

ISO Measurement

There are many ways to describe the sensitivity of an imaging system to light. It is traditional for the sensitivity of a digital image sensor to be specified in terms of its quantum efficiency – the number of electrons generated for each incident photon. It is also common to measure responsivity, or the output in volts generated during an exposure (J/cm²). In some cases the exposure is defined in photometric units (lux ~~lx~~


where ‘ISO’ represents the base or saturation-based ISO, ‘f#’ is the effective f number of the camera lens used in the measurement, ‘L’ is the luminance of an 18% reflector in the scene

$$\text{ISO} = \frac{15.4 \times \text{f\#}^2}{L \times t} \quad (\text{eq. 2})$$

TND6115/D

Reference

International Organization for Standardization standard 12232, Photography – Electronic Still Picture Cameras – Determination of ISO Speed. (See International Organization for Standardization, www.iso.ch)

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