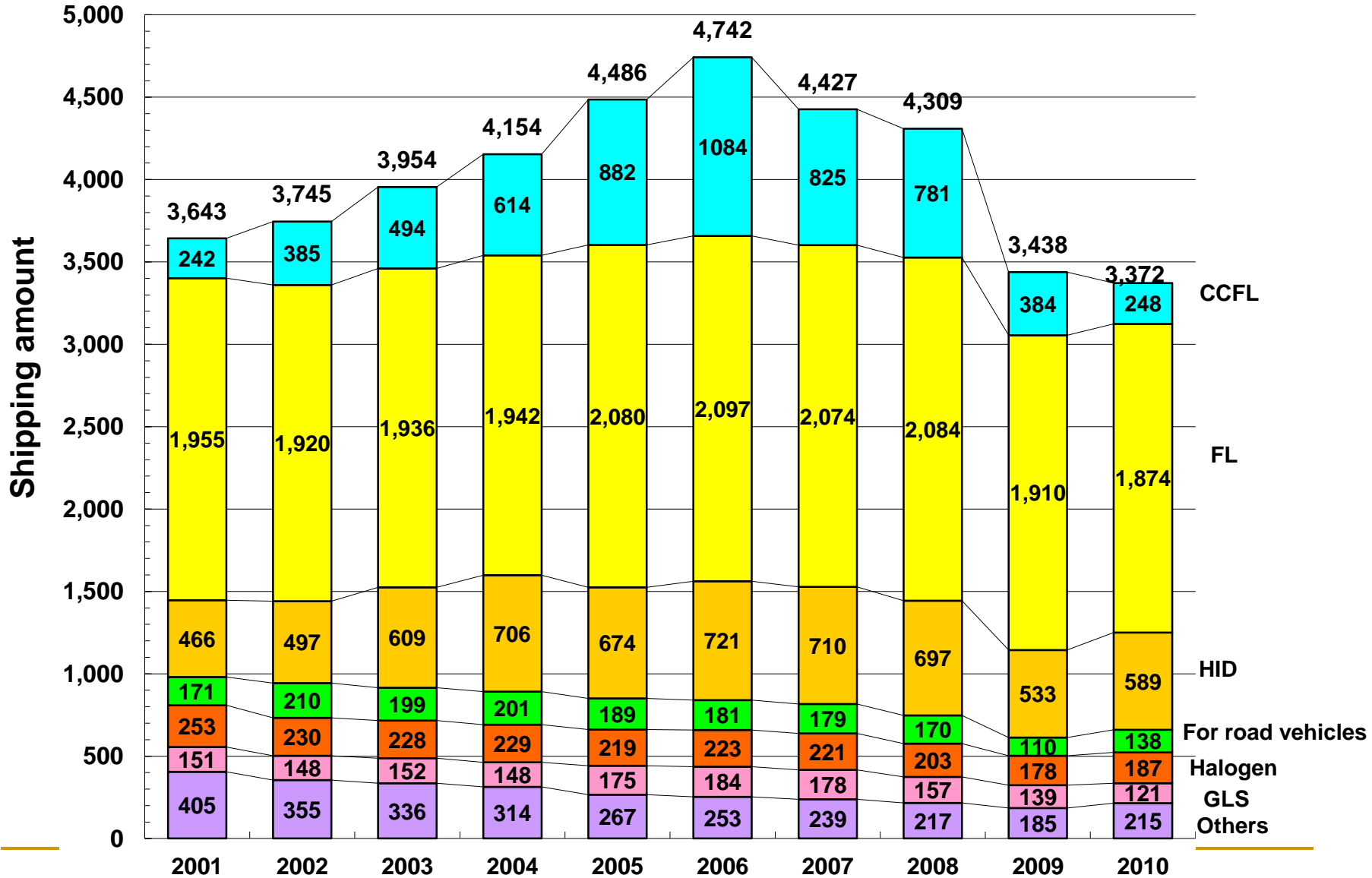

LED Market Overview and Forecast - Japan

March 13, 2012

Tetsuji TAKEUCHI
JELMA

Shipping Amount of Lamps

Hundred million yen



Recent problem in Japan

Earthquake and Tsunami March 11, 2011



Decrease in electrical power supply



Strict enforcements of electric power saving



Office lighting.

