

Input: Colorimetric Reflective System MRS18

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

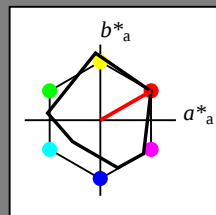
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue R

LCH\*Ma: 50 77 30

rgb\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

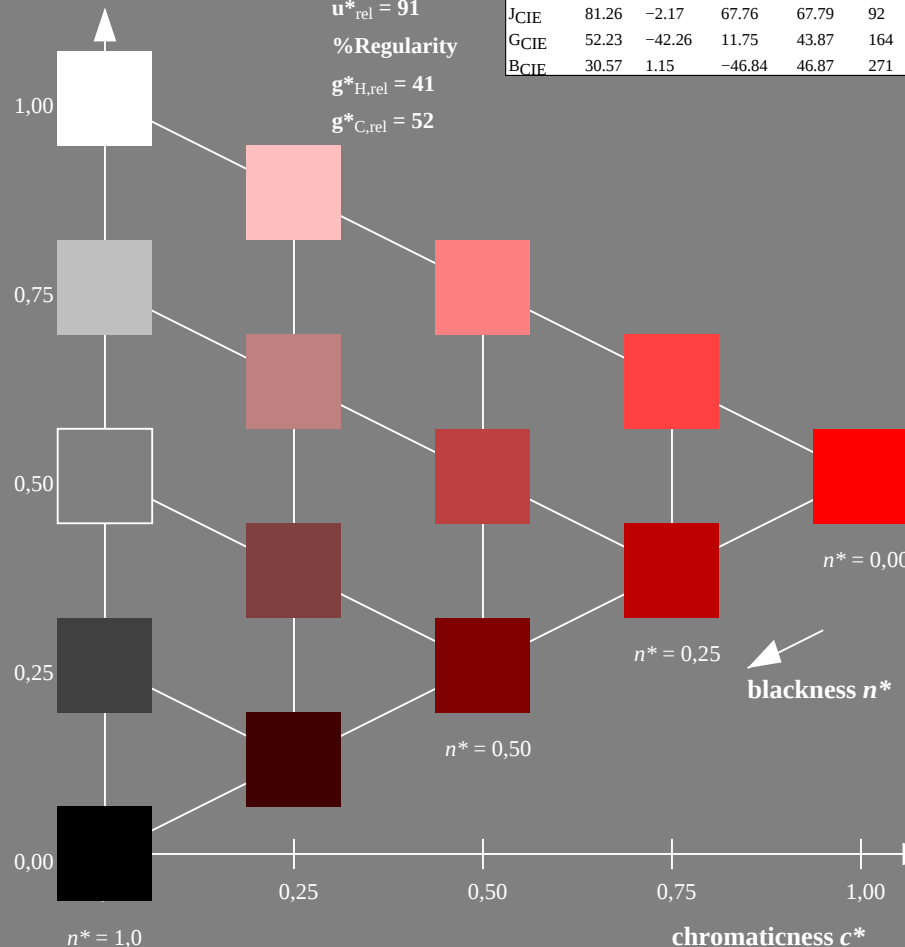
% Regularity

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

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

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          |
| 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          |



TE250-7, 5 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Reflective System ORS18

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

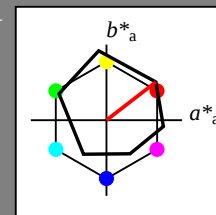
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue O

LCH\*Ma: 48 83 38

rgb\*Ma: 1.0 0.0 0.0

CIELAB lightness  $L^*$



% Gamut

$u^*_{rel} = 93$

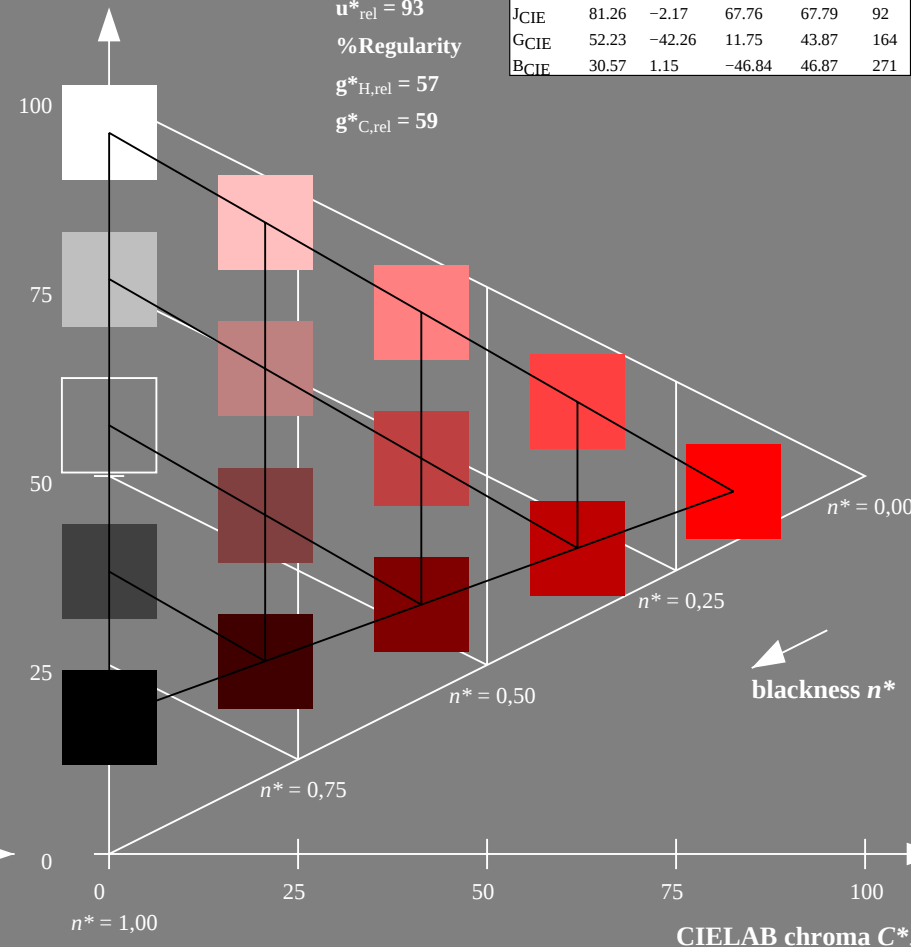
% Regularity

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

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

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          |
| V <sub>Ma</sub> | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| M <sub>Ma</sub> | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| 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          |



5 step scales for constant CIELAB hue 38/360 = 0.105 (right)

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

for hue  $h^* = lab \cdot h = 94/360 = 0.261$

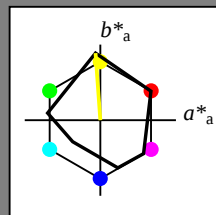
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue J

