

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 30/360 = 0.083$

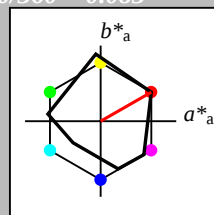
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 50 77 30

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

% Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

#### MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olv3\* 1.0 0.5 0.5 (1.0)  
cmyn3\* 0.0 0.5 0.5 (0.0)  
olv4\* 1.0 0.5 0.5 1.0  
cmyn4\* 0.0 0.5 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 72.52 32.93 22.4  
LAB\*LABa 72.52 33.47 19.18  
LAB\*TCHa 75.0 38.58 29.82

relative CIELAB lab\*  
lab\*lab 0.704 0.434 0.249  
lab\*tch 0.75 0.5 0.083  
lab\*nch 0.0 0.5 0.083

relative Natural Colour (NC)  
lab\*lrj 0.704 0.496 0.06  
lab\*tce 0.75 0.5 0.019  
lab\*nce 0.0 0.5 0.07

relative Inform. Technology (IT)  
olv3\* 0.5 0.0 0.0 (1.0)  
cmyn3\* 0.5 1.0 1.0 (0.0)  
olv4\* 1.0 0.5 0.5 0.5  
cmyn4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 33.82 33.67 19.79  
LAB\*LABa 33.82 33.47 19.18  
LAB\*TCHa 25.01 38.58 29.82

relative CIELAB lab\*  
lab\*lab 0.204 0.434 0.249  
lab\*tch 0.25 0.5 0.083  
lab\*nch 0.5 0.5 0.083

relative Natural Colour (NC)  
lab\*lrj 0.204 0.496 0.06  
lab\*tce 0.25 0.5 0.019  
lab\*nce 0.5 0.5 0.07

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

blackness  $n^*$

relative Inform. Technology (IT)  
olv3\* 1.0 0.0 0.0 (1.0)  
cmyn3\* 0.0 1.0 1.0 (0.0)  
olv4\* 1.0 0.0 0.0 1.0  
cmyn4\* 0.0 1.0 1.0 0.0

standard and adapted CIELAB  
LAB\*LAB 49.63 66.84 40.03  
LAB\*LABa 49.63 66.95 38.36  
LAB\*TCHa 50.0 77.16 29.82

relative CIELAB lab\*  
lab\*lab 0.409 0.867 0.497  
lab\*tch 0.5 1.0 0.083  
lab\*nch 0.0 1.0 0.083

relative Natural Colour (NC)  
lab\*lrj 0.409 0.993 0.119  
lab\*tce 0.5 1.0 0.019  
lab\*nce 0.0 1.0 0.07

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

blackness  $n^* = 0.00$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 1.0$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 38/360 = 0.105$

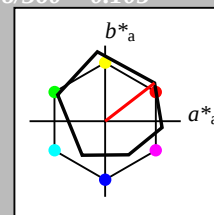
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 93$

% Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

#### ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| YMa  | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| LMa  | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| CMa  | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| VMa  | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| MMa  | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| NMa  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.693 0.396 0.306  
lab\*tch 0.75 0.5 0.105  
lab\*nch 0.0 0.5 0.105

relative Natural Colour (NC)  
lab\*lrj 0.693 0.477 0.15  
lab\*tce 0.75 0.5 0.048  
lab\*nce 0.0 0.5 0.19

relative Inform. Technology (IT)  
olv3\* 0.5 0.0 0.0 (1.0)  
cmyn3\* 0.5 1.0 1.0 (0.0)  
olv4\* 1.0 0.5 0.5 0.5  
cmyn4\* 0.0 0.5 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 32.98 32.9 25.8  
LAB\*LABa 32.98 32.68 25.25  
LAB\*TCHa 25.01 41.3 37.7

relative CIELAB lab\*  
lab\*lab 0.193 0.396 0.306  
lab\*tch 0.25 0.5 0.105  
lab\*nch 0.5 0.5 0.105

relative Natural Colour (NC)  
lab\*lrj 0.193 0.477 0.15  
lab\*tce 0.25 0.5 0.048  
lab\*nce 0.5 0.5 0.19

