .804848 | .813121 |
| | 285 | .766969 | .776229 | .783819 | .790297 | .797705 | .802671 | .812706 | .816538 | .824591 |
| | 290 | .779663 | .788826 | .796248 | .802576 | .809803 | .814644 | .824414 | .828140 | .835963 |
| | 295 | .792432 | .801387 | .808629 | .814798 | .821836 | .826544 | .836034 | .839650 | .847231 |
| | 300 | .805176 | .813908 | .820961 | .829691 | .833798 | .838367 | .847563 | .851061 | .858388 |
| | 305 | .817893 | .826388 | .833240 | .839061 | .845685 | .850107 | .858992 | .862367 | .869427 |
| | 310 | .830580 | .838823 | .845461 | .851093 | .857492 | .861758 | .870316 | .873561 | .880340 |
| | 315 | .843236 | .851211 | .857621 | .863051 | .869212 | .873313 | .881525 | .884634 | .891116 |
| | 320 | .855857 | .863545 | .869713 | .874930 | .880838 | .884764 | .892610 | .895574 | .901744 |
| | 325 | .868440 | .875822 | .881732 | .886720 | .892359 | .896100 | .903558 | .906369 | .912209 |
| | 330 | .880981 | .888035 | .893668 | .898413 | .903765 | .907308 | .914353 | .917002 | .922492 |
| | 335 | .893474 | .900175 | .905512 | .909996 | .915041 | .918373 | .924978 | .927454 | .932572 |
| | 340 | .905912 | .912232 | .917249 | .921453 | .926168 | .929273 | .935408 | .937699 | .942420 |
| | 345 | .918288 | .924193 | .928864 | .932763 | .937122 | .939983 | .945611 | .947704 | .952000 |
| | 350 | .930587 | .936040 | .940331 | .943899 | .947871 | .950466 | .955544 | .957423 | .961260 |
| | 355 | .942793 | .947745 | .951618 | .954822 | .958366 | .960671 | .965148 | .966793 | .970132 |
| | 360 | .954880 | .959268 | .962674 | .965469 | .968539 | .970520 | .974332 | .975719 | .978509 |
| | 365 | .966804 | .970545 | .973414 | .975745 | .978274 | .979889 | .982950 | .984047 | .986224 |
| | 370 | .978482 | .981451 | .983683 | .985463 | .987357 | .988542 | .990732 | .991497 | .992976 |
| | 375 | .989712 | .991685 | .993102 | .994184 | .995282 | .995937 | .997072 | .997441 | .998111 |
| | 380 | .999413 | .999723 | .999865 | .999933 | .999974 | .999987 | .999997 | .999999 | 1.000000 |
| 390 | 195 | .520006 | .531115 | .540271 | .548197 | .557389 | .563632 | .576454 | .581426 | .592021 |
| | 200 | .532794 | .543880 | .553011 | .560910 | .570065 | .576280 | .589036 | .593979 | .604507 |
| | 205 | .545569 | .556624 | .565723 | .573590 | .582703 | .588885 | .601567 | .606478 | .616932 |
| | 210 | .558329 | .569346 | .578408 | .586238 | .595303 | .601449 | .614047 | .618923 | .629296 |
| | 215 | .571076 | .582047 | .591066 | .598853 | .607863 | .613969 | .626476 | .631314 | .641599 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 390 | 220 | .583808 | .594727 | .603696 | .611435 | .620385 | .626446 | .638853 | .643649 | .653840 | |
| | 225 | .596526 | .607385 | .616297 | .623984 | .632867 | .638879 | .651178 | .655930 | .666019 | |
| | 230 | .609229 | .620020 | .628871 | .636500 | .645309 | .651269 | .663451 | .668154 | .678135 | |
| | 235 | .621918 | .632634 | .641416 | .648981 | .657712 | .663614 | .675671 | .680322 | .690187 | |
| | 240 | .634592 | .645225 | .653933 | .661428 | .670073 | .675914 | .687837 | .692433 | .702174 | |
| | 245 | .647250 | .657793 | .666419 | .673840 | .682393 | .688168 | .699947 | .704485 | .714096 | |
| | 250 | .659894 | .670337 | .678876 | .686216 | .694670 | .700375 | .712002 | .716477 | .725951 | |
| | 255 | .672521 | .682857 | .691301 | .698555 | .706904 | .712534 | .723999 | .728409 | .737737 | |
| | 260 | .685132 | .695352 | .703696 | .710857 | .719093 | .724644 | .735938 | .740278 | .749453 | |
| | 265 | .697727 | .707823 | .716058 | .723120 | .731237 | .736704 | .747816 | .752083 | .761097 | |
| | 270 | .710305 | .720268 | .728386 | .735344 | .743334 | .748711 | .759632 | .763822 | .772666 | |
| | 275 | .722865 | .732685 | .740680 | .747527 | .755382 | .760665 | .771384 | .775493 | .784159 | |
| | 280 | .735406 | .745075 | .752938 | .759667 | .767380 | .772563 | .783070 | .787093 | .795572 | |
| | 285 | .747928 | .757435 | .765159 | .771762 | .779325 | .784404 | .794686 | .798620 | .806902 | |
| | 290 | .760431 | .769766 | .777341 | .783812 | .791216 | .796183 | .806230 | .810070 | .818146 | |
| | 295 | .772913 | .782064 | .789483 | .795813 | .803050 | .807900 | .817699 | .821439 | .829300 | |
| | 300 | .785372 | .794329 | .801581 | .807763 | .814823 | .819550 | .829088 | .832725 | .840359 | |
| | 305 | .797809 | .806559 | .813635 | .819660 | .826532 | .831129 | .840393 | .843920 | .851317 | |
| | 310 | .810220 | .818751 | .825640 | .831499 | .838174 | .842634 | .851608 | .855022 | .862169 | |
| | 315 | .822606 | .830004 | .837594 | .843278 | .849744 | .854059 | .862729 | .866021 | .872907 | |
| | 320 | .834963 | .843013 | .849493 | .854990 | .861236 | .865398 | .873747 | .876913 | .883523 | |
| | 325 | .847289 | .855076 | .861333 | .866632 | .872644 | .876645 | .884655 | .887687 | .894008 | |
| | 330 | .859583 | .867087 | .873107 | .878197 | .883961 | .887791 | .895443 | .898333 | .904348 | |
| | 335 | .871839 | .879043 | .884810 | .889677 | .895177 | .898825 | .906097 | .908838 | .914531 | |
| | 340 | .884054 | .890937 | .896433 | .901061 | .906281 | .909736 | .916605 | .919187 | .924538 | |
| | 345 | .896223 | .902761 | .907966 | .912340 | .917259 | .920508 | .926947 | .929361 | .934349 | |
| | 350 | .908340 | .914504 | .919397 | .923496 | .928093 | .931120 | .937100 | .939333 | .943934 | |
| | 355 | .920394 | .926154 | .930708 | .934510 | .938759 | .941548 | .947033 | .949073 | .953259 | |
| | 360 | .932376 | .937693 | .941877 | .945355 | .949226 | .951756 | .956705 | .958535 | .962275 | |
| | 365 | .944267 | .949094 | .952870 | .955992 | .959447 | .961693 | .966056 | .967659 | .970912 | |
| | 370 | .956041 | .960319 | .963638 | .966363 | .969355 | .971285 | .974999 | .976351 | .979069 | |
| | 375 | .967657 | .971304 | .974100 | .976371 | .978836 | .980409 | .983392 | .984461 | .986582 | |
| | 380 | .979035 | .981929 | .984103 | .985838 | .987683 | .988838 | .990972 | .991717 | .993158 | |
| | 385 | .980976 | .991899 | .993279 | .994334 | .995403 | .996042 | .997147 | .997507 | .998160 | |
| | 390 | .999428 | .999730 | .999868 | .999935 | .999974 | .999987 | .999997 | .999999 | 1.000000 | |
| 400 | 200 | .519771 | .530740 | .539783 | .547610 | .556689 | .562854 | .575520 | .580432 | .590900 | |
| | 205 | .532240 | .543188 | .552206 | .560008 | .569052 | .575191 | .587793 | .592678 | .603082 | |
| | 210 | .544697 | .555615 | .564604 | .572375 | .581379 | .587487 | .600019 | .604873 | .615207 | |
| | 215 | .557140 | .568023 | .576976 | .584712 | .593669 | .599744 | .612197 | .617018 | .627275 | |
| | 220 | .569570 | .580410 | .589322 | .597018 | .605924 | .611960 | .624326 | .629111 | .639285 | |
| | 225 | .591987 | .592777 | .601642 | .609293 | .618142 | .624136 | .636408 | .641153 | .651237 | |
| | 230 | .594390 | .605124 | .613936 | .621537 | .630323 | .636271 | .648441 | .653143 | .663131 | |
| | 235 | .606780 | .617450 | .626204 | .633750 | .642466 | .648364 | .660424 | .665081 | .674966 | |
| | 240 | .619156 | .629755 | .638444 | .645931 | .654572 | .660417 | .672358 | .676965 | .686741 | |
| | 245 | .631518 | .642039 | .650658 | .658079 | .666640 | .672426 | .684241 | .688796 | .698456 | |
| | 250 | .643866 | .654302 | .662844 | .670195 | .678669 | .684393 | .696072 | .700573 | .710109 | |
| | 255 | .656200 | .666543 | .675002 | .682277 | .690658 | .696316 | .707851 | .712293 | .721700 | |
| | 260 | .668519 | .678761 | .687131 | .694325 | .702607 | .708194 | .719577 | .723957 | .732226 | |
| | 265 | .680922 | .690956 | .699231 | .706338 | .714514 | .720027 | .731248 | .735563 | .744687 | |
| | 270 | .693111 | .703128 | .711301 | .718315 | .726379 | .731812 | .742863 | .747109 | .756081 | |
| | 275 | .705383 | .715275 | .723340 | .730255 | .738200 | .743550 | .754420 | .758593 | .767406 | |
| | 280 | .717639 | .727398 | .735347 | .742158 | .749976 | .755237 | .765918 | .770015 | .778659 | |
| | 285 | .729878 | .739495 | .747320 | .754020 | .761706 | .766873 | .777354 | .781370 | .789839 | |
| | 290 | .742100 | .751565 | .759260 | .765842 | .773387 | .778455 | .788726 | .792658 | .800943 | |
| | 295 | .754303 | .763607 | .771163 | .777622 | .785018 | .789982 | .800032 | .803876 | .811967 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 400 | 300 | .766487 | .775620 | .783029 | .789357 | .796596 | .801451 | .811268 | .815019 | .822908 |
| | 305 | .778650 | .787602 | .794857 | .801046 | .808119 | .812858 | .822432 | .826086 | .833762 |
| | 310 | .790793 | .799552 | .806642 | .812685 | .819584 | .824202 | .833519 | .837070 | .844525 |
| | 315 | .802913 | .811469 | .818385 | .824273 | .830987 | .835478 | .844524 | .847969 | .855190 |
| | 320 | .815010 | .823349 | .830081 | .835805 | .842326 | .846681 | .855444 | .858777 | .865753 |
| | 325 | .827081 | .835190 | .841727 | .847279 | .853594 | .857808 | .866272 | .869486 | .876206 |
| | 330 | .839124 | .846990 | .853320 | .858689 | .864788 | .868852 | .877002 | .880091 | .886542 |
| | 335 | .851139 | .858745 | .864856 | .870031 | .875900 | .879806 | .887624 | .890582 | .896749 |
| | 340 | .863120 | .870450 | .876328 | .881298 | .886924 | .890662 | .898129 | .900950 | .906818 |
| | 345 | .875066 | .882102 | .887732 | .892482 | .897851 | .901411 | .908507 | .911181 | .916734 |
| | 350 | .886973 | .893693 | .899058 | .903575 | .908669 | .912040 | .918741 | .921260 | .926480 |
| | 355 | .898834 | .905216 | .910296 | .914564 | .919365 | .922534 | .928815 | .931169 | .936034 |
| | 360 | .910645 | .916661 | .921436 | .925435 | .929921 | .932874 | .938706 | .940884 | .945371 |
| | 365 | .922395 | .928016 | .932459 | .936169 | .940314 | .943034 | .948383 | .950372 | .954454 |
| | 370 | .934075 | .939262 | .943344 | .946737 | .950513 | .952980 | .957806 | .959591 | .963237 |
| | 375 | .945666 | .950375 | .954058 | .957104 | .960473 | .962664 | .966918 | .968481 | .971652 |
| | 380 | .957144 | .961317 | .964554 | .967212 | .970129 | .972011 | .975633 | .976950 | .979600 |
| | 385 | .968469 | .972025 | .974752 | .976967 | .979370 | .980904 | .983812 | .984854 | .986922 |
| | 390 | .979560 | .982382 | .984503 | .986194 | .987993 | .989119 | .991199 | .991926 | .993330 |
| | 395 | .990227 | .992102 | .993448 | .994476 | .995519 | .996141 | .997219 | .997570 | .998206 |
| | 400 | .999442 | .999737 | .999872 | .999937 | .999975 | .999987 | .999997 | .999999 | 1.000000 |
| 410 | 205 | .519544 | .530379 | .539312 | .547044 | .556013 | .562105 | .574620 | .579474 | .589819 |
| | 210 | .531710 | .542525 | .551434 | .559142 | .568078 | .574145 | .586599 | .591428 | .601712 |
| | 215 | .543864 | .554651 | .563532 | .571212 | .580109 | .586147 | .598534 | .603333 | .613551 |
| | 220 | .556005 | .566759 | .575606 | .583252 | .592106 | .598111 | .610424 | .615191 | .625336 |
| | 225 | .568134 | .578847 | .587656 | .595264 | .604069 | .610038 | .622268 | .627001 | .637067 |
| | 230 | .580251 | .590917 | .599681 | .607247 | .615997 | .621926 | .634068 | .638763 | .648743 |
| | 235 | .592355 | .602968 | .611682 | .619200 | .627891 | .633776 | .645821 | .650476 | .660365 |
| | 240 | .604446 | .614999 | .623658 | .631124 | .639750 | .645588 | .657528 | .662140 | .671932 |
| | 245 | .616525 | .627010 | .635609 | .643018 | .651574 | .657361 | .669188 | .673754 | .683442 |
| | 250 | .628590 | .639002 | .647534 | .654882 | .663361 | .669093 | .680801 | .685317 | .694896 |
| | 255 | .640642 | .650974 | .659433 | .666715 | .675112 | .680786 | .692366 | .696830 | .706292 |
| | 260 | .652681 | .662925 | .671307 | .678517 | .686826 | .692437 | .703881 | .708290 | .717629 |
| | 265 | .664706 | .674855 | .683153 | .690286 | .698502 | .704047 | .715347 | .719697 | .728906 |
| | 270 | .676716 | .686764 | .694972 | .702024 | .710140 | .715614 | .726762 | .731050 | .740123 |
| | 275 | .688713 | .698650 | .706763 | .713727 | .721738 | .727137 | .738124 | .742347 | .751276 |
| | 280 | .700694 | .710515 | .718525 | .725397 | .733295 | .738615 | .749433 | .753587 | .762366 |
| | 285 | .712660 | .722356 | .730257 | .737031 | .744810 | .750047 | .760686 | .764769 | .773389 |
| | 290 | .724611 | .734173 | .741959 | .748628 | .756282 | .761431 | .771882 | .775889 | .784343 |
| | 295 | .736545 | .745965 | .753628 | .760188 | .767710 | .772766 | .783019 | .786947 | .795227 |
| | 300 | .748462 | .757732 | .765265 | .771708 | .779090 | .784049 | .794094 | .797939 | .806038 |
| | 305 | .760362 | .769471 | .776868 | .783188 | .790423 | .795278 | .805105 | .808863 | .816772 |
| | 310 | .772243 | .781183 | .788434 | .794624 | .801704 | .806452 | .816050 | .819717 | .827426 |
| | 315 | .784105 | .792865 | .799963 | .806016 | .812933 | .817567 | .826925 | .830495 | .837996 |
| | 320 | .795946 | .804516 | .811452 | .817361 | .824106 | .828620 | .837725 | .841196 | .848478 |
| | 325 | .807766 | .816135 | .822898 | .828655 | .835219 | .839607 | .848448 | .851813 | .858866 |
| | 330 | .819563 | .827718 | .834300 | .839896 | .846269 | .850525 | .859087 | .862342 | .869155 |
| | 335 | .831335 | .839264 | .845655 | .851081 | .857252 | .861369 | .869637 | .872776 | .879338 |
| | 340 | .843081 | .850770 | .856957 | .862204 | .868162 | .872132 | .880092 | .883109 | .889407 |
| | 345 | .854798 | .862232 | .868204 | .873260 | .878994 | .882809 | .890443 | .893332 | .899353 |
| | 350 | .866484 | .873647 | .879390 | .884244 | .889740 | .893390 | .900681 | .903435 | .909163 |
| | 355 | .878135 | .885009 | .890509 | .895149 | .900391 | .903868 | .910795 | .913406 | .918826 |
| | 360 | .889748 | .896313 | .901552 | .905964 | .910938 | .914229 | .920771 | .923229 | .928323 |
| | 365 | .901317 | .907550 | .912512 | .916679 | .921365 | .924459 | .930590 | .932888 | .937635 |
| | 370 | .912837 | .918712 | .923374 | .927279 | .931657 | .934540 | .940232 | .942357 | .946736 |
| | 375 | .924298 | .929786 | .934124 | .937745 | .941791 | .944446 | .949666 | .951607 | .955590 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 410 | 380 | .935690 | .940755 | .944739 | .948051 | .951736 | .954144 | .958853 | .960595 | .964151 | |
| | 385 | .946997 | .951594 | .955189 | .958161 | .961449 | .963586 | .967737 | .969262 | .972356 | |
| | 390 | .958194 | .962266 | .965425 | .968018 | .970865 | .972702 | .976235 | .977520 | .980105 | |
| | 395 | .969240 | .972711 | .975372 | .977532 | .979878 | .981374 | .984211 | .985228 | .987245 | |
| | 400 | .980060 | .982813 | .984883 | .986532 | .988288 | .989386 | .991416 | .992124 | .993494 | |
| | 405 | .990466 | .992295 | .993608 | .994611 | .995628 | .996235 | .997287 | .997629 | .998250 | |
| | 410 | .999456 | .999743 | .999875 | .999938 | .999975 | .999988 | .999998 | .999999 | 1.000000 | |
| 420 | 210 | .519324 | .530031 | .538857 | .546498 | .555362 | .561382 | .573751 | .578550 | .588776 | |
| | 215 | .531202 | .541888 | .550693 | .558311 | .567143 | .573139 | .585451 | .590224 | .600393 | |
| | 220 | .543067 | .553728 | .562505 | .570096 | .578891 | .584860 | .597108 | .601854 | .611959 | |
| | 225 | .554921 | .565550 | .574295 | .581854 | .590608 | .596546 | .608723 | .613439 | .623474 | |
| | 230 | .566764 | .577354 | .586062 | .593585 | .602793 | .608196 | .620295 | .624978 | .634939 | |
| | 235 | .578594 | .589140 | .597807 | .605289 | .613945 | .619811 | .631825 | .636472 | .646352 | |
| | 240 | .590413 | .600908 | .609528 | .616965 | .625565 | .631389 | .643312 | .647920 | .657714 | |
| | 245 | .602220 | .612658 | .621225 | .628614 | .637152 | .642931 | .654755 | .659322 | .669023 | |
| | 250 | .614014 | .624190 | .632900 | .640234 | .648706 | .654437 | .666154 | .670678 | .680280 | |
| | 255 | .625797 | .636103 | .644550 | .651826 | .660225 | .665905 | .677508 | .681986 | .691484 | |
| | 260 | .637567 | .647797 | .656176 | .663390 | .671711 | .677335 | .688817 | .693245 | .702633 | |
| | 265 | .649324 | .659472 | .667777 | .674923 | .683162 | .688727 | .700081 | .704456 | .713728 | |
| | 270 | .661068 | .671127 | .679353 | .686427 | .694578 | .700080 | .711297 | .715617 | .724766 | |
| | 275 | .672800 | .682762 | .690904 | .697901 | .705957 | .711392 | .722466 | .726728 | .735747 | |
| | 280 | .684518 | .694376 | .702428 | .709343 | .717299 | .722664 | .733586 | .737786 | .746670 | |
| | 285 | .696221 | .705970 | .713925 | .720753 | .728603 | .733894 | .744655 | .748791 | .757532 | |
| | 290 | .707911 | .717542 | .725395 | .732130 | .739869 | .745080 | .755673 | .759741 | .768333 | |
| | 295 | .719596 | .729092 | .736836 | .743473 | .751094 | .756222 | .766638 | .770635 | .779070 | |
| | 300 | .731246 | .740619 | .748248 | .754781 | .762277 | .767319 | .777548 | .781470 | .789742 | |
| | 305 | .742891 | .752121 | .759629 | .766053 | .773418 | .778367 | .788401 | .792245 | .800345 | |
| | 310 | .754519 | .763600 | .770978 | .777286 | .784513 | .789366 | .799195 | .802957 | .810878 | |
| | 315 | .766130 | .775052 | .782294 | .788481 | .795562 | .800314 | .809927 | .813603 | .821337 | |
| | 320 | .777723 | .786477 | .793575 | .799634 | .806562 | .811207 | .820595 | .824181 | .831718 | |
| | 325 | .789297 | .797874 | .804820 | .810744 | .817511 | .822044 | .831195 | .834687 | .842019 | |
| | 330 | .800852 | .809240 | .816027 | .821808 | .828406 | .832821 | .841724 | .845117 | .852235 | |
| | 335 | .812386 | .820576 | .827193 | .832824 | .839243 | .843535 | .852177 | .855467 | .862360 | |
| | 340 | .823898 | .831877 | .838316 | .843788 | .850020 | .854181 | .862550 | .865731 | .872389 | |
| | 345 | .835386 | .843142 | .849392 | .854698 | .860731 | .864755 | .872837 | .875904 | .882316 | |
| | 350 | .846948 | .854368 | .860418 | .865548 | .871372 | .875252 | .883031 | .885978 | .892132 | |
| | 355 | .858282 | .865552 | .871390 | .876333 | .881937 | .885665 | .893124 | .895946 | .901828 | |
| | 360 | .869686 | .876690 | .882304 | .887048 | .892419 | .895986 | .903109 | .905798 | .911393 | |