- switching to HF fluorescent lamps or LED luminaires

Residential lighting

- switching to self-ballasted LED lamps or fluorescent lamps

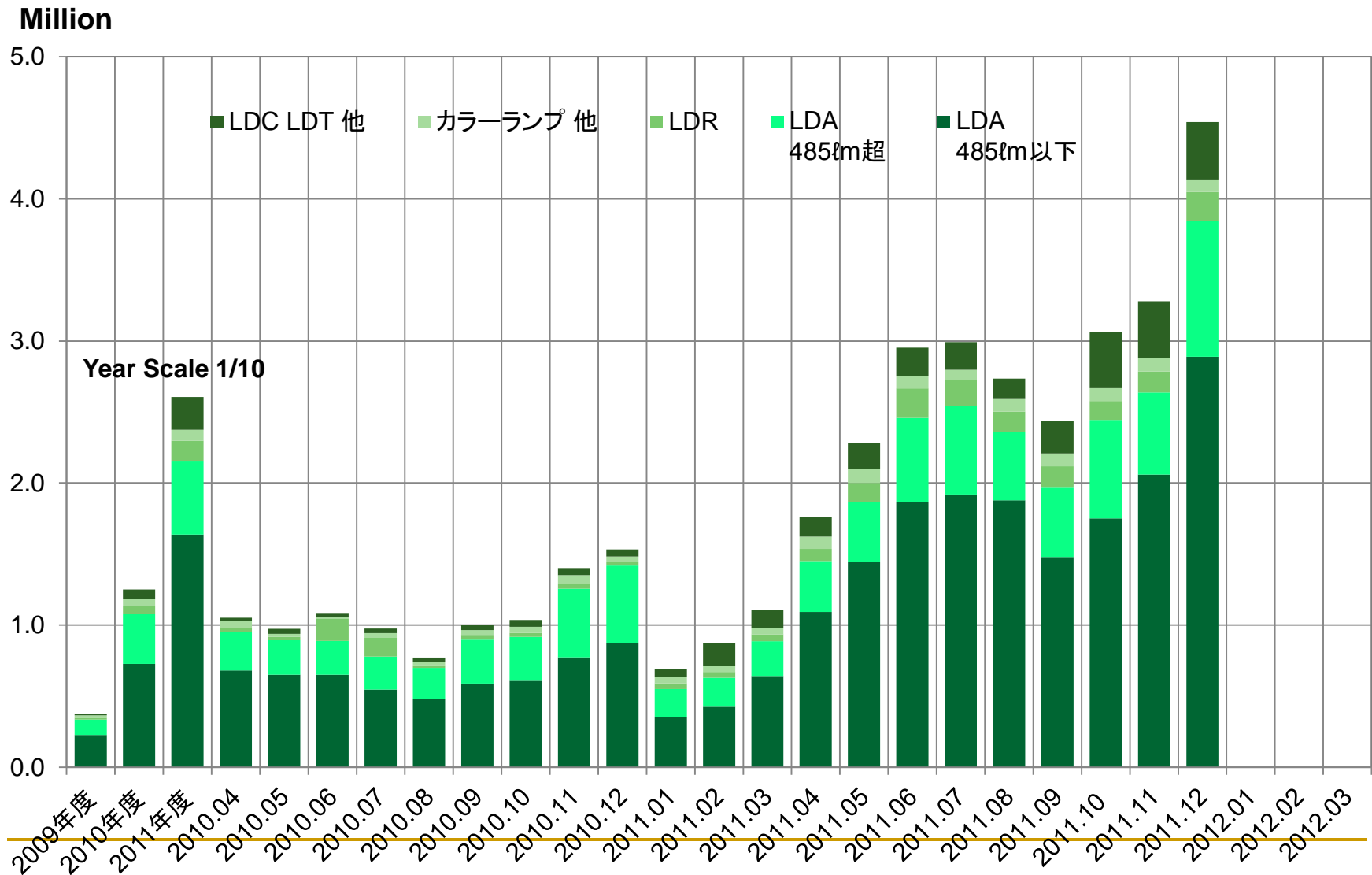
The New Growth Strategy issued by Japanese Government