LCH\*Ma: 91 89 94

rgb\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

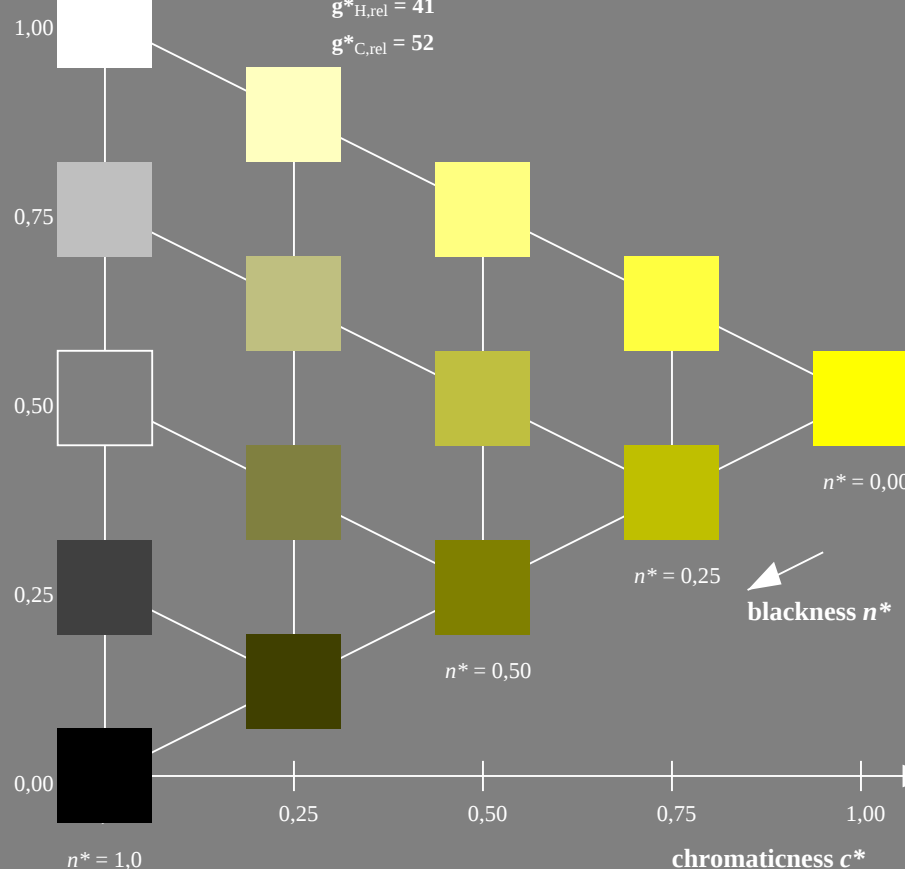
%Regularity

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

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

### 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          |



TE250-7, 5 step scales for constant CIELAB hue 94/360 = 0.261 (left)

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = lab \cdot h = 96/360 = 0.268$

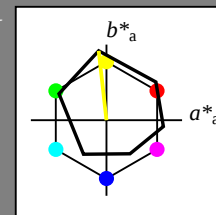
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue Y

LCH\*Ma: 90 92 96

rgb\*Ma: 1.0 1.0 0.0

CIELAB lightness  $L^*$



%Gamut

$u^*_{rel} = 93$

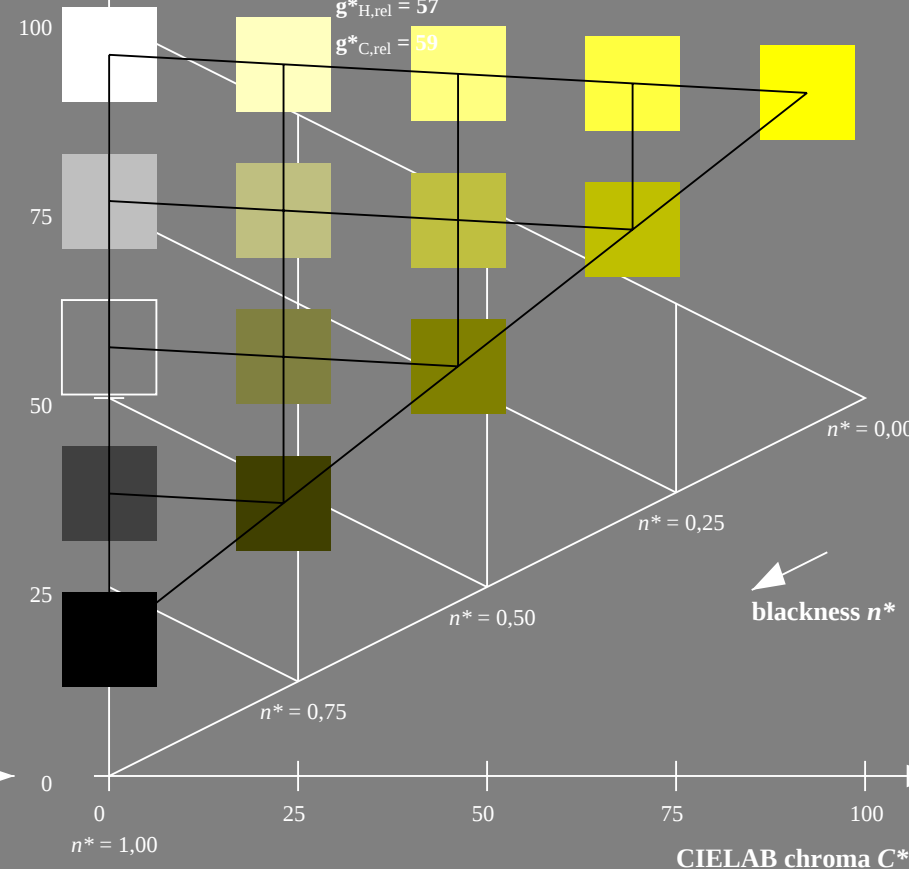
%Regularity

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

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

### 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          |



5 step scales for constant CIELAB hue 96/360 = 0.268 (right)

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

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

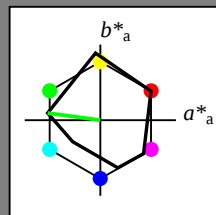
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue G

LCH\*Ma: 52 70 172

rgb\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

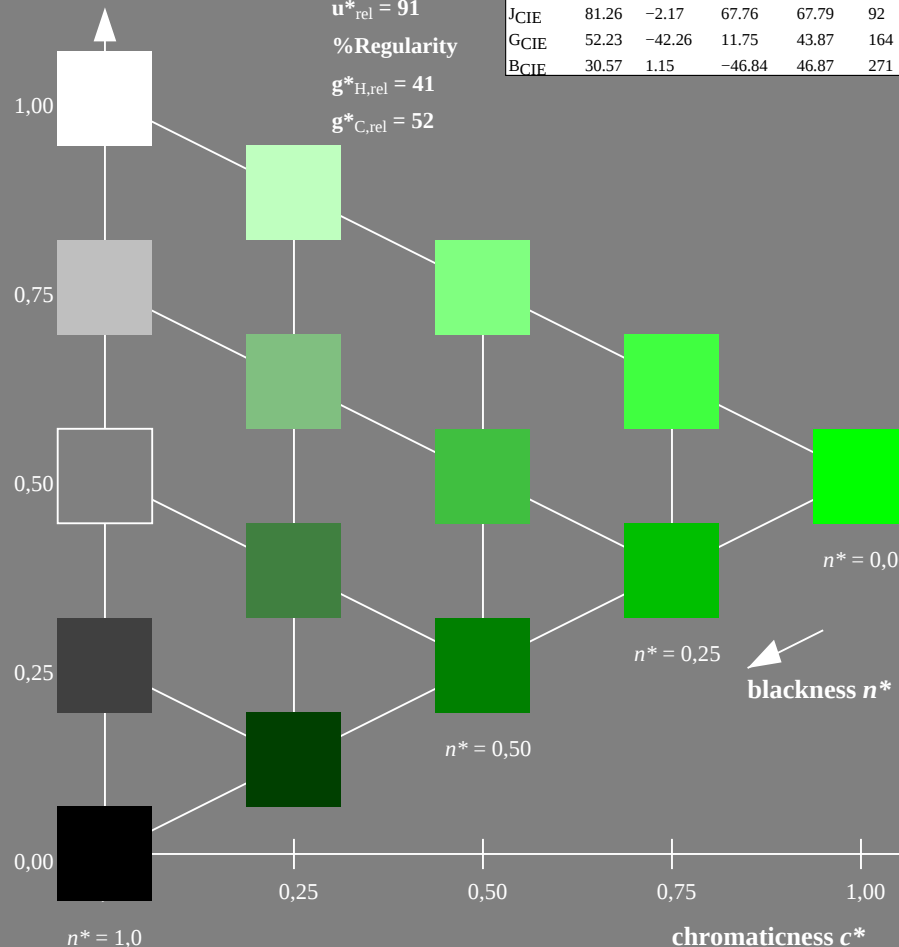
%Regularity

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

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

### 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          |



TE250-7, 5 step scales for constant CIELAB hue 172/360 = 0.479 (left)

### Output: Colorimetric Reflective System ORS18

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

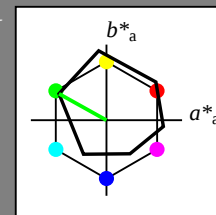
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue L