| | 365 | .881057 | .887776 | .893152 | .897686 | .902809 | .906205 | .912977 | .915522 | .920815 | |
| | 370 | .892390 | .898806 | .903927 | .908237 | .913097 | .916312 | .922701 | .925103 | .930077 | |
| | 375 | .903691 | .909772 | .914620 | .918691 | .923269 | .926291 | .932279 | .934523 | .939158 | |
| | 380 | .914924 | .920665 | .925219 | .929033 | .933110 | .936125 | .941684 | .943759 | .948034 | |
| | 385 | .926110 | .931472 | .935709 | .939245 | .943197 | .945789 | .950886 | .952782 | .956670 | |
| | 390 | .937229 | .942176 | .946067 | .949302 | .952900 | .955251 | .959849 | .961549 | .965022 | |
| | 395 | .948264 | .952754 | .956264 | .959167 | .962377 | .964464 | .968517 | .970005 | .973025 | |
| | 400 | .959193 | .963170 | .966254 | .968786 | .971566 | .973359 | .976808 | .978063 | .980586 | |
| | 405 | .969975 | .973364 | .975962 | .978071 | .980361 | .981821 | .984591 | .985583 | .987552 | |
| | 410 | .980535 | .983224 | .985244 | .986855 | .988568 | .989641 | .991622 | .992313 | .993651 | |
| | 415 | .990693 | .992479 | .993761 | .994740 | .995733 | .996326 | .997352 | .997686 | .998292 | |
| | 420 | .999469 | .999749 | .999878 | .999940 | .999976 | .999988 | .999998 | .999999 | 1.000000 | |
| 430 | 215 | .519112 | .529695 | .538419 | .545971 | .554733 | .560684 | .572913 | .577657 | .587769 | |
| | 220 | .530714 | .541277 | .549980 | .557511 | .566242 | .572171 | .584345 | .589065 | .599122 | |
| | 225 | .542305 | .552843 | .561521 | .569025 | .577722 | .583624 | .595737 | .600431 | .610427 | |
| | 230 | .553895 | .564393 | .573040 | .580514 | .589171 | .595044 | .607090 | .611755 | .621685 | |
| | 235 | .565454 | .575925 | .584537 | .591977 | .600591 | .606431 | .618402 | .623036 | .632895 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 430 | 240 | .577011 | .587441 | .596013 | .603415 | .611979 | .617783 | .629674 | .634274 | .644056 |
| | 245 | .588558 | .598940 | .607467 | .614827 | .623337 | .629102 | .640906 | .645469 | .655169 |
| | 250 | .600093 | .610421 | .618899 | .626212 | .634664 | .640387 | .652096 | .656621 | .666233 |
| | 255 | .611617 | .621885 | .630309 | .637571 | .645960 | .651637 | .663245 | .667728 | .677247 |
| | 260 | .623129 | .633332 | .641696 | .648903 | .657274 | .662852 | .674352 | .678791 | .688211 |
| | 265 | .634630 | .644761 | .653061 | .660208 | .668456 | .674031 | .685417 | .689809 | .699124 |
| | 270 | .646119 | .656172 | .664402 | .671486 | .679655 | .685174 | .696439 | .700781 | .709985 |
| | 275 | .657596 | .667564 | .675720 | .682736 | .690821 | .696281 | .707416 | .711706 | .720794 |
| | 280 | .669060 | .678938 | .687014 | .693956 | .701953 | .707350 | .718349 | .722584 | .731549 |
| | 285 | .680512 | .690292 | .698283 | .705148 | .713050 | .718380 | .729236 | .733412 | .742249 |
| | 290 | .691951 | .701627 | .709527 | .716310 | .724112 | .729372 | .740076 | .744191 | .752893 |
| | 295 | .703376 | .712942 | .720745 | .727441 | .735137 | .740323 | .750867 | .754919 | .763480 |
| | 300 | .714788 | .724236 | .731937 | .738540 | .746125 | .751232 | .761610 | .765594 | .774007 |
| | 305 | .726186 | .735508 | .743101 | .749606 | .757074 | .762099 | .772301 | .776214 | .784473 |
| | 310 | .737569 | .746759 | .754237 | .760639 | .767984 | .772922 | .782939 | .786779 | .794875 |
| | 315 | .748937 | .757986 | .765343 | .771637 | .778851 | .783698 | .793523 | .797285 | .805212 |
| | 320 | .760290 | .769189 | .776419 | .782598 | .789676 | .794427 | .804049 | .807730 | .815481 |
| | 325 | .771626 | .780368 | .787462 | .793522 | .800455 | .805107 | .814516 | .818113 | .825679 |
| | 330 | .782945 | .791520 | .798472 | .804405 | .811187 | .815734 | .824921 | .828429 | .835802 |
| | 335 | .794245 | .802645 | .809447 | .815247 | .821870 | .826306 | .835260 | .838675 | .845847 |
| | 340 | .805527 | .813741 | .820385 | .826044 | .832501 | .836821 | .845530 | .848849 | .855809 |
| | 345 | .816789 | .824807 | .831284 | .836795 | .843076 | .847274 | .855727 | .858944 | .865685 |
| | 350 | .828029 | .835839 | .842140 | .847495 | .853592 | .857662 | .865847 | .868957 | .875467 |
| | 355 | .839246 | .846837 | .852952 | .858143 | .864045 | .867980 | .875883 | .878881 | .885149 |
| | 360 | .850438 | .857796 | .863715 | .868733 | .874429 | .878223 | .885829 | .888710 | .894725 |
| | 365 | .861603 | .868715 | .874426 | .879760 | .884740 | .888385 | .895678 | .898436 | .904184 |
| | 370 | .872739 | .879589 | .885080 | .889719 | .894970 | .898457 | .905420 | .908049 | .913516 |
| | 375 | .883842 | .890414 | .895670 | .900103 | .905111 | .908431 | .915045 | .917537 | .922709 |
| | 380 | .894909 | .901193 | .906189 | .910403 | .915153 | .918296 | .924540 | .926886 | .931746 |
| | 385 | .905934 | .911890 | .916629 | .920609 | .925083 | .928036 | .933888 | .936080 | .940608 |
| | 390 | .916913 | .922526 | .926977 | .930705 | .934885 | .937635 | .943066 | .945094 | .949270 |
| | 395 | .927837 | .933078 | .937219 | .940675 | .944536 | .947069 | .952049 | .953901 | .957699 |
| | 400 | .938695 | .943530 | .947333 | .950494 | .954009 | .956306 | .960798 | .962459 | .965850 |
| | 405 | .949472 | .953860 | .957290 | .960126 | .963262 | .965301 | .969259 | .970713 | .973663 |
| | 410 | .960145 | .964031 | .967045 | .969518 | .972233 | .973985 | .977354 | .978579 | .981044 |
| | 415 | .970675 | .973986 | .976524 | .978585 | .980821 | .982248 | .984953 | .985922 | .987845 |
| | 420 | .980989 | .983616 | .985589 | .987162 | .988836 | .989883 | .991818 | .992493 | .993800 |
| | 425 | .990910 | .992654 | .993906 | .994863 | .995833 | .996411 | .997414 | .997740 | .998332 |
| | 430 | .999481 | .999755 | .999881 | .999941 | .999977 | .999988 | .999998 | .999999 | 1.000000 |
| 440 | 220 | .518908 | .529369 | .537994 | .545462 | .554124 | .560009 | .572102 | .576794 | .586795 |
| | 225 | .530246 | .540690 | .549295 | .556741 | .565375 | .571238 | .583279 | .587948 | .597896 |
| | 230 | .541575 | .551995 | .560575 | .567997 | .576598 | .582436 | .594418 | .599062 | .608953 |
| | 235 | .552893 | .563284 | .571835 | .579228 | .587792 | .593602 | .605520 | .610136 | .619964 |
| | 240 | .564200 | .574557 | .583075 | .590436 | .598957 | .604736 | .616583 | .621170 | .630930 |
| | 245 | .575497 | .585814 | .594295 | .601619 | .610094 | .615838 | .627609 | .632164 | .641850 |
| | 250 | .586784 | .597055 | .605494 | .612777 | .621202 | .626909 | .638596 | .643116 | .652725 |
| | 255 | .598060 | .608280 | .616672 | .623911 | .632280 | .637947 | .649545 | .654028 | .663553 |
| | 260 | .609325 | .619489 | .627829 | .635020 | .643329 | .648952 | .660455 | .664898 | .674334 |
| | 265 | .620580 | .630681 | .638965 | .646104 | .654348 | .659925 | .671325 | .675726 | .685068 |
| | 270 | .631823 | .641857 | .650080 | .657162 | .665337 | .670864 | .682155 | .686512 | .695755 |
| | 275 | .643055 | .653015 | .661172 | .668195 | .676295 | .681769 | .692945 | .697254 | .706392 |
| | 280 | .654276 | .664157 | .672243 | .679201 | .687221 | .692639 | .703693 | .707953 | .716980 |
| | 285 | .665485 | .675280 | .683291 | .690180 | .698116 | .703474 | .714399 | .718607 | .727518 |
| | 290 | .676683 | .686386 | .694316 | .701131 | .708979 | .714274 | .725062 | .729215 | .738004 |
| | 295 | .687868 | .697473 | .705317 | .712055 | .719808 | .725036 | .735681 | .739776 | .748437 |
| | 300 | .699041 | .708541 | .716295 | .722950 | .730603 | .735761 | .746256 | .750289 | .758817 |
| | 305 | .710201 | .719590 | .727247 | .733815 | .741363 | .746447 | .756783 | .760753 | .769141 |
| | 310 | .721348 | .730619 | .738174 | .744650 | .752087 | .757093 | .767263 | .771167 | .779408 |
| | 315 | .732491 | .741627 | .749074 | .755453 | .762774 | .767698 | .777694 | .781528 | .789616 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 440 | 320 | .743601 | .752614 | .759947 | .766223 | .773422 | .778260 | .788074 | .791835 | .799763 |
| | 325 | .754706 | .763579 | .770791 | .776960 | .784030 | .788779 | .798401 | .802085 | .809847 |
| | 330 | .765795 | .774521 | .781606 | .787662 | .794596 | .799251 | .808673 | .812277 | .819865 |
| | 335 | .776969 | .785438 | .792390 | .798327 | .805119 | .809674 | .818888 | .822409 | .829814 |
| | 340 | .787926 | .796331 | .803142 | .808954 | .815596 | .820048 | .829042 | .832476 | .839692 |
| 345 | 345 | .798966 | .807197 | .813860 | .819540 | .826026 | .830369 | .839133 | .842476 | .849493 |
| | 350 | .809988 | .818035 | .824542 | .830083 | .836404 | .840633 | .849157 | .852405 | .859215 |
| | 355 | .820989 | .828843 | .835185 | .840581 | .846729 | .850839 | .859111 | .862258 | .868852 |
| | 360 | .831970 | .839619 | .845788 | .851031 | .856997 | .860981 | .868989 | .872032 | .878399 |
| | 365 | .842929 | .850361 | .856348 | .861428 | .867204 | .871055 | .878786 | .881719 | .887849 |
| 370 | 370 | .853863 | .861067 | .866860 | .871770 | .877344 | .881056 | .888496 | .891314 | .897196 |
| | 375 | .864771 | .871733 | .877322 | .882052 | .887413 | .890979 | .898111 | .900809 | .906430 |
| | 380 | .875651 | .882355 | .887728 | .892267 | .897404 | .900814 | .907624 | .910194 | .915540 |
| | 385 | .886499 | .892930 | .898072 | .902409 | .907308 | .910554 | .917022 | .919458 | .924515 |
| | 390 | .897312 | .903450 | .908348 | .912469 | .917115 | .920188 | .926293 | .928587 | .933338 |
| 395 | 395 | .908085 | .913910 | .918546 | .922438 | .926813 | .929701 | .935421 | .937564 | .941991 |
| | 400 | .918812 | .924301 | .928655 | .932300 | .936387 | .939076 | .944385 | .946367 | .950449 |
| | 405 | .929485 | .934610 | .938660 | .942039 | .945814 | .948290 | .953158 | .954968 | .958680 |
| | 410 | .940095 | .944823 | .948541 | .951631 | .955067 | .957313 | .961703 | .963326 | .966641 |
| | 415 | .950625 | .954915 | .958268 | .961040 | .964106 | .966099 | .969968 | .971389 | .974271 |
| 420 | 420 | .961054 | .964853 | .967799 | .970217 | .972870 | .974582 | .977875 | .979072 | .981481 |
| | 425 | .971343 | .974580 | .977061 | .979075 | .981260 | .982655 | .985298 | .986245 | .988124 |
| | 430 | .991422 | .983989 | .985918 | .987456 | .989091 | .990115 | .992005 | .992665 | .993942 |
| | 435 | .991117 | .992821 | .994045 | .994980 | .995928 | .996493 | .997473 | .997792 | .998370 |
| | 440 | .999493 | .999761 | .999883 | .999942 | .999977 | .999989 | .999998 | .999999 | 1.000000 |
| 450 | 225 | .518709 | .529055 | .537584 | .544969 | .553536 | .559357 | .571318 | .575959 | .585853 |
| | 230 | .529797 | .540124 | .548635 | .556000 | .564540 | .570339 | .582251 | .586870 | .596714 |
| | 235 | .540874 | .551180 | .559667 | .567008 | .575516 | .581292 | .593148 | .597743 | .607532 |
| | 240 | .551942 | .562200 | .570679 | .577993 | .586466 | .592215 | .604009 | .608579 | .618307 |
| | 245 | .563000 | .573245 | .581673 | .588956 | .597389 | .603108 | .614835 | .619376 | .629039 |
| 250 | 250 | .574048 | .584255 | .592647 | .599895 | .608284 | .613971 | .625625 | .630135 | .639729 |
| | 255 | .585086 | .595250 | .603602 | .610812 | .619152 | .624803 | .636378 | .640856 | .650375 |
| | 260 | .596114 | .606230 | .614537 | .621705 | .629992 | .635605 | .647095 | .651537 | .660977 |
| | 265 | .607132 | .617194 | .625453 | .632575 | .640805 | .646377 | .657775 | .662180 | .671535 |
| | 270 | .618139 | .628143 | .636348 | .643421 | .651589 | .657117 | .668418 | .672783 | .682048 |
| 275 | 275 | .629137 | .639076 | .647223 | .654242 | .662345 | .667825 | .679024 | .683346 | .692517 |
| | 280 | .640124 | .649993 | .658078 | .665040 | .673072 | .678502 | .689591 | .693868 | .702939 |
| | 285 | .651100 | .660894 | .668912 | .675912 | .683770 | .689146 | .700119 | .704349 | .713315 |
| | 290 | .662065 | .671778 | .679725 | .686560 | .694437 | .699757 | .710607 | .714787 | .723643 |
| | 295 | .673019 | .682645 | .690515 | .697281 | .705074 | .710334 | .721055 | .725183 | .733923 |
| 300 | 300 | .683361 | .693495 | .701284 | .707976 | .715680 | .720877 | .731462 | .735535 | .744154 |
| | 305 | .694893 | .704327 | .712030 | .719644 | .726254 | .731384 | .741826 | .745842 | .754334 |
| | 310 | .705812 | .715141 | .722753 | .729285 | .736795 | .741855 | .752147 | .756102 | .764462 |
| | 315 | .716718 | .725937 | .733452 | .739897 | .747302 | .752288 | .762424 | .766316 | .774537 |
| | 320 | .727613 | .736713 | .744126 | .750479 | .757774 | .762684 | .772654 | .776480 | .784556 |
| 325 | 325 | .738494 | .747469 | .754775 | .761032 | .768211 | .773039 | .782837 | .786594 | .794519 |
| | 330 | .749361 | .758205 | .765397 | .771553 | .778610 | .783353 | .792971 | .796656 | .804423 |
| | 335 | .760215 | .768919 | .775992 | .782041 | .788971 | .793625 | .803054 | .806663 | .814266 |
| | 340 | .771054 | .779611 | .786559 | .792495 | .799291 | .803852 | .813083 | .816614 | .824045 |
| | 345 | .781877 | .790280 | .797095 | .802914 | .809569 | .814033 | .823058 | .826506 | .833758 |
| 350 | 350 | .792685 | .800924 | .807600 | .813295 | .819803 | .824164 | .832973 | .836336 | .843401 |
| | 355 | .803475 | .811543 | .818072 | .823637 | .829991 | .834245 | .842828 | .846101 | .852971 |
| | 360 | .814248 | .822134 | .828510 | .833938 | .840130 | .844271 | .852618 | .855797 | .862463 |
| | 365 | .825002 | .832697 | .838910 | .844195 | .850217 | .854240 | .862339 | .865420 | .871873 |
| | 370 | .835735 | .843228 | .849271 | .854405 | .860248 | .864148 | .871987 | .874965 | .881196 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 450 | 375 | .846447 | .853727 | .859590 | .864565 | .870220 | .873990 | .881556 | .884427 | .890425 |
| | 380 | .857135 | .864190 | .869863 | .874671 | .880127 | .883760 | .891041 | .893799 | .899554 |
| | 385 | .867798 | .874615 | .880087 | .884717 | .889965 | .893454 | .900434 | .903073 | .908572 |
| | 390 | .878433 | .884097 | .890257 | .894700 | .899727 | .903064 | .909727 | .912241 | .917471 |
| | 395 | .889038 | .895333 | .900366 | .904611 | .909404 | .912581 | .918909 | .921291 | .926238 |
| 400 | | .899608 | .905616 | .910409 | .914442 | .918988 | .921994 | .927967 | .930210 | .934857 |
| 405 | | .910139 | .915840 | .920376 | .924184 | .928465 | .931290 | .936885 | .938981 | .943311 |
| 410 | | .920625 | .925997 | .930257 | .933823 | .937821 | .940451 | .945644 | .947583 | .951574 |
| 415 | | .931060 | .936074 | .940036 | .943342 | .947034 | .949456 | .954217 | .955987 | .959617 |
| 420 | | .941432 | .946057 | .949694 | .952717 | .956078 | .958274 | .962567 | .964155 | .967396 |
| 425 | | .951777 | .955923 | .959203 | .961914 | .964913 | .966861 | .970644 | .972034 | .974852 |
| 430 | | .961922 | .965638 | .968519 | .970884 | .973479 | .975153 | .978372 | .979543 | .981898 |
| 435 | | .971992 | .975147 | .977573 | .979543 | .981680 | .983043 | .985628 | .986554 | .988391 |
| 440 | | .981836 | .984346 | .986232 | .987736 | .989335 | .990336 | .992184 | .992830 | .994078 |
| 445 | | .991315 | .992981 | .994178 | .995092 | .996018 | .996571 | .997529 | .997841 | .998406 |
| 450 | | .999504 | .999766 | .999886 | .999944 | .999978 | .999989 | .999998 | .999999 | 1.000000 |
| 460 | 230 | .518517 | .528750 | .537187 | .544492 | .552967 | .558725 | .570559 | .575151 | .584941 |
| | 235 | .529364 | .539580 | .547999 | .555285 | .563734 | .569472 | .581258 | .585829 | .595571 |
| | 240 | .540202 | .550396 | .558793 | .566056 | .574475 | .580190 | .591923 | .596472 | .606161 |
| | 245 | .551030 | .561198 | .569569 | .576806 | .585191 | .590880 | .602555 | .607078 | .616710 |
| | 250 | .561949 | .571986 | .580326 | .587534 | .595881 | .601542 | .613152 | .617649 | .627219 |
| 255 | | .572659 | .582760 | .591066 | .598240 | .606545 | .612175 | .623716 | .628183 | .637686 |
| 260 | | .583459 | .593519 | .601787 | .608925 | .617184 | .622780 | .634245 | .638681 | .648113 |
| 265 | | .594249 | .604264 | .612489 | .619588 | .627796 | .633356 | .644740 | .649142 | .658499 |
| 270 | | .605031 | .614994 | .623173 | .630228 | .638382 | .643903 | .655200 | .659567 | .668842 |
| 275 | | .615802 | .625710 | .633838 | .640846 | .648941 | .654420 | .665625 | .669953 | .679144 |
| 280 | | .626564 | .636411 | .644484 | .651441 | .659474 | .664908 | .676014 | .680302 | .689403 |
| 285 | | .637316 | .647096 | .655111 | .662013 | .669979 | .675365 | .686367 | .690613 | .699618 |
| 290 | | .648057 | .657767 | .665718 | .672562 | .680457 | .685792 | .696684 | .700884 | .709790 |
| 295 | | .658789 | .668421 | .676304 | .683087 | .690906 | .696187 | .706963 | .711116 | .719917 |
| 300 | | .669510 | .679060 | .68687 | .693587 | .701326 | .706551 | .717204 | .721307 | .729998 |
| 305 | | .680220 | .689683 | .697417 | .704063 | .711717 | .716882 | .727406 | .731457 | .740033 |
| 310 | | .690919 | .700288 | .707941 | .714514 | .722078 | .727180 | .737569 | .741565 | .750020 |
| 315 | | .701607 | .710877 | .718443 | .724938 | .732409 | .737444 | .747690 | .751630 | .759959 |
| 320 | | .712294 | .721449 | .728923 | .735336 | .742707 | .747673 | .757770 | .761650 | .769848 |
| 325 | | .722949 | .732002 | .739380 | .745706 | .752973 | .757866 | .767807 | .771624 | .779685 |
| 330 | | .733602 | .742537 | .749814 | .756048 | .763206 | .768022 | .777800 | .781551 | .789469 |
| 335 | | .744242 | .753052 | .760222 | .766361 | .773404 | .778139 | .787747 | .791430 | .799198 |
| 340 | | .754868 | .763548 | .770605 | .776644 | .783566 | .788217 | .797646 | .801258 | .808870 |
| 345 | | .765482 | .774023 | .780962 | .786895 | .793690 | .798253 | .807496 | .811033 | .818483 |
| 350 | | .776081 | .784476 | .791291 | .797112 | .803776 | .808247 | .817295 | .820754 | .828035 |
| 355 | | .786665 | .794907 | .801591 | .807296 | .813821 | .818195 | .827039 | .830418 | .837522 |
| 360 | | .797234 | .805315 | .811861 | .817444 | .823823 | .828097 | .836728 | .840022 | .846942 |
| 365 | | .807786 | .815697 | .822098 | .827553 | .833780 | .837948 | .846357 | .849562 | .856291 |