3 Policies for promotion of SSL(started in 2010)

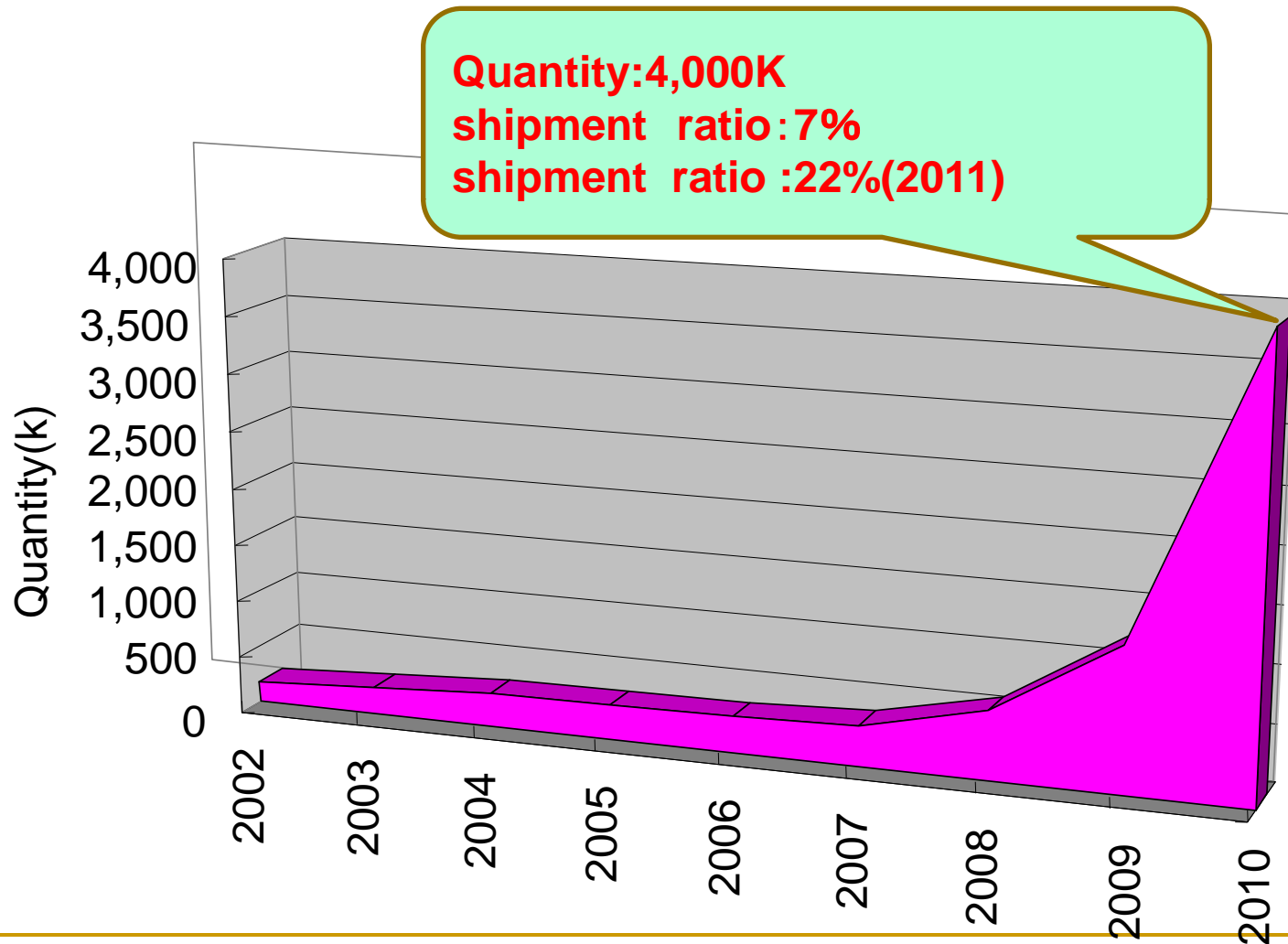
1. To support the fund for research and development(continued)
2. Payment of subsidy for the spread promotion(finished in 2011)
3. To support the international standardization activity(continued)



