



CRC

for

Premium

Quality

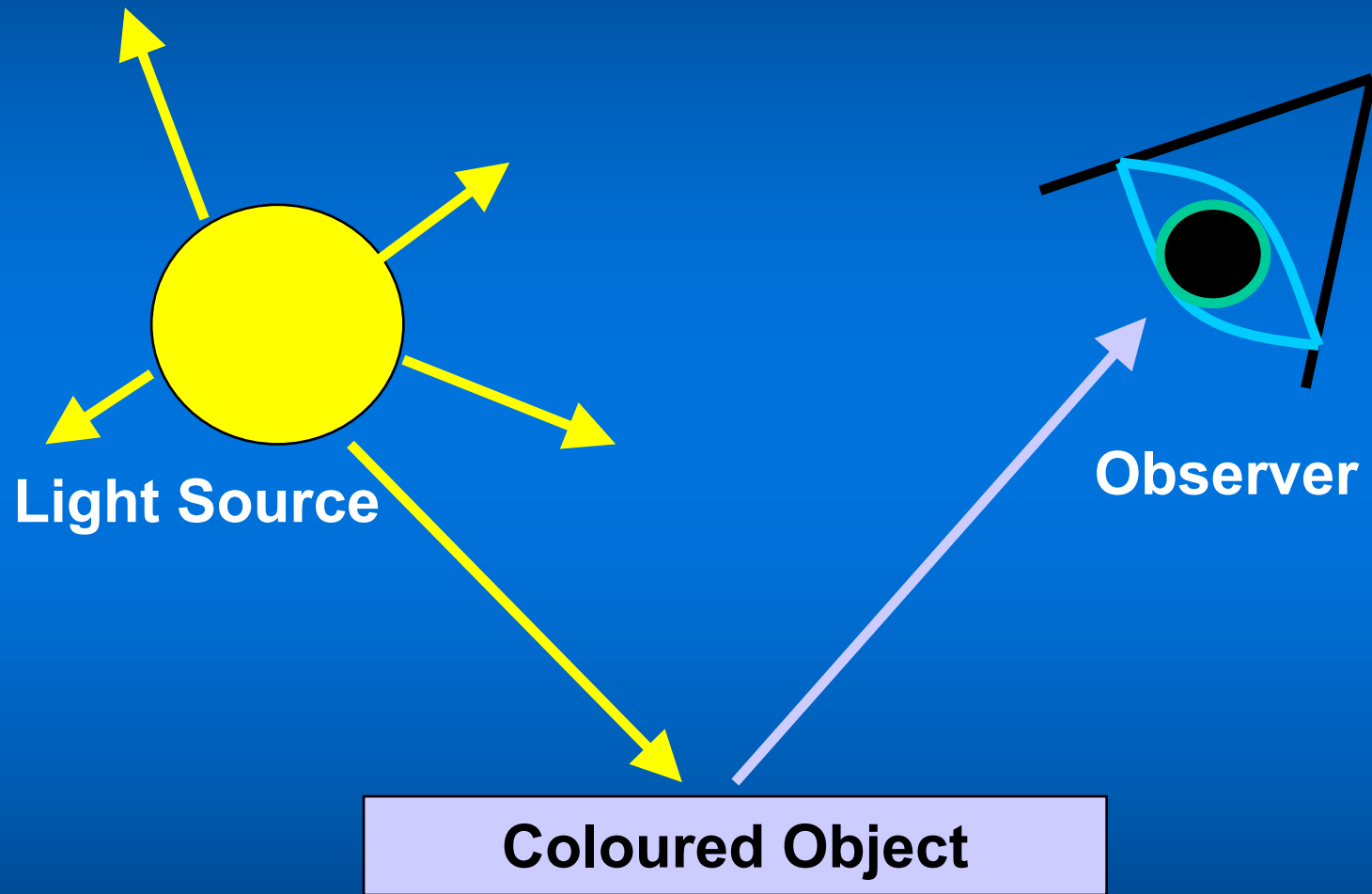
Wool

# Colour Measurement Theory

Produced for the CRC for Premium Quality Wool undergraduate program by;  
Andrew Lindsay, Australian Wool Testing Authority Ltd.