| 370 | | .818321 | .826053 | .832302 | .837622 | .843689 | .847747 | .855923 | .859036 | .865564 |
| 375 | | .828838 | .836381 | .842471 | .847649 | .853549 | .857490 | .865427 | .868439 | .874758 |
| 380 | | .839335 | .846679 | .852600 | .857630 | .863354 | .867174 | .874850 | .877767 | .883868 |
| 385 | | .849811 | .856945 | .862689 | .867563 | .873101 | .876793 | .884203 | .887013 | .892886 |
| 390 | | .860264 | .867177 | .872734 | .877442 | .882786 | .886344 | .893473 | .896172 | .901806 |
| 395 | | .870692 | .877370 | .882730 | .887265 | .892404 | .895820 | .902653 | .905237 | .910619 |
| 400 | | .881094 | .887523 | .892674 | .897025 | .901947 | .905214 | .911736 | .914197 | .919316 |
| 405 | | .891465 | .897610 | .902559 | .906715 | .911408 | .914518 | .920711 | .923043 | .927884 |
| 410 | | .901803 | .907687 | .912380 | .916328 | .920778 | .923720 | .929566 | .931762 | .936309 |
| 415 | | .912103 | .917686 | .922126 | .925854 | .930044 | .932809 | .938285 | .940336 | .944572 |
| 420 | | .922350 | .927619 | .931789 | .935279 | .939192 | .941766 | .946848 | .948744 | .952649 |
| 425 | | .932565 | .937474 | .941352 | .944587 | .948201 | .950571 | .955229 | .956960 | .960512 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 460 | 430 | .942710 | .947238 | .950797 | .953755 | .957044 | .959193 | .963393 | .964946 | .968117 |
| | 435 | .952780 | .956887 | .960097 | .962750 | .965684 | .967590 | .971291 | .972650 | .975407 |
| | 440 | .962753 | .966389 | .969208 | .971522 | .974061 | .975699 | .978848 | .979993 | .982297 |
| | 445 | .972592 | .975690 | .978063 | .979990 | .982081 | .983415 | .985943 | .986849 | .988646 |
| | 450 | .982232 | .984688 | .986533 | .988004 | .989568 | .990547 | .992356 | .992987 | .994207 |
| | 455 | .991504 | .993134 | .994305 | .995199 | .996105 | .996646 | .997583 | .997888 | .998441 |
| | 460 | .999515 | .999771 | .999888 | .999945 | .999978 | .999989 | .999998 | .999999 | 1.000000 |
| 470 | 235 | .518331 | .528455 | .536802 | .544030 | .552416 | .558113 | .569824 | .574369 | .584058 |
| | 240 | .528947 | .539055 | .547385 | .554595 | .562956 | .568634 | .580299 | .584824 | .594467 |
| | 245 | .539555 | .549643 | .557951 | .565139 | .573471 | .579128 | .590742 | .595245 | .604838 |
| | 250 | .550154 | .560217 | .568500 | .575663 | .583963 | .589595 | .601153 | .605632 | .615170 |
| | 255 | .560744 | .570777 | .579032 | .586167 | .594430 | .600035 | .611532 | .615985 | .625464 |
| | 260 | .571326 | .581324 | .589547 | .596650 | .604873 | .610449 | .621879 | .626304 | .635719 |
| | 265 | .581898 | .591858 | .600044 | .607112 | .615291 | .620835 | .632193 | .636588 | .645935 |
| | 270 | .592462 | .602378 | .610523 | .617554 | .625685 | .631194 | .642475 | .646838 | .656113 |
| | 275 | .603016 | .612884 | .620985 | .627974 | .636054 | .641525 | .652723 | .657052 | .666250 |
| | 280 | .613561 | .623376 | .631429 | .638373 | .646397 | .651828 | .662939 | .667231 | .676348 |
| | 285 | .624097 | .633854 | .641855 | .648751 | .656715 | .662104 | .673120 | .677374 | .686405 |
| | 290 | .634624 | .644318 | .652263 | .659107 | .667008 | .672350 | .683268 | .687481 | .696422 |
| | 295 | .645141 | .654767 | .662652 | .669441 | .677724 | .682568 | .693381 | .697551 | .706397 |
| | 300 | .655648 | .665202 | .673022 | .679752 | .687513 | .692757 | .703458 | .707584 | .716330 |
| | 305 | .666146 | .675621 | .683373 | .690041 | .697725 | .702915 | .713500 | .717579 | .726220 |
| | 310 | .676633 | .686025 | .693704 | .700306 | .707910 | .713043 | .723505 | .727534 | .736066 |
| | 315 | .687110 | .696414 | .704016 | .710547 | .718066 | .723139 | .733473 | .737450 | .745867 |
| | 320 | .697577 | .706787 | .714307 | .720764 | .728194 | .733204 | .743403 | .747325 | .755623 |
| | 325 | .708033 | .717143 | .724576 | .730956 | .738292 | .743235 | .753293 | .757159 | .765331 |
| | 330 | .718478 | .727482 | .734825 | .741122 | .748359 | .753233 | .763143 | .766949 | .774991 |
| | 335 | .728911 | .737804 | .745050 | .751262 | .758395 | .763197 | .772952 | .776696 | .784602 |
| | 340 | .739332 | .748108 | .755253 | .761374 | .768399 | .773124 | .782717 | .786397 | .794161 |
| | 345 | .749742 | .758394 | .765432 | .771458 | .778368 | .783015 | .792439 | .796051 | .803668 |
| | 350 | .760139 | .768660 | .775587 | .781512 | .788304 | .792867 | .802114 | .805656 | .813119 |
| | 355 | .770522 | .778906 | .785716 | .791536 | .798203 | .802679 | .811742 | .815210 | .822513 |
| | 360 | .780992 | .789131 | .795818 | .801529 | .808064 | .812449 | .821320 | .824711 | .831847 |
| | 365 | .791247 | .799335 | .805892 | .811487 | .817886 | .822175 | .830446 | .834157 | .841119 |
| | 370 | .801588 | .809515 | .815936 | .821411 | .827665 | .831856 | .840317 | .843545 | .850326 |
| | 375 | .811912 | .819672 | .825950 | .831298 | .837403 | .841489 | .849730 | .852871 | .859464 |
| | 380 | .822220 | .829803 | .835931 | .841146 | .847094 | .851071 | .859082 | .862133 | .868529 |
| | 385 | .832509 | .839906 | .845877 | .850953 | .856735 | .860598 | .868370 | .871326 | .877516 |
| | 390 | .842780 | .849981 | .855786 | .860716 | .866325 | .870068 | .877589 | .880446 | .886421 |
| | 395 | .853030 | .860024 | .865554 | .870431 | .875858 | .879475 | .886733 | .889486 | .895238 |
| | 400 | .863258 | .870034 | .875480 | .880094 | .885330 | .888815 | .895798 | .898442 | .903959 |
| | 405 | .873452 | .880007 | .885259 | .889702 | .894736 | .898083 | .904776 | .907306 | .912576 |
| | 410 | .883640 | .889940 | .894987 | .899249 | .904071 | .907271 | .913658 | .916068 | .921080 |
| | 415 | .893788 | .899829 | .904658 | .908729 | .913325 | .916371 | .922435 | .924719 | .929458 |
| | 420 | .903904 | .909669 | .914265 | .918133 | .922490 | .925372 | .931096 | .933245 | .937697 |
| | 425 | .913933 | .919452 | .923801 | .927452 | .931555 | .934262 | .939623 | .941631 | .945778 |
| | 430 | .924020 | .929171 | .933254 | .936673 | .940503 | .943024 | .947999 | .949855 | .953678 |
| | 435 | .934007 | .938814 | .942611 | .945779 | .949317 | .951637 | .956197 | .957892 | .961368 |
| | 440 | .943934 | .948367 | .951853 | .954749 | .957969 | .960072 | .964184 | .965704 | .968807 |
| | 445 | .953798 | .957809 | .960952 | .963549 | .966421 | .968287 | .971910 | .973240 | .975939 |
| | 450 | .963548 | .967108 | .969868 | .972132 | .974618 | .976221 | .979303 | .980424 | .982678 |
| | 455 | .973177 | .976209 | .978533 | .980419 | .982465 | .983771 | .986245 | .987132 | .988890 |
| | 460 | .982610 | .985014 | .986820 | .988260 | .989791 | .990750 | .992519 | .993137 | .994332 |
| | 465 | .991635 | .993281 | .994426 | .995301 | .996188 | .996718 | .997635 | .997933 | .998474 |
| | 470 | .999525 | .999776 | .999891 | .999946 | .999979 | .999989 | .999998 | .999999 | 1.000000 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 480 | 240 | .518150 | .528168 | .536429 | .543582 | .551881 | .557521 | .569112 | .573610 | .583202 | |
| | 245 | .528546 | .538549 | .546793 | .553928 | .562204 | .567824 | .579372 | .583851 | .593399 | |
| | 250 | .538934 | .548917 | .557141 | .564255 | .572503 | .578103 | .589602 | .594060 | .603559 | |
| | 255 | .549313 | .559272 | .567472 | .574563 | .582780 | .588356 | .599801 | .604237 | .613684 | |
| | 260 | .559684 | .569615 | .577787 | .584851 | .593033 | .598584 | .609970 | .614381 | .623771 | |
| | 265 | .570046 | .579945 | .588086 | .595120 | .603264 | .608786 | .620109 | .624493 | .633822 | |
| | 270 | .580400 | .590262 | .598368 | .605369 | .613471 | .618962 | .630217 | .634572 | .643836 | |
| | 275 | .590746 | .600566 | .608634 | .615598 | .623654 | .629113 | .640293 | .644618 | .653813 | |
| | 280 | .601083 | .610857 | .618883 | .625808 | .633814 | .639237 | .650339 | .654631 | .663753 | |
| | 285 | .611411 | .621134 | .629115 | .635997 | .643951 | .649335 | .660353 | .664610 | .673655 | |
| | 290 | .621730 | .631399 | .639329 | .646166 | .654063 | .659407 | .670335 | .674556 | .683518 | |
| | 295 | .632041 | .641650 | .649527 | .656314 | .664151 | .669451 | .680285 | .684467 | .693343 | |
| | 300 | .642342 | .651887 | .659707 | .666442 | .674214 | .679468 | .690202 | .694343 | .703129 | |
| | 305 | .652635 | .662110 | .669869 | .676548 | .684251 | .689457 | .700085 | .704184 | .712075 | |
| | 310 | .662918 | .672319 | .680013 | .686632 | .694263 | .699418 | .709935 | .713989 | .722580 | |
| | 315 | .673192 | .682514 | .690139 | .696695 | .704249 | .709350 | .719751 | .723757 | .732244 | |
| | 320 | .683455 | .692694 | .700245 | .705735 | .714209 | .719252 | .729531 | .733488 | .741855 | |
| | 325 | .693710 | .702859 | .710333 | .716752 | .724141 | .729125 | .739275 | .743180 | .751444 | |
| | 330 | .703953 | .71300P | .720400 | .726746 | .734045 | .738966 | .748982 | .752833 | .760978 | |
| | 335 | .714187 | .723142 | .730447 | .736715 | .743921 | .748776 | .758652 | .762446 | .770467 | |
| | 340 | .724410 | .733259 | .740474 | .746660 | .753767 | .758554 | .768282 | .772018 | .779909 | |
| | 345 | .734621 | .743360 | .750478 | .756579 | .763583 | .768297 | .777872 | .781547 | .789304 | |
| | 350 | .744822 | .753443 | .760461 | .766471 | .773368 | .778007 | .787421 | .791032 | .798649 | |
| | 355 | .755010 | .763508 | .770420 | .776336 | .783120 | .787680 | .796927 | .800471 | .807942 | |
| | 360 | .765187 | .773555 | .780356 | .786173 | .792838 | .797316 | .806389 | .809863 | .817182 | |
| | 365 | .775350 | .783582 | .790267 | .795980 | .802522 | .806913 | .815804 | .819206 | .826367 | |
| | 370 | .785500 | .793589 | .800152 | .805756 | .812169 | .816470 | .825171 | .828497 | .835494 | |
| | 375 | .795637 | .803575 | .810010 | .815500 | .821777 | .825985 | .834488 | .837735 | .844561 | |
| | 380 | .805759 | .813539 | .819839 | .825210 | .831346 | .835455 | .843751 | .846916 | .853564 | |
| | 385 | .815864 | .823479 | .829638 | .834984 | .840872 | .844878 | .852958 | .856038 | .862500 | |
| | 390 | .825954 | .833394 | .839405 | .844521 | .850353 | .854252 | .862106 | .865097 | .871365 | |
| | 395 | .836027 | .843203 | .849138 | .854117 | .859786 | .863573 | .871192 | .874089 | .880155 | |
| | 400 | .846081 | .853143 | .858836 | .863670 | .869169 | .872838 | .880210 | .883009 | .888865 | |
| | 405 | .856115 | .862974 | .868494 | .873177 | .878497 | .882042 | .889156 | .891853 | .897488 | |
| | 410 | .866127 | .872771 | .878111 | .882634 | .887765 | .891181 | .898024 | .900615 | .906019 | |
| | 415 | .876116 | .882533 | .887682 | .892036 | .896970 | .900250 | .906807 | .909286 | .914449 | |
| | 420 | .886080 | .892256 | .897202 | .901380 | .906104 | .909240 | .915498 | .917859 | .922768 | |
| | 425 | .896015 | .901936 | .906668 | .910657 | .915161 | .918145 | .924086 | .926323 | .930965 | |
| | 430 | .905918 | .911567 | .916072 | .919861 | .924130 | .926953 | .932560 | .934666 | .939026 | |
| | 435 | .915785 | .921144 | .925405 | .929882 | .933002 | .935653 | .940905 | .942871 | .946532 | |
| | 440 | .925611 | .930658 | .934659 | .939007 | .941760 | .944229 | .949101 | .950919 | .954663 | |
| | 445 | .935388 | .940098 | .943818 | .946921 | .950386 | .952659 | .957124 | .958784 | .962188 | |
| | 450 | .945107 | .949450 | .952864 | .955701 | .958854 | .960914 | .964941 | .966429 | .969468 | |
| | 455 | .954755 | .958693 | .961771 | .964315 | .967128 | .968955 | .972503 | .973805 | .976447 | |
| | 460 | .964309 | .967796 | .970499 | .972717 | .975151 | .976721 | .979739 | .980837 | .983044 | |
| | 465 | .973737 | .976707 | .978982 | .980829 | .982833 | .984112 | .986534 | .987403 | .989124 | |
| | 470 | .982973 | .985328 | .987096 | .988506 | .990005 | .990943 | .992676 | .993281 | .994451 | |
| | 475 | .991858 | .993421 | .994543 | .995399 | .996268 | .996786 | .997684 | .997977 | .998506 | |
| | 480 | .999535 | .999781 | .999893 | .999947 | .999979 | .999990 | .999998 | .999999 | 1.000000 | |
| | 490 | 245 | .517975 | .527891 | .536067 | .543147 | .551363 | .556946 | .568421 | .572874 | .582372 |
| | 250 | .528159 | .538060 | .546221 | .553284 | .561477 | .567041 | .578475 | .582910 | .592365 | |
| | 255 | .538335 | .548218 | .556359 | .563402 | .571569 | .577113 | .588500 | .592915 | .602324 | |
| | 260 | .548504 | .558363 | .566482 | .573502 | .581639 | .587161 | .598496 | .602890 | .612248 | |
| | 265 | .558664 | .568497 | .576589 | .583584 | .591687 | .597185 | .608464 | .612834 | .622137 | |
| | 270 | .568817 | .578618 | .586680 | .593647 | .601713 | .607184 | .618402 | .622746 | .631992 | |
| | 275 | .578961 | .588727 | .596756 | .603691 | .611718 | .617159 | .628311 | .632628 | .641812 | |
| | 280 | .589097 | .598824 | .606817 | .613717 | .621700 | .627109 | .638191 | .642479 | .651596 | |
| | 285 | .599225 | .608908 | .616861 | .623723 | .631659 | .637035 | .648042 | .652298 | .661345 | |
| | 290 | .609345 | .618980 | .626889 | .633711 | .641596 | .646935 | .657862 | .662085 | .671058 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | r | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|---------|------------------------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 490 | 295 | .619457 | .629040 | .636901 | .643679 | .651510 | .656811 | .667652 | .671840 | .680735 |
| 300 | .629560 | .639086 | .646897 | .653628 | .661401 | .666660 | .677411 | .681563 | .690375 | |
| 305 | .639655 | .649120 | .656876 | .663557 | .671269 | .676484 | .687140 | .691252 | .699578 | |
| 310 | .649741 | .659140 | .666838 | .673466 | .681113 | .686281 | .696837 | .700908 | .709544 | |
| 315 | .659818 | .669147 | .676783 | .683354 | .690932 | .696052 | .706502 | .710530 | .719071 | |
| 320 | .669887 | .679140 | .686711 | .693222 | .700727 | .705795 | .716134 | .720118 | .728558 | |
| 325 | .679946 | .689120 | .696620 | .703069 | .710497 | .715511 | .725733 | .729670 | .738007 | |
| 330 | .689995 | .699085 | .706512 | .712893 | .720241 | .725198 | .735298 | .739185 | .747414 | |
| 335 | .700036 | .709035 | .716385 | .722696 | .729959 | .734856 | .744828 | .748664 | .756780 | |
| 340 | .710066 | .718971 | .726238 | .732476 | .739650 | .744485 | .754323 | .758105 | .766103 | |
| 345 | .720097 | .728892 | .736073 | .742232 | .749313 | .754082 | .763781 | .767508 | .775382 | |
| 350 | .730097 | .738796 | .745886 | .751965 | .758947 | .763649 | .773202 | .776870 | .784616 | |
| 355 | .740096 | .748695 | .755680 | .761673 | .768553 | .773182 | .782584 | .786191 | .793804 | |
| 360 | .750094 | .758557 | .765451 | .771355 | .778128 | .782683 | .791925 | .795469 | .802944 | |
| 365 | .760061 | .768411 | .775201 | .781010 | .787671 | .792148 | .801225 | .804703 | .812034 | |
| 370 | .770026 | .778247 | .784927 | .790639 | .797182 | .801578 | .810482 | .813891 | .821072 | |
| 375 | .779979 | .788065 | .794629 | .800238 | .806660 | .810970 | .819694 | .823032 | .830057 | |
| 380 | .789919 | .797862 | .804306 | .809807 | .816101 | .820322 | .828860 | .832122 | .838986 | |
| 385 | .799845 | .807640 | .813956 | .819345 | .825505 | .829634 | .837976 | .841161 | .847856 | |
| 390 | .809757 | .817395 | .823579 | .828850 | .834871 | .838902 | .847040 | .850145 | .856664 | |
| 395 | .819654 | .827128 | .833173 | .838321 | .844195 | .848125 | .856050 | .859071 | .865407 | |
| 400 | .829535 | .836837 | .842735 | .847754 | .853475 | .857300 | .865003 | .867935 | .874081 | |
| 405 | .839399 | .846520 | .852265 | .857149 | .862710 | .866424 | .873895 | .876735 | .882682 | |
| 410 | .849246 | .856175 | .861760 | .866501 | .871894 | .875492 | .882721 | .885465 | .891205 | |
| 415 | .859072 | .865801 | .871216 | .875809 | .881026 | .884502 | .891476 | .894121 | .899645 | |
| 420 | .868878 | .875395 | .880632 | .885068 | .890100 | .893449 | .900156 | .902696 | .907993 | |
| 425 | .878661 | .884955 | .890004 | .894274 | .899111 | .902326 | .908754 | .911183 | .916243 | |
| 430 | .888419 | .894476 | .899326 | .903422 | .908054 | .911128 | .917261 | .919575 | .924386 | |
| 435 | .898149 | .903955 | .908595 | .912506 | .916921 | .919845 | .925668 | .927860 | .932409 | |
| 440 | .907848 | .913387 | .917803 | .921518 | .925703 | .928469 | .933964 | .936027 | .940299 | |
| 445 | .917512 | .922766 | .926943 | .930449 | .934389 | .936987 | .942133 | .944060 | .948039 | |
| 450 | .927136 | .932083 | .936005 | .939287 | .942964 | .945384 | .950158 | .951939 | .955607 | |
| 455 | .936712 | .941329 | .944974 | .948015 | .951411 | .953638 | .958013 | .959639 | .962974 | |
| 460 | .946232 | .950488 | .953834 | .956613 | .959703 | .961722 | .965666 | .967125 | .970101 | |
| 465 | .955681 | .959541 | .962557 | .965050 | .967805 | .969596 | .973071 | .974347 | .976935 | |
| 470 | .965040 | .968457 | .971105 | .973278 | .975663 | .977200 | .980157 | .981232 | .983394 | |
| 475 | .974275 | .977184 | .979413 | .981223 | .983186 | .984438 | .986812 | .987662 | .989349 | |
| 480 | .983321 | .985628 | .987361 | .989742 | .990210 | .991129 | .992827 | .993419 | .994565 | |
| 485 | .992024 | .993555 | .994654 | .995493 | .996345 | .996852 | .997732 | .998018 | .998537 | |
| 490 | .999545 | .999785 | .999895 | .999948 | .999979 | .999990 | .999998 | .999999 | 1.000000 | |
| 500 | 250 | .517805 | .527621 | .535716 | .542726 | .550860 | .556388 | .567750 | .572160 | .581566 |
| 255 | .527796 | .537588 | .545668 | .552661 | .560773 | .566284 | .577606 | .581999 | .591363 | |
| 260 | .537759 | .547544 | .555605 | .562579 | .570666 | .576157 | .587435 | .591808 | .601128 | |
| 265 | .547725 | .557488 | .565527 | .572480 | .580538 | .586007 | .597236 | .601588 | .610860 | |
| 270 | .557683 | .567420 | .575434 | .582362 | .590389 | .595835 | .607010 | .611339 | .620559 | |
| 275 | .567634 | .577341 | .585327 | .592228 | .600219 | .605639 | .616756 | .621061 | .630225 | |
| 280 | .577577 | .587251 | .595205 | .602075 | .610028 | .615420 | .626474 | .630753 | .639858 | |
