

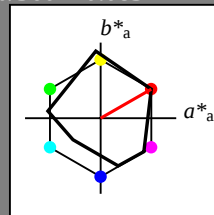
## Input: Colorimetric Reflective System MRS18

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          |

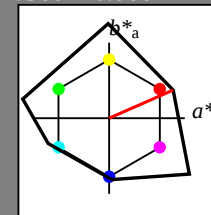
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 24/360 = 0.066$  $lab^*tch$  and  $lab^*nch$ 

D65: hue R

LCH\*Ma: 47 92 24

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.5 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 71.27 | 42.34 | 18.63 |
| LAB*LABa | 71.27 | 42.31 | 18.62 |
| LAB*TCHa | 75.0  | 46.23 | 23.75 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.714 | 0.458 | 0.201 |
| lab*tch | 0.75  | 0.5   | 0.066 |
| lab*nch | 0.0   | 0.5   | 0.066 |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.714 | 0.5 | -0.011 |
| lab*tce | 0.75  | 0.5 | 0.996  |
| lab*nce | 0.0   | 0.5 | 0.996  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.5 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 29.07 | 42.38 | 18.64 |
| LAB*LABa | 29.07 | 42.31 | 18.62 |
| LAB*TCHa | 25.01 | 46.23 | 23.75 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.214 | 0.458 | 0.201 |
| lab*tch | 0.25  | 0.5   | 0.066 |
| lab*nch | 0.5   | 0.5   | 0.066 |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.214 | 0.5 | -0.011 |
| lab*tce | 0.25  | 0.5 | 0.996  |
| lab*nce | 0.5   | 0.5 | 0.996  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.0 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 1.0 | 1.0 | 0.0   |

standard and adapted CIELAB

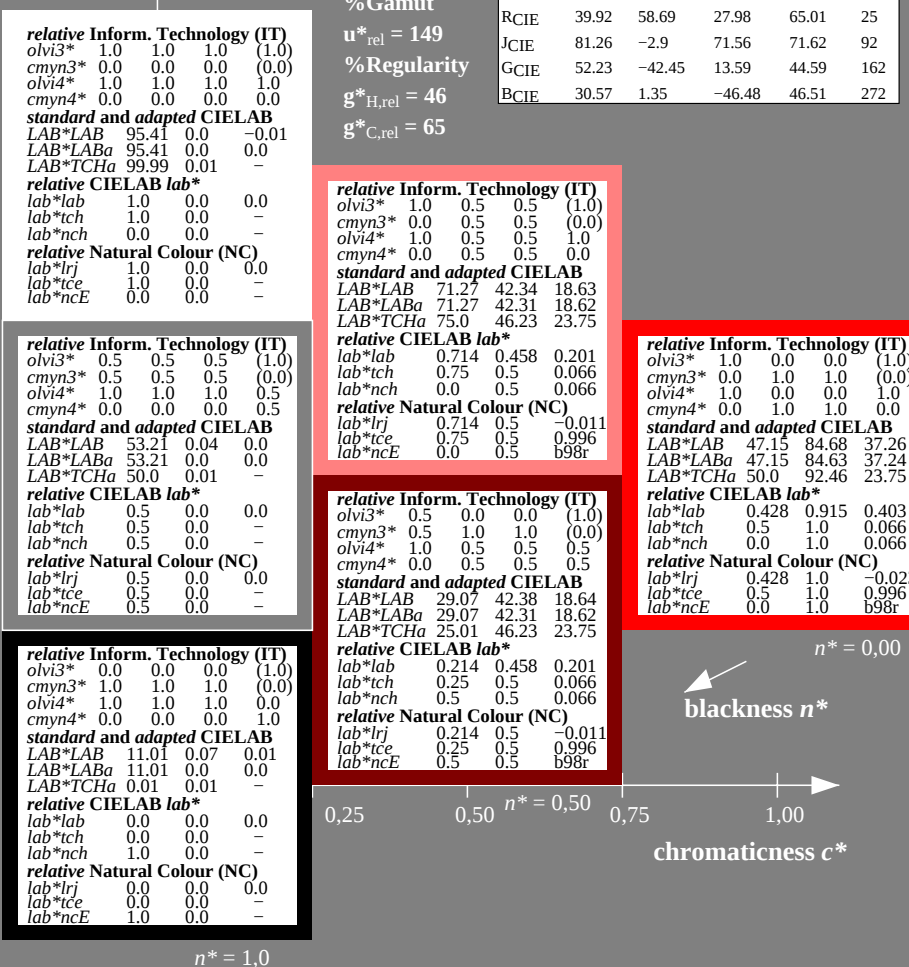
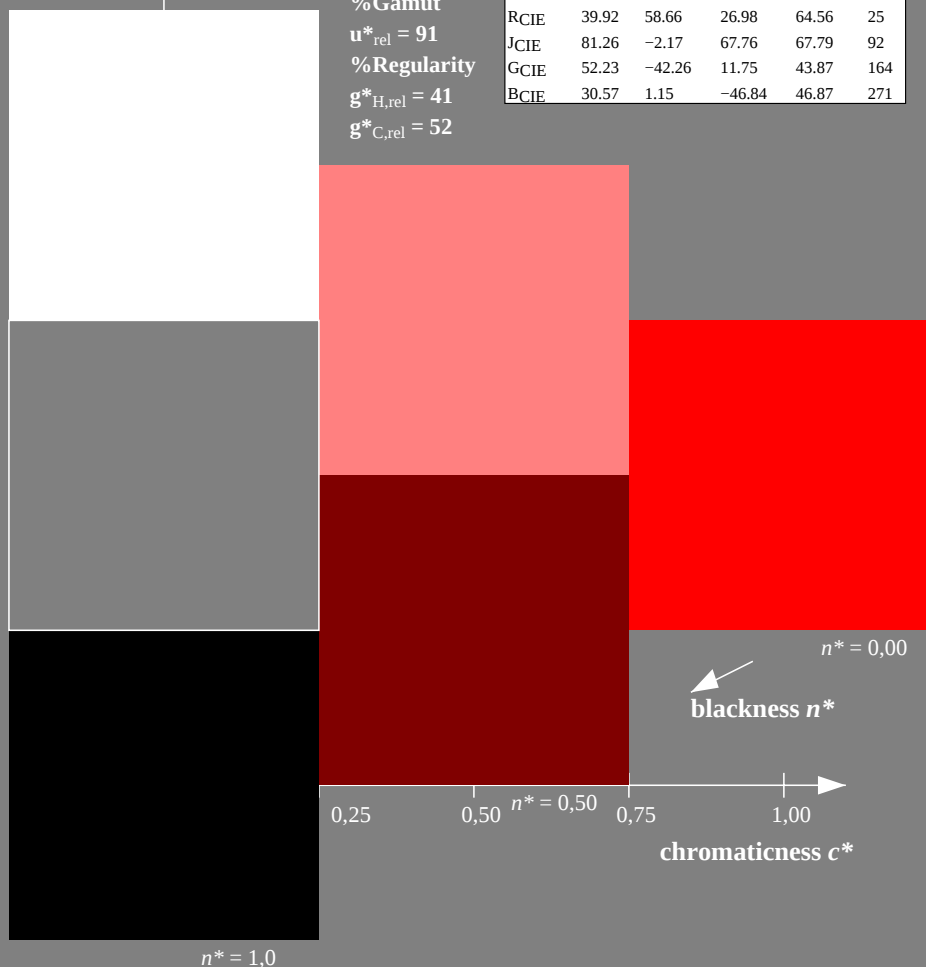
|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 47.15 | 84.68 | 37.26 |
| LAB*LABa | 47.15 | 84.63 | 37.24 |
| LAB*TCHa | 50.0  | 92.46 | 23.75 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.428 | 0.915 | 0.403 |
| lab*tch | 0.5   | 1.0   | 0.066 |
| lab*nch | 0.0   | 1.0   | 0.066 |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.428 | 1.0 | -0.023 |
| lab*tce | 0.5   | 1.0 | 0.996  |
| lab*nce | 0.0   | 1.0 | 0.996  |