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

blackness  $n^* = 0.00$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$



Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 172/360 = 0.479$

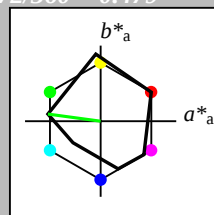
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 52 70 172

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 1.0 0.5 (1.0)  
cmyn3\* 0.5 0.0 0.5 (0.0)  
olvi4\* 0.5 1.0 0.5 1.0  
cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 73.75 -35.42 8.02  
LAB\*LABa 73.75 -34.85 4.72  
LAB\*TCHa 75.0 35.18 172.29

relative CIELAB lab\*  
lab\*lab 0.72 -0.494 0.067  
lab\*tch 0.75 0.5 0.479  
lab\*nch 0.0 0.5 0.479

relative Natural Colour (NC)  
lab\*lrj 0.72 -0.496 -0.056  
lab\*tce 0.75 0.5 0.518  
lab\*nce 0.0 0.5 0.07b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.5 0.0 (1.0)  
cmyn3\* 1.0 0.5 1.0 (0.0)  
olvi4\* 0.5 1.0 0.5 0.5  
cmyn4\* 0.5 0.0 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 35.06 -34.67 5.41  
LAB\*LABa 35.06 -34.85 4.72  
LAB\*TCHa 25.01 35.18 172.29

relative CIELAB lab\*  
lab\*lab 0.22 -0.494 0.067  
lab\*tch 0.25 0.5 0.479  
lab\*nch 0.5 0.5 0.479

relative Natural Colour (NC)  
lab\*lrj 0.22 -0.496 -0.056  
lab\*tce 0.25 0.5 0.518  
lab\*nce 0.5 0.5 0.07b

$n^* = 0.50$

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.419$

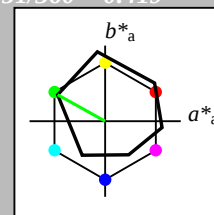
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olvi3\* 0.5 1.0 0.5 (1.0)  
cmyn3\* 0.5 0.0 0.5 (0.0)  
olvi4\* 0.5 1.0 0.5 1.0  
cmyn4\* 0.5 0.0 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 73.15 -31.94 20.73  
LAB\*LABa 73.15 -31.38 17.47  
LAB\*TCHa 75.0 35.93 150.91

relative CIELAB lab\*  
lab\*lab 0.712 -0.436 0.243  
lab\*tch 0.75 0.5 0.419  
lab\*nch 0.0 0.5 0.419

relative Natural Colour (NC)  
lab\*lrj 0.712 -0.478 0.144  
lab\*tce 0.75 0.5 0.453  
lab\*nce 0.0 0.5 0.081g

relative Inform. Technology (IT)  
olvi3\* 0.0 0.5 0.0 (1.0)  
cmyn3\* 1.0 0.5 1.0 (0.0)  
olvi4\* 0.5 1.0 0.5 0.5  
cmyn4\* 0.5 0.0 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 34.46 -31.2 18.11  
LAB\*LABa 34.46 -31.38 17.47  
LAB\*TCHa 25.01 35.93 150.91

relative CIELAB lab\*  
lab\*lab 0.213 -0.436 0.243  
lab\*tch 0.25 0.5 0.419  
lab\*nch 0.5 0.5 0.419

relative Natural Colour (NC)  
lab\*lrj 0.213 -0.478 0.144  
lab\*tce 0.25 0.5 0.453  
lab\*nce 0.5 0.5 0.081g

$n^* = 0.50$

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 218/360 = 0.605$

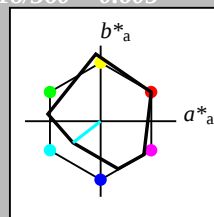
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 45 46 218