Shipping Quantity of LED Lamp



Shipping Quantity of LED Luminaire



Standardizing Activity in Japan (No.1) :Products related

JIS No.	Title	Publish	Related Standard
C8147-2-13	Lamp control gear - Part 2-13: Particular requirements for DC or AC supplied electronic control gear for LED modules.	10/2008	IEC61347-2-13
C8153	DC or AC supplied electronic control gear for LED modules – Performance requirements	03/2009	IEC62384
C8154	LED modules for general lighting - Safety specifications	03/2009	IEC62031
C8155	LED modules for general lighting - Performance requirements	09/2010	IEC/PAS62717
C8156	Self-ballasted LED lamps for general lighting services >50V - Safety specifications	02/2011	IEC62560
C8157	Self-ballasted LED lamps for general lighting services >50V - Performance requirements.	12/2011	IEC62612
C XXXX	Self-ballasted LED lamps for general lighting purposes (Products requirements)	Draft preparing	(JIS only)

Standardizing Activity in Japan : Measurement related

(including Photobiological safety)

JIS No.	Title	Publish	Related Standard
C8152	Measuring methods of white light emitting diode for general lighting	07/2007	CIE127
C7801	Measuring methods of lamps for general lighting	06/2009	NONE
C8152-2	Measuring methods of LED modules	Draft preparing	Refer to LM-79
C8105-5	Measuring methods of LED luminaires for general lighting	12/2011	Refer to LM-79
C7550	Photobiological safety of lamps and lamp systems	12/2011	CIES009 IEC62471
Z9112	Classification of lamps by chromaticity and colour rendering property	12/2011	IEC60081

JELMA's standards and guidelines

No.	Title	Publish
JEL800	Specific markings of Self-ballasted LED lamps	07/2010
JEL801	L-shape pin base tubular LED lamp system- safety and performance requirement	12/2010
JEL907	Lamp caps and holders together with gauges	12/2010
Guide 008	Guideline for performance identification of Self-ballasted LED lamps	03/2011
TR	Guide for applying LED lamps and luminaires	06/2010

Guideline for Performance Identification of Self-ballasted LED Lamps (Guide 008)

Performance Identification (Mandatory)

Performance identification in packages, catalogues and advertising

Mandatory: Total luminous flux (rated initial luminous flux), wattage & light source colors

Recommended: Average color rendering index

Marking for replacement

Permitted for LED lamps having a rated initial luminous flux \geq incandescent lamp for general lighting

e.g. “**Equivalent to 40W incandescent lamp**”, if total luminous flux is \geq 485 lumens

Laboratory Accreditation System for Photometry

Sampling test of products in the market



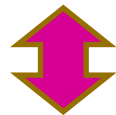
Actual ability < Labeled performance
(some products)