| 285 | .587512 | .597148 | .605067 | .611905 | .619816 | .625178 | .636164 | .640415 | .649457 | |
| 290 | .597440 | .607034 | .614915 | .621717 | .629583 | .634912 | .645827 | .650048 | .659022 | |
| 295 | .607360 | .616908 | .624748 | .631510 | .639329 | .644623 | .655460 | .659650 | .668553 | |
| 300 | .617272 | .626771 | .634565 | .641286 | .649052 | .654310 | .665066 | .669222 | .678050 | |
| 305 | .627176 | .636621 | .644366 | .651043 | .658754 | .663972 | .674642 | .678763 | .687513 | |
| 310 | .637072 | .646458 | .654152 | .660781 | .668433 | .673609 | .684188 | .688272 | .696939 | |
| 315 | .646960 | .656283 | .663922 | .670500 | .678090 | .683222 | .693705 | .697750 | .706331 | |
| 320 | .656839 | .666096 | .673675 | .680199 | .687724 | .692810 | .703192 | .707196 | .715686 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 500 | 325 | .666710 | .675896 | .683412 | .689879 | .697335 | .702371 | .712647 | .716608 | .725003 | |
| | 330 | .676572 | .685682 | .693133 | .699539 | .706922 | .711907 | .722072 | .725988 | .734284 | |
| | 335 | .686426 | .695455 | .702836 | .709179 | .716485 | .721415 | .731464 | .735333 | .743525 | |
| | 340 | .696270 | .705215 | .712521 | .718798 | .726023 | .730896 | .740823 | .744643 | .752728 | |
| | 345 | .706106 | .714960 | .722188 | .728395 | .735535 | .740349 | .750149 | .753918 | .761890 | |
| | 350 | .715931 | .724691 | .731837 | .737970 | .745022 | .749773 | .759441 | .763156 | .771012 | |
| | 355 | .725747 | .734407 | .741467 | .747523 | .754481 | .759168 | .768697 | .772357 | .780090 | |
| | 360 | .735553 | .744108 | .751078 | .757052 | .763914 | .768532 | .777916 | .781519 | .789125 | |
| | 365 | .745349 | .753793 | .760668 | .766557 | .773317 | .777865 | .787099 | .790640 | .798116 | |
| | 370 | .755134 | .763462 | .770237 | .776038 | .782692 | .787165 | .796242 | .799721 | .807059 | |
| | 375 | .764908 | .773114 | .779785 | .785493 | .792036 | .796432 | .805345 | .808759 | .815955 | |
| | 380 | .774670 | .782748 | .789311 | .794921 | .801348 | .805664 | .814406 | .817752 | .824800 | |
| | 385 | .784421 | .792365 | .798813 | .804321 | .810627 | .814859 | .823423 | .826699 | .833593 | |
| | 390 | .794159 | .801962 | .808290 | .813693 | .819872 | .824016 | .832395 | .835597 | .842332 | |
| | 395 | .803983 | .811519 | .817742 | .823033 | .829081 | .833133 | .841320 | .844445 | .851013 | |
| | 400 | .813594 | .821095 | .827167 | .832342 | .838251 | .842208 | .850194 | .853240 | .859635 | |
| +05 | | .823291 | .830629 | .836564 | .841617 | .847382 | .851239 | .859015 | .861978 | .868193 | |
| 410 | | .832972 | .840140 | .845930 | .850856 | .856470 | .860223 | .867781 | .870657 | .876685 | |
| 415 | | .842636 | .849625 | .855264 | .860057 | .865514 | .869157 | .876486 | .879272 | .885105 | |
| 420 | | .852293 | .859084 | .864565 | .869217 | .874509 | .878038 | .885128 | .887820 | .893449 | |
| | 425 | .861911 | .868514 | .873828 | .878334 | .883452 | .886862 | .893702 | .896295 | .901712 | |
| | 430 | .871518 | .877913 | .883051 | .887403 | .892339 | .895623 | .902202 | .904692 | .909886 | |
| | 435 | .881103 | .887278 | .892232 | .896420 | .901165 | .904318 | .910621 | .913003 | .917964 | |
| | 440 | .890664 | .896606 | .901364 | .905381 | .909924 | .912938 | .918952 | .921221 | .925937 | |
| | 445 | .900198 | .905893 | .910444 | .914279 | .918609 | .921476 | .927186 | .929335 | .933793 | |
| | 450 | .909701 | .915134 | .919465 | .923108 | .927211 | .929923 | .935310 | .937333 | .941520 | |
| | 455 | .919170 | .924323 | .928419 | .931857 | .935719 | .938267 | .943311 | .945200 | .949100 | |
| | 460 | .928600 | .933451 | .937297 | .940515 | .944120 | .946492 | .951171 | .952917 | .956512 | |
| | 465 | .937984 | .942510 | .946084 | .949066 | .952394 | .954577 | .958866 | .960459 | .963727 | |
| | 470 | .947311 | .951484 | .954764 | .957489 | .960518 | .962496 | .966363 | .967792 | .970709 | |
| | 475 | .956571 | .960355 | .963311 | .965754 | .968455 | .970210 | .973616 | .974867 | .977403 | |
| | 480 | .965741 | .969090 | .971687 | .973816 | .976153 | .977660 | .980558 | .981612 | .983730 | |
| | 485 | .974791 | .977642 | .979827 | .981601 | .983525 | .984752 | .987078 | .987911 | .989564 | |
| | 490 | .983656 | .985916 | .987614 | .988968 | .990407 | .991308 | .992971 | .993552 | .994674 | |
| | 495 | .992194 | .993684 | .994761 | .995584 | .996418 | .996915 | .997777 | .998058 | .998566 | |
| | 500 | .999554 | .999789 | .999897 | .999949 | .999980 | .999990 | .999998 | .999999 | 1.000000 | |
| 525 | 260 | .512644 | .522230 | .530137 | .536986 | .544936 | .550339 | .561451 | .565765 | .574969 | |
| | 270 | .531657 | .541218 | .549097 | .555916 | .563826 | .569199 | .580238 | .584520 | .593650 | |
| | 280 | .550644 | .560165 | .568005 | .574785 | .582643 | .587977 | .598927 | .603172 | .612215 | |
| | 290 | .569603 | .579072 | .586860 | .593592 | .601387 | .606674 | .617520 | .621720 | .630662 | |
| | 300 | .588536 | .597937 | .605663 | .612335 | .620056 | .625289 | .636013 | .640164 | .648992 | |
| | 310 | .607441 | .616761 | .624413 | .631015 | .638650 | .643820 | .654407 | .658501 | .667202 | |
| | 320 | .626318 | .635542 | .643108 | .649631 | .657166 | .662267 | .672699 | .676729 | .685289 | |
| | 330 | .645167 | .654279 | .661747 | .668179 | .675604 | .680626 | .690887 | .694847 | .703252 | |
| | 340 | .663986 | .672972 | .680329 | .686660 | .693961 | .698895 | .708968 | .712852 | .721087 | |
| | 350 | .682775 | .691619 | .698851 | .705069 | .712235 | .717072 | .726937 | .730738 | .738789 | |
| | 360 | .701532 | .710217 | .717311 | .723406 | .730421 | .735153 | .744792 | .748501 | .756352 | |
| | 370 | .720256 | .728765 | .735707 | .741665 | .748515 | .753132 | .762526 | .766136 | .773771 | |
| | 380 | .738945 | .747259 | .754035 | .759843 | .766514 | .771005 | .780132 | .783636 | .791037 | |
| | 390 | .757597 | .765698 | .772290 | .777934 | .784411 | .788766 | .797604 | .800993 | .808142 | |
| | 400 | .776209 | .784075 | .790468 | .795934 | .802198 | .806405 | .814931 | .818196 | .825074 | |
| | 410 | .794778 | .802388 | .808562 | .813834 | .819867 | .823915 | .832103 | .835233 | .841820 | |
| | 420 | .813301 | .820629 | .826565 | .831626 | .837408 | .841282 | .849104 | .852090 | .858362 | |
| | 430 | .831771 | .838792 | .844467 | .849298 | .854807 | .858492 | .865918 | .868747 | .874679 | |
| | 440 | .850184 | .856866 | .862256 | .866835 | .872046 | .875526 | .882522 | .885181 | .890745 | |
| | 450 | .868530 | .874840 | .879916 | .884218 | .889104 | .892359 | .898886 | .901359 | .906525 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 525 | 460 | .986800 | .892697 | .897425 | .901423 | .905950 | .908958 | .914970 | .917242 | .921971 | |
| | 470 | .904976 | .910412 | .914755 | .918414 | .922543 | .925278 | .930721 | .932769 | .937019 | |
| | 480 | .923038 | .927953 | .931860 | .935138 | .938821 | .941250 | .946057 | .947857 | .951573 | |
| | 490 | .940949 | .945265 | .948673 | .951515 | .954687 | .956767 | .960853 | .962371 | .965484 | |
| | 500 | .958646 | .962252 | .965070 | .967398 | .969971 | .971643 | .974887 | .976078 | .978494 | |
| | 510 | .975994 | .978711 | .980792 | .982482 | .984314 | .985483 | .987698 | .988492 | .990065 | |
| | 520 | .992557 | .993996 | .995011 | .995795 | .996589 | .997063 | .997883 | .998151 | .998635 | |
| 550 | 260 | .489760 | .499138 | .506881 | .513595 | .521395 | .526701 | .537625 | .541871 | .550937 | |
| | 270 | .507941 | .517310 | .525041 | .531739 | .539515 | .544802 | .555677 | .559901 | .568915 | |
| | 280 | .526097 | .535447 | .543155 | .549828 | .557571 | .562831 | .573643 | .577840 | .586789 | |
| | 290 | .544230 | .553547 | .561222 | .567862 | .575561 | .580788 | .591523 | .595686 | .604559 | |
| | 300 | .562339 | .571612 | .579243 | .585841 | .593485 | .598672 | .609316 | .613441 | .622225 | |
| | 310 | .580423 | .589639 | .597217 | .603764 | .611344 | .616483 | .627022 | .631102 | .639787 | |
| | 320 | .598494 | .607630 | .615144 | .621631 | .629135 | .634221 | .644639 | .648670 | .657243 | |
| | 330 | .616520 | .625583 | .633023 | .639441 | .646859 | .651883 | .662166 | .666142 | .674591 | |
| | 340 | .634531 | .643499 | .650853 | .657192 | .664514 | .669469 | .679602 | .683516 | .691829 | |
| | 350 | .652516 | .661374 | .668632 | .674883 | .682098 | .686976 | .696944 | .700791 | .708954 | |
| | 360 | .670475 | .679210 | .686360 | .692513 | .699608 | .704403 | .714189 | .717963 | .725964 | |
| | 370 | .688476 | .697003 | .704034 | .710079 | .717043 | .721745 | .731334 | .735028 | .742853 | |
| | 380 | .706308 | .714753 | .721652 | .727578 | .734399 | .739001 | .748375 | .751982 | .759618 | |
| | 390 | .724190 | .732458 | .739212 | .745008 | .751673 | .756166 | .765307 | .768821 | .776252 | |
| | 400 | .742021 | .750114 | .756710 | .762364 | .768860 | .773234 | .782124 | .785537 | .792749 | |
| | 410 | .759829 | .767720 | .774143 | .779644 | .785956 | .790201 | .798819 | .802125 | .809100 | |
| | 420 | .777401 | .785272 | .791506 | .796840 | .802953 | .807060 | .815385 | .818574 | .825295 | |
| | 430 | .795334 | .802764 | .808795 | .813947 | .819844 | .823801 | .831811 | .834875 | .841323 | |
| | 440 | .813026 | .820194 | .826002 | .830956 | .836620 | .840415 | .848085 | .851013 | .857169 | |
| | 450 | .830671 | .837553 | .843119 | .847859 | .853269 | .856890 | .864191 | .866975 | .872815 | |
| | 460 | .848265 | .854834 | .860135 | .864643 | .869778 | .873208 | .880112 | .882738 | .888238 | |
| | 470 | .865801 | .872026 | .877039 | .881292 | .886127 | .889350 | .895821 | .898276 | .903409 | |
| | 480 | .883269 | .889116 | .893811 | .897785 | .902291 | .905288 | .911287 | .913557 | .918289 | |
| | 490 | .900659 | .906086 | .910429 | .914094 | .918237 | .920985 | .926466 | .928532 | .932826 | |
| | 500 | .917951 | .922908 | .926858 | .930179 | .933918 | .936389 | .941294 | .943136 | .946946 | |
| | 510 | .935119 | .939541 | .943045 | .945777 | .949260 | .951419 | .955678 | .957266 | .960536 | |
| | 520 | .952118 | .955919 | .958906 | .961386 | .964143 | .965942 | .969459 | .970759 | .973411 | |
| | 530 | .968864 | .971912 | .974275 | .976212 | .978338 | .979708 | .982343 | .983301 | .985226 | |
| | 540 | .985144 | .987200 | .988744 | .989975 | .991283 | .992102 | .993614 | .994141 | .995162 | |
| | 550 | .990504 | .999808 | .999907 | .999954 | .999982 | .999991 | .999998 | .999999 | 1.000000 | |
| 575 | 260 | .468925 | .477990 | .485565 | .492138 | .499780 | .504984 | .513706 | .519878 | .528792 | |
| | 270 | .486241 | .495413 | .502987 | .509555 | .517188 | .522381 | .533074 | .537232 | .546111 | |
| | 280 | .503636 | .512803 | .520368 | .526923 | .534536 | .539713 | .550365 | .554503 | .563336 | |
| | 290 | .521009 | .530161 | .537707 | .544242 | .551826 | .556980 | .567578 | .571692 | .580469 | |
| | 300 | .538361 | .547486 | .555005 | .561512 | .569058 | .574183 | .584714 | .588799 | .597508 | |
| | 310 | .555692 | .564779 | .572261 | .578732 | .586231 | .591321 | .601772 | .605824 | .614455 | |
| | 320 | .573001 | .582040 | .589476 | .595902 | .603345 | .608394 | .618752 | .622765 | .631309 | |
| | 330 | .590289 | .599268 | .606648 | .613023 | .620400 | .625401 | .635654 | .639623 | .648068 | |
| | 340 | .607555 | .616462 | .623778 | .630092 | .637395 | .642342 | .652476 | .656396 | .664731 | |
| | 350 | .626799 | .633623 | .640864 | .647110 | .654328 | .659215 | .669216 | .673082 | .681297 | |
| | 360 | .642020 | .650749 | .657906 | .664075 | .671198 | .676018 | .685874 | .689680 | .697763 | |
| | 370 | .659217 | .667839 | .674903 | .680985 | .688004 | .692750 | .702446 | .706188 | .714128 | |
| | 380 | .676391 | .684893 | .691852 | .697840 | .704744 | .709409 | .718931 | .722603 | .730387 | |
| | 390 | .693539 | .701909 | .708753 | .714636 | .721415 | .725992 | .735325 | .738920 | .746537 | |
| | 400 | .710662 | .718835 | .725603 | .731373 | .738015 | .742496 | .751625 | .755138 | .762575 | |
| | 410 | .727758 | .735821 | .742400 | .748046 | .754540 | .758918 | .767825 | .771250 | .778493 | |
| | 420 | .744824 | .752712 | .759141 | .764654 | .770987 | .775252 | .783922 | .787252 | .794287 | |
| | 430 | .761861 | .769558 | .775824 | .781191 | .787350 | .791495 | .799909 | .803137 | .809950 | |
| | 440 | .778866 | .786354 | .792443 | .797653 | .803625 | .807639 | .815778 | .818896 | .825471 | |
| | 450 | .795935 | .803098 | .808995 | .814034 | .819804 | .823678 | .831521 | .834522 | .840842 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|---------|------------------------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 575 | 460 | .812767 | .819785 | .825474 | .830329 | .835880 | .839603 | .847128 | .850003 | .856049 |
| 470 | .820658 | .836409 | .841872 | .846527 | .851843 | .855402 | .862585 | .865324 | .871077 | |
| 480 | .846503 | .852963 | .858181 | .862620 | .867680 | .871062 | .877875 | .880469 | .885906 | |
| 490 | .863297 | .869439 | .874389 | .879593 | .883375 | .886567 | .892979 | .895415 | .900512 | |
| 500 | .880032 | .885826 | .890483 | .894430 | .898909 | .901892 | .907870 | .910135 | .914862 | |
| 510 | .896698 | .902107 | .906443 | .910107 | .914754 | .917008 | .922511 | .924589 | .928915 | |
| 520 | .913280 | .918263 | .922241 | .925591 | .929371 | .931874 | .936853 | .938726 | .942610 | |
| 530 | .929760 | .934261 | .937837 | .940837 | .944205 | .946426 | .950822 | .952466 | .955861 | |
| 540 | .946103 | .950052 | .953169 | .955768 | .958668 | .960569 | .964303 | .965689 | .968537 | |
| 550 | .962252 | .965550 | .968126 | .970253 | .972604 | .974131 | .977094 | .978182 | .980387 | |
| 560 | .978096 | .980569 | .982470 | .984013 | .985687 | .986754 | .988776 | .989500 | .990937 | |
| 570 | .993205 | .994510 | .995446 | .996161 | .996886 | .997319 | .998068 | .998312 | .998754 | |
| 600 | 260 | .449601 | .458552 | .465957 | .472397 | .479869 | .484967 | .495480 | .499573 | .508327 |
| 270 | .466313 | .475283 | .482698 | .489132 | .496615 | .501709 | .512210 | .516296 | .525029 | |
| 280 | .483006 | .491984 | .499400 | .505832 | .513306 | .518393 | .528869 | .532943 | .541645 | |
| 290 | .499690 | .508656 | .516065 | .522487 | .529945 | .535018 | .545459 | .549516 | .558178 | |
| 300 | .516335 | .525299 | .532693 | .539098 | .546532 | .551585 | .561979 | .566015 | .574627 | |
| 310 | .532971 | .541913 | .549284 | .555664 | .563066 | .568094 | .578429 | .582440 | .590993 | |
| 320 | .549587 | .558498 | .565837 | .572186 | .579547 | .584545 | .594810 | .598791 | .607275 | |
| 330 | .566195 | .575054 | .582353 | .589664 | .595976 | .600937 | .611121 | .615067 | .623474 | |
| 340 | .582763 | .591580 | .598832 | .605097 | .612351 | .617271 | .627361 | .631269 | .639588 | |
| 350 | .599322 | .608077 | .615277 | .621484 | .628672 | .633545 | .643530 | .647394 | .655616 | |
| 360 | .615860 | .624543 | .631673 | .637825 | .644939 | .649758 | .659626 | .663443 | .671558 | |
| 370 | .632379 | .640979 | .648035 | .654119 | .661150 | .665910 | .675649 | .679413 | .687410 | |
| 380 | .648876 | .657383 | .664356 | .670365 | .677304 | .681998 | .691596 | .695303 | .703173 | |
| 390 | .665153 | .673755 | .680636 | .685652 | .693400 | .698022 | .707466 | .711110 | .718483 | |
| 400 | .681807 | .690093 | .696873 | .702708 | .709455 | .713979 | .723256 | .726833 | .734416 | |
| 410 | .698239 | .706397 | .713066 | .719401 | .725407 | .729867 | .738963 | .742467 | .749891 | |
| 420 | .714547 | .722665 | .729213 | .734839 | .741315 | .745683 | .754594 | .758010 | .765262 | |
| 430 | .731031 | .738895 | .745312 | .750820 | .757154 | .761424 | .770115 | .773457 | .780526 | |
| 440 | .747389 | .755046 | .761360 | .766740 | .772922 | .777086 | .785552 | .788804 | .795676 | |
| 450 | .763719 | .771234 | .777354 | .782597 | .788615 | .792664 | .800889 | .804044 | .810707 | |
| 460 | .780019 | .787339 | .793291 | .798385 | .804227 | .808154 | .816119 | .819171 | .825610 | |
| 470 | .796289 | .803396 | .809167 | .814101 | .819753 | .823548 | .831235 | .834177 | .840376 | |
| 480 | .812524 | .819401 | .824977 | .829738 | .835185 | .838838 | .846227 | .849052 | .854994 | |
| 490 | .828723 | .835349 | .840715 | .845290 | .850515 | .854016 | .861085 | .863783 | .869451 | |
| 500 | .844980 | .851236 | .856373 | .860746 | .865733 | .869069 | .875794 | .878356 | .883730 | |
| 510 | .860092 | .867052 | .871941 | .876096 | .880825 | .883984 | .890337 | .892752 | .897810 | |
| 520 | .877062 | .882790 | .887408 | .891325 | .895774 | .898740 | .904691 | .906948 | .911665 | |
| 530 | .893051 | .898436 | .902758 | .906414 | .910558 | .913314 | .918827 | .920912 | .925258 | |
| 540 | .908979 | .913973 | .917968 | .921338 | .925146 | .927671 | .932704 | .934601 | .938543 | |
| 550 | .924819 | .929377 | .933007 | .936059 | .939493 | .941762 | .946265 | .947954 | .951450 | |
| 560 | .940546 | .944610 | .947828 | .950520 | .953534 | .955515 | .959423 | .960880 | .963878 | |
| 570 | .956121 | .959611 | .962353 | .964629 | .967158 | .968809 | .972034 | .973225 | .975656 | |
| 580 | .971465 | .974262 | .976429 | .978206 | .980155 | .981412 | .983827 | .984705 | .986469 | |
| 590 | .996394 | .998270 | .998685 | .999013 | .999203 | .999263 | .999419 | .999632 | .999567 | |
| 600 | .999628 | .999824 | .999915 | .999958 | .999983 | .999992 | .999998 | .999999 | 1.000000 | |
| 625 | 310 | .512026 | .520814 | .528063 | .534344 | .541636 | .546594 | .556793 | .560755 | .569211 |
| 320 | .528002 | .536772 | .544002 | .550262 | .557526 | .562462 | .572610 | .576550 | .584953 | |
| 330 | .543061 | .552704 | .559907 | .566140 | .573368 | .578278 | .588364 | .592277 | .600620 | |
| 340 | .559902 | .568610 | .575778 | .581978 | .589163 | .594041 | .604055 | .607938 | .616211 | |
| 350 | .575926 | .584489 | .591616 | .597775 | .604910 | .609751 | .619683 | .623531 | .631726 | |