LCH\*Ma: 51 72 151

rgb\*Ma: 0.0 1.0 0.0

CIELAB lightness  $L^*$



%Gamut

$u^*_{rel} = 93$

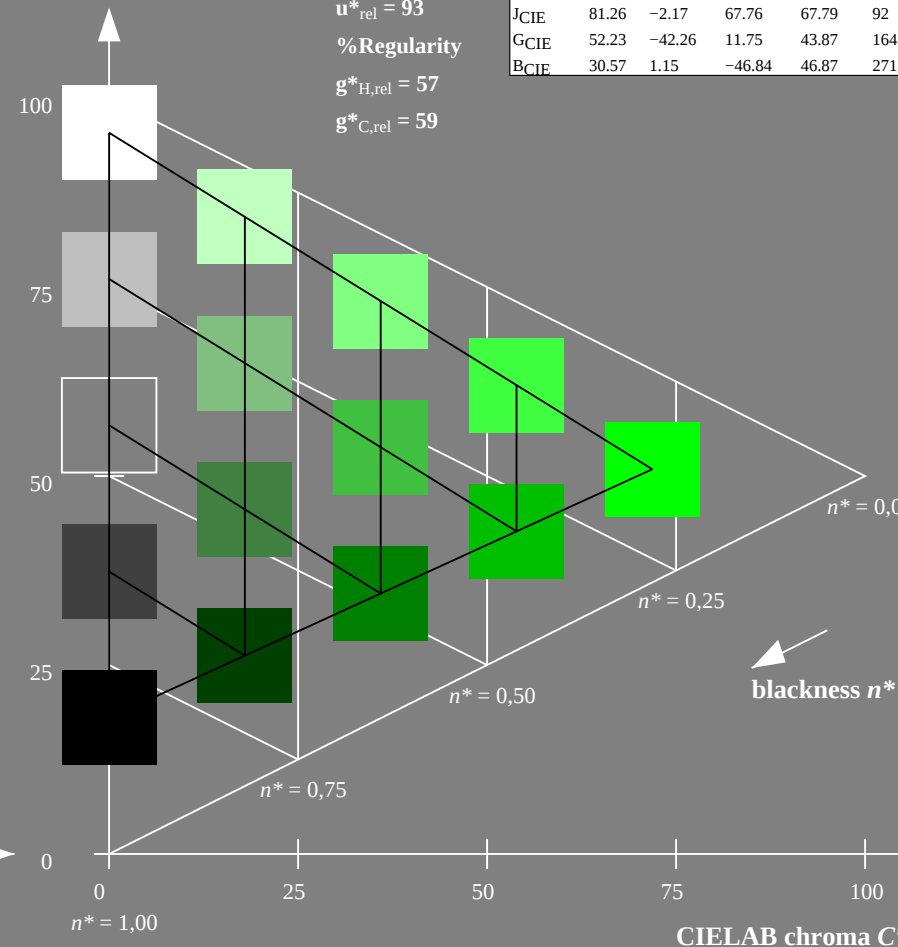
%Regularity

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

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

### 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          |



5 step scales for constant CIELAB hue 151/360 = 0.419 (right)

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

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

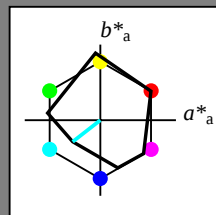
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue G50B

LCH\*Ma: 45 46 218

rgb\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

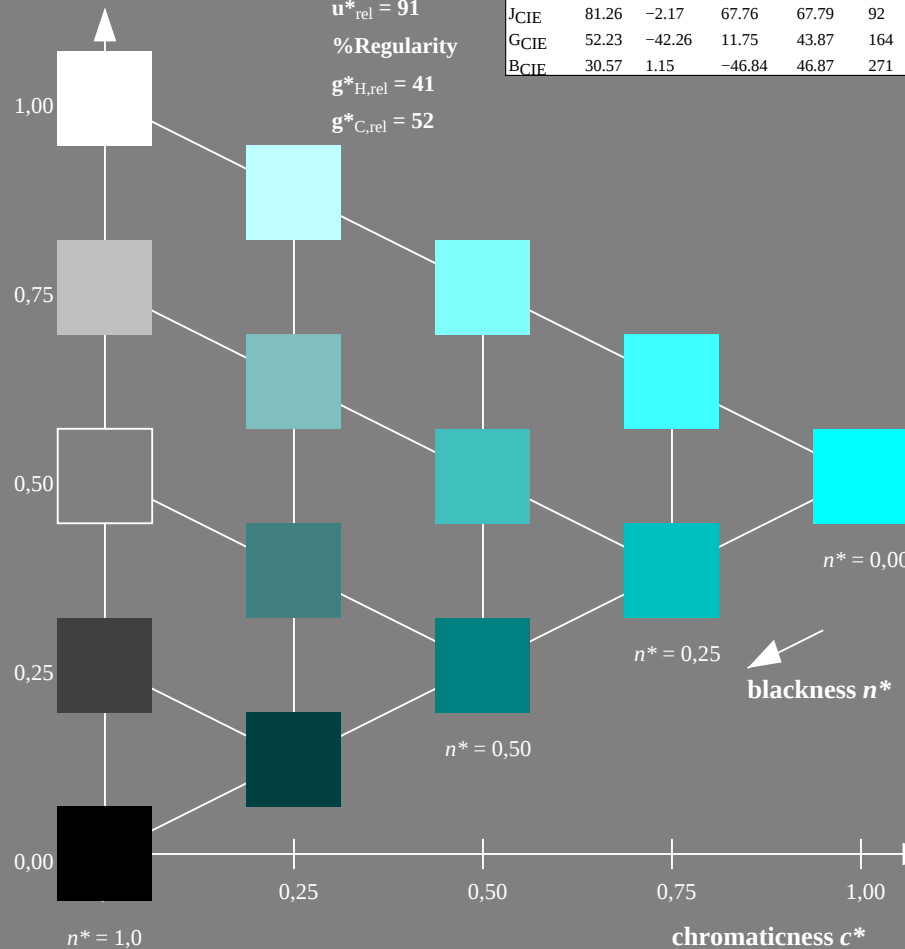
%Regularity

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

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

#### 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          |



TE250-7, 5 step scales for constant CIELAB hue 218/360 = 0.605 (left)

### Output: Colorimetric Reflective System ORS18

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

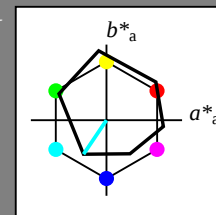
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue C

LCH\*Ma: 59 54 236

rgb\*Ma: 0.0 1.0 1.0

CIELAB lightness  $L^*$



%Gamut

$u^*_{rel} = 93$

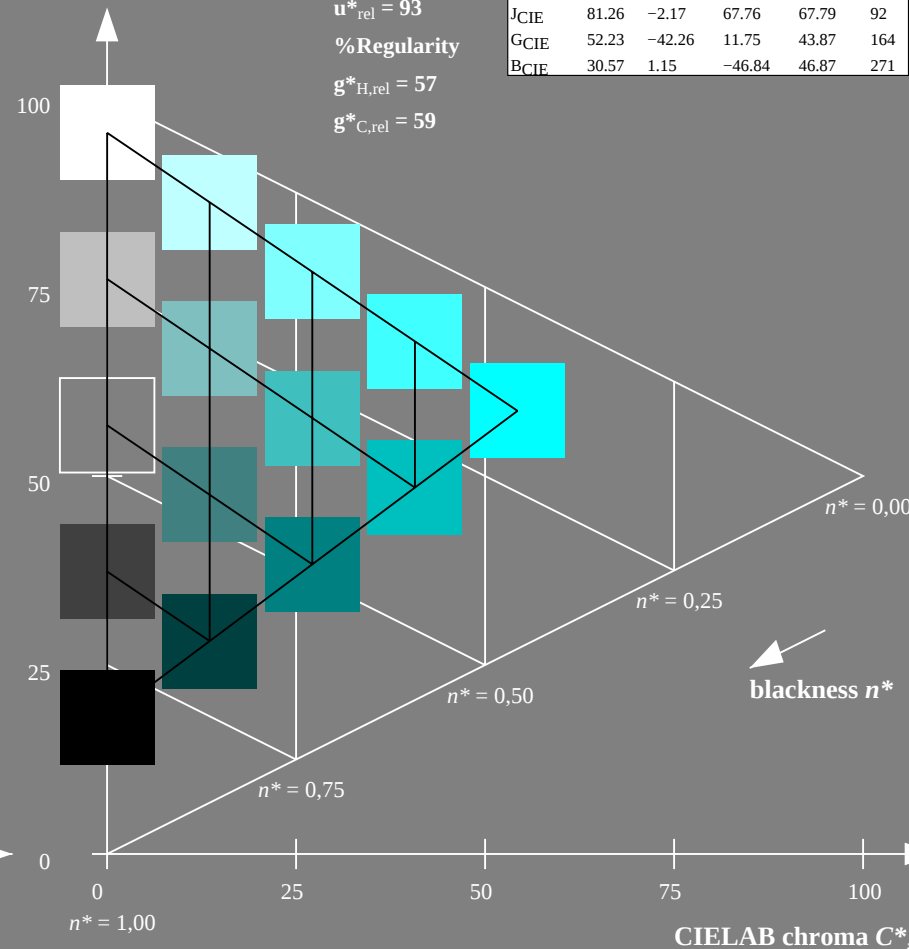
%Regularity

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

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

#### 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          |
| 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          |



