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The revised lighting standard of JIIA was approved by majority vote, and was certificated.

Standard : JIIA LI-001-2013

Lighting for Machine Vision / Image Processing System

— Fundamentals of Design and Specifications on Brightness of Optical Irradiation

JIIA LI-001-2013, a revision of lighting standard JIIA-LI-001-2010 which was approved in 2011 as a world's first machine vision global standard, was voted in a 30-days from last April 2nd, 2013, adopted by majority vote and certificated in the extended board meeting of directors of JIIA on May 23rd, 2013.

— Summary and the main revised points are as follows.

1. Embodiment of contents of lighting specifications

- Radiance of the illuminator is to be specified in bright field lighting.
- Irradiance of the object surface is to be specified in dark field lighting.
- Measurement criteria of radiance / irradiance, uniformity and its effective area is to be specified.

Hereby, a comparative review of the brightness and the irradiation range of lighting are available regardless of lighting geometry and characteristics of objects.

2. Enactment of a criterion of lighting brightness

- Sensor luminous quantities was enacted by a theoretical formula of the quantum efficiency of Silicon(Si).

Hereby, a comparison and a quality control of the lighting brightness come to be available regardless of the spectral distribution.

- ▶ Article 1 means any comparative review of the brightness and the range of irradiation are available regardless of any lighting geometry if we identify the lighting method. It also means we are able to know the brightness and its profile which has not been able to be obtained except through the real comparisons among many kinds of illuminators.
- ▶ Article 2 means we can specify the brightness of ultraviolet or infrared area, which is invisible light area for human kind, and can describe it as like "brightness of 100 lx equivalency", using not the units of human eye's sensitivity which have been used till now generally, but the sensor luminous quantities which are the units of the measurement of brightness for machine.
- ▶ This standard brings us the ability to know the real variations of brightness in the black-and white profile of the image by paying attention to the variations of photophysics of the object if we identify the lighting method.
- ▶ This standard also brings us the ability to compare and study the brightness of any illuminator by catalogue base.

This revised edition of the standard is available for free download from JIIA website (<http://www.jiia.org>).