| 360 | .591733 | .600341 | .607419 | .613532 | .620609 | .625407 | .635246 | .639056 | .647164 | |
| 370 | .607622 | .616167 | .623187 | .629247 | .636258 | .641009 | .650744 | .654511 | .662524 | |
| 380 | .623492 | .631965 | .638920 | .644920 | .651858 | .656557 | .666177 | .669897 | .677805 | |
| 390 | .639344 | .647734 | .654617 | .660551 | .667407 | .672047 | .681542 | .685211 | .693006 | |
| 400 | .655177 | .663475 | .670277 | .676137 | .682903 | .687480 | .696838 | .700451 | .708123 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 625 | 410 | .670991 | .679187 | .685899 | .691678 | .698346 | .702854 | .712063 | .715617 | .723156 | |
| | 420 | .686785 | .694868 | .701482 | .707173 | .713735 | .718167 | .727215 | .730704 | .738101 | |
| | 430 | .702558 | .710517 | .717025 | .722619 | .729065 | .733417 | .742292 | .745711 | .752955 | |
| | 440 | .718309 | .726134 | .732525 | .738016 | .744337 | .748601 | .757290 | .760634 | .767715 | |
| | 450 | .734038 | .741716 | .747981 | .753360 | .759546 | .763717 | .772206 | .775470 | .782377 | |
| 460 | .749743 | .757262 | .763391 | .768649 | .774690 | .778760 | .787035 | .790215 | .796935 | | |
| | 470 | .765423 | .772770 | .778753 | .783879 | .789765 | .793727 | .801773 | .804862 | .811383 | |
| | 480 | .781076 | .788237 | .794062 | .799048 | .804767 | .808612 | .816414 | .819406 | .825716 | |
| | 490 | .796701 | .803661 | .809316 | .814151 | .819691 | .823412 | .830952 | .833839 | .839924 | |
| | 500 | .812295 | .819038 | .824509 | .829192 | .834529 | .838117 | .845377 | .848154 | .853998 | |
| 510 | .827856 | .834365 | .839638 | .844136 | .849276 | .852721 | .859681 | .862339 | .867926 | | |
| | 520 | .843390 | .849635 | .854694 | .859004 | .863922 | .867213 | .873851 | .876382 | .881694 | |
| | 530 | .858862 | .864843 | .869671 | .873777 | .878454 | .881580 | .887873 | .890267 | .895284 | |
| | 540 | .874299 | .879981 | .884558 | .888443 | .892860 | .895807 | .901726 | .903974 | .908674 | |
| | 550 | .889682 | .895038 | .899341 | .902985 | .907120 | .909873 | .915387 | .917476 | .921833 | |
| 560 | .905003 | .910000 | .914002 | .917384 | .921210 | .923750 | .928823 | .930738 | .934723 | | |
| | 570 | .920249 | .924848 | .928518 | .931608 | .935093 | .937399 | .941987 | .943712 | .947289 | |
| | 580 | .935401 | .939553 | .942850 | .945615 | .948719 | .950765 | .954812 | .956327 | .959452 | |
| | 590 | .950429 | .954070 | .956942 | .959335 | .962006 | .963757 | .967193 | .968470 | .971085 | |
| | 600 | .965281 | .968318 | .970690 | .972649 | .974813 | .976218 | .978945 | .979945 | .981974 | |
| 610 | .979842 | .982128 | .983878 | .985298 | .986838 | .987820 | .989680 | .990347 | .991668 | | |
| | 620 | .993749 | .994949 | .995811 | .996469 | .997136 | .997534 | .998223 | .998447 | .998854 | |
| 650 | 310 | .492659 | .501295 | .508408 | .514583 | .521757 | .526639 | .536689 | .540597 | .548942 | |
| | 320 | .508041 | .516661 | .523774 | .529937 | .537094 | .541961 | .551976 | .555867 | .564173 | |
| | 330 | .523408 | .532013 | .539110 | .545255 | .552388 | .557236 | .567206 | .571077 | .579337 | |
| | 340 | .538758 | .547342 | .554415 | .560537 | .567639 | .572463 | .582379 | .586227 | .594432 | |
| | 350 | .554093 | .562646 | .569689 | .575783 | .582847 | .587643 | .597494 | .601315 | .609459 | |
| 360 | .569413 | .577927 | .584933 | .590991 | .598011 | .602774 | .612552 | .616343 | .624417 | | |
| | 370 | .584716 | .593183 | .600146 | .606163 | .613131 | .617858 | .627553 | .631309 | .639305 | |
| | 380 | .600004 | .608415 | .615328 | .621298 | .628208 | .632892 | .642495 | .646212 | .654123 | |
| | 390 | .615275 | .623622 | .630478 | .636395 | .643239 | .647877 | .657377 | .661053 | .668870 | |
| | 400 | .630529 | .638804 | .645595 | .651453 | .658225 | .662811 | .672199 | .675829 | .683544 | |
| 410 | .645767 | .653960 | .660680 | .666472 | .673164 | .677694 | .686959 | .690539 | .698145 | | |
| | 420 | .660987 | .669090 | .675730 | .681451 | .688056 | .692523 | .701656 | .705182 | .712669 | |
| | 430 | .676100 | .684193 | .690746 | .696389 | .702898 | .707299 | .716288 | .719757 | .727116 | |
| | 440 | .691374 | .699267 | .705726 | .711283 | .717690 | .722018 | .730853 | .734259 | .741482 | |
| | 450 | .706539 | .714313 | .720669 | .726134 | .732430 | .736680 | .745349 | .748688 | .755765 | |
| 460 | .721684 | .729329 | .735573 | .740938 | .747114 | .751281 | .759772 | .763041 | .769961 | | |
| | 470 | .736809 | .744313 | .750437 | .755695 | .761742 | .765820 | .774120 | .777313 | .784067 | |
| | 480 | .751912 | .759264 | .765259 | .770401 | .776310 | .780292 | .788389 | .791501 | .798078 | |
| | 490 | .766991 | .774180 | .780036 | .785053 | .790816 | .794694 | .802575 | .805600 | .811989 | |
| | 500 | .782047 | .789050 | .794765 | .799650 | .805254 | .809023 | .816671 | .819605 | .825794 | |
| 510 | .797077 | .803809 | .809443 | .814186 | .819620 | .823277 | .830674 | .833509 | .839486 | | |
| | 520 | .812078 | .818696 | .824067 | .828656 | .833910 | .837436 | .844574 | .847305 | .853055 | |
| | 530 | .827050 | .833447 | .838632 | .843057 | .848116 | .851508 | .858364 | .860984 | .866493 | |
| | 540 | .841988 | .848148 | .853132 | .857380 | .862231 | .865478 | .872033 | .874534 | .879785 | |
| | 550 | .856889 | .862792 | .867560 | .871618 | .876244 | .879337 | .885569 | .887942 | .892918 | |
| 560 | .871749 | .877373 | .881908 | .885760 | .890144 | .893070 | .898954 | .901190 | .905871 | | |
| | 570 | .886661 | .891883 | .896164 | .899793 | .903915 | .906661 | .912169 | .914257 | .918619 | |
| | 580 | .901319 | .906310 | .910313 | .913699 | .917535 | .920085 | .925185 | .927113 | .931131 | |
| | 590 | .916012 | .920638 | .924336 | .927454 | .930977 | .933313 | .937966 | .939720 | .943362 | |
| | 600 | .930625 | .934844 | .938203 | .941025 | .944200 | .946298 | .950459 | .952020 | .955249 | |
| 610 | .945136 | .948895 | .951870 | .954358 | .957144 | .958974 | .962584 | .963930 | .966698 | | |
| | 620 | .959507 | .962733 | .965266 | .967369 | .969705 | .971230 | .974208 | .975308 | .977552 | |
| | 630 | .973665 | .976249 | .978251 | .979892 | .981692 | .982852 | .985081 | .985892 | .987520 | |
| | 640 | .987423 | .989174 | .990481 | .991523 | .992630 | .993322 | .994601 | .995048 | .995910 | |
| | 650 | .999657 | .999838 | .999921 | .999961 | .999985 | .999992 | .999998 | .999999 | 1.000000 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 675 | 310 | .474699 | .483161 | .490153 | .496218 | .503271 | .508072 | .517965 | .521813 | .530039 |
| | 320 | .489529 | .497994 | .504985 | .511046 | .518090 | .522882 | .532753 | .536591 | .544789 |
| | 330 | .504345 | .512306 | .519789 | .525840 | .532869 | .537650 | .547489 | .551312 | .559476 |
| | 340 | .519146 | .527596 | .534565 | .540602 | .547609 | .552373 | .562173 | .565979 | .574101 |
| | 350 | .533933 | .542364 | .549313 | .555330 | .562311 | .567054 | .576805 | .580590 | .588664 |
| | 360 | .548706 | .557111 | .564034 | .570025 | .576973 | .581691 | .591385 | .595146 | .603165 |
| | 370 | .563465 | .571836 | .578727 | .584687 | .591595 | .596285 | .605913 | .609647 | .617603 |
| | 380 | .578209 | .586539 | .593392 | .599316 | .606178 | .610834 | .620389 | .624092 | .631978 |
| | 390 | .592939 | .601220 | .608029 | .613911 | .620721 | .625340 | .634812 | .638480 | .646290 |
| | 400 | .607654 | .615878 | .622636 | .628471 | .635223 | .639800 | .649180 | .652811 | .660537 |
| | 410 | .622354 | .630514 | .637215 | .642997 | .649685 | .654215 | .663495 | .667085 | .674719 |
| | 420 | .637039 | .645127 | .651764 | .657488 | .664104 | .668584 | .677754 | .681299 | .688834 |
| | 430 | .651708 | .659716 | .666282 | .671942 | .678480 | .682905 | .691956 | .695452 | .702880 |
| | 440 | .666361 | .674280 | .680770 | .686360 | .692813 | .697177 | .706099 | .709544 | .716858 |
| | 450 | .680998 | .688820 | .695225 | .700739 | .707100 | .711400 | .720184 | .723573 | .730763 |
| | 460 | .695618 | .703334 | .709647 | .715079 | .721341 | .725571 | .734206 | .737535 | .744594 |
| | 470 | .710221 | .717821 | .724035 | .729378 | .735533 | .739689 | .748164 | .751430 | .758349 |
| | 480 | .724805 | .732281 | .738388 | .743635 | .749675 | .753751 | .762056 | .765254 | .772024 |
| | 490 | .739370 | .746712 | .752704 | .757848 | .763765 | .767755 | .775879 | .779004 | .785616 |
| | 500 | .753916 | .761112 | .766980 | .772014 | .777800 | .781699 | .789629 | .792677 | .799121 |
| | 510 | .768440 | .775480 | .781216 | .786131 | .791777 | .795578 | .803303 | .806269 | .812534 |
| | 520 | .782942 | .789815 | .795408 | .800197 | .805693 | .809390 | .816895 | .819774 | .825850 |
| | 530 | .797420 | .804113 | .809553 | .814208 | .819543 | .823129 | .830400 | .833187 | .839062 |
| | 540 | .811973 | .818372 | .823649 | .828159 | .833323 | .836791 | .843813 | .846501 | .852162 |
| | 550 | .826298 | .832590 | .837691 | .842046 | .847027 | .850368 | .857125 | .859708 | .865142 |
| | 560 | .840693 | .846761 | .851674 | .855863 | .860648 | .863854 | .870328 | .872799 | .877991 |
| | 570 | .855054 | .860882 | .865592 | .869603 | .874178 | .877239 | .883409 | .885761 | .890695 |
| | 580 | .869379 | .874946 | .879438 | .883257 | .887606 | .890510 | .896356 | .898580 | .903237 |
| | 590 | .883661 | .888947 | .893202 | .898613 | .900918 | .903655 | .909150 | .911236 | .915598 |
| | 600 | .897896 | .902874 | .906872 | .910258 | .914097 | .916653 | .921770 | .923707 | .927749 |
| | 610 | .912073 | .916715 | .920432 | .923570 | .927121 | .929478 | .934183 | .935959 | .939654 |
| | 620 | .926182 | .930451 | .933857 | .936724 | .939957 | .942096 | .946349 | .947948 | .951263 |
| | 630 | .940204 | .944056 | .947115 | .949678 | .952556 | .954453 | .958204 | .959607 | .962502 |
| | 640 | .954113 | .957489 | .960151 | .962370 | .964845 | .966467 | .969651 | .970833 | .973255 |
| | 650 | .967859 | .970674 | .972872 | .974687 | .976692 | .977994 | .980519 | .981445 | .983323 |
| | 660 | .981338 | .983456 | .985077 | .986392 | .987818 | .988727 | .990450 | .991066 | .992289 |
| | 670 | .994212 | .995324 | .996122 | .996731 | .997349 | .997717 | .998355 | .998563 | .998939 |
| 700 | 310 | .457998 | .466295 | .473155 | .479110 | .486037 | .490756 | .500485 | .504273 | .512372 |
| | 320 | .472314 | .480622 | .487487 | .493444 | .500370 | .505086 | .514804 | .518585 | .526667 |
| | 330 | .486616 | .494929 | .501794 | .507748 | .514667 | .519376 | .529074 | .532846 | .540904 |
| | 340 | .500906 | .509216 | .516075 | .522021 | .528928 | .533626 | .543297 | .547057 | .555084 |
| | 350 | .515182 | .523483 | .530332 | .536265 | .543153 | .547837 | .557473 | .561217 | .569208 |
| | 360 | .529445 | .537731 | .544562 | .550478 | .557343 | .562008 | .571601 | .575327 | .583274 |
| | 370 | .543396 | .551959 | .558768 | .564661 | .571496 | .576140 | .585682 | .589386 | .597284 |
| | 380 | .557933 | .566167 | .572948 | .578414 | .585614 | .590231 | .599716 | .603395 | .611236 |
| | 390 | .572158 | .580355 | .587102 | .592936 | .599696 | .604283 | .613701 | .617353 | .625131 |
| | 400 | .586369 | .594523 | .601231 | .607028 | .613741 | .618295 | .627639 | .631259 | .638969 |
| | 410 | .600567 | .608671 | .615333 | .621088 | .627749 | .632266 | .641527 | .645114 | .652747 |
| | 420 | .614751 | .622798 | .629410 | .635117 | .641720 | .646196 | .655366 | .658916 | .666467 |
| | 430 | .628921 | .636904 | .643459 | .649114 | .655654 | .660083 | .669155 | .672664 | .680126 |
| | 440 | .643078 | .650989 | .657481 | .663079 | .669548 | .673928 | .682893 | .686358 | .693723 |
| | 450 | .657220 | .665052 | .671474 | .677010 | .683403 | .687729 | .696578 | .699997 | .707258 |
| | 460 | .671347 | .679093 | .685440 | .690907 | .697217 | .701485 | .710210 | .713578 | .720729 |
| | 470 | .685459 | .693110 | .699375 | .704768 | .710990 | .715196 | .723786 | .727101 | .734133 |
| | 480 | .699556 | .707104 | .713280 | .718594 | .724720 | .728858 | .737305 | .740563 | .747469 |
| | 490 | .713636 | .721073 | .727154 | .732382 | .738405 | .742472 | .750766 | .753962 | .760734 |
| | 500 | .727700 | .735017 | .740995 | .746130 | .752044 | .756034 | .764165 | .767296 | .773926 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|---------|------------------------|---------|----------|---------|---------|---------|---------|----------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 700 | 510 | .741746 | .748934 | .754801 | .759838 | .765634 | .769542 | .777500 | .780562 | .787040 | |
| | 520 | .755773 | .762823 | .768572 | .773504 | .779174 | .782995 | .790768 | .793756 | .800075 | |
| | 530 | .769782 | .776682 | .782304 | .787124 | .792661 | .796389 | .803966 | .806876 | .813025 | |
| | 540 | .783769 | .790510 | .795997 | .800697 | .806091 | .809720 | .817089 | .819916 | .825885 | |
| | 550 | .797735 | .804305 | .809648 | .814219 | .819461 | .822985 | .830132 | .832872 | .838650 | |
| 560 | .811678 | .818065 | .823252 | .827637 | .832767 | .836178 | .843091 | .845737 | .851313 | | |
| | .825595 | .831786 | .836808 | .841096 | .846003 | .849295 | .855957 | .858505 | .863867 | | |
| | .839485 | .845465 | .850310 | .854442 | .859164 | .862329 | .868724 | .871166 | .876300 | | |
| | .853345 | .859099 | .863753 | .867717 | .872242 | .875271 | .881381 | .883711 | .888602 | | |
| | .867171 | .872681 | .877131 | .880915 | .885228 | .888111 | .893916 | .896126 | .900759 | | |
| 610 | .880960 | .886207 | .890435 | .894025 | .898110 | .900836 | .906315 | .908396 | .912752 | | |
| | .894705 | .899667 | .903556 | .907037 | .910875 | .913431 | .918558 | .920501 | .924558 | | |
| | .908401 | .913051 | .916779 | .919932 | .923502 | .925875 | .930619 | .932413 | .936148 | | |
| | .922037 | .926344 | .929786 | .932638 | .935966 | .938138 | .942465 | .944095 | .947481 | | |
| | .935600 | .939525 | .942650 | .945275 | .948228 | .950178 | .954046 | .955497 | .958497 | | |
| 660 | .949068 | .952564 | .955331 | .957644 | .960233 | .961934 | .965288 | .966538 | .969109 | | |
| | .962407 | .965406 | .967761 | .969715 | .971885 | .973302 | .976068 | .977090 | .979174 | | |
| | .975550 | .977951 | .979811 | .981335 | .983037 | .984085 | .986155 | .986907 | .988419 | | |
| | .988332 | .989949 | .991163 | .992130 | .993158 | .993801 | .994989 | .995403 | .996204 | | |
| | .999681 | .999849 | .999927 | .999964 | .999986 | .999993 | .999999 | .999999 | 1.000000 | | |
| 725 | 360 | .511485 | .519646 | .526378 | .532212 | .538987 | .543594 | .553074 | .556758 | .564623 | |
| | 370 | .525261 | .533408 | .540126 | .545945 | .552699 | .557289 | .566732 | .570399 | .578225 | |
| | 380 | .539024 | .547152 | .553851 | .559550 | .566378 | .570949 | .580346 | .583994 | .591775 | |
| | 390 | .552776 | .560878 | .567552 | .573327 | .580024 | .584572 | .593917 | .597542 | .605273 | |
| | 400 | .566516 | .574586 | .581230 | .586977 | .593637 | .598159 | .607444 | .611044 | .618718 | |
| 410 | .580243 | .588276 | .594885 | .600598 | .607217 | .611708 | .620927 | .624499 | .632110 | | |
| | .593959 | .601947 | .608516 | .614191 | .620763 | .625221 | .634365 | .637907 | .645450 | | |
| | .607662 | .615599 | .622122 | .627755 | .634276 | .638696 | .647758 | .651267 | .658735 | | |
| | .621352 | .629232 | .635704 | .641291 | .647754 | .652133 | .661106 | .664578 | .671965 | | |
| | .635030 | .642846 | .649262 | .6554797 | .661197 | .665531 | .674407 | .677840 | .685139 | | |
| 460 | .648695 | .656440 | .662794 | .668273 | .674604 | .678890 | .687661 | .691052 | .698257 | | |
| | .662346 | .670014 | .676300 | .681717 | .687974 | .692208 | .700867 | .704212 | .711317 | | |
| | .675984 | .683567 | .689779 | .695130 | .701307 | .705484 | .714022 | .717319 | .724316 | | |
| | .689608 | .697099 | .703232 | .708511 | .714601 | .718718 | .727127 | .730371 | .737255 | | |
| | .703218 | .710609 | .716656 | .721858 | .727856 | .731908 | .740179 | .743368 | .750130 | | |
| 510 | .716812 | .724096 | .730050 | .735170 | .741069 | .745052 | .753176 | .756306 | .762940 | | |
| | .730391 | .737559 | .743415 | .748445 | .754240 | .758149 | .766117 | .769185 | .775682 | | |
| | .743954 | .750998 | .756748 | .761635 | .767365 | .771196 | .778998 | .782000 | .788353 | | |
| | .757499 | .764410 | .770047 | .774884 | .780444 | .784192 | .791817 | .794749 | .800949 | | |
| | .771027 | .777796 | .783312 | .788041 | .793474 | .797133 | .804572 | .807429 | .813468 | | |
| 560 | .784536 | .791153 | .796540 | .801154 | .806452 | .810017 | .817257 | .820036 | .825904 | | |
| | .798025 | .804479 | .809728 | .814221 | .819374 | .822839 | .829869 | .832565 | .838252 | | |
| | .811492 | .817773 | .822875 | .827238 | .832238 | .835596 | .842404 | .845011 | .850506 | | |
| | .824937 | .831031 | .835977 | .840292 | .845038 | .848283 | .854853 | .857367 | .862660 | | |
| | .838356 | .844252 | .849030 | .853107 | .857768 | .860894 | .867212 | .869626 | .874704 | | |
| 610 | .851748 | .857430 | .862029 | .865948 | .870424 | .873421 | .879471 | .881779 | .886628 | | |
| | .865109 | .870563 | .874969 | .878719 | .882996 | .885856 | .891620 | .893815 | .898421 | | |
| | .878437 | .883644 | .887843 | .891412 | .895475 | .898188 | .903645 | .905721 | .910067 | | |
| | .891726 | .896666 | .900642 | .904015 | .907848 | .910403 | .915531 | .917477 | .921545 | | |
| | .904971 | .909621 | .913355 | .916516 | .920099 | .922483 | .927257 | .929063 | .932831 | | |
| 660 | .918163 | .922497 | .925956 | .928895 | .932207 | .934406 | .938793 | .940448 | .943891 | | |
| | .931292 | .935276 | .938454 | .941128 | .944142 | .946136 | .950100 | .951591 | .954679 | | |
| | .944342 | .947935 | .950787 | .953177 | .955859 | .957627 | .961122 | .962429 | .965125 | | |
| | .957287 | .960434 | .962916 | .964983 | .967289 | .968800 | .971766 | .972867 | .975122 | | |