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

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

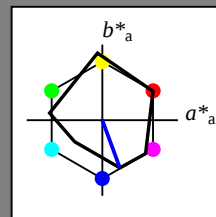
**for hue  $h^* = lab^*h = 290/360 = 0.806$**

*lab\*tch* and *lab\*nch*

**D65: hue B**

LCH\*Ma: 37 67 290

rgb\*Ma: 0.0 0.0 1.0



MRS18; adapted (a) CIELAB data

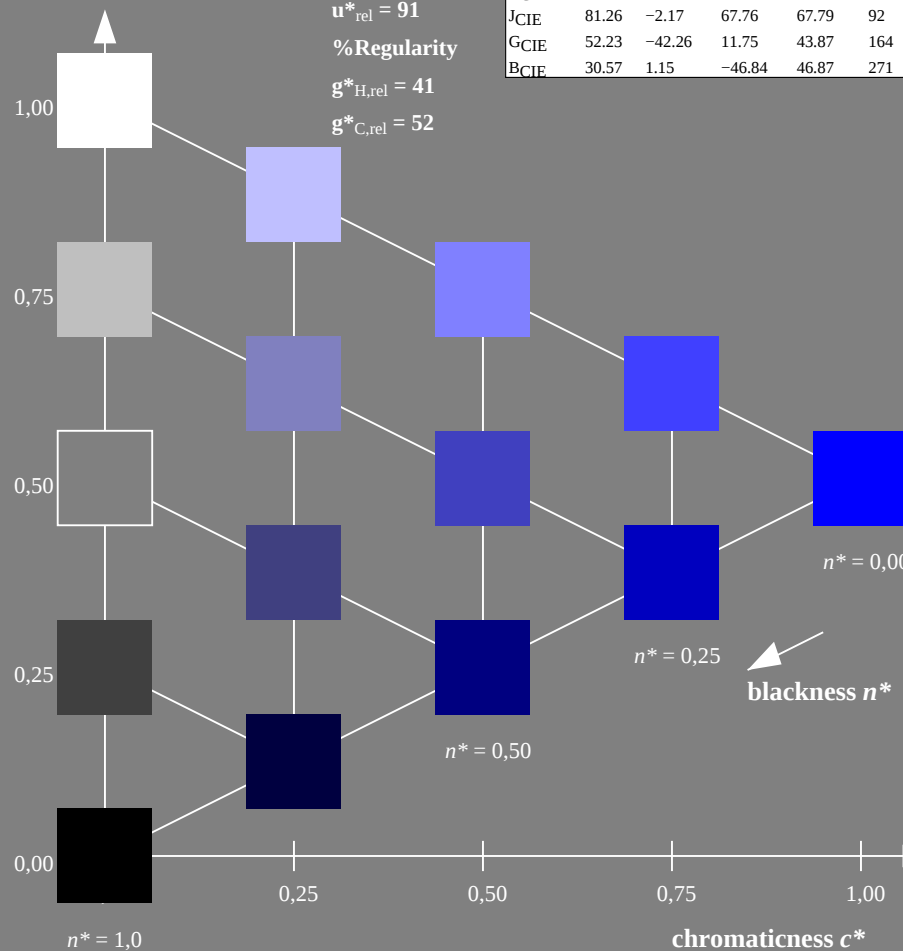
|                    | $L^*=L_a^* a_a^*$ | $b_a^*$ | $C_{ab,a}^*$ | $h_{ab}^*$ |     |
|--------------------|-------------------|---------|--------------|------------|-----|
| RMa                | 49.63             | 66.96   | 38.37        | 77.18      | 30  |
| JMa                | 90.7              | -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 |

triangle lightness  $t^*$

## %Gamut

$$\mathbf{u}_{rel}^* = \mathbf{91}$$

### %Regularity

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


TE250-7, 5 step scales for constant CIELAB hue 290/360 = 0.806 (left)

### Output: Colorimetric Reflective System ORS18

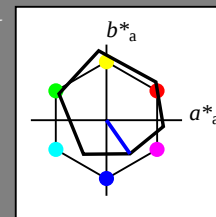
for hue  $h^* = lab^*h = 305/360 = 0.847$

*LAB\*LCH, LAB\*NCH*

D65: hue V

LCH\*Ma: 26 54 305

rgb\*Ma: 0.0 0.0 1.0



ORS18; adapted (a) CIELAB data

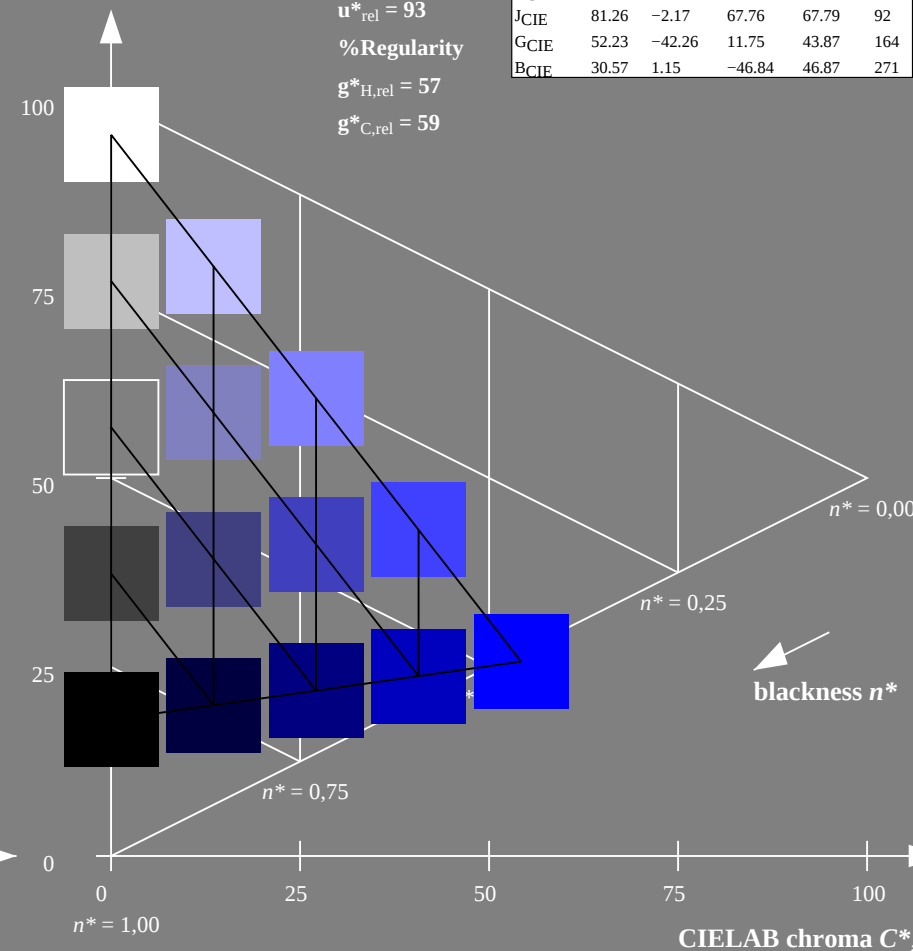
|      | $L^*=L_a^*$ | $a_a^*$ | $b_a^*$ | $C_{ab,a}^*$ | $h_{ab,a}^*$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| YMa  | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| LMa  | 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          |