TE030-7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

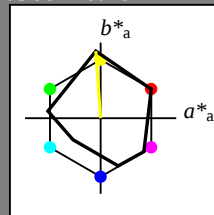
## Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab^*h = 94/360 = 0.261$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 91 89 94

olv\*Ma: 1.0 1.0 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          |

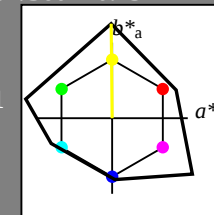
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 91/360 = 0.252$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 91 125 91

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 93.38 | -0.62 | 62.5  |
| LAB*LABa | 93.38 | -0.63 | 62.5  |
| LAB*TCHa | 75.0  | 62.5  | 90.59 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.976 | -0.004 | 0.5   |
| lab*tch | 0.75  | 0.5    | 0.252 |
| lab*nch | 0.0   | 0.5    | 0.252 |

relative Natural Colour (NC)

|         |       |      |       |
|---------|-------|------|-------|
| lab*lrj | 0.976 | 0.02 | 0.499 |
| lab*tce | 0.75  | 0.5  | 0.243 |
| lab*nce | 0.0   | 0.5  | r97j  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 51.18 | -0.59 | 62.51 |
| LAB*LABa | 51.18 | -0.63 | 62.5  |
| LAB*TCHa | 25.01 | 62.5  | 90.59 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.476 | -0.004 | 0.5   |
| lab*tch | 0.25  | 0.5    | 0.252 |
| lab*nch | 0.5   | 0.5    | 0.252 |

relative Natural Colour (NC)

|         |       |      |       |
|---------|-------|------|-------|
| lab*lrj | 0.476 | 0.02 | 0.499 |
| lab*tce | 0.25  | 0.5  | 0.243 |
| lab*nce | 0.5   | 0.5  | r97j  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

