

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS Z 8725 : 2015

(CSAJ/JSA)

**Methods for determining distribution
temperature and colour temperature
or correlated colour temperature of
light sources**

ICS 17.180.20

Reference number : **JIS Z 8725 : 2015 (E)**

Z 8725 : 2015

Date of Establishment: 1966-03-01

Date of Revision: 2015-06-22

Date of Public Notice in Official Gazette: 2015-06-22

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Basic Engineering

JIS Z 8725:2015, First English edition published in 2016-12

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2016

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

KK/AT

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Measuring method of distribution temperature	2
4.1 Principle of measurement	2
4.2 Standard light source for measuring distribution temperature	2
4.3 Photometer	3
4.4 Measuring method	3
5 Measuring method of correlated colour temperature or colour temperature	7
5.1 General	7
5.2 Application of correlated colour temperature	8
5.3 Types of measuring method of light source colour	8
5.4 Method for obtaining correlated colour temperature	8
6 Report of measurement results and description method	8
6.1 Expression of measurement results of distribution temperature	8
6.2 Expression of measurement results of correlated colour temperature or colour temperature	9
Annex A (informative) Calculation method of distribution temperature by monochromic response ratio	22
Annex B (informative) Calculation method of correlated colour temperature	23
Annex C (informative) Estimation method of spectral distribution from distribution temperature of incandescent lamp	31
Annex D (informative) Bibliography	34

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Color Science Association of Japan (CSAJ)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS Z 8725**:1999 is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Methods for determining distribution temperature and colour temperature or correlated colour temperature of light sources

Introduction

This Japanese Industrial Standard was established in 1966 and has gone through four revisions up to the present. The last revision was made in 1999, and the revision at this time is to respond to the modification of the definition of wavelength in **JIS Z 8781-2**, i.e. wavelength in standard air is applied (corresponding International Standard: **ISO 11664-2**), and to conform to the wavelength range in the calculation of distribution temperature of **CIE 114/4**.

No corresponding International Standard has been established at this point.

1 Scope

This Standard specifies the method for measuring the distribution temperature or the colour temperature of radiation in the visible wavelength range from an incandescent lamp (including a tungsten halogen lamp) of which the bulb has low wavelength-selective absorption and reflection, and the method for measuring the correlated colour temperature of radiation of the light source of which the light source colour is almost achromatic.

This Standard is also applicable to the measurement of correlated colour temperature of almost achromatic luminescent colour of the light source (light-emitting device, etc.) other than the light source for general lighting.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) listed below shall be applied.

JIS C 7526 *Standard incandescent lamps of luminous intensity*

JIS C 7527 *Tungsten halogen lamps (non-vehicle)—Performance specifications*

JIS Z 3103 *Glossary of terms used in measurement*

JIS Z 8105 *Glossary of colour terms*

JIS Z 8113 *Lighting vocabulary*

JIS Z 8120 *Glossary of optical terms*

JIS Z 8724 *Methods of colour measurement—Light-source colour*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS Z 8103**, **JIS Z 8105**, **JIS Z 8113**, **JIS Z 8120** and **JIS Z 8724**, and the following apply.