

CONSULTATIVE COMMITTEE ON PHOTOMETRY AND RADIOMETRY



**Report to the 24th General Conference on Weights and Measures
October 2011**

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International Commission on Illumination (CIE)
World Meteorological Organization (WMO)

THE CANDELA

UNITS AND
STANDARDS OF
MEASUREMENT

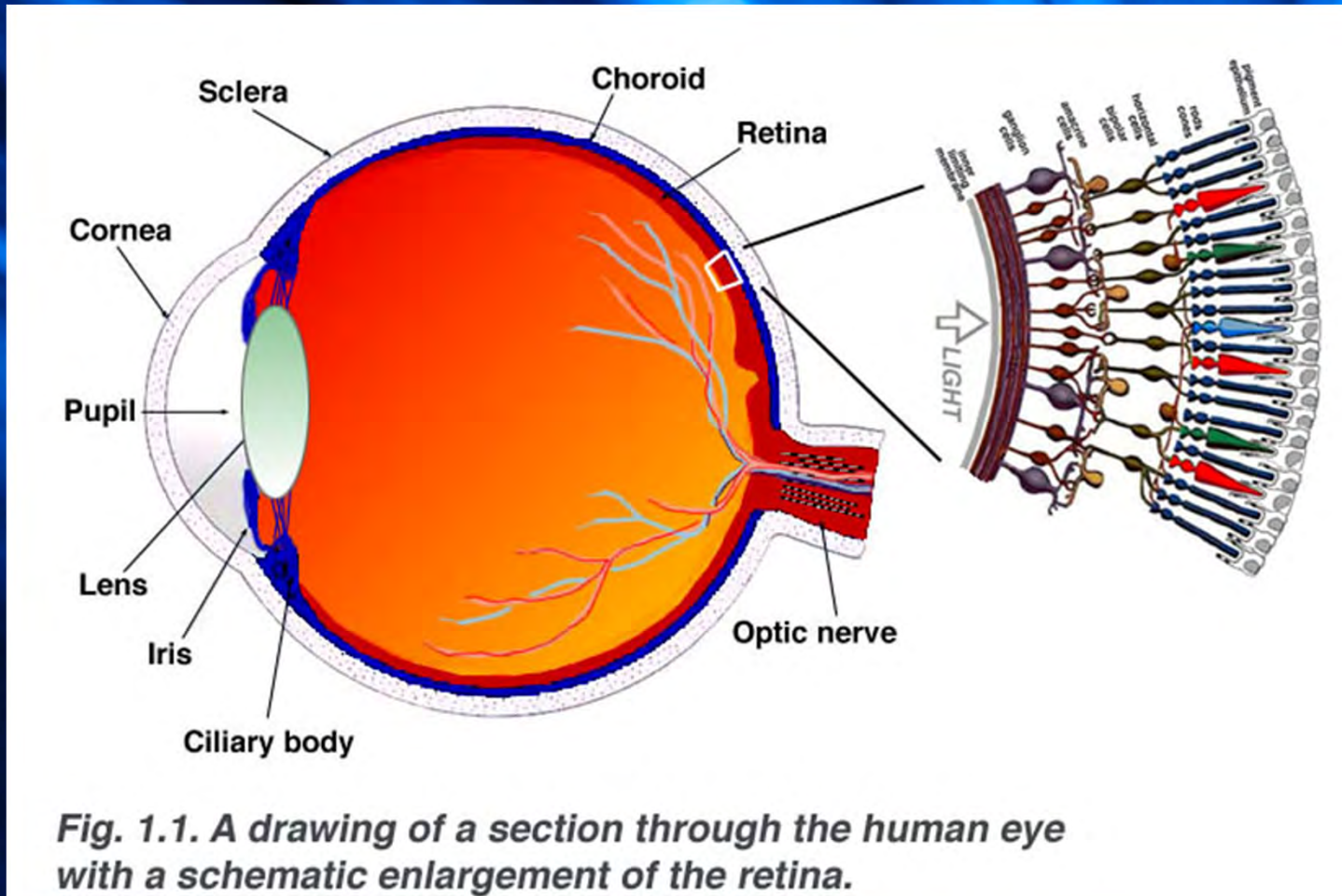


MOU on Cooperation (2007)