CIELAB lightness  $L^*$

## %Gamut

$$\mathbf{u}_{rel}^* = 93$$

### %Regularity

$$g^*_{H,rel} = 57$$
$$g^*_{C,rel} = 59$$


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

BAM-test chart TE25; Colorimetric systems MRS18 &amp; ORS18

### D65: Coordinate systems of 5 step colour scales for 10 hues

input: *olv\** *setrgbcolor*

output: *no change compared to input*

### Input: Colorimetric Reflective System MRS18

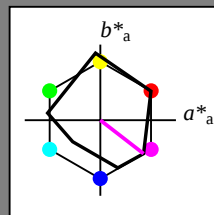
for hue  $h^* = lab \cdot h = 322/360 = 0.895$

$lab \cdot tch$  and  $lab \cdot nch$

D65: hue B50R

LCH\*Ma: 35 72 322

rgb\*Ma: 1.0 0.0 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          |

triangle lightness  $t^*$

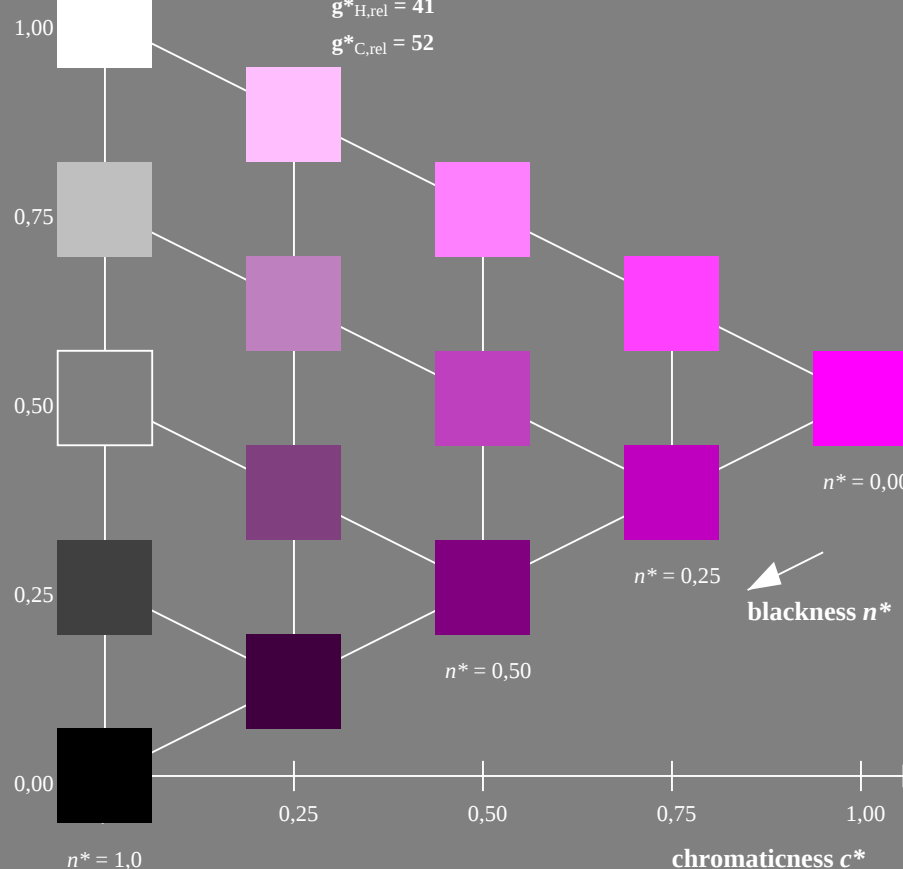
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



TE250-7, 5 step scales for constant CIELAB hue 322/360 = 0.895 (left)

### Output: Colorimetric Reflective System ORS18

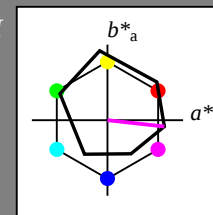
for hue  $h^* = lab \cdot h = 354/360 = 0.982$

$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue M

LCH\*Ma: 48 76 354

rgb\*Ma: 1.0 0.0 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          |

CIELAB lightness  $L^*$

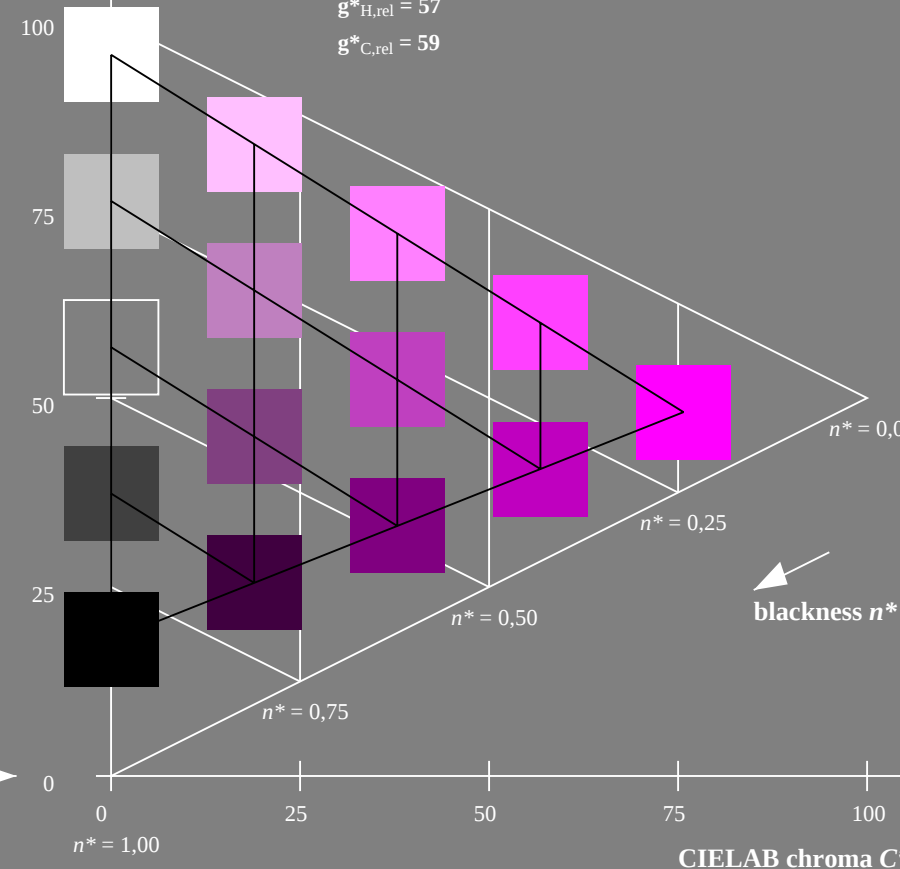
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



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

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

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

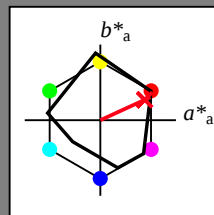
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue R

