

ICS 03.120.30

CCS A 41



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 4086.1-2025

Replacing GB/T 4086.1-1983

**Data analysis and decision - Tables for statistical distributions -
Part 1: Normal distribution**

数据分析与决策 统计分布数值表 第1部分：正态分布

Issued on: October 5, 2025

Implemented on: October 5, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 1 of GB/T 4086 "Statistical Distribution Numerical Tables for Data Analysis and Decision Making". GB/T 4086 has been published. The following section.

1.Normal Distribution;

---Part 2.chi² distribution;

---Part 3.t-distribution;

---Part 4: F-distribution;

5.Binomial Distribution;

6.Poisson Distribution;

7.Non-central t-distribution. This document replaces GB/T 4086.1-1983 "Statistical Distributions - Numerical Tables - Normal Distribution". Compared with GB/T 4086.1-1983, except for the conclusion... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) Added table footnotes for table spacing and precision (see Chapter 1);

b) In the normal distribution quantile table, "up.integral" $2\pi u$

2 Change " $2du=p$ " to "up" to satisfy. integral up $2\pi x^2 2dx=p$ (see) Chapter 7 (Chapter 3 of the 1983 edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Statistical Methods Application (SAC/TC21). This document was

drafted by the China National Institute of Standardization and the Institute of Mathematics and Systems Science, Chinese Academy of Sciences. The main drafters of this document are. Zhang Xuan, Ding Wenxing, Zhao Jing, Zhang Fan, Wu Gang, Yang Ziqiang, and Wei Gongyi. This document was first published in 1983, and this is its first revision.

Currently, with the widespread use of computers, using computer programs to obtain the required statistical distribution values is a good method. However, if a computer is not readily available, or if it is desirable to obtain the required statistical distribution values easily, then statistical distribution tables are still necessary. However, it is an indispensable tool. In practice, basic statistical distributions, such as the normal distribution, χ^2 distribution, t distribution, F distribution, binomial distribution, and Poisson's distribution, are essential. Loose distribution and noncentral t-distribution are the distributions that people are most interested in. GB/T 4086 "Statistical Distribution Numerical Tables for Data Analysis and Decision Making" is proposed to consist of 7 parts.

1.Normal Distribution. The aim is to provide the probability density function, distribution function, and quantiles of the standard normal distribution. Numerical value.

1 Scope

GB/T 4086.1-2025 is the Chinese national standard covering the tabulated normal distribution - the density and cumulative function, the quantiles at the probabilities used in acceptance sampling and in confidence intervals, and the notes on interpolation and on the accuracy of the tabulated values. It replaces GB/T 4086.1-1983, a table forty-two years old, and is already in force. Issued on 5 October 2025, it has been in force since 5 October 2025, replacing GB/T 4086.1-1983.

This document provides three numerical tables for the normal distribution. Their names, table intervals, and precision are shown in Table 1. Table

1.Names, table intervals, and precision of three numerical tables for the normal distribution. Name, Distance a, Precision b Normal distribution probability density function table. $u=0(0.01)4.99$ (6 decimal places) The distribution function table for the normal distribution. $u=0(0.01)4.99$ (6 decimal places) Normal distribution quantile table. $p=0.5(0.001)0.999$ (6 decimal places) If the distance in the table is $u=0(0.01)4.99$, it means that the value range of u is 0~4.99, and the value interval is 0.01. b. Precision refers to the number of decimal places retained in a numerical value. In practical applications, the general normal distribution encountered is transformed into a standard normal distribution through standardization, and then the corresponding table is used. This document pertains to the use of probability density function values, distribution function values, and quantile values of the normal distribution in data analysis and decision-making. occasion.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3358.1 Statistical vocabulary and symbols - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 3358.1 apply to this document.

4 Overview

The normal distribution referred to in this document is the standard normal distribution. The quantiles given in this document correspond to the lower-side probabilities. Although the table provides 6 decimal places, the number of decimal places required in actual use depends on the specific problem. If the numerical tables listed in this document do not meet the application requirements, refer to Appendix A and Appendix B for calculations, or use interpolation methods. Rough calculation.

5. Table of normal distribution probability density functions The probability density function of the normal distribution is.