sRGB-triangle lightness *t, CIE tristimulus value discrimination *dY* and CIE contrast *(Y/dY)*** sRGB: see IEC 61966-2-1

sRGB-triangle lightness for *achromatic* colours: RGB

$$t^*_{sRGB,100} = 100\,(Y/Y_n)^{1/2,4} \quad (Y_n = 22(R), = 71(G), = 07(B))$$

For the discrimination we get:

$$dt^*_{sRGB,100}/dY = (1/2,4)\,(Y/Y_n)^{-1,4/2,4} = 0,42\,(Y/Y_n)^{-0,58}$$

and for $dt^*_{sRGB,100}=1$ (about 3 thresholds) we can write:

$$dY = 2,4\,(Y/Y_n)^{1,4/2,4}$$

or $\log(dY) = \log(2,4) + (1,4/2,4)\log(Y/Y_n)$

therefore in a log-log diagram the slope is 1,4/2,4.

for the CIE contrast sensitivity, and for $dt^*_{sRGB,100}=1$:

$$Y/dY = (Y_n^{1,4/2,4}/2,4)\,(Y/Y_n)^{1/2,4}$$

or $\log(Y/dY) = \log(Y_n^{1,4/2,4}/2,4) + 1/2,4\log(Y/Y_n)$