LCH\*Ma: 48 73 25

rgb\*Ma: 1.0 0.0 0.1

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

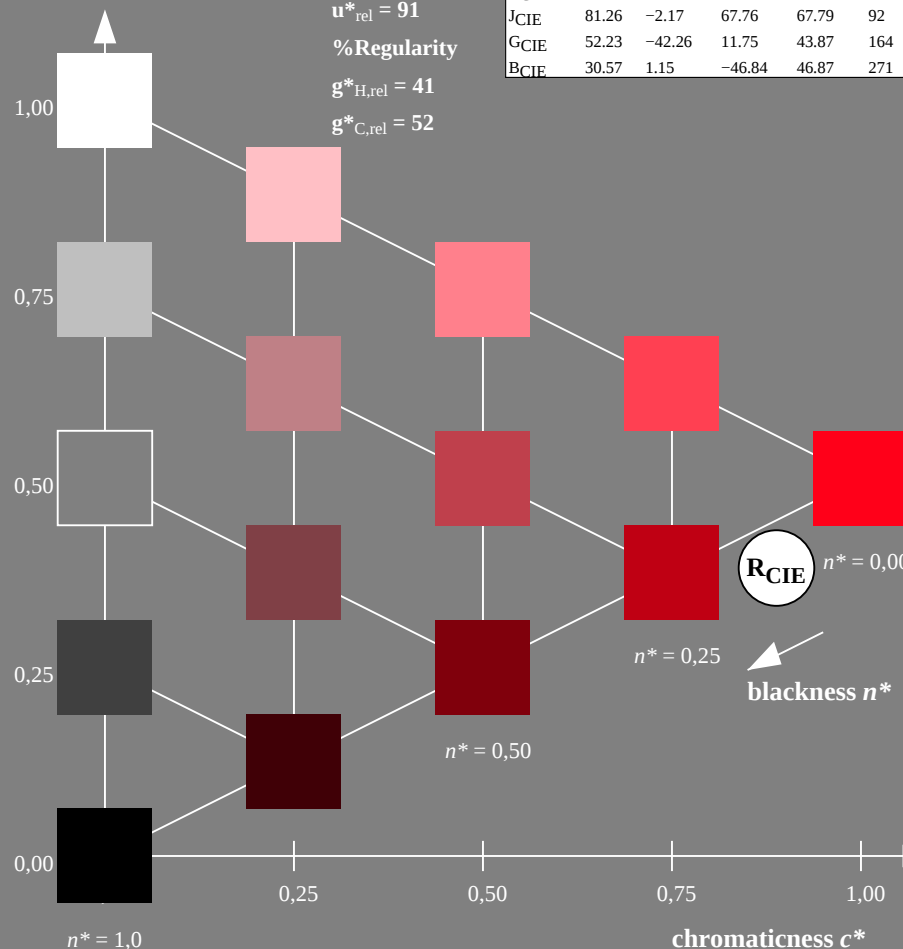
% Regularity

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

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

#### 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          |



TE250-7, 5 step scales for constant CIELAB hue 25/360 = 0.069 (left)

### Output: Colorimetric Reflective System ORS18

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

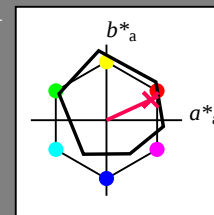
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue R

LCH\*Ma: 48 75 25

rgb\*Ma: 1.0 0.0 0.32

CIELAB lightness  $L^*$



% Gamut

$u^*_{rel} = 93$

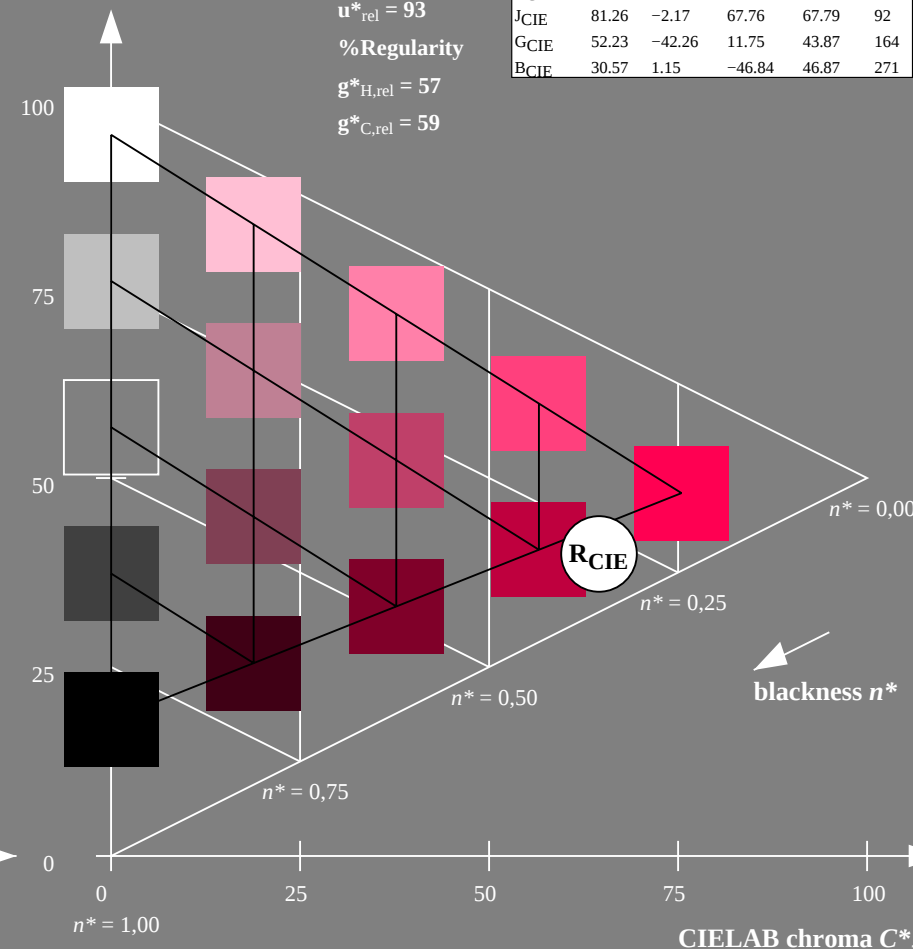
% Regularity

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

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

#### 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          |



5 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

Input: Colorimetric Reflective System MRS18

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

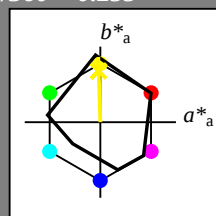
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue J

LCH\*Ma: 89 86 92

rgb\*Ma: 1.0 0.95 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

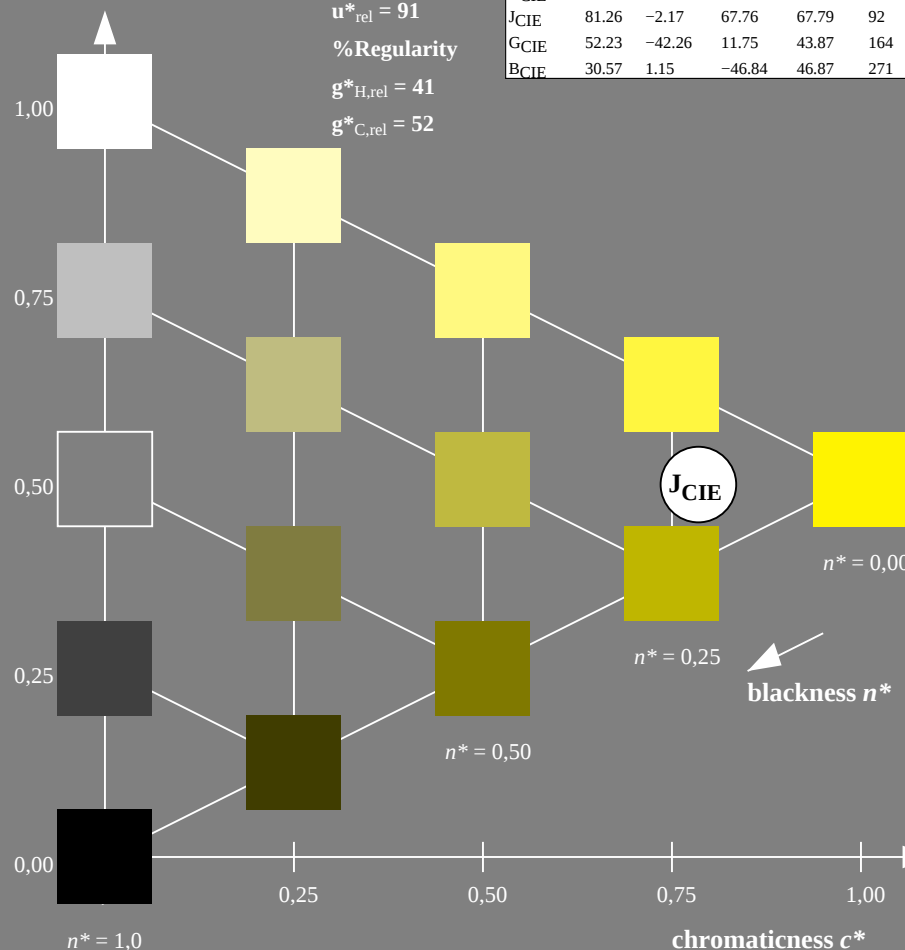
% Regularity

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

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

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          |



TE250-7, 5 step scales for constant CIE LAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System ORS18