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 1.0 1.0 (1.0)  
cmyn3\* 0.5 0.0 0.0 (0.0)  
olvi4\* 0.5 1.0 1.0 1.0  
cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 70.21 -18.77 -11.17  
LAB\*LABa 70.21 -18.27 -14.23  
LAB\*TCHa 75.0 23.17 217.91

relative CIELAB lab\*  
lab\*lab 0.674 -0.393 -0.306  
lab\*tch 0.75 0.5 0.605  
lab\*nch 0.0 0.5 0.605  
relative Natural Colour (NC)  
lab\*lrj 0.674 -0.353 -0.352  
lab\*tce 0.75 0.5 0.625  
lab\*nce 0.0 0.5 g49b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.5 0.5 (1.0)  
cmyn3\* 1.0 0.5 0.5 (0.0)  
olvi4\* 0.5 1.0 1.0 0.5  
cmyn4\* 0.5 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 31.52 -18.03 -13.78  
LAB\*LABa 31.52 -18.27 -14.23  
LAB\*TCHa 25.01 23.17 217.91

relative CIELAB lab\*  
lab\*lab 0.175 -0.393 -0.306  
lab\*tch 0.25 0.5 0.605  
lab\*nch 0.5 0.5 0.605  
relative Natural Colour (NC)  
lab\*lrj 0.175 -0.353 -0.352  
lab\*tce 0.25 0.5 0.625  
lab\*nce 0.5 0.5 g49b

0.25 0.50 0.75 1.00  
 $n^* = 0.50$   
chromaticness  $c^*$

blackness  $n^*$

$n^* = 0.00$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 236/360 = 0.656$

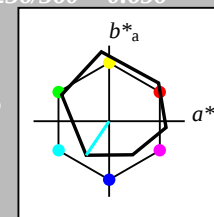
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olvi3\* 0.5 1.0 1.0 (1.0)  
cmyn3\* 0.5 0.0 0.0 (0.0)  
olvi4\* 0.5 1.0 1.0 1.0  
cmyn4\* 0.5 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 77.01 -15.79 -18.98  
LAB\*LABa 77.01 -15.16 -22.5  
LAB\*TCHa 75.0 27.15 236.01

relative CIELAB lab\*  
lab\*lab 0.762 -0.278 -0.413  
lab\*tch 0.75 0.5 0.656  
lab\*nch 0.0 0.5 0.656  
relative Natural Colour (NC)  
lab\*lrj 0.762 -0.247 -0.433  
lab\*tce 0.75 0.5 0.667  
lab\*nce 0.0 0.5 g66b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.5 0.5 (1.0)  
cmyn3\* 1.0 0.5 0.5 (0.0)  
olvi4\* 0.5 1.0 1.0 0.5  
cmyn4\* 0.5 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 38.32 -15.05 -21.59  
LAB\*LABa 38.32 -15.16 -22.5  
LAB\*TCHa 25.01 27.15 236.01

relative CIELAB lab\*  
lab\*lab 0.262 -0.278 -0.413  
lab\*tch 0.25 0.5 0.656  
lab\*nch 0.5 0.5 0.656  
relative Natural Colour (NC)  
lab\*lrj 0.262 -0.247 -0.433  
lab\*tce 0.25 0.5 0.667  
lab\*nce 0.5 0.5 g66b

0.25 0.50 0.75 1.00  
 $n^* = 0.50$   
chromaticness  $c^*$

blackness  $n^*$

$n^* = 0.00$

TE150-7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

BAM-test chart TE15; Colorimetric systems MRS18 & ORS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output:  $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 290/360 = 0.806$

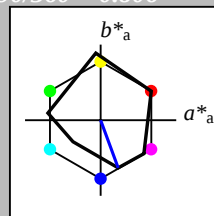
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 37 67 290

ol $v^*$ Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 1.0 (1.0)  
cmyn3\* 0.5 0.5 0.0 (0.0)  
olvi4\* 0.5 0.5 1.0 1.0  
cmyn4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 66.03 11.17 -28.74  
LAB\*LABa 66.03 11.59 -31.51  
LAB\*TCHa 75.0 33.59 290.19

relative CIELAB lab\*  
lab\*lab 0.62 0.173 -0.468  
lab\*tch 0.75 0.5 0.806  
lab\*nch 0.0 0.5 0.806

relative Natural Colour (NC)  
lab\*lrj 0.62 0.129 -0.482  
lab\*tce 0.75 0.5 0.791  
lab\*nce 0.0 0.5 b16r

