## dYand CIE contrast sensitivity (Y/dY) CIELAB lightness for all colours $L_{w}^{*}=100$ : $L* = 116 (Y/Y_{-})^{1/3} - 16$ $(Y_{-}=100, Y>1)$ For the grey discrimination we get:

CIELAB lightness L\*. CIE tristimulus value discrimination

and for dL\*=1 (about 3 thresholds) we can write:  $dY = (3(Y_n^{1/3})/116)(Y)^{2/3}$  $\log(dY) = \log(3(Y_n^{1/3})/116) + (2/3)\log(Y)$ 

 $dL*/dY = (116/Y_n) (1/3) (Y/Y_n)^{-2/3}$ 

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therefore in a log-log diagram the slope is (2/3). for the CIE contrast sensitivity, and for  $dL^* = 1$  it is valid:  $Y/dY = (1/3) (116/(Y_{..}^{1/3})) V^{1/3}$ 

 $\log(Y/dY) = \log((1/3)(116/(Y_n^{1/3})) + (1/3)\log(Y)$