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

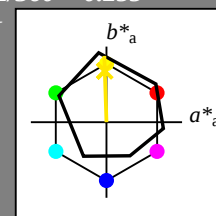
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue J

LCH\*Ma: 86 88 92

rgb\*Ma: 1.0 0.9 0.0

CIE LAB lightness  $L^*$



% Gamut

$u^*_{rel} = 93$

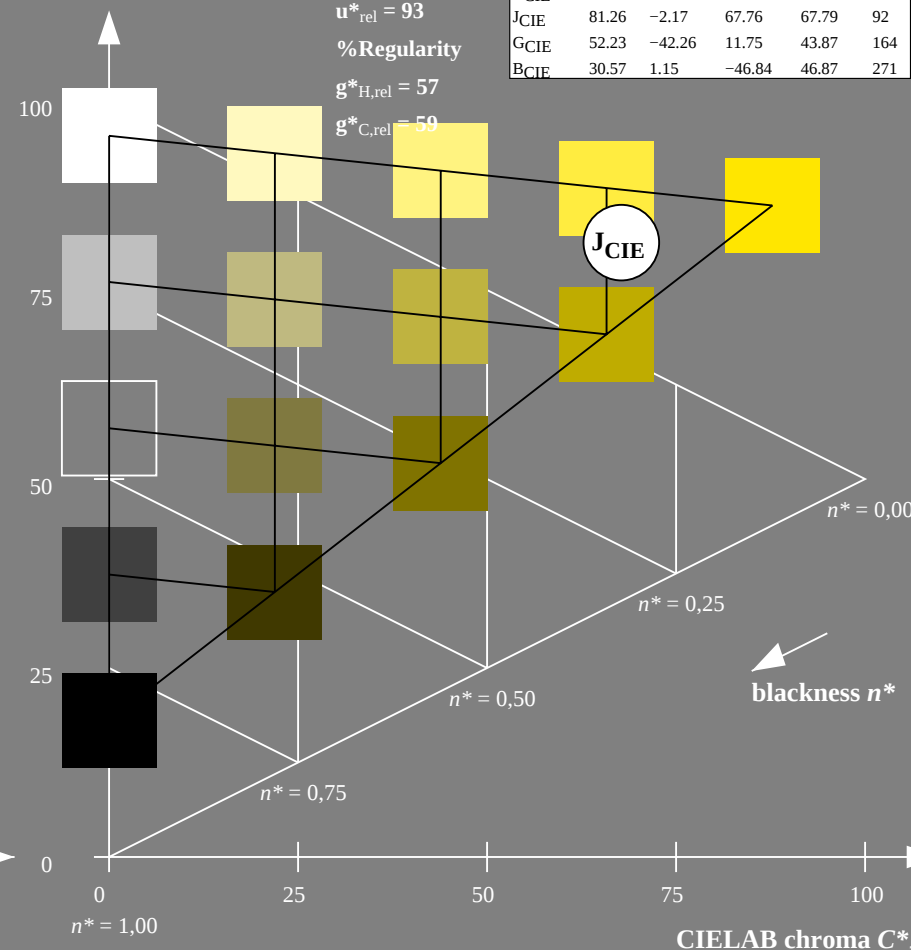
% Regularity

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

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

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          |



5 step scales for constant CIE LAB hue 92/360 = 0.255 (right)

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

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

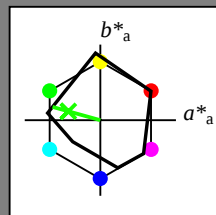
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue G

LCH\*Ma: 56 66 164

rgb\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 91$

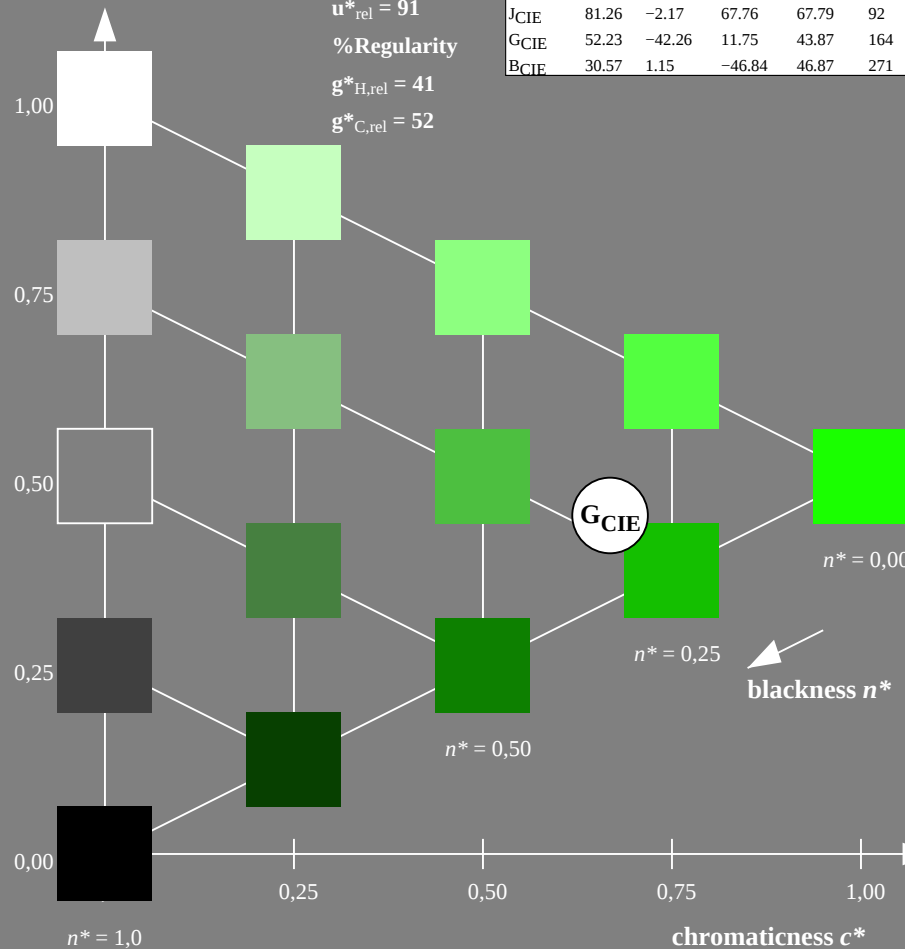
% Regularity

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

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

#### 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          |



TE250-7, 5 step scales for constant CIELAB hue 164/360 = 0.457 (left)

### Output: Colorimetric Reflective System ORS18

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

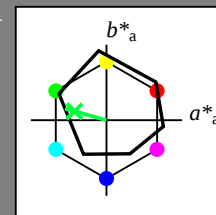
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue G