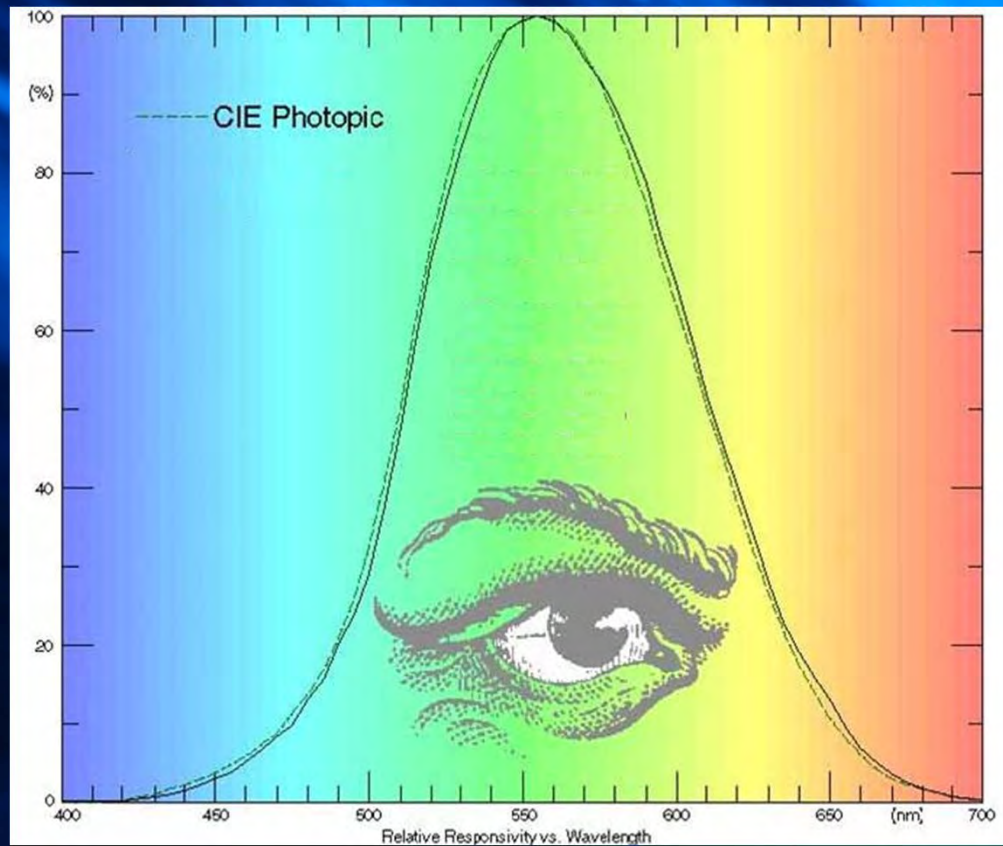
INTERNATIONAL
STANDARDS FOR
LIGHT AND
LIGHTING