| | .970081 | .972704 | .974752 | .976442 | .978310 | .979522 | .981874 | .982736 | .984484 | | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 725 | 710 | .982627 | .984600 | .986110 | .987334 | .988662 | .989509 | .991112 | .991686 | .992825 |
| | 720 | .994612 | .995647 | .996390 | .996957 | .997532 | .997875 | .998469 | .998662 | .999013 |
| 750 | 360 | .494699 | .502730 | .509350 | .515109 | .521788 | .526333 | .535691 | .539330 | .547103 |
| | 370 | .508030 | .516055 | .522678 | .523417 | .535083 | .539617 | .548948 | .552574 | .560318 |
| | 380 | .521350 | .529364 | .535975 | .541701 | .548348 | .552867 | .562165 | .565776 | .573485 |
| | 390 | .534658 | .542656 | .549250 | .554958 | .551583 | .566085 | .575341 | .578936 | .586604 |
| | 400 | .547956 | .555932 | .562503 | .558191 | .574788 | .579269 | .588478 | .592053 | .599675 |
| | 410 | .561243 | .569191 | .575735 | .581398 | .587962 | .592419 | .601575 | .605127 | .612698 |
| | 420 | .574518 | .582433 | .588947 | .594579 | .601106 | .605536 | .614632 | .618158 | .625672 |
| | 430 | .587783 | .595658 | .602136 | .607734 | .614219 | .618619 | .627647 | .631146 | .638598 |
| | 440 | .601036 | .608866 | .615303 | .620854 | .627302 | .631668 | .640622 | .644091 | .651475 |
| | 450 | .614278 | .622056 | .628447 | .633956 | .640352 | .644681 | .653555 | .656990 | .664301 |
| | 460 | .627508 | .635229 | .641570 | .647042 | .653371 | .657660 | .666446 | .669845 | .677076 |
| | 470 | .640727 | .648384 | .654669 | .650093 | .656358 | .670602 | .679293 | .682654 | .689890 |
| | 480 | .653933 | .661521 | .667744 | .673110 | .679311 | .683508 | .692097 | .695417 | .702471 |
| | 490 | .667127 | .674638 | .680796 | .686102 | .692230 | .696376 | .704856 | .708131 | .715089 |
| | 500 | .680309 | .687737 | .693823 | .699064 | .705114 | .709206 | .717568 | .720797 | .727650 |
| | 510 | .693477 | .700816 | .706824 | .711996 | .717963 | .721996 | .730233 | .733412 | .740155 |
| | 520 | .706632 | .713874 | .719800 | .724897 | .730774 | .734745 | .742849 | .745974 | .752601 |
| | 530 | .719773 | .726911 | .732748 | .737756 | .743568 | .747451 | .755415 | .758483 | .764987 |
| | 540 | .732900 | .739927 | .745558 | .750601 | .756281 | .760114 | .767928 | .770936 | .777309 |
| | 550 | .746012 | .752919 | .758558 | .763401 | .758973 | .772731 | .780386 | .783331 | .789565 |
| | 560 | .759107 | .765888 | .771418 | .776154 | .781622 | .785300 | .792786 | .795665 | .801753 |
| | 570 | .772187 | .778831 | .784246 | .789893 | .794225 | .797819 | .805126 | .807934 | .813868 |
| | 580 | .785249 | .791748 | .797040 | .801574 | .806780 | .810284 | .817403 | .820136 | .825907 |
| | 590 | .798292 | .804636 | .809797 | .814216 | .819285 | .822693 | .829612 | .832266 | .837865 |
| | 600 | .811316 | .817495 | .822515 | .826811 | .831734 | .835042 | .841749 | .844319 | .849737 |
| | 610 | .824318 | .830321 | .835194 | .839358 | .844125 | .847326 | .853809 | .856290 | .861515 |
| | 620 | .837298 | .843112 | .847826 | .851851 | .856453 | .859541 | .865785 | .868172 | .873194 |
| | 630 | .850252 | .855865 | .860410 | .864285 | .868713 | .871679 | .877670 | .879957 | .884764 |
| | 640 | .863179 | .868576 | .872940 | .876556 | .880896 | .883733 | .889454 | .891635 | .896213 |
| | 650 | .876075 | .881241 | .885410 | .889956 | .892995 | .895694 | .901128 | .903195 | .907529 |
| | 660 | .888936 | .893853 | .897813 | .901175 | .904999 | .907550 | .912675 | .914622 | .918695 |
| | 670 | .901758 | .906405 | .910139 | .913303 | .916894 | .919286 | .924080 | .925896 | .929689 |
| | 680 | .914534 | .918886 | .922375 | .925324 | .928663 | .930882 | .935317 | .936993 | .940484 |
| | 690 | .927255 | .931284 | .934504 | .937213 | .940281 | .942312 | .946355 | .947878 | .951040 |
| | 700 | .939908 | .943579 | .946500 | .948954 | .951713 | .953536 | .957149 | .958503 | .961305 |
| | 710 | .952474 | .955741 | .958327 | .960439 | .962907 | .964496 | .967628 | .968795 | .971195 |
| | 720 | .964920 | .967722 | .969921 | .971745 | .973773 | .975096 | .977678 | .978632 | .980577 |
| | 730 | .977184 | .979426 | .981162 | .982586 | .984146 | .985152 | .987085 | .987787 | .989198 |
| | 740 | .989111 | .990620 | .991754 | .992656 | .993616 | .994216 | .995324 | .995711 | .996458 |
| | 750 | .999703 | .999860 | .999932 | .999956 | .999987 | .999993 | .999999 | .999999 | 1.000000 |
| 775 | 360 | .478977 | .486875 | .493401 | .499051 | .505642 | .510121 | .519352 | .522943 | .530618 |
| | 370 | .491890 | .499790 | .506313 | .511970 | .518543 | .523016 | .532228 | .535811 | .543465 |
| | 380 | .504793 | .512689 | .519207 | .524935 | .531417 | .535880 | .545068 | .548640 | .556267 |
| | 390 | .517685 | .525573 | .532080 | .537718 | .544263 | .548714 | .557872 | .561430 | .569025 |
| | 400 | .530568 | .538442 | .544934 | .550556 | .557082 | .561517 | .570638 | .574180 | .581740 |
| | 410 | .543441 | .551296 | .557769 | .563372 | .569872 | .574289 | .583368 | .586892 | .594410 |
| | 420 | .556304 | .564134 | .570583 | .575154 | .582635 | .587030 | .596061 | .599564 | .607036 |
| | 430 | .569156 | .576956 | .583378 | .588932 | .595373 | .599740 | .608716 | .612197 | .619617 |
| | 440 | .581998 | .589763 | .596153 | .601676 | .608076 | .612419 | .621335 | .624790 | .632153 |
| | 450 | .594830 | .602555 | .608907 | .614397 | .620754 | .625067 | .633915 | .637343 | .644644 |
| | 460 | .607651 | .615330 | .621542 | .627093 | .633404 | .637683 | .646458 | .649856 | .657090 |
| | 470 | .620462 | .628089 | .634355 | .639755 | .646024 | .650266 | .658961 | .662327 | .669489 |
| | 480 | .633262 | .640832 | .647048 | .652411 | .658614 | .662817 | .671426 | .674756 | .681040 |
| | 490 | .646051 | .653558 | .659719 | .665032 | .671174 | .675334 | .683850 | .687143 | .694144 |
| | 500 | .658829 | .666267 | .672368 | .677627 | .683704 | .687817 | .696233 | .699486 | .706399 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 775 | 510 | .671596 | .678959 | .684995 | .690195 | .696201 | .700265 | .708575 | .711785 | .718603 |
| | 520 | .684350 | .691633 | .697599 | .702736 | .708667 | .712677 | .720874 | .724038 | .730756 |
| | 530 | .697093 | .704288 | .710179 | .715249 | .721099 | .725052 | .733128 | .736244 | .742856 |
| | 540 | .709823 | .716925 | .722735 | .727733 | .733496 | .737393 | .745337 | .748402 | .754901 |
| | 550 | .722540 | .729541 | .735265 | .740187 | .745858 | .749688 | .757499 | .760509 | .766889 |
| | 560 | .735244 | .742138 | .747770 | .752613 | .758183 | .761945 | .769612 | .772565 | .778819 |
| | 570 | .747934 | .754713 | .760247 | .755000 | .770470 | .774159 | .781674 | .784566 | .790688 |
| | 580 | .760609 | .767266 | .772596 | .777355 | .782716 | .786329 | .793683 | .796511 | .802493 |
| | 590 | .773269 | .779795 | .785115 | .789677 | .794920 | .798452 | .805635 | .808395 | .814231 |
| | 600 | .785912 | .792300 | .797502 | .801950 | .807083 | .810526 | .817529 | .820218 | .825898 |
| | 610 | .798539 | .804779 | .809856 | .814203 | .819192 | .822548 | .829360 | .831973 | .837490 |
| | 620 | .811147 | .817230 | .822174 | .826404 | .831254 | .834514 | .841125 | .843658 | .849002 |
| | 630 | .823736 | .829651 | .834454 | .838550 | .843262 | .846420 | .852818 | .855268 | .860429 |
| | 640 | .836303 | .842040 | .846593 | .850555 | .855212 | .858262 | .864435 | .866795 | .871764 |
| | 650 | .848848 | .854394 | .858887 | .862719 | .867099 | .870035 | .875968 | .878234 | .882998 |
| | 660 | .861367 | .866710 | .871032 | .874714 | .878917 | .881731 | .887409 | .889575 | .894123 |
| | 670 | .873859 | .878983 | .883122 | .885644 | .890658 | .893342 | .898749 | .900808 | .905127 |
| | 680 | .886319 | .891210 | .895152 | .898501 | .902313 | .904858 | .909976 | .911922 | .915995 |
| | 690 | .898744 | .903382 | .907113 | .910277 | .913871 | .916267 | .921074 | .922898 | .926709 |
| | 700 | .911128 | .915492 | .918994 | .921957 | .925317 | .927551 | .932024 | .933716 | .937245 |
| | 710 | .923464 | .927528 | .930781 | .933526 | .936630 | .938689 | .942799 | .944349 | .947573 |
| | 720 | .935741 | .939475 | .942453 | .944959 | .947782 | .949650 | .952362 | .954757 | .957647 |
| | 730 | .947944 | .951311 | .953982 | .956221 | .958732 | .960387 | .963659 | .964882 | .967405 |
| | 740 | .960050 | .962997 | .965321 | .967257 | .969416 | .970830 | .973605 | .974635 | .976746 |
| | 750 | .972015 | .974471 | .976388 | .977973 | .979718 | .980852 | .983052 | .983859 | .985495 |
| | 760 | .983750 | .985596 | .987009 | .988155 | .989397 | .990189 | .991689 | .992226 | .993291 |
| | 770 | .994959 | .995928 | .996623 | .997154 | .997692 | .998012 | .998568 | .998749 | .999076 |
| 800 | 360 | .464220 | .471985 | .478405 | .483975 | .490455 | .494868 | .503967 | .507508 | .515081 |
| | 370 | .476740 | .484513 | .490936 | .496507 | .502985 | .507395 | .516483 | .520020 | .527578 |
| | 380 | .489251 | .497027 | .503449 | .509017 | .515489 | .519894 | .528966 | .532494 | .540034 |
| | 390 | .501753 | .509527 | .515944 | .521506 | .527968 | .532363 | .541414 | .544933 | .552448 |
| | 400 | .514246 | .522012 | .528420 | .533972 | .540420 | .544805 | .553829 | .557335 | .564822 |
| | 410 | .526729 | .534484 | .540879 | .546418 | .552847 | .557218 | .566209 | .569702 | .577156 |
| | 420 | .539203 | .546941 | .553319 | .558841 | .565249 | .569603 | .578556 | .582032 | .589448 |
| | 430 | .551667 | .559384 | .565741 | .571243 | .577624 | .581959 | .590868 | .594326 | .601700 |
| | 440 | .564123 | .571813 | .578145 | .583623 | .589974 | .594287 | .603147 | .606583 | .613910 |
| | 450 | .576568 | .584227 | .590531 | .595981 | .602298 | .606586 | .615390 | .618804 | .626080 |
| | 460 | .589005 | .596627 | .602897 | .608317 | .614596 | .618856 | .627600 | .630988 | .638207 |
| | 470 | .601432 | .609012 | .615246 | .620631 | .625867 | .631097 | .639774 | .643135 | .650293 |
| | 480 | .613849 | .621383 | .627575 | .632922 | .639112 | .643308 | .651912 | .655244 | .662335 |
| | 490 | .626256 | .633738 | .639885 | .645191 | .651329 | .655489 | .664015 | .667314 | .674335 |
| | 500 | .638653 | .646079 | .652175 | .657436 | .663519 | .667640 | .676081 | .679346 | .686291 |
| | 510 | .651040 | .658403 | .664446 | .669657 | .675680 | .679759 | .688109 | .691338 | .698201 |
| | 520 | .663416 | .670712 | .676596 | .681854 | .687813 | .691846 | .700100 | .703289 | .710067 |
| | 530 | .675782 | .683005 | .688925 | .694026 | .699916 | .703901 | .712051 | .715199 | .721885 |
| | 540 | .688137 | .695280 | .701132 | .706172 | .711989 | .715923 | .723962 | .727066 | .733655 |
| | 550 | .700480 | .707539 | .713318 | .718293 | .724031 | .727910 | .735833 | .738890 | .745376 |
| | 560 | .712812 | .719780 | .725481 | .730386 | .736041 | .739861 | .747660 | .750668 | .757046 |
| | 570 | .725132 | .732003 | .737621 | .742451 | .748018 | .751776 | .759444 | .762399 | .768663 |
| | 580 | .737439 | .744206 | .749736 | .754488 | .759960 | .763653 | .771182 | .774082 | .780225 |
| | 590 | .749733 | .756390 | .761826 | .766494 | .771866 | .775490 | .782873 | .785714 | .791730 |
| | 600 | .762014 | .768553 | .773889 | .778468 | .783735 | .787286 | .794514 | .797294 | .803176 |
| | 610 | .774281 | .780695 | .785924 | .790409 | .795565 | .799038 | .806103 | .808818 | .814560 |
| | 620 | .786532 | .792813 | .797930 | .802315 | .807353 | .810744 | .817637 | .820284 | .825877 |
| | 630 | .798767 | .804908 | .809905 | .814185 | .819097 | .822402 | .829114 | .831689 | .837126 |
| | 640 | .810986 | .816976 | .821847 | .826015 | .830795 | .834009 | .840528 | .843027 | .848300 |
| | 650 | .823187 | .829017 | .833754 | .837804 | .842443 | .845560 | .851877 | .854296 | .859395 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 800 | 660 | .835368 | .841029 | .845623 | .849547 | .854038 | .857053 | .863155 | .865490 | .870406 |
| | 670 | .847528 | .853008 | .857450 | .851241 | .865575 | .868481 | .874356 | .876601 | .881324 |
| | 680 | .859665 | .864953 | .869233 | .872831 | .877048 | .879839 | .885473 | .887624 | .892142 |
| | 690 | .871776 | .876859 | .880966 | .884453 | .888451 | .891119 | .896498 | .898548 | .902850 |
| | 700 | .883859 | .888721 | .892544 | .895979 | .899777 | .902314 | .907421 | .909363 | .913434 |
| | 710 | .895911 | .900536 | .904250 | .907421 | .911015 | .913412 | .918227 | .920055 | .923879 |
| | 720 | .907926 | .912294 | .915805 | .918778 | .922152 | .924399 | .928900 | .930606 | .934166 |
| | 730 | .919898 | .923988 | .927255 | .930035 | .933172 | .935256 | .939419 | .940992 | .944268 |
| | 740 | .931819 | .935604 | .938627 | .941176 | .944052 | .945958 | .949753 | .951182 | .954148 |
| | 750 | .943676 | .947124 | .949856 | .952159 | .954759 | .956469 | .959859 | .961129 | .963757 |
| | 760 | .955453 | .958520 | .960947 | .962975 | .965243 | .966734 | .969672 | .970766 | .973017 |
| | 770 | .967117 | .969747 | .971810 | .973522 | .975423 | .976664 | .979085 | .979980 | .981803 |
| | 780 | .978612 | .980716 | .982344 | .983679 | .985142 | .986085 | .987897 | .988555 | .989878 |
| | 790 | .989792 | .991208 | .992270 | .993117 | .994016 | .994579 | .995618 | .995980 | .996681 |
| | 800 | .999721 | .999868 | .999936 | .999953 | .999987 | .999994 | .999999 | .999999 | 1.000000 |
| 825 | 410 | .511010 | .518660 | .524973 | .530444 | .536798 | .541119 | .550014 | .553471 | .560854 |
| | 420 | .523118 | .530758 | .537060 | .542519 | .548857 | .553166 | .562031 | .565475 | .572828 |
| | 430 | .535217 | .542843 | .549130 | .554574 | .550892 | .565186 | .574017 | .577446 | .584764 |
| | 440 | .547307 | .554914 | .561182 | .556608 | .572903 | .577179 | .585971 | .589383 | .596663 |
| | 450 | .559389 | .566972 | .573218 | .578623 | .584890 | .589147 | .597893 | .601287 | .608523 |
| | 460 | .571462 | .579017 | .585237 | .590617 | .596854 | .601087 | .609783 | .613156 | .620346 |
| | 470 | .583526 | .591049 | .597239 | .602591 | .608793 | .613002 | .621642 | .624992 | .632130 |
| | 480 | .595582 | .603067 | .609224 | .614545 | .620707 | .624889 | .633468 | .636793 | .643875 |
| | 490 | .607628 | .615072 | .621191 | .626477 | .632598 | .636748 | .645262 | .648559 | .655581 |
| | 500 | .619666 | .627062 | .633140 | .638389 | .644463 | .648580 | .657022 | .660290 | .667247 |
| | 510 | .631694 | .639039 | .645072 | .650273 | .656302 | .660384 | .668749 | .671986 | .678872 |
| | 520 | .643713 | .651002 | .656985 | .662147 | .668116 | .672160 | .680441 | .683645 | .690457 |
| | 530 | .655722 | .662949 | .668879 | .673993 | .679904 | .683906 | .692099 | .695266 | .702000 |
| | 540 | .667722 | .674883 | .680755 | .685817 | .691665 | .695623 | .703721 | .706850 | .713500 |
| | 550 | .679711 | .686800 | .692511 | .697617 | .703398 | .707309 | .715306 | .718395 | .724956 |
| | 560 | .691690 | .698703 | .704447 | .709394 | .715103 | .718964 | .723654 | .729901 | .736368 |
| | 570 | .703659 | .710589 | .716252 | .721145 | .726779 | .730586 | .738364 | .741365 | .747733 |
| | 580 | .715617 | .722459 | .728056 | .732872 | .738425 | .742176 | .749834 | .752787 | .759050 |
| | 590 | .727564 | .734311 | .739829 | .745473 | .750039 | .753731 | .761263 | .764166 | .770319 |
| | 600 | .739499 | .746146 | .751578 | .756245 | .761622 | .765251 | .772649 | .775499 | .781536 |
| | 610 | .751422 | .757963 | .763304 | .767891 | .773171 | .776734 | .783991 | .786785 | .792700 |
| | 620 | .763332 | .769760 | .775005 | .779507 | .784686 | .788178 | .795287 | .798021 | .803808 |
| | 630 | .775229 | .781536 | .786680 | .791092 | .796164 | .799581 | .806534 | .809206 | .814858 |
| | 640 | .787111 | .793292 | .798327 | .802544 | .807603 | .810942 | .817730 | .820337 | .825848 |
| | 650 | .798980 | .805025 | .809946 | .814152 | .819001 | .822258 | .828872 | .831411 | .836772 |
| | 660 | .810832 | .816734 | .821535 | .825644 | .830357 | .833526 | .839957 | .842424 | .847628 |
| | 670 | .822668 | .828418 | .833090 | .837035 | .841666 | .844743 | .850982 | .853372 | .858411 |
| | 680 | .834485 | .840074 | .844511 | .848487 | .852926 | .855906 | .861940 | .864250 | .869115 |
| | 690 | .846284 | .851701 | .856093 | .859843 | .864132 | .867009 | .872828 | .875053 | .879734 |
| | 700 | .858061 | .863296 | .867535 | .871150 | .875280 | .878048 | .883639 | .885774 | .890262 |
| | 710 | .869815 | .874855 | .878931 | .882403 | .886364 | .889016 | .894365 | .896405 | .900688 |
| | 720 | .881543 | .886375 | .890277 | .893596 | .897378 | .899906 | .904998 | .906937 | .911001 |
| | 730 | .893242 | .897851 | .901556 | .904722 | .908312 | .910708 | .915526 | .917357 | .921190 |
| | 740 | .904908 | .909278 | .912792 | .915771 | .919155 | .921410 | .925934 | .927650 | .931235 |
| | 750 | .916537 | .920646 | .923943 | .926733 | .929895 | .931997 | .936205 | .937797 | .941115 |
| | 760 | .928120 | .931946 | .935307 | .937590 | .940511 | .942448 | .946312 | .947770 | .950801 |
| | 770 | .939649 | .943163 | .945954 | .948321 | .950977 | .952733 | .956223 | .957534 | .960251 |
| | 780 | .951109 | .954275 | .956788 | .958893 | .961254 | .962810 | .965885 | .967035 | .969405 |
| | 790 | .962477 | .965249 | .967434 | .959254 | .971283 | .972612 | .975220 | .976187 | .978170 |
| | 800 | .973715 | .976024 | .977825 | .979312 | .980954 | .982020 | .984087 | .984845 | .986381 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 825 | 810 | .984736 | .986471 | .987798 | .988875 | .990042 | .990786 | .992195 | .992700 | .993700 | |
| | 820 | .995265 | .996175 | .996828 | .997326 | .997832 | .998133 | .998655 | .998825 | .999133 | |
| 850 | 410 | .496199 | .503742 | .509970 | .515370 | .521644 | .525913 | .534706 | .538125 | .545430 | |
| | 420 | .507961 | .515500 | .521722 | .527114 | .533377 | .537638 | .546409 | .549818 | .557100 | |
| 430 | 430 | .519715 | .527245 | .533458 | .538840 | .545089 | .549338 | .558083 | .561481 | .568735 | |