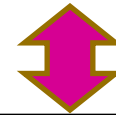
Laboratory Accreditation System

Self-ballasted LED lamps: in 2011

LED modules and luminaires: in 2012

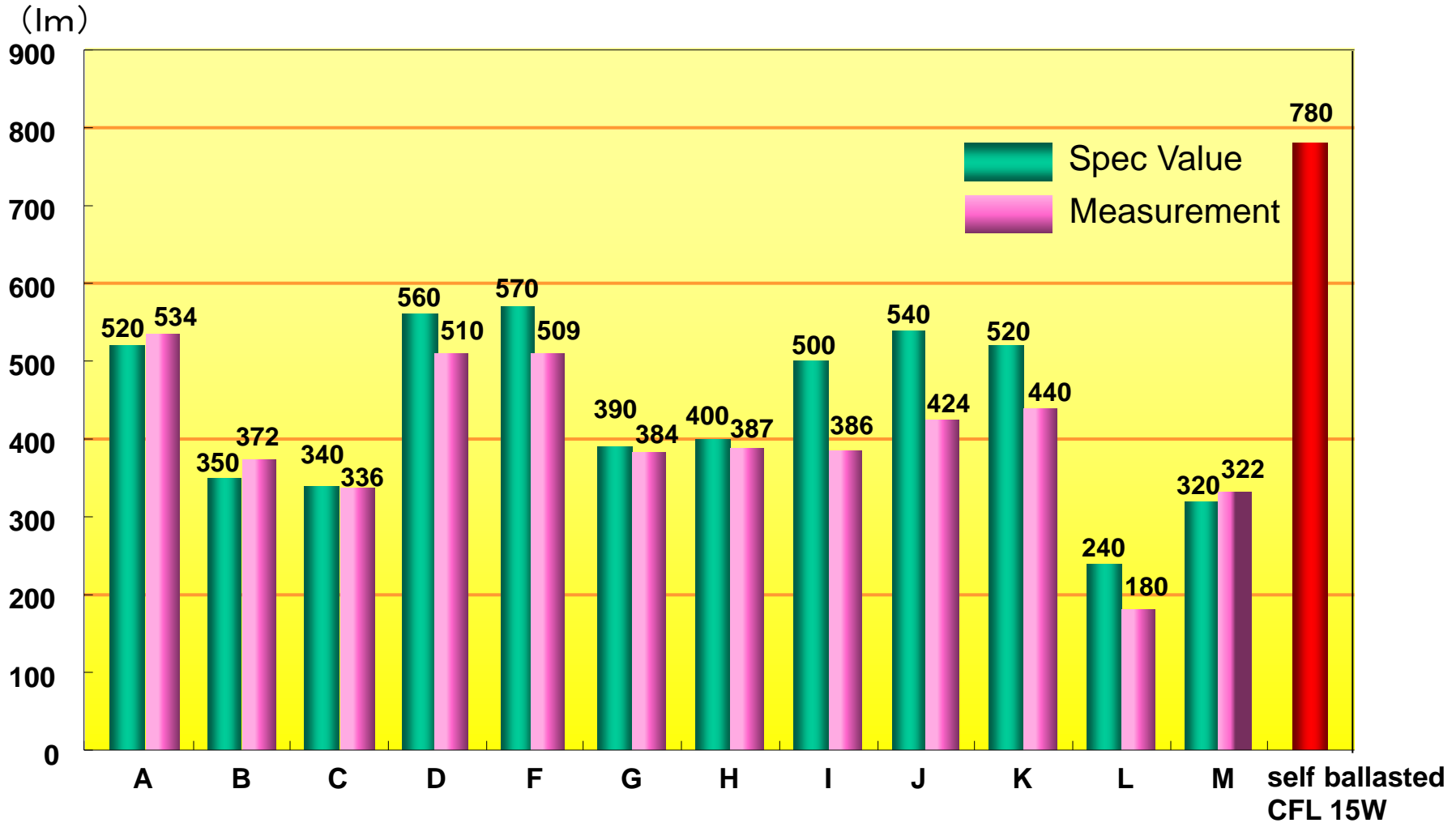