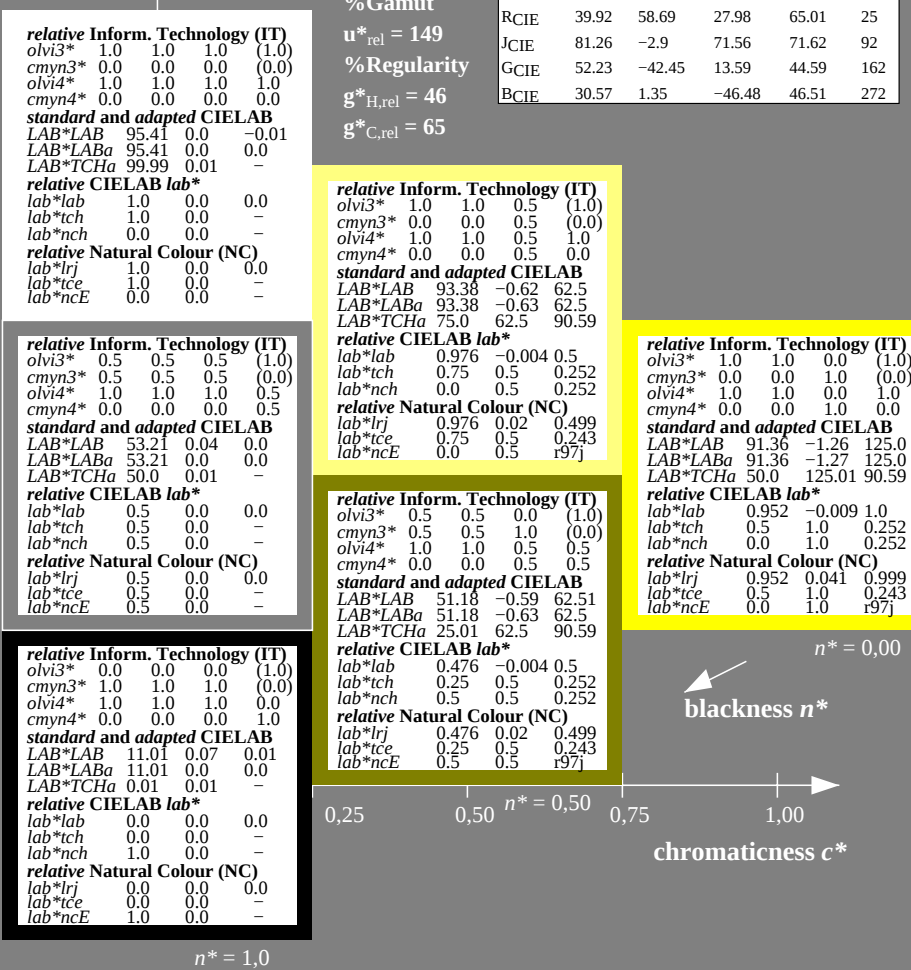
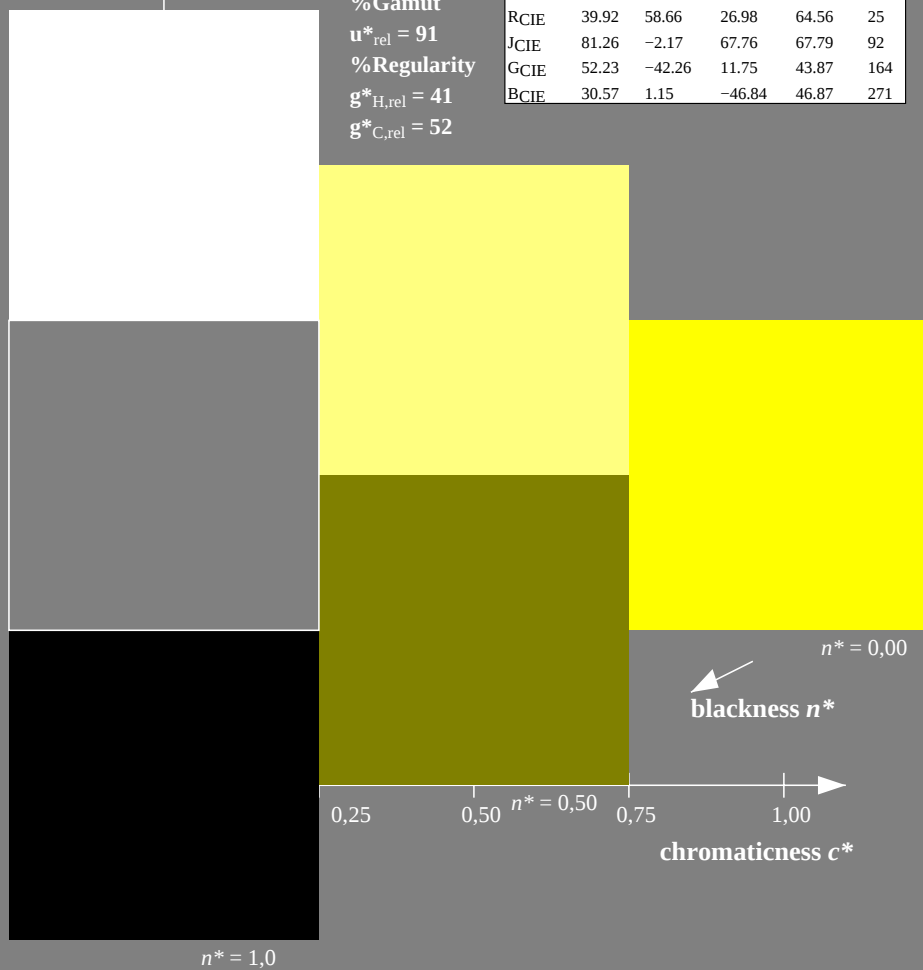
|          |       |        |       |
|----------|-------|--------|-------|
| LAB*LAB  | 91.36 | -1.26  | 125.0 |
| LAB*LABa | 91.36 | -1.27  | 125.0 |
| LAB*TCHa | 50.0  | 125.01 | 90.59 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.952 | -0.009 | 1.0   |
| lab*tch | 0.5   | 1.0    | 0.252 |
| lab*nch | 0.0   | 1.0    | 0.252 |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.952 | 0.041 | 0.999 |
| lab*tce | 0.5   | 1.0   | 0.243 |
| lab*nce | 0.0   | 1.0   | r97j  |



TE030-7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data depend

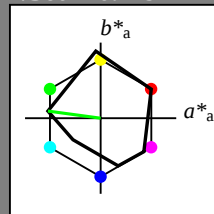
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

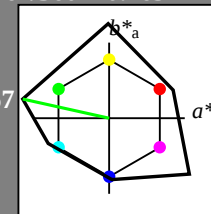
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 167/360 = 0.465$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G

LCH\*Ma: 63 117 167

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| LAB*LABa | 95.41 | 0.0  | 0.0   |
| LAB*TCa  | 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 0.0  | 0.0 |
| LAB*TCa  | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 0.0  | 0.0  |
| LAB*TCa  | 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 | -   |

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  | 79.24 | -57.1  | 12.67 |
| LAB*LABa | 79.24 | -57.12 | 12.67 |
| LAB*TCa  | 75.0  | 58.52  | 167.5 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.808 | -0.487 | 0.108 |
| lab*tch | 0.75  | 0.5    | 0.465 |
| lab*nch | 0.0   | 0.5    | 0.465 |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.808 | -0.497 | -0.037 |
| lab*tce | 0.75  | 0.5    | 0.512  |
| lab*nce | 0.0   | 0.5    | g04b   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 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  | 37.04 | -57.07 | 12.69 |
| LAB*LABa | 37.04 | -57.12 | 12.67 |
| LAB*TCa  | 25.01 | 58.52  | 167.5 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.309 | -0.487 | 0.108 |
| lab*tch | 0.25  | 0.5    | 0.465 |
| lab*nch | 0.5   | 0.5    | 0.465 |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.309 | -0.497 | -0.037 |
| lab*tce | 0.25  | 0.5    | 0.512  |
| lab*nce | 0.5   | 0.5    | g04b   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 0.0 | 1.0 | (0.0) |
| olvi4* | 0.0 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 1.0 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |       |
|----------|-------|--------|-------|
| LAB*LAB  | 63.07 | -114.2 | 25.35 |
| LAB*LABa | 63.07 | -114.2 | 25.34 |
| LAB*TCa  | 50.0  | 117.04 | 167.5 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.617 | -0.975 | 0.216 |
| lab*tch | 0.5   | 1.0    | 0.465 |
| lab*nch | 0.0   | 1.0    | 0.465 |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.617 | -0.996 | -0.074 |
| lab*tce | 0.5   | 1.0    | 0.512  |
| lab*nce | 0.0   | 1.0    | g04b   |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

TE030-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data depend

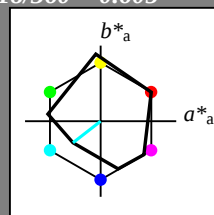
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |
| G50B <sub>Ma</sub> | 45.03       | -36.57  | -28.47  | 46.36        | 218          |
| B <sub>Ma</sub>    | 36.65       | 23.19   | -63.05  | 67.18        | 290          |
| B50R <sub>Ma</sub> | 34.94       | 57.17   | -44.26  | 72.31        | 322          |
| N <sub>Ma</sub>    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>    | 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          |