| | 440 | .531461 | .538979 | .545178 | .550547 | .556778 | .561014 | .569727 | .573112 | .580335 | |
| 450 | 450 | .543199 | .550700 | .556883 | .562235 | .568446 | .572666 | .581343 | .584712 | .591900 | |
| | 460 | .554929 | .562409 | .568572 | .573905 | .580091 | .584293 | .592929 | .596281 | .603429 | |
| 470 | 470 | .566651 | .574106 | .580245 | .585555 | .591714 | .595895 | .604485 | .607818 | .614924 | |
| | 480 | .578364 | .585790 | .591903 | .597183 | .603314 | .607473 | .616012 | .619324 | .626382 | |
| 490 | 490 | .590070 | .597462 | .603544 | .608802 | .614892 | .619026 | .627510 | .630798 | .637805 | |
| | 500 | .601767 | .609122 | .615170 | .620395 | .626448 | .630553 | .638976 | .642240 | .649192 | |
| 510 | 510 | .613456 | .620768 | .626779 | .631970 | .637980 | .642055 | .650413 | .653650 | .660541 | |
| | 520 | .625137 | .632402 | .638371 | .643525 | .649489 | .653531 | .661818 | .665026 | .671854 | |
| 530 | 530 | .636809 | .644023 | .649947 | .655060 | .660974 | .664981 | .673192 | .676370 | .683129 | |
| | 540 | .648472 | .655630 | .661505 | .665574 | .672435 | .676404 | .684534 | .687679 | .694365 | |
| 550 | 550 | .660126 | .667224 | .673047 | .678058 | .683871 | .687800 | .695843 | .698953 | .705563 | |
| 560 | 560 | .671771 | .678003 | .684570 | .689540 | .695282 | .699168 | .707119 | .710192 | .716720 | |
| | 570 | .683407 | .690369 | .696075 | .700991 | .706668 | .710508 | .718361 | .721394 | .727836 | |
| 580 | 580 | .695033 | .701920 | .707561 | .712413 | .718026 | .721818 | .729568 | .732559 | .738910 | |
| | 590 | .706649 | .713456 | .719028 | .723825 | .729358 | .733098 | .740738 | .743686 | .749941 | |
| 600 | 600 | .718255 | .724976 | .730476 | .735207 | .740662 | .744347 | .751872 | .754773 | .760928 | |
| 610 | 610 | .729850 | .736481 | .741902 | .746564 | .751936 | .755564 | .762967 | .765820 | .771868 | |
| | 620 | .741435 | .747968 | .753307 | .757896 | .763181 | .766748 | .774022 | .776824 | .782760 | |
| 630 | 630 | .753008 | .759439 | .764591 | .769202 | .774394 | .777897 | .785036 | .787784 | .793603 | |
| | 640 | .764570 | .770891 | .776051 | .780483 | .785575 | .789010 | .796006 | .798698 | .804394 | |
| 650 | 650 | .776119 | .782325 | .787386 | .791729 | .796721 | .800085 | .806931 | .809563 | .815130 | |
| 660 | 660 | .787655 | .793739 | .798697 | .802943 | .807832 | .811121 | .817809 | .820378 | .825809 | |
| | 670 | .799177 | .805132 | .809980 | .814135 | .818904 | .822114 | .828636 | .831140 | .836429 | |
| 680 | 680 | .810684 | .816502 | .821235 | .825288 | .829937 | .833064 | .839411 | .841845 | .846984 | |
| | 690 | .822176 | .827849 | .832460 | .836405 | .840926 | .843965 | .850128 | .852490 | .857471 | |
| 700 | 700 | .833652 | .839171 | .843552 | .847433 | .851870 | .854816 | .860785 | .863071 | .867886 | |
| 710 | 710 | .845109 | .850465 | .854810 | .858513 | .862764 | .865613 | .871377 | .873581 | .878222 | |
| | 720 | .856547 | .861730 | .865929 | .869511 | .873605 | .876350 | .881897 | .884017 | .888474 | |
| 730 | 730 | .867964 | .872962 | .877007 | .880453 | .884387 | .887022 | .892341 | .894370 | .898632 | |
| | 740 | .879357 | .884159 | .888038 | .891340 | .895105 | .897623 | .902698 | .904632 | .908688 | |
| 750 | 750 | .890724 | .895315 | .899019 | .902165 | .905750 | .908144 | .912960 | .914792 | .918630 | |
| 760 | 760 | .902061 | .906427 | .909942 | .912924 | .916314 | .918575 | .923114 | .924838 | .928442 | |
| | 770 | .913364 | .917487 | .920798 | .923602 | .926784 | .928902 | .933145 | .934753 | .938107 | |
| 780 | 780 | .924628 | .928486 | .931577 | .934189 | .937145 | .939109 | .943032 | .944514 | .947599 | |
| | 790 | .935843 | .939412 | .942263 | .944664 | .947375 | .949170 | .952745 | .954091 | .956885 | |
| 800 | 800 | .947000 | .950249 | .952834 | .955033 | .957443 | .959054 | .962246 | .963443 | .965917 | |
| 810 | 810 | .958080 | .960970 | .963256 | .965156 | .967303 | .968707 | .971473 | .972504 | .974622 | |
| | 820 | .969056 | .971532 | .973476 | .975088 | .976878 | .978046 | .980325 | .981167 | .982883 | |
| 830 | 830 | .979873 | .981853 | .983386 | .984543 | .986021 | .986908 | .988613 | .989233 | .990478 | |
| | 840 | .990393 | .991726 | .992726 | .993523 | .994369 | .994899 | .995877 | .996218 | .996877 | |
| 850 | 850 | .999738 | .999876 | .999940 | .999970 | .999988 | .999994 | .999999 | .999999 | 1.000000 | |
| 875 | 410 | .482219 | .489654 | .495795 | .501122 | .507314 | .511529 | .520215 | .523594 | .530817 | |
| | 420 | .493655 | .501090 | .507229 | .512552 | .518738 | .522948 | .531619 | .534991 | .542197 | |
| 430 | 430 | .505082 | .512514 | .518648 | .523955 | .530142 | .534344 | .542996 | .546359 | .553543 | |
| | 440 | .516503 | .523928 | .530054 | .535351 | .541526 | .545718 | .554345 | .557698 | .564858 | |
| 450 | 450 | .527915 | .535330 | .541444 | .546740 | .552888 | .557068 | .565668 | .569008 | .576139 | |
| 460 | 460 | .539321 | .546720 | .552820 | .558102 | .564231 | .568396 | .576963 | .580290 | .587388 | |
| | 470 | .550719 | .558100 | .564182 | .569445 | .575553 | .579702 | .588231 | .591542 | .598605 | |
| 480 | 480 | .562109 | .569468 | .575529 | .580773 | .586854 | .590984 | .599472 | .602765 | .609788 | |
| | 490 | .573492 | .580824 | .586861 | .592082 | .598134 | .602244 | .610685 | .613959 | .620939 | |
| 500 | 500 | .584868 | .592169 | .598178 | .603373 | .609394 | .613480 | .621870 | .625123 | .632056 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 875 | 510 | .596235 | .603503 | .609480 | .614647 | .620632 | .624693 | .633028 | .636258 | .643139 | |
| | 520 | .607595 | .614824 | .620768 | .625903 | .631849 | .635883 | .644157 | .647363 | .654189 | |
| | 530 | .618947 | .626134 | .632063 | .637141 | .643045 | .647048 | .655257 | .658437 | .665204 | |
| | 540 | .630292 | .637431 | .643296 | .648353 | .654219 | .658190 | .666329 | .669480 | .676185 | |
| | 550 | .641628 | .648716 | .654537 | .659550 | .665373 | .669306 | .677371 | .680492 | .687130 | |
| | 560 | .652956 | .659989 | .665752 | .670742 | .676499 | .680398 | .688383 | .691472 | .698039 | |
| | 570 | .664275 | .671249 | .676970 | .681933 | .687604 | .691464 | .699364 | .702419 | .708911 | |
| | 580 | .675586 | .682496 | .688152 | .693045 | .698686 | .702504 | .710315 | .713333 | .719746 | |
| | 590 | .686888 | .693730 | .699336 | .704167 | .709744 | .713517 | .721233 | .724213 | .730542 | |
| | 600 | .698182 | .704950 | .710493 | .715257 | .720777 | .724503 | .732118 | .735058 | .741299 | |
| | 610 | .709465 | .716155 | .721632 | .726346 | .731784 | .735460 | .742969 | .745867 | .752015 | |
| | 620 | .720740 | .727347 | .732752 | .737403 | .742766 | .746389 | .753786 | .756638 | .762689 | |
| | 630 | .732004 | .738523 | .743853 | .748437 | .753719 | .757287 | .764566 | .767372 | .773320 | |
| | 640 | .743259 | .749684 | .754934 | .759447 | .754645 | .768154 | .775309 | .778066 | .783906 | |
| | 650 | .754502 | .760828 | .765994 | .770432 | .775542 | .778989 | .786013 | .788718 | .794446 | |
| | 660 | .765735 | .771956 | .777033 | .781392 | .786407 | .789789 | .796677 | .799327 | .804937 | |
| | 670 | .776956 | .783066 | .788049 | .792325 | .797241 | .800555 | .807299 | .809892 | .815377 | |
| | 680 | .788164 | .794157 | .799041 | .803229 | .808042 | .811283 | .817876 | .820409 | .825764 | |
| | 690 | .799360 | .805229 | .810008 | .814103 | .818806 | .821972 | .828406 | .830876 | .836095 | |
| | 700 | .810543 | .816280 | .820949 | .824948 | .829534 | .832620 | .838886 | .841290 | .846366 | |
| | 710 | .821710 | .827309 | .831861 | .835755 | .840222 | .843224 | .849314 | .851649 | .856574 | |
| | 720 | .832863 | .838315 | .842743 | .845529 | .850867 | .853780 | .859686 | .861947 | .866714 | |
| | 730 | .843999 | .849295 | .853593 | .857254 | .861466 | .864287 | .869997 | .872181 | .876782 | |
| | 740 | .855116 | .860248 | .864407 | .867957 | .872016 | .874738 | .880242 | .882346 | .886772 | |
| | 750 | .866215 | .871171 | .875184 | .878504 | .882512 | .885129 | .890416 | .892434 | .896675 | |
| | 760 | .877291 | .882062 | .885918 | .889202 | .892948 | .895455 | .900512 | .902439 | .906485 | |
| | 770 | .888344 | .892916 | .896605 | .899744 | .903319 | .905709 | .910520 | .912352 | .916190 | |
| | 780 | .899370 | .903729 | .907241 | .910223 | .913616 | .915880 | .920431 | .922160 | .925779 | |
| | 790 | .910365 | .914495 | .917817 | .920632 | .923829 | .925958 | .930230 | .931850 | .935234 | |
| | 800 | .921324 | .925208 | .928323 | .930958 | .933944 | .935929 | .939901 | .941403 | .944535 | |
| | 810 | .932242 | .935856 | .938747 | .941186 | .943943 | .945772 | .949419 | .950795 | .953654 | |
| | 820 | .943108 | .946427 | .949072 | .951297 | .953803 | .955460 | .958753 | .959990 | .962553 | |
| | 830 | .953910 | .956900 | .959271 | .961257 | .953486 | .964953 | .967854 | .968938 | .971174 | |
| | 840 | .964627 | .967242 | .969304 | .971021 | .972935 | .974188 | .976648 | .977560 | .979430 | |
| | 850 | .975220 | .977398 | .979097 | .980530 | .982049 | .983054 | .985003 | .985717 | .987166 | |
| | 860 | .985610 | .987246 | .988498 | .989513 | .990613 | .991315 | .992643 | .993119 | .994062 | |
| | 870 | .995536 | .996394 | .997010 | .997490 | .997956 | .998240 | .998732 | .998892 | .999182 | |
| 900 | 410 | .469004 | .476328 | .482382 | .487634 | .493743 | .497903 | .506479 | .509817 | .516955 | |
| | 420 | .480130 | .487459 | .493515 | .498757 | .504874 | .509031 | .517598 | .520931 | .528057 | |
| | 430 | .491248 | .498580 | .504634 | .509884 | .515985 | .520138 | .528691 | .532018 | .539128 | |
| | 440 | .502360 | .509690 | .515740 | .520984 | .527077 | .531223 | .539759 | .543078 | .550169 | |
| | 450 | .513465 | .520789 | .526832 | .532063 | .538150 | .542287 | .550802 | .554112 | .561179 | |
| | 460 | .524563 | .531878 | .537910 | .543137 | .549204 | .553330 | .561819 | .565118 | .572160 | |
| | 470 | .535654 | .542956 | .548976 | .554189 | .560239 | .564352 | .572811 | .576097 | .583109 | |
| | 480 | .546739 | .554023 | .560027 | .559225 | .571255 | .575353 | .583778 | .587049 | .594028 | |
| | 490 | .557816 | .565081 | .571065 | .576244 | .582252 | .586332 | .594719 | .597974 | .604917 | |
| | 500 | .568886 | .576127 | .582090 | .587248 | .593229 | .597290 | .605635 | .608872 | .615775 | |
| | 510 | .579949 | .587163 | .593100 | .598235 | .604187 | .608227 | .616525 | .619743 | .626602 | |
| | 520 | .591005 | .598187 | .604097 | .609206 | .615125 | .619142 | .627388 | .630586 | .637398 | |
| | 530 | .602054 | .609201 | .615080 | .620153 | .626043 | .630035 | .638226 | .641401 | .648162 | |
| | 540 | .613096 | .620204 | .626048 | .631097 | .636942 | .640906 | .649037 | .652187 | .658895 | |
| | 550 | .624130 | .631196 | .637002 | .642017 | .647820 | .651754 | .659822 | .662946 | .669595 | |
| | 560 | .635157 | .642176 | .647942 | .652919 | .658677 | .662580 | .670579 | .673675 | .680263 | |
| | 570 | .646176 | .653145 | .658867 | .663034 | .669514 | .673383 | .681308 | .684375 | .690897 | |
| | 580 | .657188 | .664102 | .669777 | .676571 | .680330 | .684162 | .692009 | .695044 | .701498 | |
| | 590 | .668191 | .675047 | .680671 | .685520 | .691123 | .694917 | .702681 | .705683 | .712064 | |
| | 600 | .679187 | .685980 | .691550 | .696350 | .701895 | .705647 | .713324 | .716291 | .722594 | |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 900 | 610 | .690174 | .696900 | .702412 | .707151 | .712644 | .716353 | .723937 | .726867 | .733089 |
| | 620 | .701153 | .707808 | .713258 | .717952 | .723369 | .727032 | .734519 | .737410 | .743546 |
| | 630 | .712123 | .718702 | .724087 | .728723 | .734070 | .737685 | .745069 | .747919 | .753965 |
| | 640 | .723085 | .729582 | .734899 | .739473 | .744747 | .748311 | .755586 | .758393 | .764345 |
| | 650 | .734037 | .740449 | .745692 | .750201 | .755398 | .758908 | .766070 | .768831 | .774684 |
| | 660 | .744979 | .751300 | .756467 | .760938 | .766023 | .769476 | .776518 | .779232 | .784981 |
| | 670 | .755911 | .762137 | .767222 | .771591 | .776620 | .780014 | .786930 | .789594 | .795234 |
| | 680 | .766833 | .772958 | .777957 | .782249 | .787189 | .790520 | .797304 | .799915 | .805442 |
| | 690 | .777744 | .783762 | .788571 | .792883 | .797727 | .800992 | .807638 | .810195 | .815602 |
| | 700 | .788644 | .794549 | .799362 | .803493 | .808234 | .811430 | .817931 | .820430 | .825712 |
| 710 | 710 | .799532 | .805317 | .810030 | .814069 | .818708 | .821832 | .828180 | .830618 | .835770 |
| | 720 | .810407 | .816067 | .820673 | .824619 | .829147 | .832194 | .838383 | .840757 | .845772 |
| | 730 | .821268 | .826795 | .831290 | .835137 | .839549 | .842516 | .848536 | .850844 | .855715 |
| | 740 | .832115 | .837502 | .841879 | .845622 | .849912 | .852794 | .858637 | .860876 | .865596 |
| | 750 | .842947 | .848186 | .852438 | .855071 | .860232 | .863025 | .868682 | .870847 | .875409 |
| | 760 | .853762 | .858844 | .862964 | .866492 | .870506 | .873205 | .878666 | .880754 | .885149 |
| | 770 | .864559 | .869474 | .873455 | .876850 | .880730 | .883330 | .888584 | .890591 | .894810 |
| | 780 | .875336 | .880075 | .883907 | .887173 | .890900 | .893395 | .898430 | .900351 | .904385 |
| | 790 | .886091 | .890642 | .894317 | .897444 | .901009 | .903393 | .908197 | .910026 | .913864 |
| | 800 | .896822 | .901171 | .904579 | .907659 | .911051 | .913317 | .917874 | .919607 | .923237 |
| 810 | 810 | .907525 | .911659 | .914986 | .917839 | .921017 | .923156 | .927451 | .929081 | .932489 |
| | 820 | .918196 | .922098 | .925232 | .927936 | .930896 | .932899 | .936912 | .938431 | .941602 |
| | 830 | .928830 | .932481 | .935405 | .937876 | .940672 | .942528 | .946237 | .947638 | .950555 |
| | 840 | .939419 | .942795 | .945491 | .947752 | .950325 | .952022 | .955401 | .956673 | .959313 |
| | 850 | .949953 | .953025 | .955459 | .957520 | .959827 | .961349 | .964366 | .965496 | .967834 |
| | 860 | .960415 | .963147 | .965308 | .967113 | .969133 | .970459 | .973072 | .974046 | .976047 |
| | 870 | .970779 | .973119 | .974956 | .976479 | .978170 | .979274 | .981427 | .982222 | .983843 |
| | 880 | .980993 | .982864 | .984312 | .985500 | .986801 | .987639 | .989250 | .989835 | .991010 |
| | 890 | .990927 | .992186 | .993131 | .993883 | .994683 | .995183 | .996106 | .996428 | .997051 |
| | 900 | .999752 | .999883 | .999943 | .999972 | .999989 | .999994 | .999999 | .999999 | 1.000000 |
| 925 | 460 | .510589 | .517815 | .523778 | .528945 | .534948 | .539032 | .547438 | .550705 | .557685 |
| | 470 | .521389 | .528607 | .534561 | .539723 | .545710 | .549783 | .558166 | .561423 | .568379 |
| | 480 | .532183 | .539389 | .545332 | .550479 | .556453 | .560515 | .568870 | .572116 | .579045 |
| | 490 | .542970 | .550162 | .556090 | .561223 | .567179 | .571227 | .579551 | .582784 | .589682 |
| | 500 | .553751 | .560924 | .566835 | .571952 | .577887 | .581919 | .590208 | .593426 | .600290 |
| 510 | 510 | .564525 | .571677 | .577568 | .582655 | .588576 | .592591 | .600841 | .604043 | .610871 |
| | 520 | .575292 | .582420 | .588288 | .593364 | .599248 | .603243 | .611450 | .614634 | .621422 |
| | 530 | .586053 | .593152 | .598995 | .604047 | .609901 | .613875 | .622035 | .625200 | .631944 |
| | 540 | .596808 | .603875 | .609689 | .614714 | .620536 | .624487 | .632596 | .635740 | .642437 |
| | 550 | .607555 | .614587 | .620370 | .625356 | .631153 | .635078 | .643132 | .646253 | .652901 |
| 560 | 560 | .618296 | .625289 | .631037 | .636022 | .641750 | .645648 | .653643 | .656740 | .663334 |
| | 570 | .629030 | .635980 | .641691 | .645622 | .652329 | .656198 | .664129 | .667200 | .673737 |
| | 580 | .639757 | .646661 | .652331 | .657226 | .662888 | .666725 | .674589 | .677633 | .684110 |
| | 590 | .650476 | .657330 | .662957 | .667813 | .673427 | .677231 | .685023 | .688038 | .694451 |
| | 600 | .661189 | .667989 | .673570 | .678383 | .683947 | .687715 | .695431 | .698415 | .704760 |
| 610 | 610 | .671894 | .678637 | .684167 | .688936 | .694466 | .698176 | .705811 | .708763 | .715036 |
| | 620 | .682591 | .689272 | .694750 | .699471 | .704924 | .708615 | .716164 | .719082 | .725280 |
| | 630 | .693281 | .699896 | .705318 | .709988 | .715381 | .719029 | .726489 | .729370 | .735489 |
| | 640 | .703962 | .710508 | .715870 | .720437 | .725816 | .729419 | .736784 | .739627 | .745664 |
| | 650 | .714636 | .721108 | .726406 | .730957 | .736228 | .739784 | .747049 | .749853 | .755802 |
| 660 | 660 | .725301 | .731694 | .736926 | .741427 | .746617 | .750124 | .757284 | .760045 | .765903 |
| | 670 | .735957 | .742268 | .747428 | .751866 | .756981 | .760436 | .767486 | .770204 | .775967 |
| | 680 | .746605 | .752827 | .757913 | .762235 | .767321 | .770722 | .777656 | .780328 | .785990 |
| | 690 | .757242 | .763373 | .768380 | .772682 | .777636 | .780978 | .787791 | .790415 | .795973 |
| | 700 | .767871 | .773903 | .778828 | .783055 | .787923 | .791205 | .797891 | .800464 | .805912 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 925 | 710 | .778488 | .784418 | .789255 | .793407 | .798182 | .801401 | .807953 | .810474 | .815807 |
| | 720 | .789096 | .794917 | .799652 | .803732 | .808411 | .811564 | .817977 | .820442 | .825655 |
| | 730 | .799692 | .805398 | .810047 | .814032 | .818613 | .821693 | .827959 | .830367 | .835454 |
| | 740 | .810276 | .815862 | .820409 | .824304 | .828776 | .831785 | .837898 | .840245 | .845201 |
| | 750 | .820847 | .826306 | .830746 | .834547 | .838907 | .841840 | .847792 | .850075 | .854893 |
| | 760 | .831405 | .836730 | .841057 | .844758 | .849001 | .851853 | .857636 | .859852 | .864526 |
| | 770 | .841949 | .847132 | .851340 | .854937 | .859056 | .861823 | .867428 | .869574 | .874097 |
| | 780 | .852478 | .857510 | .861593 | .865079 | .869068 | .871746 | .877164 | .879236 | .883600 |
| | 790 | .862989 | .867863 | .871813 | .875182 | .879035 | .881617 | .886839 | .888834 | .893030 |