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.5 (1.0)  
cmyn3\* 1.0 1.0 0.5 (0.0)  
olvi4\* 0.5 0.5 1.0 0.5  
cmyn4\* 0.5 0.5 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 27.34 11.92 -31.35  
LAB\*LABa 27.34 11.59 -31.51  
LAB\*TCHa 25.01 33.59 290.19

relative CIELAB lab\*  
lab\*lab 0.12 0.173 -0.468  
lab\*tch 0.25 0.5 0.806  
lab\*nch 0.5 0.5 0.806

relative Natural Colour (NC)  
lab\*lrj 0.12 0.129 -0.482  
lab\*tce 0.25 0.5 0.791  
lab\*nce 0.5 0.5 b16r

$n^* = 0.50$

$n^* = 0.25$

$n^* = 0.75$

$n^* = 1.00$

chromaticness  $c^*$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 305/360 = 0.847$

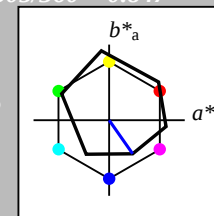
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 26 54 305

ol $v^*$ Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

$n^* = 0.50$

$n^* = 0.75$

$n^* = 1.00$

chromaticness  $c^*$

ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| YMa  | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| LMa  | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| CMa  | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| VMa  | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| MMa  | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| NMa  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 1.0 (1.0)  
cmyn3\* 0.5 0.5 0.0 (0.0)  
olvi4\* 0.5 0.5 1.0 1.0  
cmyn4\* 0.5 0.5 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 60.56 15.24 -19.79  
LAB\*LABa 60.56 15.55 -22.2  
LAB\*TCHa 75.0 27.11 305.0

relative CIELAB lab\*  
lab\*lab 0.55 0.287 -0.408  
lab\*tch 0.75 0.5 0.847  
lab\*nch 0.0 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.55 0.225 -0.446  
lab\*tce 0.75 0.5 0.824  
lab\*nce 0.0 0.5 b29r

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.5 (1.0)  
cmyn3\* 1.0 1.0 0.5 (0.0)  
olvi4\* 0.5 0.5 1.0 0.5  
cmyn4\* 0.5 0.5 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 21.87 15.98 -22.4  
LAB\*LABa 21.87 15.55 -22.2  
LAB\*TCHa 25.01 27.11 305.0

relative CIELAB lab\*  
lab\*lab 0.05 0.287 -0.408  
lab\*tch 0.25 0.5 0.847  
lab\*nch 0.5 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.05 0.225 -0.446  
lab\*tce 0.25 0.5 0.824  
lab\*nce 0.5 0.5 b29r

$n^* = 0.50$

$n^* = 0.25$

$n^* = 0.75$

$n^* = 1.00$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0.00$

$n^* = 0.25$

$n^* = 0.50$

$n^* = 0.75$

$n^* = 1.00$

chromaticness  $c^*$

BAM-test chart TE15; Colorimetric systems MRS18 & ORS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

input: ol $v^*$  setrgbcolor

output: ol $v^*$  setrgbcolor / w\* setgray

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 322/360 = 0.895$

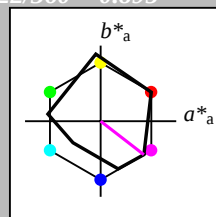
$lab^*tch$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 35 72 322

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.5 1.0 (1.0)  
cmyn3\* 0.0 0.5 0.0 (0.0)  
olvi4\* 1.0 0.5 1.0 1.0  
cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 65.17 28.18 -19.4  
LAB\*LABa 65.17 28.58 -22.12  
LAB\*TCHa 75.0 36.15 322.25

relative CIELAB lab\*  
lab\*lab 0.609 0.395 -0.305  
lab\*tch 0.75 0.5 0.895  
lab\*nch 0.0 0.5 0.895

relative Natural Colour (NC)  
lab\*lrj 0.609 0.324 -0.38  
lab\*tce 0.75 0.5 0.862  
lab\*nce 0.0 0.5 b44r

relative Inform. Technology (IT)  
olvi3\* 0.5 0.0 0.5 (1.0)  
cmyn3\* 0.5 1.0 0.5 (0.0)  
olvi4\* 1.0 0.5 1.0 0.5  
cmyn4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 26.48 28.92 -22.01  
LAB\*LABa 26.48 28.58 -22.12  
LAB\*TCHa 25.01 36.15 322.25

relative CIELAB lab\*  
lab\*lab 0.109 0.395 -0.305  
lab\*tch 0.25 0.5 0.895  
lab\*nch 0.5 0.5 0.895

relative Natural Colour (NC)  
lab\*lrj 0.109 0.324 -0.38  
lab\*tce 0.25 0.5 0.862  
lab\*nce 0.5 0.5 b44r