# Colour Stimulus

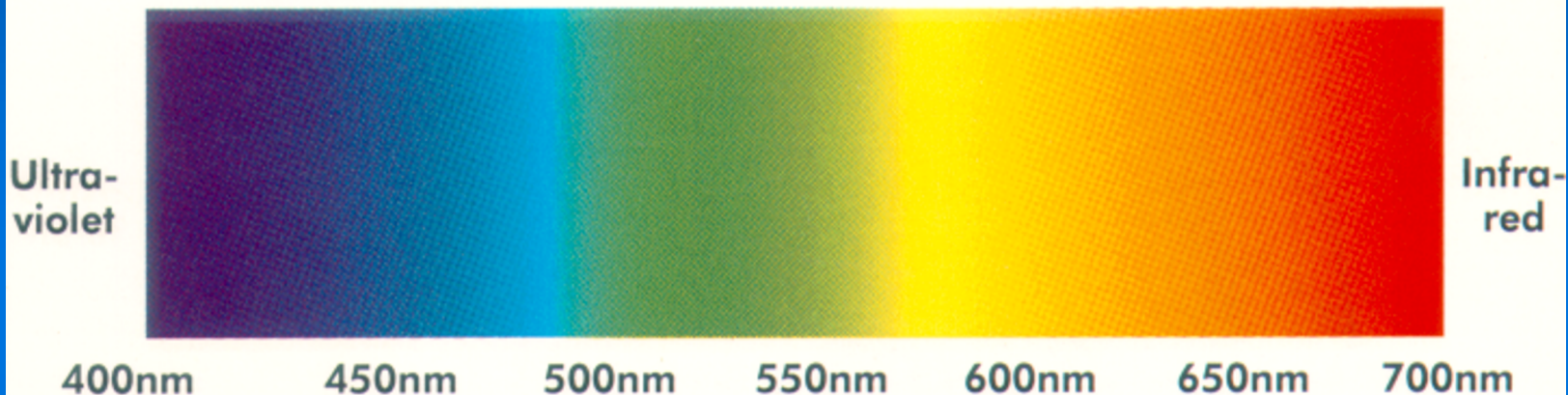


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# Visible Light

Spectrum of white light



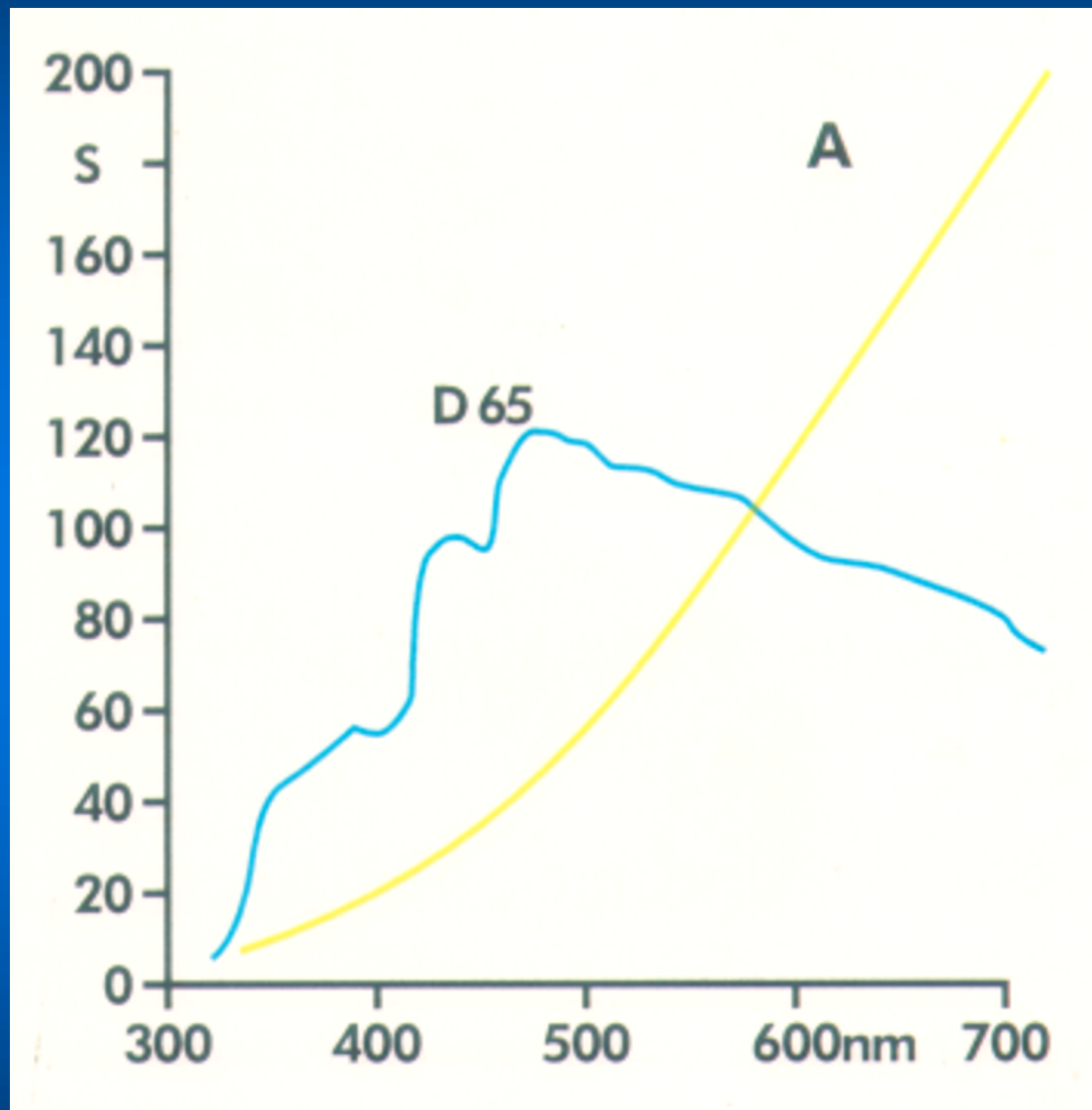
- Wavelengths
- absorbed
- transmitted
- reflected & become visible