LCH\*Ma: 53 57 164

rgb\*Ma: 0.0 1.0 0.25

CIELAB lightness  $L^*$



% Gamut

$u^*_{rel} = 93$

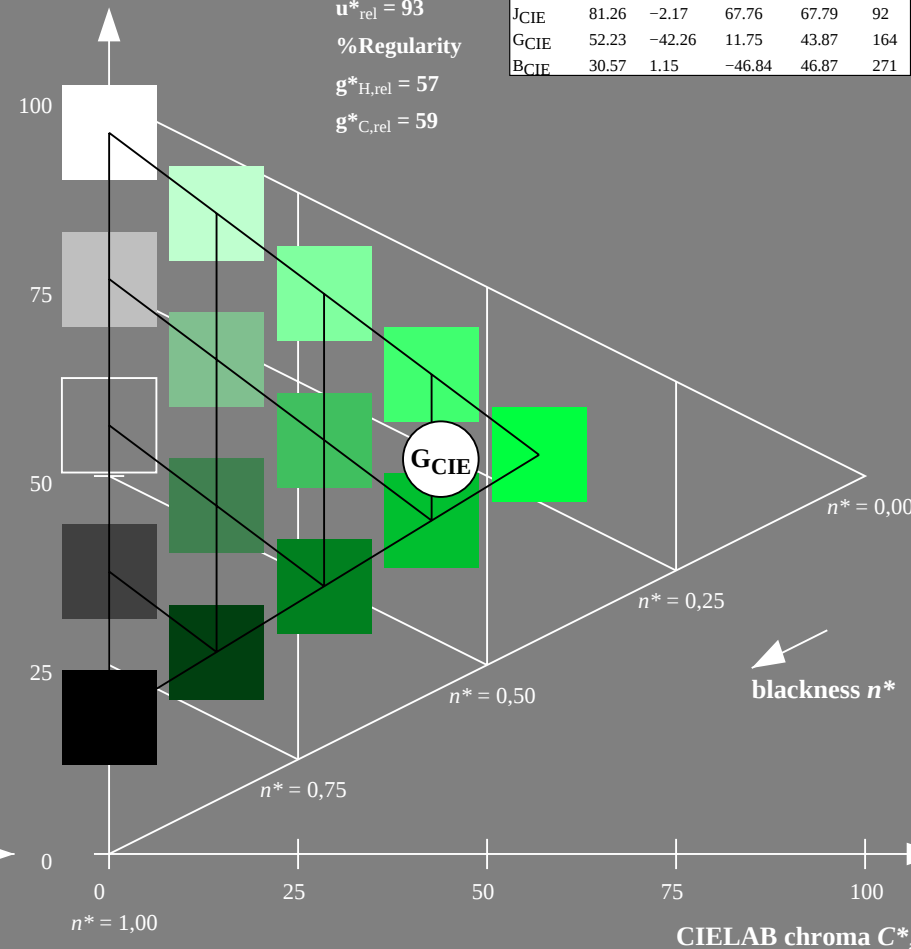
% Regularity

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

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

#### 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          |



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

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input

### Input: Colorimetric Reflective System MRS18

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

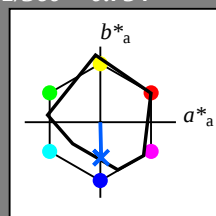
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue B

LCH\*Ma: 40 50 271

rgb\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

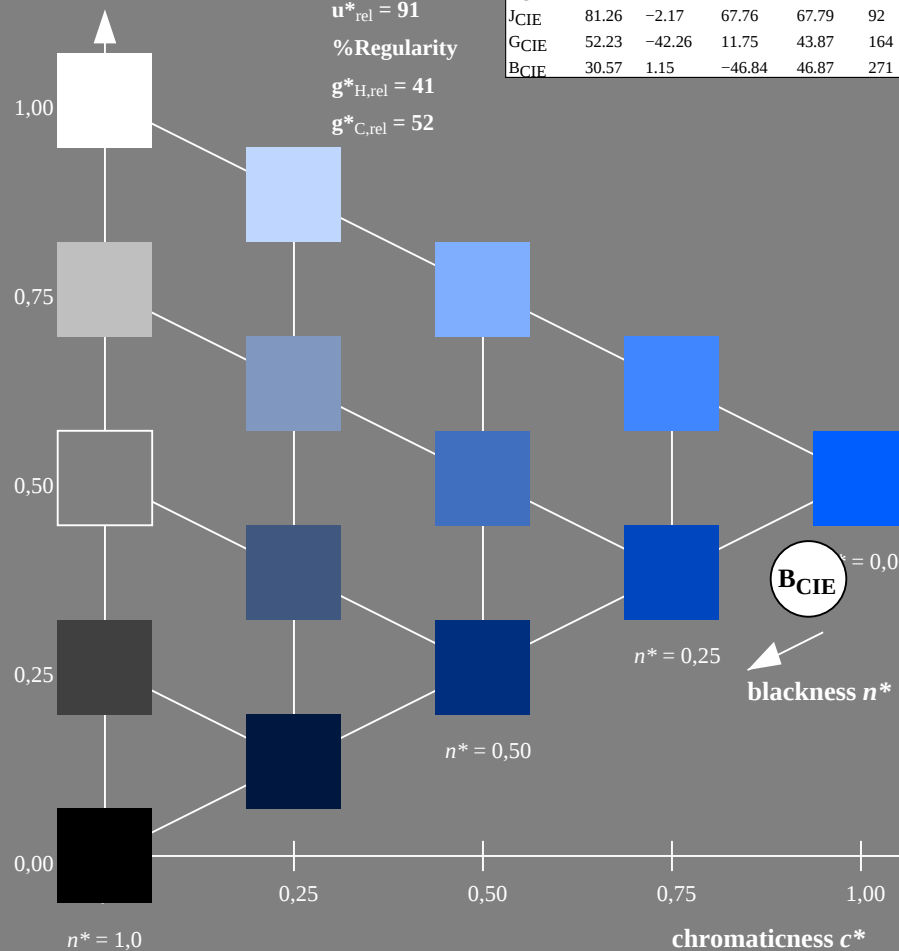
%Regularity

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

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

#### 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          |
| 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          |



TE250-7, 5 step scales for constant CIELAB hue 271/360 = 0.754 (left)

### Output: Colorimetric Reflective System ORS18

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

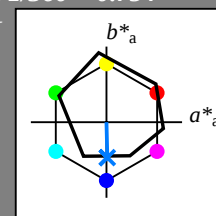
$LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: hue B

LCH\*Ma: 42 45 271

rgb\*Ma: 0.0 0.49 1.0

CIELAB lightness  $L^*$



%Gamut

$u^*_{rel} = 93$

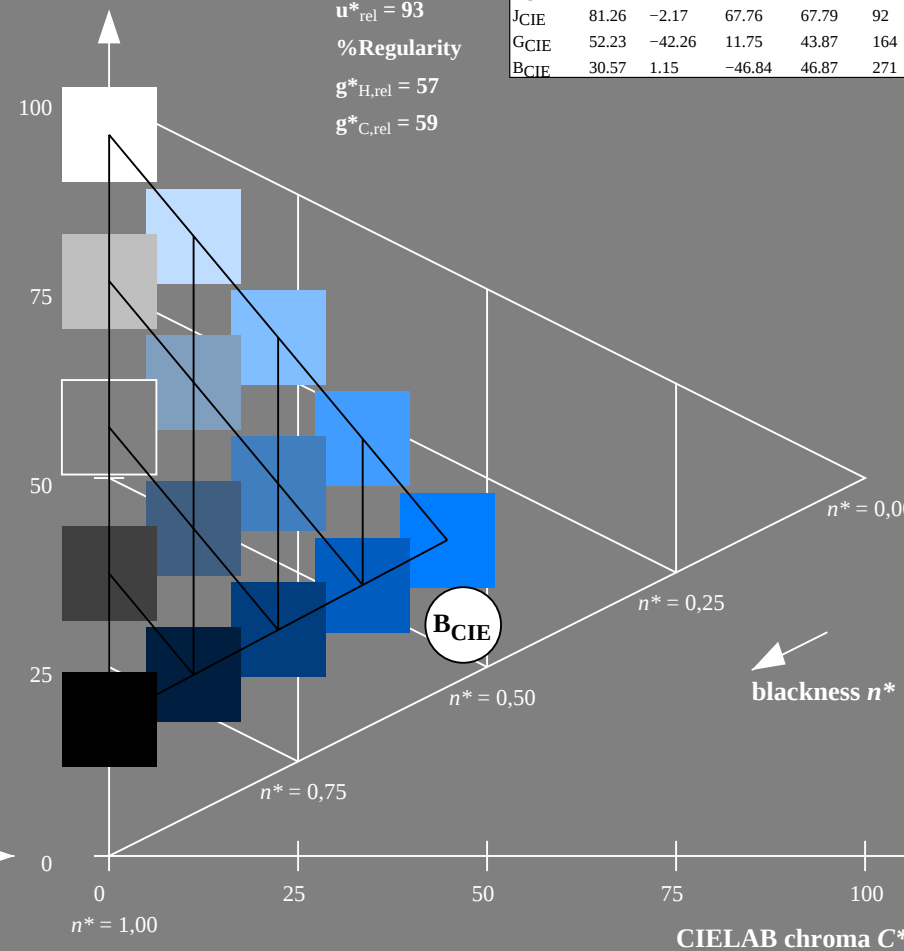
%Regularity

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

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

#### 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          |
| 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          |



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

BAM-test chart TE25; Colorimetric systems MRS18 & ORS18

D65: Coordinate systems of 5 step colour scales for 10 hues

input:  $olv^* setrgbcolor$

output: no change compared to input