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 354/360 = 0.982$

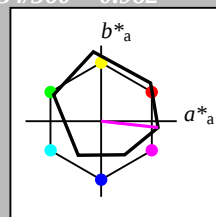
$lab^*tch$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olvi3\* 1.0 0.5 1.0 (1.0)  
cmyn3\* 0.0 0.5 0.0 (0.0)  
olvi4\* 1.0 0.5 1.0 1.0  
cmyn4\* 0.0 0.5 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 71.77 37.1 -1.01  
LAB\*LABa 71.77 37.63 -4.17  
LAB\*TCHa 75.0 37.86 353.66

relative CIELAB lab\*  
lab\*lab 0.695 0.497 -0.054  
lab\*tch 0.75 0.5 0.982  
lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)  
lab\*lrj 0.695 0.454 -0.208  
lab\*tce 0.75 0.5 0.932  
lab\*nce 0.0 0.5 b72r

relative Inform. Technology (IT)  
olvi3\* 0.5 0.0 0.5 (1.0)  
cmyn3\* 0.5 1.0 0.5 (0.0)  
olvi4\* 1.0 0.5 1.0 0.5  
cmyn4\* 0.0 0.5 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 33.08 37.84 -3.62  
LAB\*LABa 33.08 37.63 -4.17  
LAB\*TCHa 25.01 37.86 353.66

relative CIELAB lab\*  
lab\*lab 0.195 0.497 -0.054  
lab\*tch 0.25 0.5 0.982  
lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)  
lab\*lrj 0.195 0.454 -0.208  
lab\*tce 0.25 0.5 0.932  
lab\*nce 0.5 0.5 b72r

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

BAM-test chart TE15; Colorimetric systems MRS18 & ORS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

input:  $olv^* setrgbcolor$

output:  $olv^* setrgbcolor / w^* setgray$

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

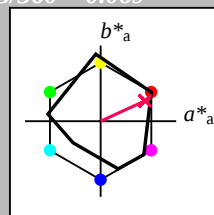
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 73 25

olv\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

### MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.5 0.548 (1.0)  
cmyn3\* 0.0 0.5 0.452 (0.0)  
olvi4\* 1.0 0.5 0.549 1.0  
cmyn4\* 0.0 0.5 0.451 0.0

standard and adapted CIELAB  
LAB\*LAB 71.8 32.47 18.34  
LAB\*LABa 71.8 33.0 15.17  
LAB\*TCHa 75.0 36.32 24.7

relative CIELAB lab\*  
lab\*lab 0.695 0.454 0.209  
lab\*tch 0.75 0.5 0.069  
lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.695 0.5 0.0  
lab\*tce 0.75 0.5 1.0  
lab\*nce 0.0 0.5 0.999

relative Inform. Technology (IT)  
olvi3\* 0.5 0.0 0.048 (1.0)  
cmyn3\* 0.5 1.0 0.952 (0.0)  
olvi4\* 1.0 0.5 0.548 0.5  
cmyn4\* 0.0 0.5 0.452 0.5

standard and adapted CIELAB  
LAB\*LAB 33.11 33.21 15.74  
LAB\*LABa 33.11 33.0 15.18  
LAB\*TCHa 25.01 36.33 24.71

relative CIELAB lab\*  
lab\*lab 0.195 0.454 0.209  
lab\*tch 0.25 0.5 0.069  
lab\*nch 0.5 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.195 0.5 0.0  
lab\*tce 0.25 0.5 0.0  
lab\*nce 0.5 0.5 0.00j

$n^* = 0.50$

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 25/360 = 0.069$

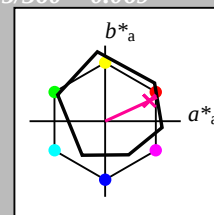
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

### ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| YMa  | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| LMa  | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| CMa  | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| VMa  | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| MMa  | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| NMa  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.5 0.661 (1.0)  
cmyn3\* 0.0 0.5 0.339 (0.0)  
olvi4\* 1.0 0.5 0.661 1.0  
cmyn4\* 0.0 0.5 0.339 0.0

standard and adapted CIELAB  
LAB\*LAB 71.7 33.75 18.92  
LAB\*LABa 71.7 34.27 15.76  
LAB\*TCHa 75.0 37.72 24.69

relative CIELAB lab\*  
lab\*lab 0.694 0.454 0.209  
lab\*tch 0.75 0.5 0.069  
lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.694 0.5 0.0  
lab\*tce 0.75 0.5 1.0  
lab\*nce 0.0 0.5 0.999

relative Inform. Technology (IT)  
olvi3\* 0.5 0.0 0.161 (1.0)  
cmyn3\* 0.5 1.0 0.839 (0.0)  
olvi4\* 1.0 0.5 0.661 0.5  
cmyn4\* 0.0 0.5 0.339 0.5

standard and adapted CIELAB  
LAB\*LAB 33.01 34.49 16.31  
LAB\*LABa 33.01 34.27 15.77  
LAB\*TCHa 25.01 37.73 24.7

relative CIELAB lab\*  
lab\*lab 0.194 0.454 0.209  
lab\*tch 0.25 0.5 0.069  
lab\*nch 0.5 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.194 0.5 0.0  
lab\*tce 0.25 0.5 0.0  
lab\*nce 0.5 0.5 0.00j

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

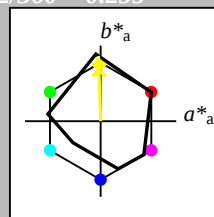
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 89 86 92

olv\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

### MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.976 0.5 (1.0)  
cmyn3\* 0.0 0.024 0.5 (0.0)  
olvi4\* 1.0 0.976 0.5 1.0  
cmyn4\* 0.0 0.024 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 92.04 -2.3 47.67  
LAB\*LABa 92.04 -1.39 43.14  
LAB\*TCHa 75.0 43.16 91.85

relative CIELAB lab\*  
lab\*lab 0.957 -0.015 0.5  
lab\*tch 0.75 0.5 0.255  
lab\*nch 0.0 0.5 0.255

relative Natural Colour (NC)  
lab\*lrj 0.957 0.0 0.5  
lab\*tce 0.75 0.5 0.25  
lab\*nce 0.0 0.5 j00g

relative Inform. Technology (IT)  
olvi3\* 0.5 0.476 0.0 (1.0)  
cmyn3\* 0.5 0.524 1.0 (0.0)  
olvi4\* 1.0 0.976 0.5 0.5  
cmyn4\* 0.0 0.024 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 53.35 -1.55 45.05  
LAB\*LABa 53.35 -1.38 43.13  
LAB\*TCHa 25.01 43.16 91.84

relative CIELAB lab\*  
lab\*lab 0.457 -0.015 0.5  
lab\*tch 0.25 0.5 0.255  
lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)  
lab\*lrj 0.457 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 r99j

blackness  $n^*$   
chromaticness  $c^*$

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 92/360 = 0.255$

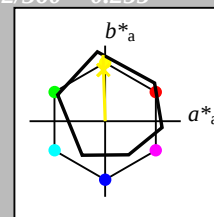
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olvi3\* 0.5 0.451 0.0 (1.0)  
cmyn3\* 0.5 0.549 1.0 (0.0)  
olvi4\* 1.0 0.951 0.5 0.5  
cmyn4\* 0.0 0.049 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 52.1 -1.55 45.68  
LAB\*LABa 52.1 -1.4 43.84  
LAB\*TCHa 25.01 43.87 91.84

relative CIELAB lab\*  
lab\*lab 0.44 -0.015 0.5  
lab\*tch 0.25 0.5 0.255  
lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)  
lab\*lrj 0.44 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 r99j

blackness  $n^*$   
chromaticness  $c^*$

$n^* = 1.0$

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

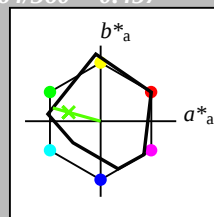
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 56 66 164