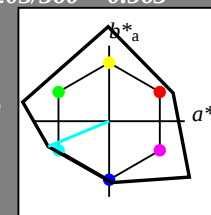
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 203/360 = 0.563$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G50B

LCH\*Ma: 59 87 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|                    | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| RMa                | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub> | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub> | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE               | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE               | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE               | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE               | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

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  | 77.43 | -40.26 | -16.71 |
| LAB*LABa | 77.43 | -40.29 | -16.72 |
| LAB*TCHa | 75.0  | 43.63  | 202.54 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.787 | -0.461 | -0.191 |
| lab*tch | 0.75  | 0.5    | 0.563  |
| lab*nch | 0.0   | 0.5    | 0.563  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.787 | -0.418 | -0.272 |
| lab*tce | 0.75  | 0.5    | 0.592  |
| lab*nce | 0.0   | 0.5    | g36b   |

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  | 35.23 | -40.23 | -16.7  |
| LAB*LABa | 35.23 | -40.29 | -16.72 |
| LAB*TCHa | 25.01 | 43.63  | 202.54 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.287 | -0.461 | -0.191 |
| lab*tch | 0.25  | 0.5    | 0.563  |
| lab*nch | 0.5   | 0.5    | 0.563  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.287 | -0.418 | -0.272 |
| lab*tce | 0.25  | 0.5    | 0.592  |
| lab*nce | 0.5   | 0.5    | g36b   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 1.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 0.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 1.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 59.47 | -80.55 | -33.44 |
| LAB*LABa | 59.47 | -80.59 | -33.44 |
| LAB*TCHa | 50.0  | 87.26  | 202.54 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.574 | -0.922 | -0.382 |
| lab*tch | 0.5   | 1.0    | 0.563  |
| lab*nch | 0.0   | 1.0    | 0.563  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.574 | -0.836 | -0.546 |
| lab*tce | 0.5   | 1.0    | 0.592  |
| lab*nce | 0.0   | 1.0    | g36b   |

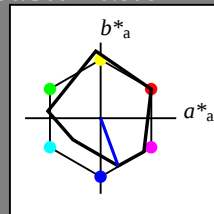
## Input: Colorimetric Reflective System MRS18

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

D65: hue B

LCH\*Ma: 37 67 290

olv\*Ma: 0.0 0.0 1.0

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          |

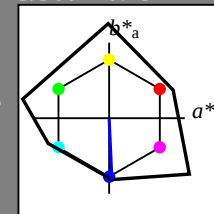
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 273/360 = 0.757$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B

LCH\*Ma: 49 81 273

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

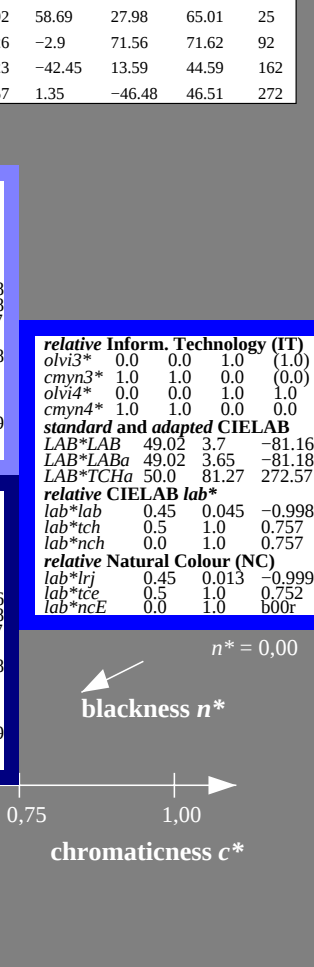
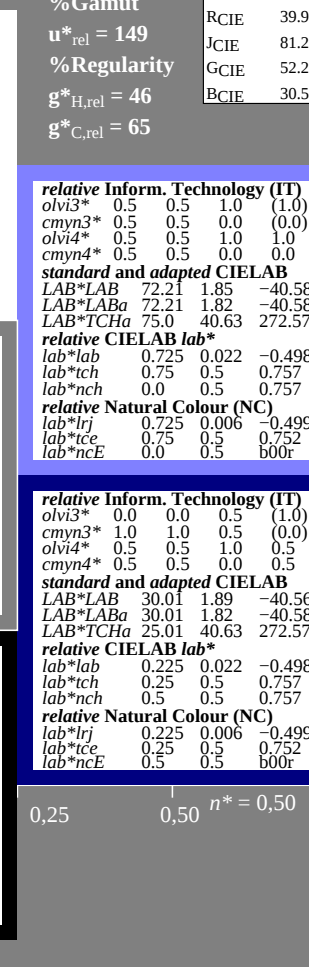
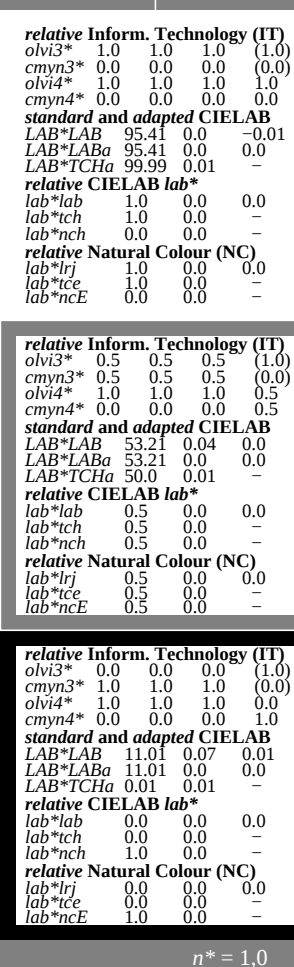
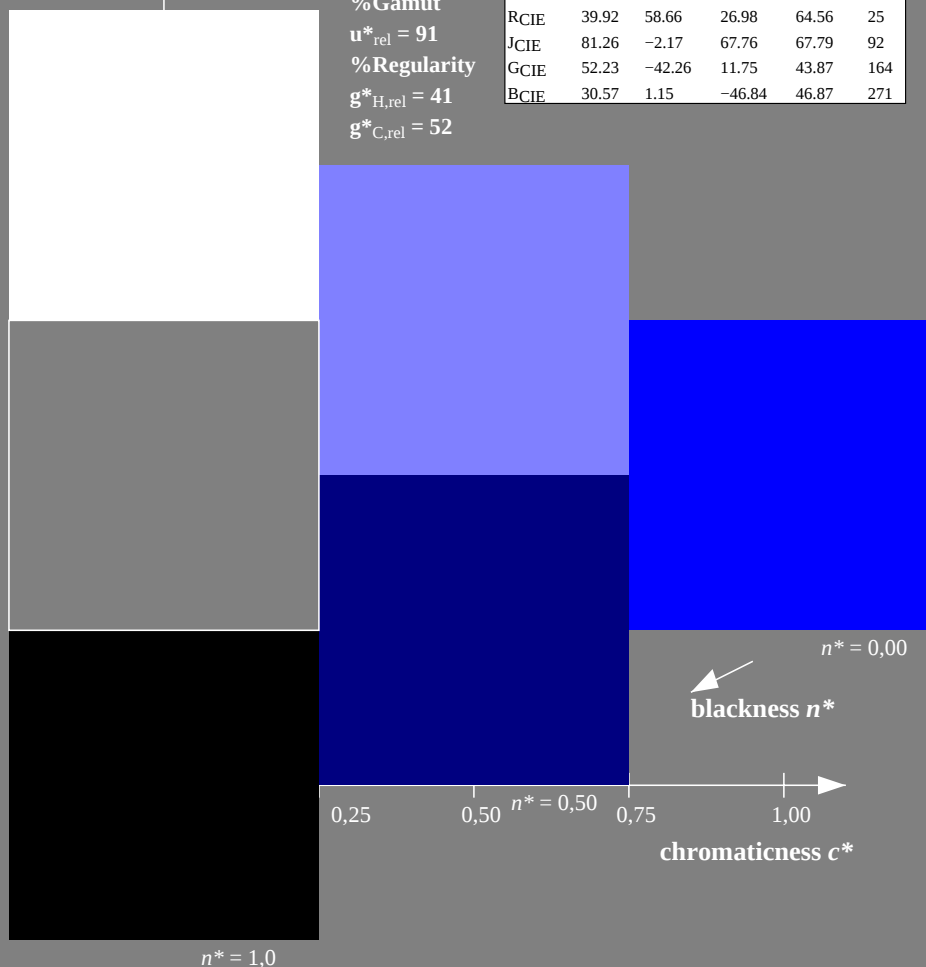
|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