CIE

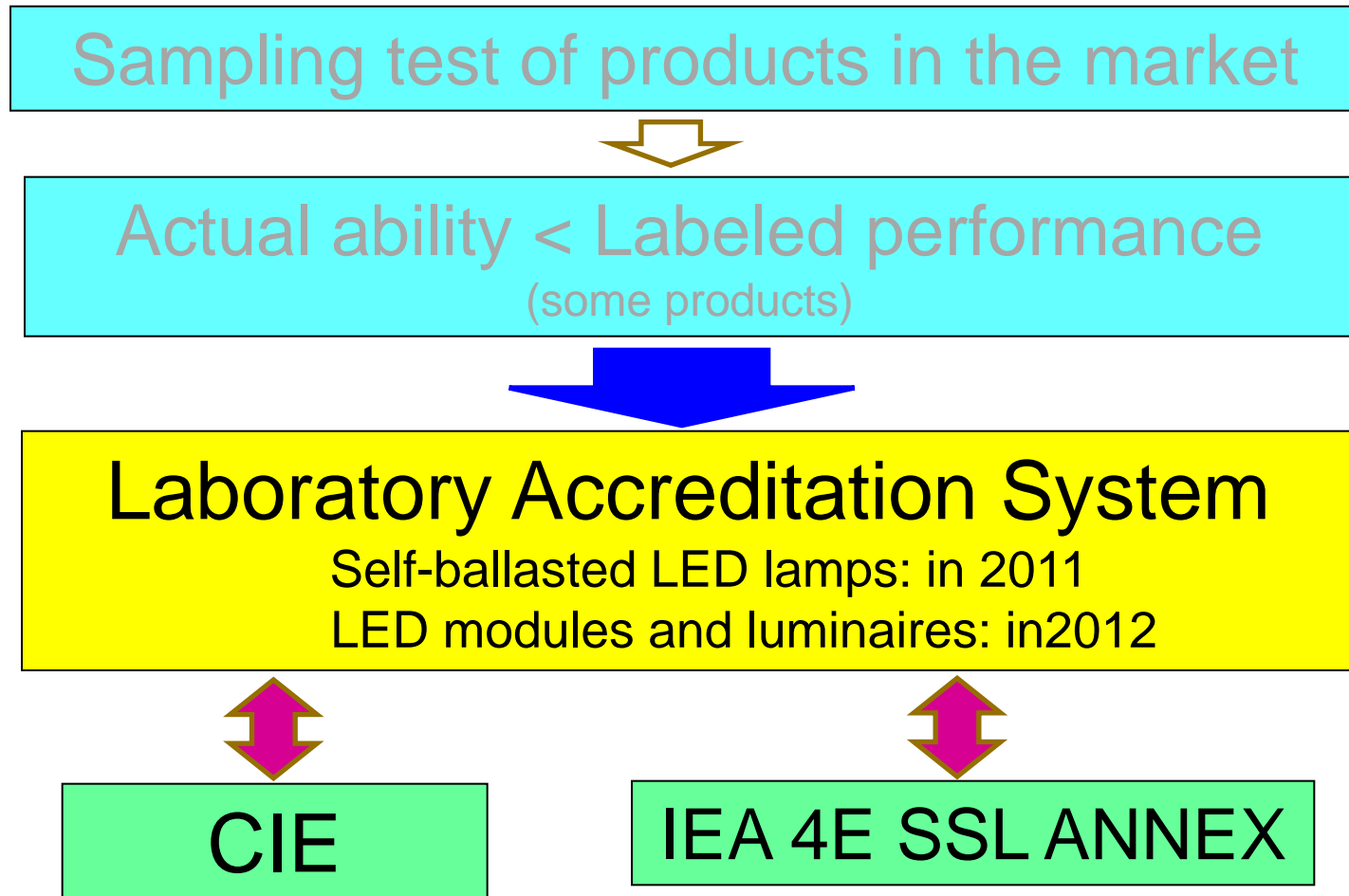


IEA 4E SSL ANNEX

〈Measurement of Total Luminous Flux〉



Laboratory Accreditation System for Photometry



Thank you