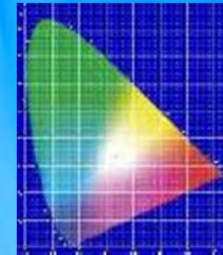
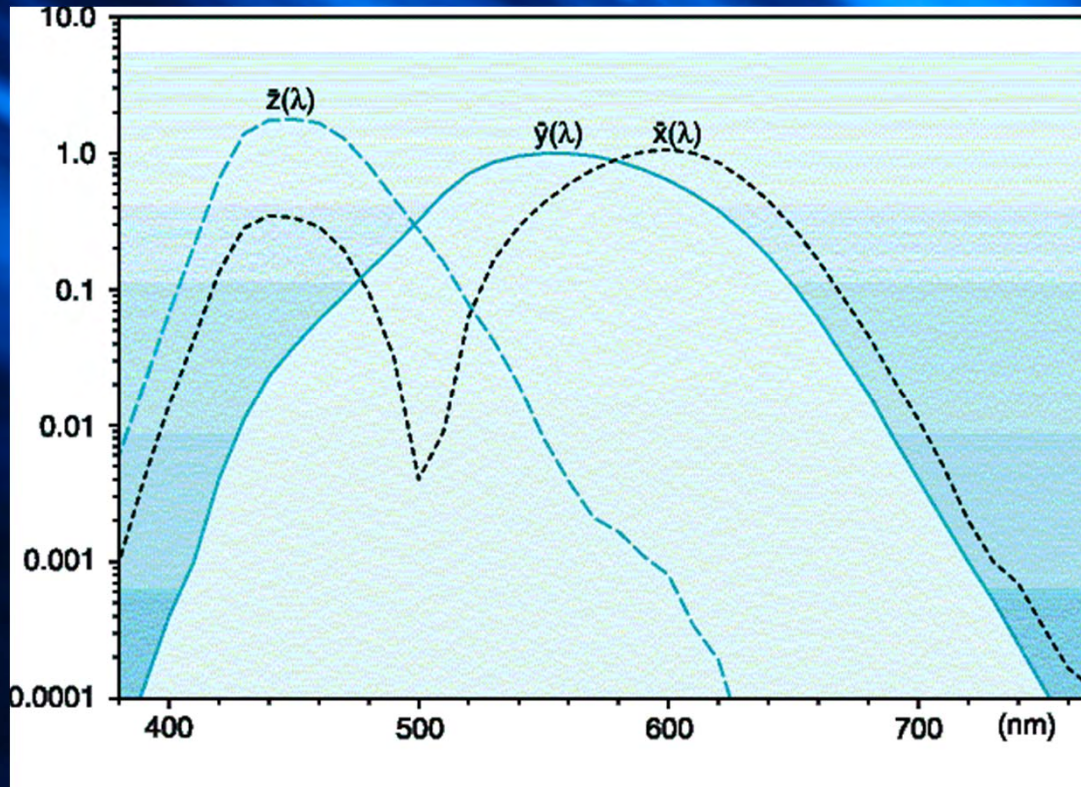
THE HUMAN EYE



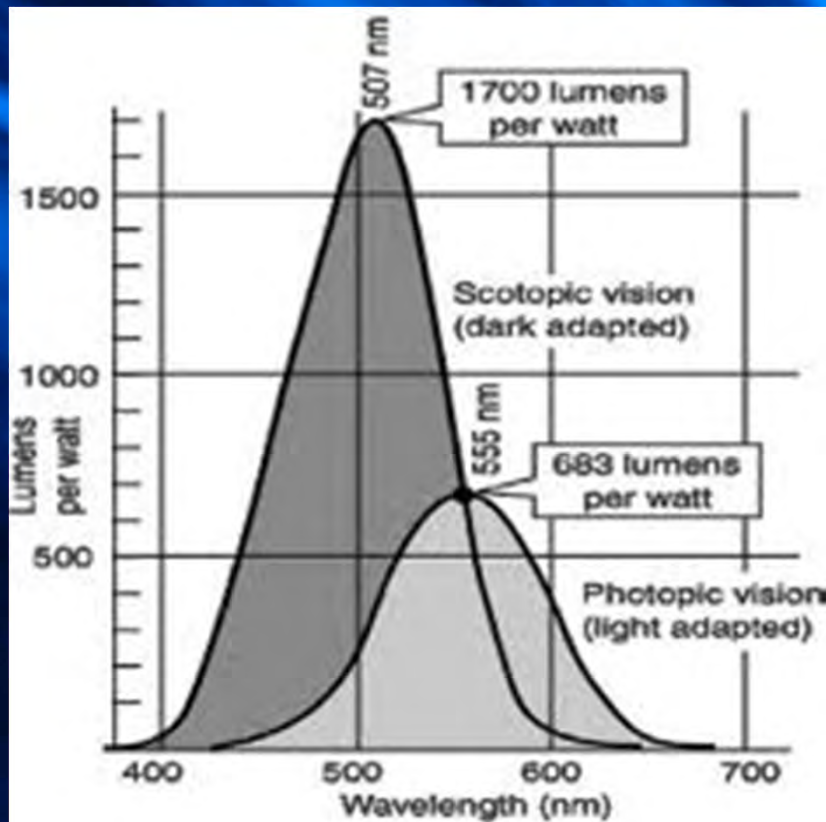
THE LIGHT-ADAPTED HUMAN EYE (CIE 1924)