| | 800 | .873482 | .878189 | .881997 | .885243 | .888951 | .891433 | .896447 | .898360 | .902380 |
| | 810 | .883956 | .888483 | .892143 | .895258 | .898811 | .901188 | .905982 | .907809 | .911643 |
| | 820 | .894406 | .898744 | .902244 | .905223 | .908613 | .910875 | .915435 | .917171 | .920808 |
| | 830 | .904832 | .908966 | .912297 | .915124 | .918340 | .920486 | .924797 | .926435 | .929863 |
| | 840 | .915229 | .919145 | .922294 | .924952 | .927991 | .930009 | .934055 | .935589 | .938794 |
| | 850 | .925593 | .929273 | .932225 | .934722 | .937550 | .939431 | .943192 | .944615 | .947580 |
| | 860 | .935917 | .939341 | .942080 | .944390 | .947001 | .948733 | .952186 | .953488 | .956195 |
| | 870 | .946193 | .949336 | .951841 | .953943 | .956321 | .957890 | .961007 | .962178 | .964603 |
| | 880 | .956408 | .959239 | .961484 | .963355 | .965474 | .966863 | .969608 | .970634 | .972750 |
| | 890 | .966543 | .969019 | .970971 | .972595 | .974407 | .975593 | .977920 | .978784 | .980553 |
| | 900 | .976562 | .978623 | .980231 | .981558 | .983024 | .983975 | .985819 | .986495 | .987865 |
| | 910 | .986389 | .987937 | .989121 | .990082 | .991123 | .991786 | .993043 | .993493 | .994385 |
| | 920 | .995777 | .996589 | .997171 | .997515 | .998067 | .998335 | .998801 | .998952 | .999227 |
| 950 | 460 | .497338 | .504473 | .510364 | .515471 | .521406 | .525445 | .533764 | .536999 | .543911 |
| | 470 | .507861 | .514993 | .520879 | .525980 | .531907 | .535938 | .544239 | .547467 | .554360 |
| | 480 | .518379 | .525504 | .531382 | .536475 | .542390 | .546413 | .554693 | .557911 | .564782 |
| | 490 | .528891 | .536006 | .541874 | .546956 | .552857 | .556869 | .565124 | .568331 | .575178 |
| | 500 | .539396 | .546498 | .552353 | .557423 | .563307 | .567307 | .575533 | .578728 | .585547 |
| | 510 | .549896 | .556981 | .562821 | .567875 | .573741 | .577726 | .585920 | .589102 | .595890 |
| | 520 | .560389 | .567456 | .573277 | .578315 | .584158 | .588127 | .596285 | .599452 | .606206 |
| | 530 | .570876 | .577920 | .583721 | .588733 | .594557 | .598509 | .606627 | .609778 | .616495 |
| | 540 | .581358 | .588376 | .594153 | .599149 | .604940 | .608872 | .616947 | .620079 | .626756 |
| | 550 | .591833 | .598821 | .604572 | .609544 | .615306 | .619216 | .627244 | .630357 | .636991 |
| | 560 | .602301 | .609258 | .614980 | .619925 | .625654 | .629541 | .637518 | .640611 | .647198 |
| | 570 | .612764 | .619684 | .625375 | .630292 | .635985 | .639847 | .647769 | .650839 | .657377 |
| | 580 | .623219 | .630101 | .635758 | .640543 | .646298 | .650133 | .657997 | .661043 | .667528 |
| | 590 | .633669 | .640508 | .646127 | .650979 | .656593 | .660399 | .668201 | .671221 | .677650 |
| | 600 | .644112 | .650905 | .656484 | .661300 | .666870 | .670645 | .678380 | .681374 | .687744 |
| | 610 | .654548 | .661292 | .666828 | .671635 | .677128 | .680870 | .688535 | .691501 | .697808 |
| | 620 | .664977 | .671668 | .677159 | .681894 | .687368 | .691075 | .698665 | .701600 | .707841 |
| | 630 | .675399 | .682034 | .687475 | .692157 | .697588 | .701258 | .708769 | .711673 | .717845 |
| | 640 | .685814 | .692388 | .697778 | .702423 | .707789 | .711420 | .718848 | .721718 | .727816 |
| | 650 | .696222 | .702732 | .708057 | .712663 | .717969 | .721559 | .728899 | .731734 | .737756 |
| | 660 | .706622 | .713064 | .718341 | .722834 | .728129 | .731675 | .738923 | .741722 | .747663 |
| | 670 | .717014 | .723384 | .728599 | .733038 | .738267 | .741768 | .748919 | .751679 | .757535 |
| | 680 | .727399 | .733693 | .738843 | .743274 | .748383 | .751836 | .758886 | .761605 | .767373 |
| | 690 | .737775 | .743989 | .749070 | .753440 | .758477 | .761879 | .768822 | .771499 | .777175 |
| | 700 | .748143 | .754271 | .759280 | .763585 | .768547 | .771896 | .778728 | .781360 | .786940 |
| | 710 | .758502 | .764541 | .769474 | .773712 | .778593 | .781887 | .788601 | .791187 | .796665 |
| | 720 | .768852 | .774796 | .779549 | .783817 | .788614 | .791849 | .798441 | .800978 | .806351 |
| | 730 | .779192 | .785037 | .789806 | .793899 | .798603 | .801782 | .808246 | .810732 | .815994 |
| | 740 | .789522 | .795262 | .799943 | .803958 | .808574 | .811685 | .818014 | .820447 | .825594 |
| | 750 | .799842 | .805472 | .810059 | .813993 | .818512 | .821555 | .827744 | .830121 | .835147 |
| | 760 | .810150 | .815664 | .820154 | .824001 | .828418 | .831392 | .837433 | .839752 | .844652 |
| | 770 | .820447 | .825839 | .830226 | .833932 | .838293 | .841192 | .847079 | .849337 | .854105 |
| | 780 | .830731 | .835994 | .840273 | .843935 | .848133 | .850955 | .856679 | .858874 | .863503 |
| | 790 | .841002 | .846130 | .850295 | .853856 | .857936 | .860676 | .866231 | .868358 | .872843 |
| | 800 | .851258 | .856243 | .860288 | .863743 | .867599 | .870354 | .875730 | .877787 | .882120 |

TABLE I. - Continued. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | |
|-----|-----|------------------------|---------|---------|----------|---------|---------|---------|---------|----------|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 |
| 950 | 810 | .861499 | .866333 | .870251 | .873595 | .877420 | .879985 | .885173 | .887156 | .891329 |
| | 820 | .871723 | .876397 | .880181 | .883407 | .887094 | .889564 | .894554 | .896459 | .900465 |
| | 830 | .881928 | .886433 | .890075 | .893177 | .896717 | .899087 | .903868 | .905691 | .909519 |
| | 840 | .892113 | .896437 | .899929 | .902899 | .916284 | .908547 | .913107 | .914843 | .918484 |
| | 850 | .902275 | .906407 | .909738 | .912557 | .915789 | .917938 | .922262 | .923907 | .927350 |
| | 860 | .912411 | .916337 | .919496 | .922175 | .925220 | .927249 | .931324 | .932870 | .936102 |
| | 870 | .922517 | .926222 | .929196 | .931714 | .934570 | .936470 | .940276 | .941717 | .944724 |
| | 880 | .932588 | .936053 | .938828 | .941172 | .943824 | .945585 | .949102 | .950430 | .953194 |
| | 890 | .942617 | .945820 | .948378 | .950532 | .952962 | .954571 | .957775 | .958981 | .961483 |
| | 900 | .952594 | .955508 | .957826 | .959771 | .961957 | .963400 | .966260 | .967331 | .969546 |
| 975 | 910 | .962503 | .965094 | .967143 | .968854 | .970768 | .972025 | .974502 | .975424 | .977321 |
| | 920 | .972320 | .974539 | .976279 | .977723 | .979326 | .980371 | .982411 | .983165 | .984700 |
| | 930 | .981995 | .983768 | .985141 | .986256 | .987499 | .988293 | .989819 | .990373 | .991486 |
| | 940 | .991405 | .992598 | .993493 | .994205 | .994964 | .995438 | .996312 | .996617 | .997207 |
| | 950 | .999765 | .999889 | .999946 | .999973 | .999989 | .999995 | .999999 | .999999 | 1.000000 |
| | 460 | .484754 | .491798 | .497515 | .502661 | .508527 | .512520 | .520747 | .523948 | .530791 |
| | 470 | .495015 | .502059 | .507875 | .512917 | .518778 | .522766 | .530981 | .534176 | .541004 |
| | 480 | .505271 | .512311 | .518123 | .523161 | .529013 | .532995 | .541194 | .544382 | .551193 |
| | 490 | .515520 | .522555 | .528360 | .533331 | .539233 | .543207 | .551387 | .554566 | .561357 |
| | 500 | .525764 | .532791 | .538587 | .543637 | .549437 | .553401 | .561558 | .564728 | .571496 |
| 510 | 510 | .536003 | .543018 | .548802 | .553811 | .559625 | .563578 | .571709 | .574868 | .581610 |
| | 520 | .546235 | .553236 | .559006 | .564031 | .559798 | .573738 | .581839 | .584986 | .591699 |
| | 530 | .556462 | .563445 | .569199 | .574178 | .579955 | .583880 | .591949 | .595081 | .601763 |
| | 540 | .566683 | .573646 | .579380 | .584342 | .590097 | .594005 | .602037 | .605154 | .611802 |
| | 550 | .576899 | .583838 | .589551 | .594493 | .600222 | .604112 | .612104 | .615205 | .621816 |
| | 560 | .587108 | .594021 | .599710 | .604530 | .610331 | .614202 | .622150 | .625233 | .631804 |
| | 570 | .597312 | .604195 | .609858 | .614733 | .620425 | .624274 | .632175 | .635239 | .641766 |
| | 580 | .607510 | .614360 | .619994 | .624852 | .630501 | .634327 | .642178 | .645221 | .651703 |
| | 590 | .617702 | .624516 | .630118 | .634958 | .640562 | .644363 | .652159 | .655180 | .661613 |
| | 600 | .627888 | .634663 | .640231 | .645040 | .650606 | .654380 | .662118 | .665116 | .671497 |
| 610 | 610 | .638067 | .644800 | .650332 | .655107 | .660632 | .664378 | .672055 | .675027 | .681353 |
| | 620 | .648241 | .654928 | .660420 | .665160 | .670642 | .676357 | .681969 | .684915 | .691183 |
| | 630 | .658408 | .665047 | .670496 | .675198 | .680634 | .684317 | .691859 | .694778 | .700984 |
| | 640 | .668568 | .675155 | .680560 | .685221 | .690608 | .694257 | .701726 | .704615 | .710757 |
| | 650 | .678722 | .685254 | .690610 | .695228 | .700564 | .704176 | .711569 | .714427 | .720501 |
| | 660 | .688870 | .695342 | .700647 | .705220 | .710501 | .714076 | .721387 | .724212 | .730215 |
| | 670 | .699010 | .705419 | .710671 | .715195 | .720423 | .723954 | .731180 | .733971 | .739899 |
| | 680 | .709143 | .715486 | .720661 | .725155 | .730318 | .733810 | .740947 | .743702 | .749552 |
| | 690 | .719269 | .725542 | .730677 | .735093 | .740197 | .743644 | .750687 | .753405 | .759173 |
| | 700 | .729388 | .735586 | .740658 | .745022 | .750055 | .753456 | .760400 | .763079 | .768761 |
| 710 | 710 | .739498 | .745619 | .750624 | .754929 | .759892 | .763243 | .770084 | .772722 | .778315 |
| | 720 | .749601 | .755639 | .760574 | .7654817 | .769706 | .773007 | .779739 | .782334 | .787834 |
| | 730 | .759695 | .765646 | .770508 | .776685 | .779497 | .782744 | .789364 | .791914 | .797316 |
| | 740 | .769781 | .775641 | .780426 | .784535 | .789265 | .792456 | .798957 | .801460 | .806760 |
| | 750 | .779857 | .785622 | .790325 | .794353 | .799008 | .802140 | .808517 | .810971 | .816165 |
| | 760 | .789925 | .795588 | .800206 | .804158 | .808724 | .811795 | .818043 | .820446 | .825528 |
| | 770 | .799982 | .805539 | .810068 | .813951 | .818414 | .821419 | .827532 | .829882 | .834848 |
| | 780 | .810029 | .815474 | .819909 | .823710 | .828074 | .831012 | .836984 | .839277 | .844122 |
| | 790 | .820064 | .825393 | .829729 | .833442 | .837704 | .840572 | .846395 | .848630 | .853348 |
| | 800 | .830089 | .835294 | .839526 | .843143 | .847302 | .850095 | .855763 | .857937 | .862523 |
| 810 | 810 | .840100 | .845175 | .849298 | .852825 | .856866 | .859581 | .865086 | .867195 | .871643 |
| | 820 | .850098 | .855037 | .859045 | .862470 | .866392 | .869026 | .874360 | .876402 | .880704 |
| | 830 | .860082 | .864876 | .868763 | .872032 | .875879 | .878427 | .883582 | .885553 | .889702 |
| | 840 | .870050 | .874691 | .878451 | .881658 | .885323 | .887780 | .892746 | .894643 | .898632 |
| | 850 | .880001 | .884481 | .888105 | .891194 | .894720 | .897081 | .901848 | .903667 | .907488 |
| | 860 | .889933 | .894242 | .897725 | .900535 | .904065 | .906325 | .910881 | .912618 | .916261 |
| | 870 | .899844 | .903971 | .907299 | .910129 | .913352 | .915505 | .919838 | .921487 | .924942 |
| | 880 | .909732 | .913664 | .916830 | .919513 | .922574 | .924613 | .928709 | .930265 | .933521 |
| | 890 | .919592 | .923315 | .926308 | .929843 | .931722 | .933639 | .937482 | .938939 | .941982 |
| | 900 | .929422 | .932920 | .935725 | .938097 | .940783 | .942569 | .946142 | .947492 | .950307 |

TABLE I. - Concluded. COMPONENT RELIABILITY FOR BINOMIAL REDUNDANCY

| N | R | CUMULATIVE PROBABILITY | | | | | | | | | |
|------|------|------------------------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | .80 | .90 | .95 | .975 | .99 | .995 | .999 | .9995 | .9999 | |
| 975 | 910 | .939214 | .942467 | .945051 | .947253 | .949743 | .951387 | .954666 | .955902 | .958471 | |
| | 920 | .948960 | .951946 | .954325 | .956325 | .958578 | .960058 | .963027 | .964138 | .966440 | |
| | 930 | .958650 | .961338 | .963469 | .965253 | .967257 | .968576 | .971181 | .972155 | .974162 | |
| | 940 | .968263 | .970613 | .972555 | .974038 | .975727 | .976853 | .979061 | .979881 | .981559 | |
| | 950 | .977766 | .979722 | .981249 | .982513 | .983899 | .984801 | .986550 | .987192 | .988492 | |
| | 960 | .987088 | .988556 | .989680 | .990592 | .991580 | .992209 | .993401 | .993828 | .994674 | |
| | 970 | .995994 | .996764 | .997317 | .997733 | .998166 | .998421 | .998862 | .999006 | .999266 | |
| 1000 | 460 | .472790 | .479741 | .485484 | .490458 | .496263 | .500209 | .508343 | .511509 | .518279 | |
| | 470 | .482801 | .489756 | .495500 | .503043 | .506276 | .510219 | .518345 | .521507 | .528267 | |
| | 480 | .492807 | .499762 | .505505 | .510483 | .516274 | .520213 | .528328 | .531485 | .538231 | |
| | 490 | .502807 | .509760 | .515500 | .520475 | .526257 | .530191 | .538292 | .541442 | .548172 | |
| | 500 | .512802 | .519750 | .525484 | .530454 | .536226 | .540152 | .548236 | .551378 | .558090 | |
| | 510 | .522791 | .529733 | .535458 | .540419 | .546180 | .550097 | .558160 | .561294 | .567985 | |
| | 520 | .532776 | .539707 | .545422 | .550372 | .556119 | .560026 | .568065 | .571188 | .577856 | |
| | 530 | .542755 | .549672 | .555375 | .560313 | .566044 | .569939 | .577951 | .581062 | .587703 | |
| | 540 | .552728 | .559630 | .565318 | .570242 | .575954 | .579836 | .587817 | .590916 | .597527 | |
| | 550 | .562696 | .569580 | .575250 | .580157 | .585849 | .589716 | .597663 | .600748 | .607328 | |
| 560 | 560 | .572659 | .579521 | .585172 | .590061 | .595729 | .599579 | .607490 | .610559 | .617105 | |
| | 570 | .582617 | .589454 | .595083 | .599951 | .605595 | .609426 | .617296 | .620349 | .626858 | |
| | 580 | .592568 | .599379 | .604983 | .609823 | .615445 | .619257 | .627083 | .630118 | .636587 | |
| | 590 | .602515 | .609295 | .614873 | .619694 | .625280 | .629070 | .636850 | .639866 | .646292 | |
| | 600 | .612456 | .619203 | .624752 | .629547 | .635099 | .638866 | .646596 | .649591 | .655972 | |
| | 610 | .622391 | .629102 | .634520 | .639385 | .644903 | .648645 | .656321 | .659295 | .665627 | |
| | 620 | .632320 | .638993 | .644476 | .649211 | .654691 | .658407 | .666026 | .668976 | .675257 | |
| | 630 | .642244 | .648875 | .654321 | .659023 | .664464 | .668151 | .675709 | .678635 | .684862 | |
| | 640 | .652161 | .658747 | .664155 | .668822 | .674219 | .677877 | .685371 | .688271 | .694441 | |
| | 650 | .662073 | .668611 | .673977 | .678616 | .683959 | .687585 | .695011 | .697884 | .703993 | |
| 660 | 660 | .671979 | .678465 | .683787 | .688376 | .693681 | .697273 | .704628 | .707472 | .713519 | |
| | 670 | .681878 | .688310 | .693585 | .698132 | .703386 | .706943 | .714223 | .717037 | .723017 | |
| | 680 | .691771 | .698145 | .703370 | .707873 | .713074 | .716594 | .723794 | .726576 | .732487 | |
| | 690 | .701657 | .707970 | .713143 | .717599 | .722744 | .726224 | .733341 | .736090 | .741929 | |
| | 700 | .711537 | .717785 | .722902 | .727339 | .732395 | .735834 | .742864 | .745578 | .751341 | |
| | 710 | .721410 | .727589 | .732548 | .737033 | .742027 | .745423 | .752362 | .755040 | .760723 | |
| | 720 | .731275 | .737383 | .742380 | .746530 | .751639 | .754990 | .761833 | .764473 | .770073 | |
| | 730 | .741134 | .747165 | .752098 | .755341 | .761231 | .764535 | .771278 | .773878 | .779392 | |
| | 740 | .750984 | .756936 | .761801 | .765984 | .770803 | .774057 | .780695 | .783254 | .788677 | |
| | 750 | .760827 | .766695 | .771489 | .775608 | .780353 | .783555 | .790084 | .792599 | .797928 | |
| 760 | 760 | .770662 | .776441 | .781150 | .785214 | .793880 | .793028 | .799442 | .801912 | .807143 | |
| | 770 | .780488 | .786175 | .790815 | .794803 | .799383 | .802475 | .808770 | .811193 | .816320 | |
| | 780 | .790306 | .795895 | .800453 | .804355 | .808863 | .811894 | .818065 | .820438 | .825459 | |
| | 790 | .800114 | .805600 | .810073 | .813903 | .818316 | .821286 | .827326 | .829648 | .834557 | |
| | 800 | .809912 | .815291 | .819573 | .823423 | .827742 | .830647 | .836551 | .838819 | .843611 | |
| | 810 | .819700 | .824966 | .829253 | .832925 | .837143 | .839977 | .845738 | .847950 | .852621 | |
| | 820 | .829476 | .834625 | .838812 | .842395 | .846508 | .849273 | .854886 | .857039 | .861582 | |
| | 830 | .839242 | .844265 | .848348 | .851840 | .855843 | .858534 | .863990 | .866082 | .870492 | |
| | 840 | .848994 | .853887 | .857359 | .861255 | .865145 | .867757 | .873050 | .875076 | .879348 | |
| | 850 | .858733 | .863488 | .867345 | .870539 | .874409 | .876938 | .882060 | .884019 | .888145 | |
| 860 | 860 | .868458 | .873067 | .876802 | .879988 | .883633 | .886076 | .891017 | .892905 | .896878 | |
| | 870 | .878167 | .882622 | .886228 | .889302 | .892813 | .895165 | .899916 | .901730 | .905542 | |
| | 880 | .887858 | .892150 | .895520 | .898574 | .901945 | .904201 | .908752 | .910487 | .914130 | |
| | 890 | .897531 | .901649 | .904974 | .907802 | .911025 | .913179 | .917518 | .919170 | .922634 | |
| | 900 | .907181 | .911115 | .914287 | .916933 | .920045 | .922091 | .926205 | .927770 | .931044 | |
| 1000 | 910 | .916807 | .920544 | .923551 | .926101 | .928998 | .930929 | .934804 | .936274 | .939348 | |
| | 920 | .926405 | .929931 | .932761 | .935156 | .937873 | .939681 | .943300 | .944670 | .947529 | |
| | 930 | .935970 | .939266 | .941906 | .944135 | .946657 | .948332 | .951676 | .952939 | .955567 | |
| | 940 | .945495 | .948542 | .950974 | .953022 | .955333 | .956863 | .959908 | .961054 | .963432 | |
| | 950 | .954971 | .957742 | .959946 | .961795 | .963873 | .965245 | .967963 | .968981 | .971086 | |
| | 960 | .964383 | .966846 | .968793 | .970420 | .972239 | .973434 | .975787 | .976664 | .978466 | |
| | 970 | .973707 | .975815 | .977470 | .978842 | .980365 | .981358 | .983297 | .984012 | .985471 | |
| | 980 | .982896 | .984582 | .985886 | .986955 | .988126 | .988881 | .990330 | .990857 | .991915 | |
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| | 1000 | .999777 | .999895 | .999949 | .999975 | .999990 | .999995 | .999999 | .999999 | 1.000000 | |

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