| 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 | 0.0  | -0.01 |       |
| 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   | 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                          | 72.21 | 1.85  | -40.58 |       |
| LAB*LABa                         | 72.21 | 1.82  | -40.58 |       |
| LAB*TCHa                         | 75.0  | 40.63 | 272.57 |       |
| relative CIELAB lab*             |       |       |        |       |
| lab*lab                          | 0.725 | 0.022 | -0.498 |       |
| lab*tch                          | 0.75  | 0.5   | 0.757  |       |
| lab*nch                          | 0.0   | 0.5   | 0.757  |       |
| relative Natural Colour (NC)     |       |       |        |       |
| lab*lrj                          | 0.725 | 0.006 | -0.499 |       |
| lab*tce                          | 0.75  | 0.5   | 0.752  |       |
| lab*nce                          | 0.0   | 0.5   | b00r   |       |

| 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                          | 30.01 | 1.89  | -40.56 |       |
| LAB*LABa                         | 30.01 | 1.82  | -40.58 |       |
| LAB*TCHa                         | 25.01 | 40.63 | 272.57 |       |
| relative CIELAB lab*             |       |       |        |       |
| lab*lab                          | 0.225 | 0.022 | -0.498 |       |
| lab*tch                          | 0.25  | 0.5   | 0.757  |       |
| lab*nch                          | 0.5   | 0.5   | 0.757  |       |
| relative Natural Colour (NC)     |       |       |        |       |
| lab*lrj                          | 0.225 | 0.006 | -0.499 |       |
| lab*tce                          | 0.25  | 0.5   | 0.752  |       |
| lab*nce                          | 0.5   | 0.5   | b00r   |       |

| relative Inform. Technology (IT) |       |       |        |       |
|----------------------------------|-------|-------|--------|-------|
| olvi3*                           | 0.0   | 0.0   | 1.0    | (1.0) |
| cmyn3*                           | 1.0   | 1.0   | 0.0    | (0.0) |
| olvi4*                           | 0.0   | 0.0   | 1.0    | 1.0   |
| cmyn4*                           | 1.0   | 1.0   | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |       |        |       |
| LAB*LAB                          | 49.02 | 3.7   | -81.16 |       |
| LAB*LABa                         | 49.02 | 3.65  | -81.18 |       |
| LAB*TCHa                         | 50.0  | 81.27 | 272.57 |       |
| relative CIELAB lab*             |       |       |        |       |
| lab*lab                          | 0.45  | 0.045 | -0.998 |       |
| lab*tch                          | 0.5   | 1.0   | 0.757  |       |
| lab*nch                          | 0.0   | 1.0   | 0.757  |       |
| relative Natural Colour (NC)     |       |       |        |       |
| lab*lrj                          | 0.45  | 0.013 | -0.999 |       |
| lab*tce                          | 0.5   | 1.0   | 0.752  |       |
| lab*nce                          | 0.0   | 1.0   | b00r   |       |



TE030-7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

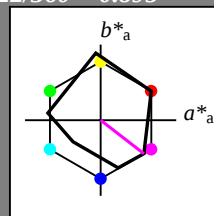
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

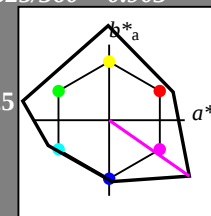
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 325/360 = 0.903$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B50R

LCH\*Ma: 44 129 325

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

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  | 69.73 | 53.06 | -36.95 |
| LAB*LABa | 69.73 | 53.03 | -36.95 |
| LAB*TCHa | 75.0  | 64.65 | 325.12 |

relative CIELAB lab\*

|         |       |      |        |
|---------|-------|------|--------|
| lab*lab | 0.696 | 0.41 | -0.285 |
| lab*tch | 0.75  | 0.5  | 0.903  |
| lab*nch | 0.0   | 0.5  | 0.903  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.696 | 0.336 | -0.369 |
| lab*tce | 0.75  | 0.5   | 0.867  |
| lab*nce | 0.0   | 0.5   | b46r   |