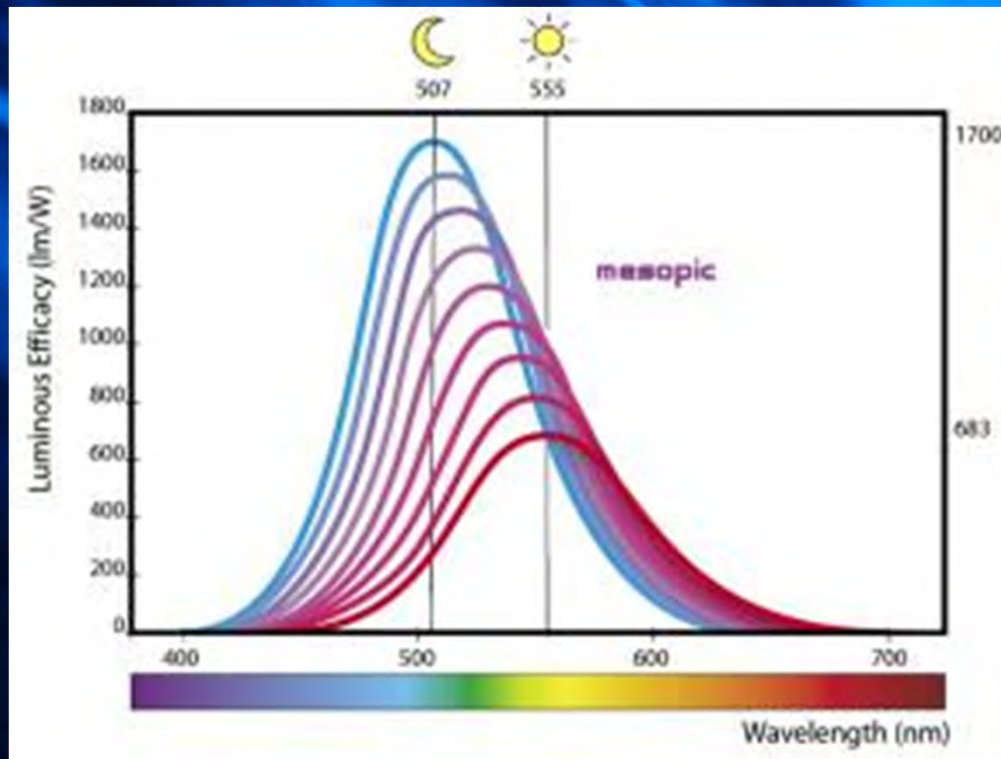
THE HUMAN EYE AND COLOR (CIE 1931)



THE DARK-ADAPTED HUMAN EYE (CIE 1951)



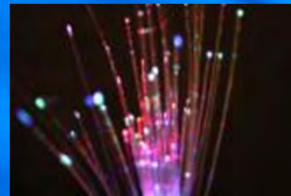
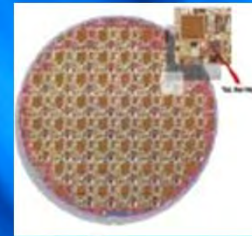
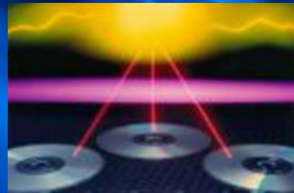
THE MESOPIC HUMAN EYE (CIE 2010)



LIGHT AND COLOR

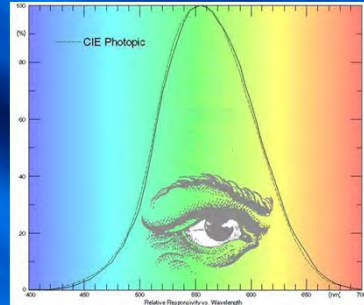


OPTICAL RADIATION

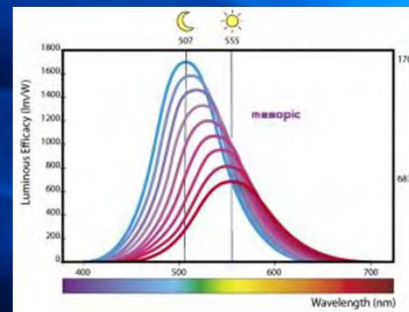


CHALLENGE TO LIGHT METER MANUFACTURERS

Produce a light meter that measures correctly not only for the light-adapted human eye



but for the human eye in any state of adaptation



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CHALLENGE TO LIGHTING INDUSTRY

Use new energy-efficient light sources, new vision models and new light measuring equipment to reduce the electric energy consumption used for lighting from the present level of almost 20 % to a far more sustainable level.

CO₂ emissions currently related to the production of electricity for lighting account for 1,775 billion tonnes of CO₂ of per year.