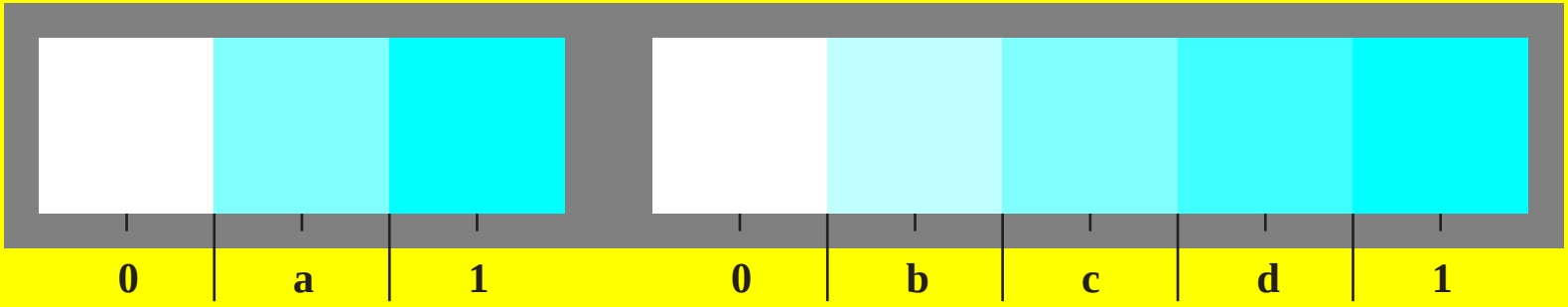
Visual and colorimetric differences for relative colour scaling (3 and 5 steps)



relative visual scale range 0 to 1

ΔV_i: $a-0$ $1-a$ $b-0$ $c-b$ $d-c$ $1-d$

relative visual difference

$\Delta E^*_{ab,i}$: ΔE^*_{a-0} ΔE^*_{1-a} ΔE^*_{b-0} ΔE^*_{c-b} ΔE^*_{d-c} ΔE^*_{1-d}

CIELAB colour difference

$\Delta S^*_3 = \Delta E^*_{ab,0} + \Delta E^*_{ab,1}$

$\Delta S^*_5 = \Delta E^*_{ab,0} + \Delta E^*_{ab,1} + \Delta E^*_{ab,3} + \Delta E^*_{ab,4}$

sum of CIELAB colour differences

visual scaled (V*) colour difference:

$\Delta V^*_{3,i} = \Delta V_i \cdot \Delta S^*_3$ (i=0 to 1)

$\Delta V^*_{5,i} = \Delta V_i \cdot \Delta S^*_5$ (i=0 to 4)

$\Delta V^*_3 = \Delta V^*_{3,0} + \Delta V^*_{3,1} = \Delta S^*_3$

$\Delta V^*_5 = \Delta V^*_{5,0} + \Delta V^*_{5,1} + \Delta V^*_{5,3} + \Delta V^*_{5,4} = \Delta S^*_5$

73 mean visual data of the x observers from experiments with the BAM-test charts:

25 trilets for 25 series with 3 colour steps

48 triplets for 16 series with 5 colour steps

x>14 observers for data set VR_0128