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  | 27.53 | 53.1  | -36.94 |
| LAB*LABa | 27.53 | 53.03 | -36.95 |
| LAB*TCHa | 25.01 | 64.65 | 325.12 |

relative CIELAB lab\*

|         |       |      |        |
|---------|-------|------|--------|
| lab*lab | 0.196 | 0.41 | -0.285 |
| lab*tch | 0.25  | 0.5  | 0.903  |
| lab*nch | 0.5   | 0.5  | 0.903  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.196 | 0.336 | -0.369 |
| lab*tce | 0.25  | 0.5   | 0.867  |
| lab*nce | 0.5   | 0.5   | b46r   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 1.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 0.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 1.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 44.06 | 106.12 | -73.91 |
| LAB*LABa | 44.06 | 106.07 | -73.92 |
| LAB*TCHa | 50.0  | 129.29 | 325.12 |

relative CIELAB lab\*

|         |       |      |        |
|---------|-------|------|--------|
| lab*lab | 0.392 | 0.82 | -0.571 |
| lab*tch | 0.5   | 1.0  | 0.903  |
| lab*nch | 0.0   | 1.0  | 0.903  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.392 | 0.673 | -0.739 |
| lab*tce | 0.5   | 1.0   | 0.867  |
| lab*nce | 0.0   | 1.0   | b46r   |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

TE030-7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

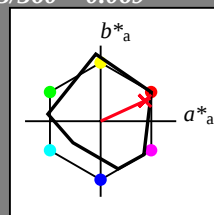
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

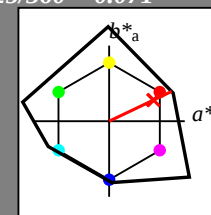
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 25/360 = 0.071$  $lab^*tch$  and  $lab^*nch$ 

D65: hue R

LCH\*Ma: 48 91 25

olv\*Ma: 1.0 0.02 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 1.0 | 0.512 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.488 | 0.5 | (0.0) |
| olvi4* | 1.0 | 0.512 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.488 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 71.81 | 41.31 | 19.68 |
| LAB*LABa | 71.81 | 41.28 | 19.68 |
| LAB*TCHa | 75.0  | 45.73 | 25.49 |

relative CIELAB lab\*

|         |      |       |       |
|---------|------|-------|-------|
| lab*lab | 0.72 | 0.451 | 0.215 |
| lab*tch | 0.75 | 0.5   | 0.071 |
| lab*nch | 0.0  | 0.5   | 0.071 |

relative Natural Colour (NC)

|         |      |     |      |
|---------|------|-----|------|
| lab*lrj | 0.72 | 0.5 | 0.0  |
| lab*tce | 0.75 | 0.5 | 0.0  |
| lab*nce | 0.0  | 0.5 | r00j |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 0.5 | 0.012 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 0.988 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.512 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.488 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 29.6  | 41.35 | 19.69 |
| LAB*LABa | 29.6  | 41.29 | 19.67 |
| LAB*TCHa | 25.01 | 45.73 | 25.47 |

relative CIELAB lab\*

|         |      |       |       |
|---------|------|-------|-------|
| lab*lab | 0.22 | 0.451 | 0.215 |
| lab*tch | 0.25 | 0.5   | 0.071 |
| lab*nch | 0.5  | 0.5   | 0.071 |

relative Natural Colour (NC)

|         |      |     |      |
|---------|------|-----|------|
| lab*lrj | 0.22 | 0.5 | 0.0  |
| lab*tce | 0.25 | 0.5 | 1.0  |
| lab*nce | 0.5  | 0.5 | b99r |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 1.0 | 0.024 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 0.976 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.024 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 0.976 | 1.0 | 0.0   |