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Source: Colorimetric Fundamentals, datacolor international brochure



# Standard Illuminants



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# Reflectance Curves

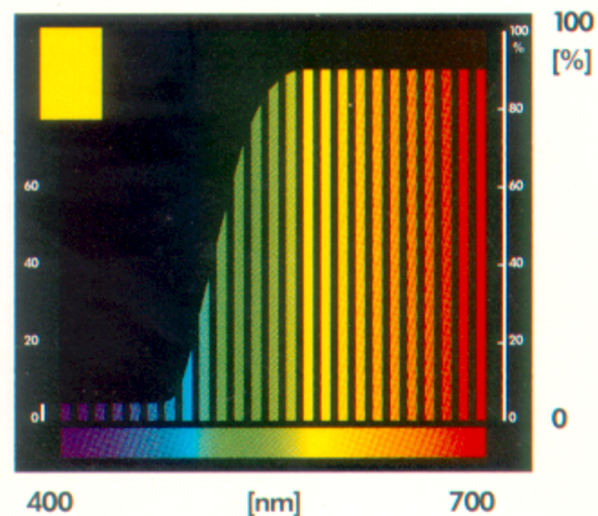
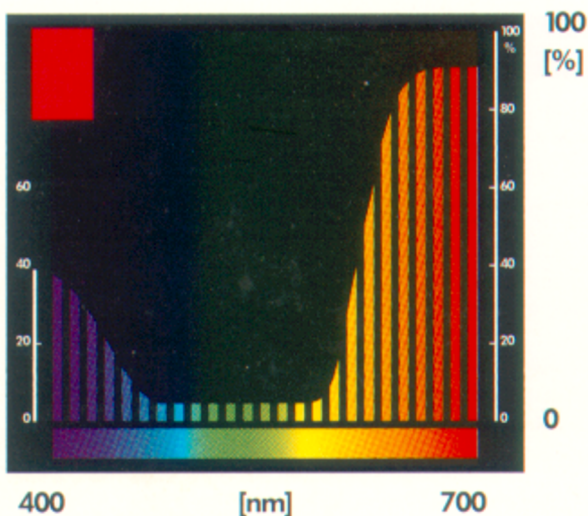
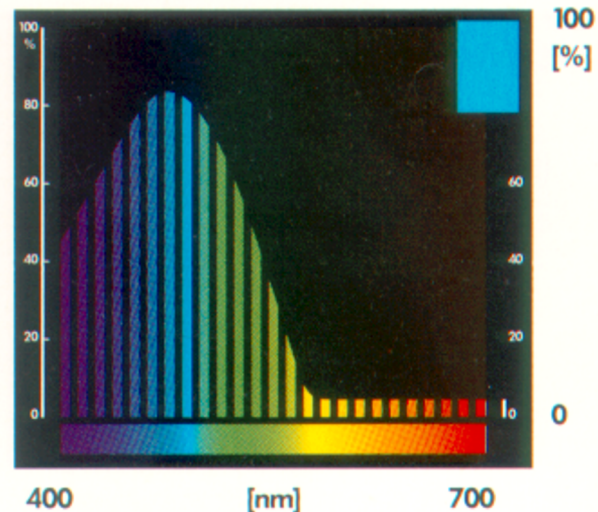
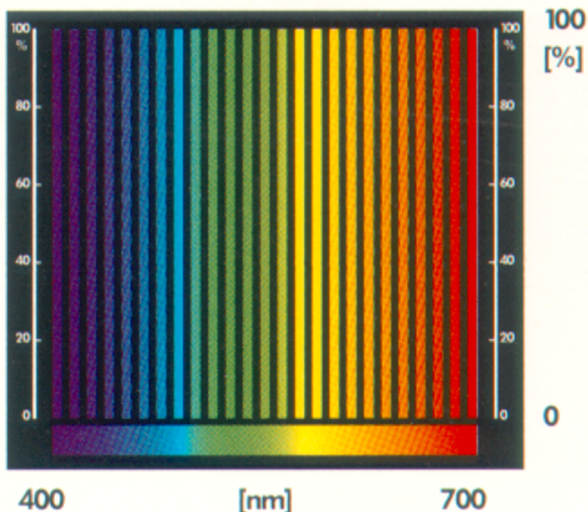
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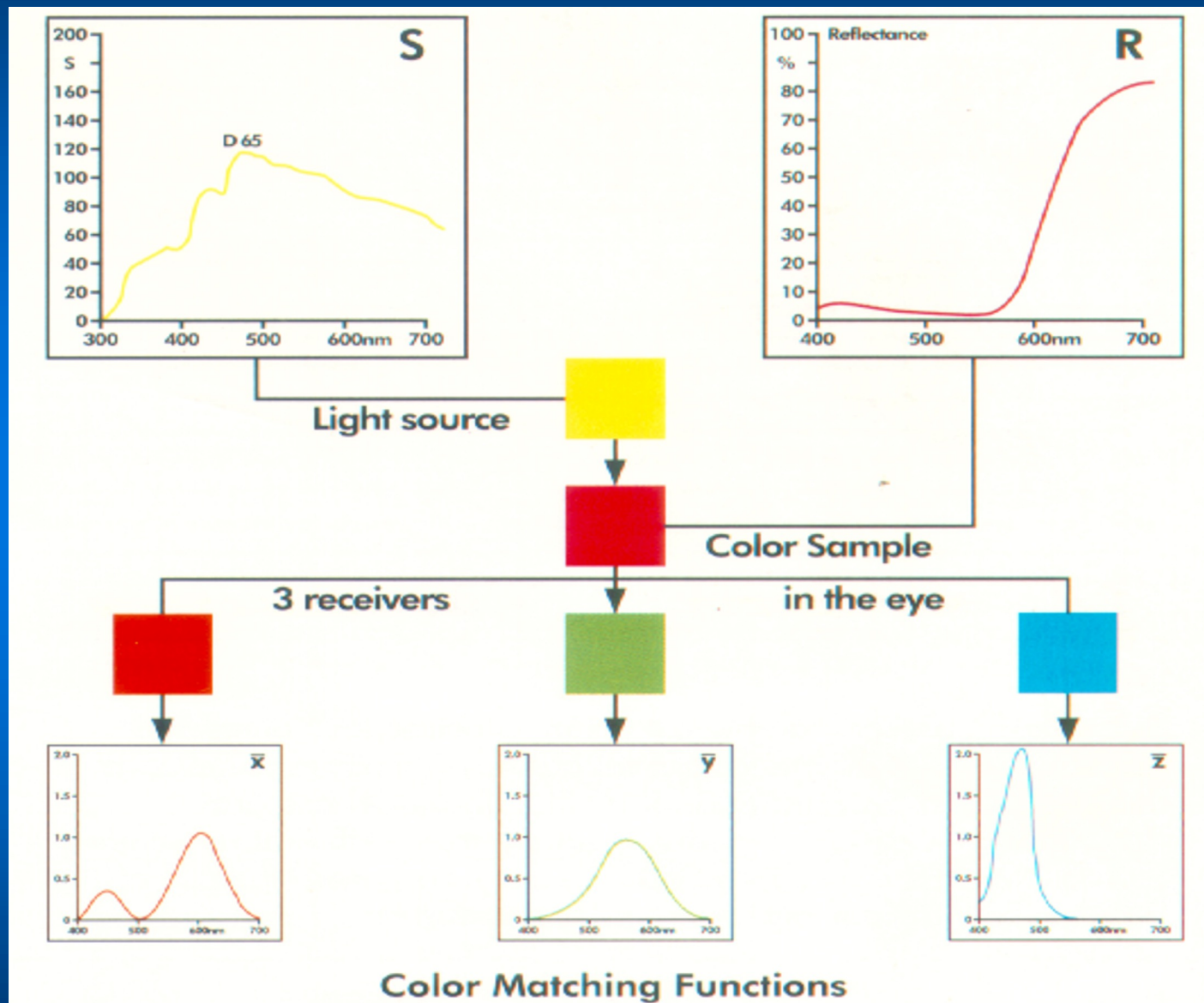


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Source: Colorimetric Fundamentals, datacolor international brochure



# Tristimulus Values



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# Colour Measurement

- **Three Tristimulus Values**
  - Red (X)
  - Green (Y)
  - Blue (Z)
- **Other systems related to this system**
  - $L^*$ ,  $a^*$ ,  $b^*$
- **Y and Z are used for Raw Wool Colour measurement**

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# Wool Colour

- Consider colour mixing:

**Yellow** + **Blue (Z)** = **Green (Y)**

**Yellow** = **Green (Y)** - **Blue (Z)**

- Y- Z is an indicator of yellowness
- Y is an indicator of brightness

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