olv\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

% Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olv3\* 0.551 1.0 0.5 (1.0)  
cmyn3\* 0.449 0.0 0.5 (0.0)  
olv4\* 0.551 1.0 0.5 1.0  
cmyn4\* 0.449 0.0 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 75.74 -32.2 12.22  
LAB\*LABa 75.74 -31.6 8.79  
LAB\*TCHa 75.0 32.81 164.46

relative CIELAB lab\*  
lab\*lab 0.746 -0.481 0.134  
lab\*tch 0.75 0.5 0.457  
lab\*nch 0.0 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.746 -0.499 0.0  
lab\*tce 0.75 0.5 0.5  
lab\*nce 0.0 0.5 0.99g

relative Inform. Technology (IT)  
olv3\* 0.051 0.5 0.0 (1.0)  
cmyn3\* 0.949 0.5 1.0 (0.0)  
olv4\* 0.551 1.0 0.5 0.5  
cmyn4\* 0.449 0.0 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 37.04 -31.47 9.6  
LAB\*LABa 37.04 -31.6 8.78  
LAB\*TCHa 25.01 32.81 164.47

relative CIELAB lab\*  
lab\*lab 0.246 -0.481 0.134  
lab\*tch 0.25 0.5 0.457  
lab\*nch 0.5 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.246 -0.499 0.0  
lab\*tce 0.25 0.5 0.5  
lab\*nce 0.5 0.5 0.99g

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 164/360 = 0.457$

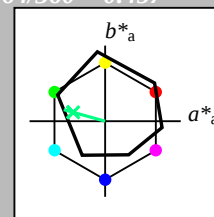
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 93$

% Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)  
olv3\* 0.5 1.0 0.623 (1.0)  
cmyn3\* 0.5 0.0 0.377 (0.0)  
olv4\* 0.5 1.0 0.623 1.0  
cmyn4\* 0.5 0.0 0.377 0.0

standard and adapted CIELAB  
LAB\*LAB 74.1 -27.96 10.94  
LAB\*LABa 74.1 -27.39 7.62  
LAB\*TCHa 75.0 28.44 164.46

relative CIELAB lab\*  
lab\*lab 0.725 -0.481 0.134  
lab\*tch 0.75 0.5 0.457  
lab\*nch 0.0 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.725 -0.499 0.0  
lab\*tce 0.75 0.5 0.5  
lab\*nce 0.0 0.5 0.99g

relative Inform. Technology (IT)  
olv3\* 0.0 0.5 0.123 (1.0)  
cmyn3\* 1.0 0.5 0.877 (0.0)  
olv4\* 0.5 1.0 0.623 0.5  
cmyn4\* 0.5 0.0 0.377 0.5

standard and adapted CIELAB  
LAB\*LAB 35.41 -27.22 8.34  
LAB\*LABa 35.41 -27.39 7.63  
LAB\*TCHa 25.01 28.44 164.45

relative CIELAB lab\*  
lab\*lab 0.225 -0.481 0.134  
lab\*tch 0.25 0.5 0.457  
lab\*nch 0.5 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.225 -0.499 0.0  
lab\*tce 0.25 0.5 0.5  
lab\*nce 0.5 0.5 0.99g

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

blackness  $n^*$

chromaticness  $c^*$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

input:  $olv^* setrgbcolor$

output:  $olv^* setrgbcolor / w^* setgray$

BAM-test chart TE15; Colorimetric systems MRS18 & ORS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

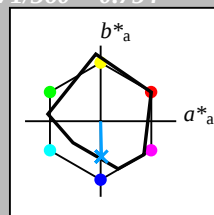
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 40 50 271

olv\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.96   | 38.37   | 77.18        | 30           |
| JMa    | 90.7        | -6.36   | 88.75   | 88.98        | 94           |
| GMa    | 52.11       | -69.73  | 9.44    | 70.37        | 172          |
| G50BMa | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| BMa    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50RMa | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE   | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE   | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE   | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 0.684 1.0 (1.0)  
cmyn3\* 0.5 0.316 0.0 (0.0)  
olvi4\* 0.5 0.684 1.0 1.0  
cmyn4\* 0.5 0.316 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 67.57 0.17 -22.28  
LAB\*LABa 67.57 0.61 -25.16  
LAB\*TCHa 75.0 25.18 271.4

relative CIELAB lab\*  
lab\*lab 0.64 0.012 -0.499  
lab\*tch 0.75 0.5 0.754  
lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)  
lab\*lrj 0.64 0.0 -0.499  
lab\*tce 0.75 0.5 0.75  
lab\*nce 0.0 0.5 g99b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.184 0.5 (1.0)  
cmyn3\* 1.0 0.816 0.5 (0.0)  
olvi4\* 0.5 0.684 1.0 0.5  
cmyn4\* 0.5 0.316 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 28.87 0.92 -24.9  
LAB\*LABa 28.87 0.62 -25.16  
LAB\*TCHa 25.01 25.18 271.41

relative CIELAB lab\*  
lab\*lab 0.14 0.012 -0.499  
lab\*tch 0.25 0.5 0.754  
lab\*nch 0.5 0.5 0.754

relative Natural Colour (NC)  
lab\*lrj 0.14 0.0 -0.499  
lab\*tce 0.25 0.5 0.75  
lab\*nce 0.5 0.5 b00r

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab^*h = 271/360 = 0.754$

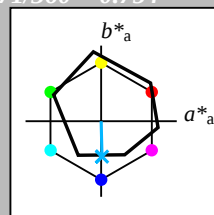
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)  
olvi3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olvi4\* 1.0 1.0 1.0 1.0  
cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 95.41 -0.97 4.75  
LAB\*LABa 95.41 0.0 0.0  
LAB\*TCHa 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 0.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*tce 1.0 0.0 -  
lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olvi4\* 1.0 1.0 1.0 0.5  
cmyn4\* 0.0 0.0 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 56.71 -0.23 2.14  
LAB\*LABa 56.71 0.0 0.0  
LAB\*TCHa 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 -  
lab\*nch 0.5 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*tce 0.5 0.0 -  
lab\*nce 0.5 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olvi4\* 1.0 1.0 1.0 0.0  
cmyn4\* 0.0 0.0 0.0 1.0

standard and adapted CIELAB  
LAB\*LAB 18.02 0.5 -0.46  
LAB\*LABa 18.02 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

$n^* = 1.0$

ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| YMa  | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| LMa  | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| CMa  | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| VMa  | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| MMa  | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| NMa  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

relative Inform. Technology (IT)  
olvi3\* 0.5 0.744 1.0 (1.0)  
cmyn3\* 0.5 0.256 0.0 (0.0)  
olvi4\* 0.5 0.744 1.0 1.0  
cmyn4\* 0.5 0.256 0.0 0.0

standard and adapted CIELAB  
LAB\*LAB 68.59 0.08 -19.4  
LAB\*LABa 68.59 0.54 -22.35  
LAB\*TCHa 75.0 22.36 271.4

relative CIELAB lab\*  
lab\*lab 0.654 0.012 -0.499  
lab\*tch 0.75 0.5 0.754  
lab\*nch 0.0 0.5 0.754

relative Natural Colour (NC)  
lab\*lrj 0.654 0.0 -0.499  
lab\*tce 0.75 0.5 0.75  
lab\*nce 0.0 0.5 g99b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.244 0.5 (1.0)  
cmyn3\* 1.0 0.756 0.5 (0.0)  
olvi4\* 0.5 0.744 1.0 0.5  
cmyn4\* 0.5 0.256 0.0 0.5

standard and adapted CIELAB  
LAB\*LAB 29.9 0.83 -22.01  
LAB\*LABa 29.9 0.55 -22.35  
LAB\*TCHa 25.01 22.36 271.41

relative CIELAB lab\*  
lab\*lab 0.154 0.012 -0.499  
lab\*tch 0.25 0.5 0.754  
lab\*nch 0.5 0.5 0.754

relative Natural Colour (NC)  
lab\*lrj 0.154 0.0 -0.499  
lab\*tce 0.25 0.5 0.75  
lab\*nce 0.5 0.5 b00r

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

TE150-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

BAM-test chart TE15; Colorimetric systems MRS18 & ORS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output:  $olv^* setrgbcolor / w^* setgray$