standard and adapted CIELAB

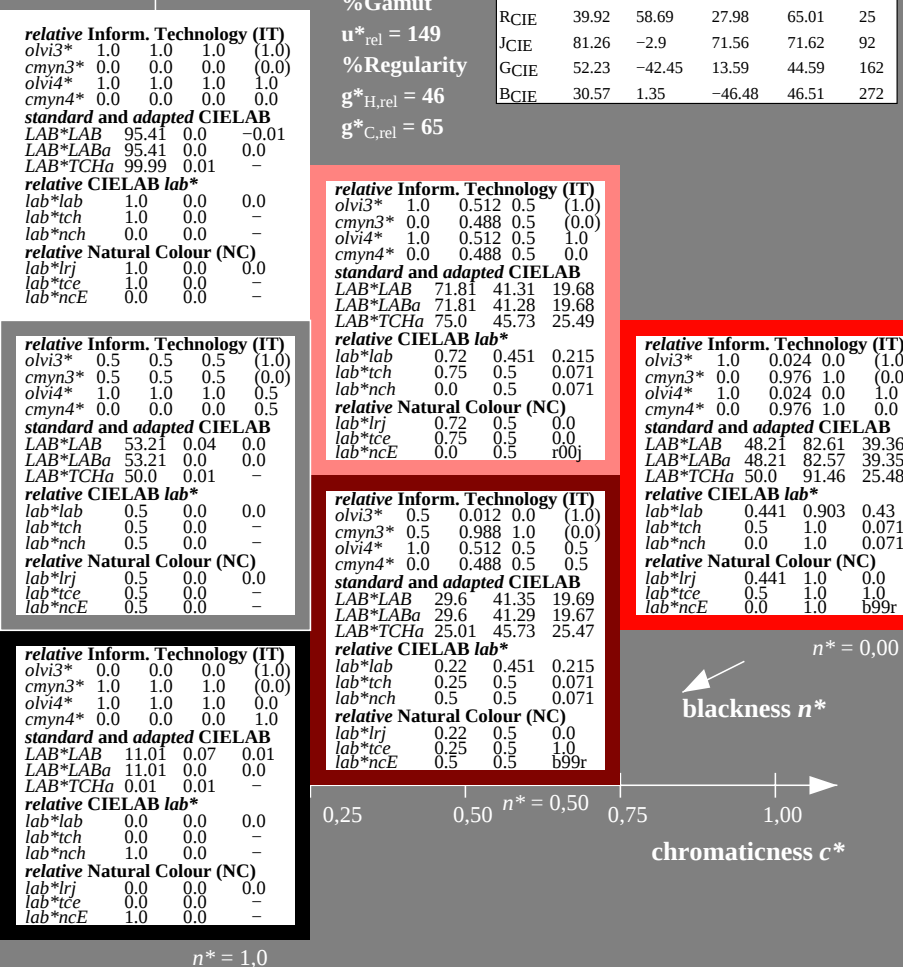
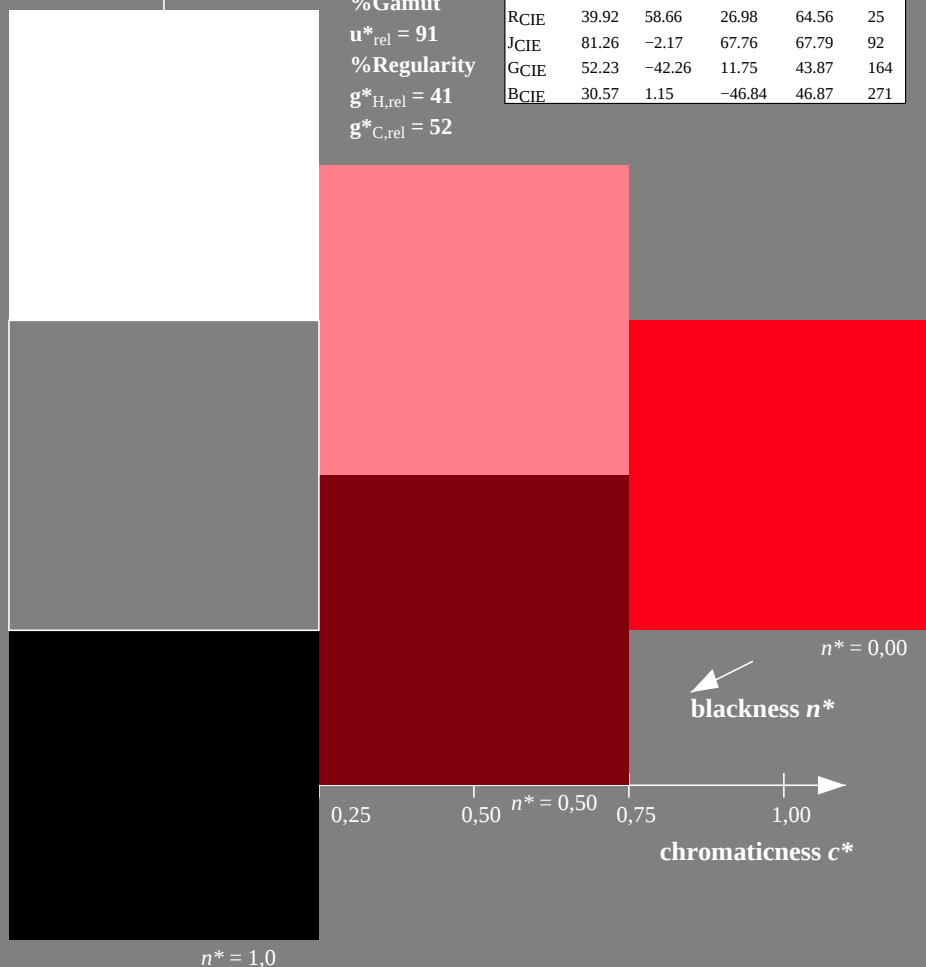
|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 48.21 | 82.61 | 39.36 |
| LAB*LABa | 48.21 | 82.57 | 39.35 |
| LAB*TCHa | 50.0  | 91.46 | 25.48 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.441 | 0.903 | 0.43  |
| lab*tch | 0.5   | 1.0   | 0.071 |
| lab*nch | 0.0   | 1.0   | 0.071 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.441 | 1.0 | 0.0  |
| lab*tce | 0.5   | 1.0 | 1.0  |
| lab*nce | 0.0   | 1.0 | b99r |



TE030-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

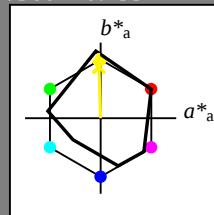
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

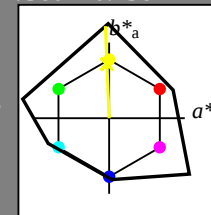
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 92/360 = 0.256$  $lab^*tch$  and  $lab^*nch$ 

D65: hue J

LCH\*Ma: 90 122 92

olv\*Ma: 0.97 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.984 | 1.0 | 0.5 | (1.0) |
| cmyn3* | 0.016 | 0.0 | 0.5 | (0.0) |
| olvi4* | 0.984 | 1.0 | 0.5 | 1.0   |
| cmyn4* | 0.016 | 0.0 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 92.92 | -2.44 | 60.89 |
| LAB*LABa | 92.92 | -2.46 | 60.89 |
| LAB*TCHa | 75.0  | 60.94 | 92.32 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.971 | -0.019 | 0.499 |
| lab*tch | 0.75  | 0.5    | 0.256 |
| lab*nch | 0.0   | 0.5    | 0.256 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.971 | 0.0 | 0.5  |
| lab*tce | 0.75  | 0.5 | 0.25 |
| lab*nce | 0.0   | 0.5 | r99j |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.484 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 0.516 | 0.5 | 1.0 | (0.0) |
| olvi4* | 0.984 | 1.0 | 0.5 | 0.5   |
| cmyn4* | 0.016 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 50.72 | -2.42 | 60.89 |
| LAB*LABa | 50.72 | -2.47 | 60.88 |
| LAB*TCHa | 25.01 | 60.93 | 92.33 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.471 | -0.019 | 0.499 |
| lab*tch | 0.25  | 0.5    | 0.256 |
| lab*nch | 0.5   | 0.5    | 0.256 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.471 | 0.0 | 0.5  |
| lab*tce | 0.25  | 0.5 | 0.25 |
| lab*nce | 0.5   | 0.5 | 100g |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.967 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 0.033 | 0.0 | 1.0 | (0.0) |
| olvi4* | 0.968 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 0.032 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 90.45 | -4.92  | 121.77 |
| LAB*LABa | 90.45 | -4.93  | 121.77 |
| LAB*TCHa | 50.0  | 121.87 | 92.32  |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.941 | -0.04 | 0.999 |
| lab*tch | 0.5   | 1.0   | 0.256 |
| lab*nch | 0.0   | 1.0   | 0.256 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.941 | 0.0 | 1.0  |
| lab*tce | 0.5   | 1.0 | 0.25 |
| lab*nce | 0.0   | 1.0 | r99j |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

TE030-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

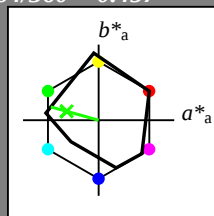
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

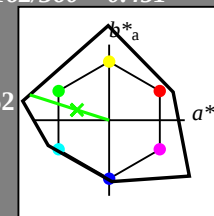
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 162/360 = 0.451$  $lab^*tch$  and  $lab^*nch$ 

D65: hue G

LCH\*Ma: 65 110 162

olv\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.541 | 1.0 | 0.5 | (1.0) |
| cmyn3* | 0.459 | 0.0 | 0.5 | (0.0) |
| olvi4* | 0.541 | 1.0 | 0.5 | 1.0   |
| cmyn4* | 0.459 | 0.0 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |      |        |        |
|----------|------|--------|--------|
| LAB*LAB  | 80.4 | -52.43 | 16.79  |
| LAB*LABa | 80.4 | -52.45 | 16.79  |
| LAB*TCHa | 75.0 | 55.08  | 162.25 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.822 | -0.475 | 0.152 |
| lab*tch | 0.75  | 0.5    | 0.451 |
| lab*nch | 0.0   | 0.5    | 0.451 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.822 | -0.499 | 0.0   |
| lab*tce | 0.75  | 0.5    | 0.5   |
| lab*nce | 0.0   | 0.5    | 0.99g |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.041 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 0.959 | 0.5 | 1.0 | (0.0) |
| olvi4* | 0.541 | 1.0 | 0.5 | 0.5   |
| cmyn4* | 0.459 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 38.2  | -52.41 | 16.8   |
| LAB*LABa | 38.2  | -52.46 | 16.78  |
| LAB*TCHa | 25.01 | 55.09  | 162.27 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.322 | -0.475 | 0.152 |
| lab*tch | 0.25  | 0.5    | 0.451 |
| lab*nch | 0.5   | 0.5    | 0.451 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.322 | -0.499 | 0.0  |
| lab*tce | 0.25  | 0.5    | 0.5  |
| lab*nce | 0.5   | 0.5    | g00b |

relative Inform. Technology (IT)

|        |       |     |     |       |
|--------|-------|-----|-----|-------|
| olvi3* | 0.083 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 0.917 | 0.0 | 1.0 | (0.0) |
| olvi4* | 0.083 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 0.917 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |          |        |
|----------|-------|----------|--------|
| LAB*LAB  | 65.41 | -104.893 | 58     |
| LAB*LABa | 65.41 | -104.923 | 57     |
| LAB*TCHa | 50.0  | 110.17   | 162.26 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.645 | -0.951 | 0.305 |
| lab*tch | 0.5   | 1.0    | 0.451 |
| lab*nch | 0.0   | 1.0    | 0.451 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.645 | -0.999 | 0.0  |
| lab*tce | 0.5   | 1.0    | 0.5  |
| lab*nce | 0.0   | 1.0    | g00b |

blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

 $n^* = 1,0$ 

TE030-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

input: olv\* setrgbcolor

output: Startup (S) data dependend

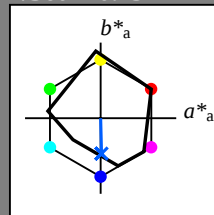
## Input: Colorimetric Reflective System MRS18

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

 $g^*_{H,rel} = 41$  $g^*_{C,rel} = 52$ 

## 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          |

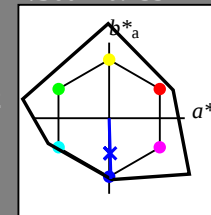
## Output: Colorimetric Reflective System NCS11

for hue  $h^* = lab^*h = 272/360 = 0.755$  $lab^*tch$  and  $lab^*nch$ 

D65: hue B

LCH\*Ma: 49 80 272

olv\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 149$ 

%Regularity

 $g^*_{H,rel} = 46$  $g^*_{C,rel} = 65$ 

## NCS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

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 | 0.0  | -0.01 |
| 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  | 53.21 | 0.04 | 0.0 |
| LAB*LABa | 53.21 | 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  | 11.01 | 0.07 | 0.01 |
| LAB*LABa | 11.01 | 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 | -   |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 0.5 | 0.508 | 1.0 | (1.0) |
| cmyn3* | 0.5 | 0.492 | 0.0 | (0.0) |
| olvi4* | 0.5 | 0.508 | 1.0 | 1.0   |
| cmyn4* | 0.5 | 0.492 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 72.29 | 1.2   | -40.21 |
| LAB*LABa | 72.29 | 1.17  | -40.21 |
| LAB*TCHa | 75.0  | 40.24 | 271.66 |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.726 | 0.014 | -0.499 |
| lab*tch | 0.75  | 0.5   | 0.755  |
| lab*nch | 0.0   | 0.5   | 0.755  |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.726 | 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 | 0.008 | 0.5 | (1.0) |
| cmyn3* | 1.0 | 0.992 | 0.5 | (0.0) |
| olvi4* | 0.5 | 0.508 | 1.0 | 0.5   |
| cmyn4* | 0.5 | 0.492 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 30.09 | 1.24  | -40.2  |
| LAB*LABa | 30.09 | 1.18  | -40.21 |
| LAB*TCHa | 25.01 | 40.24 | 271.67 |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.226 | 0.015 | -0.499 |
| lab*tch | 0.25  | 0.5   | 0.755  |
| lab*nch | 0.5   | 0.5   | 0.755  |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.226 | 0.0 | -0.499 |
| lab*tce | 0.25  | 0.5 | 0.75   |
| lab*nce | 0.5   | 0.5 | b00r   |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 0.0 | 0.016 | 1.0 | (1.0) |
| cmyn3* | 1.0 | 0.984 | 0.0 | (0.0) |
| olvi4* | 0.0 | 0.016 | 1.0 | 1.0   |
| cmyn4* | 1.0 | 0.984 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 49.18 | 2.39  | -80.42 |
| LAB*LABa | 49.18 | 2.34  | -80.43 |
| LAB*TCHa | 50.0  | 80.48 | 271.67 |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.452 | 0.029 | -0.998 |
| lab*tch | 0.5   | 1.0   | 0.755  |
| lab*nch | 0.0   | 1.0   | 0.755  |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.452 | 0.0 | -0.999 |
| lab*tce | 0.5   | 1.0 | 0.75   |
| lab*nce | 0.0   | 1.0 | b00r   |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

TE030-7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

BAM-test chart TE03; Colorimetric systems ORS18 &amp; ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend