

Input: Colorimetric Reflective System MRS18

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

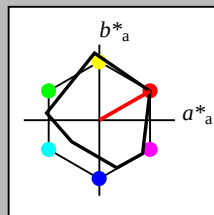
$lab \cdot tch$  and  $lab \cdot nch$

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          |
| 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 ORS18

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

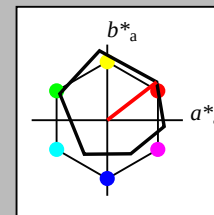
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue O

LCH\*Ma: 48 83 38

rgb\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

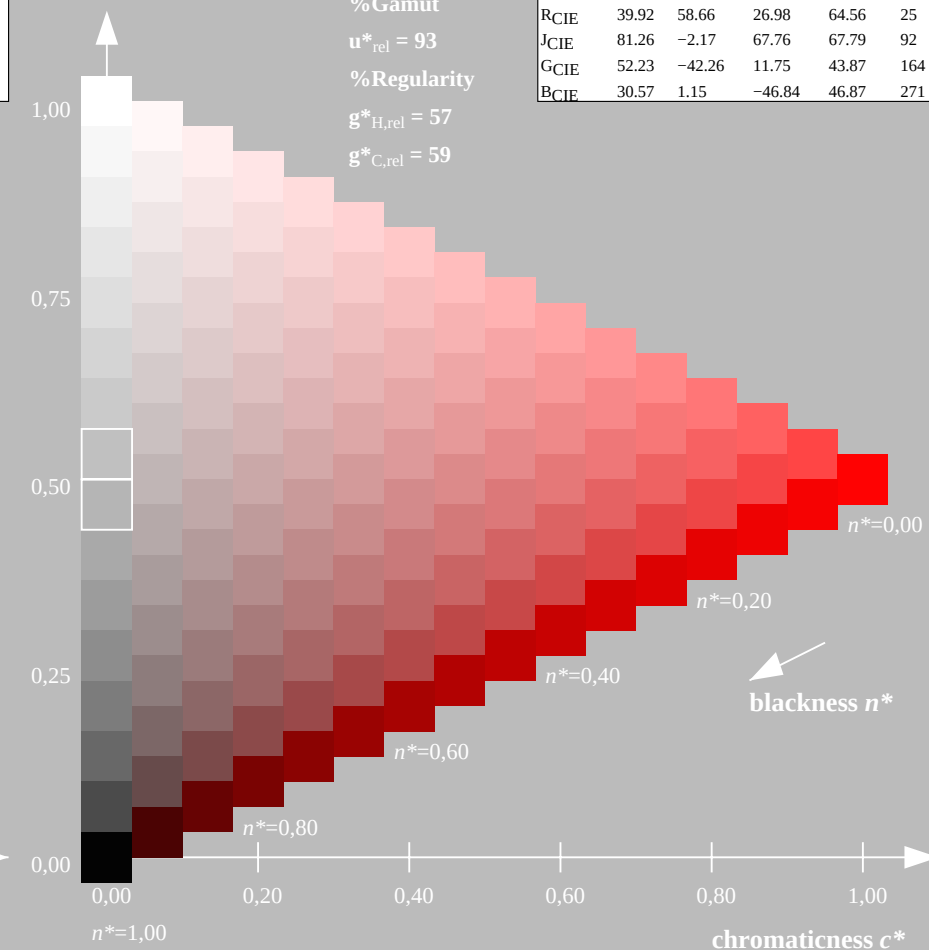
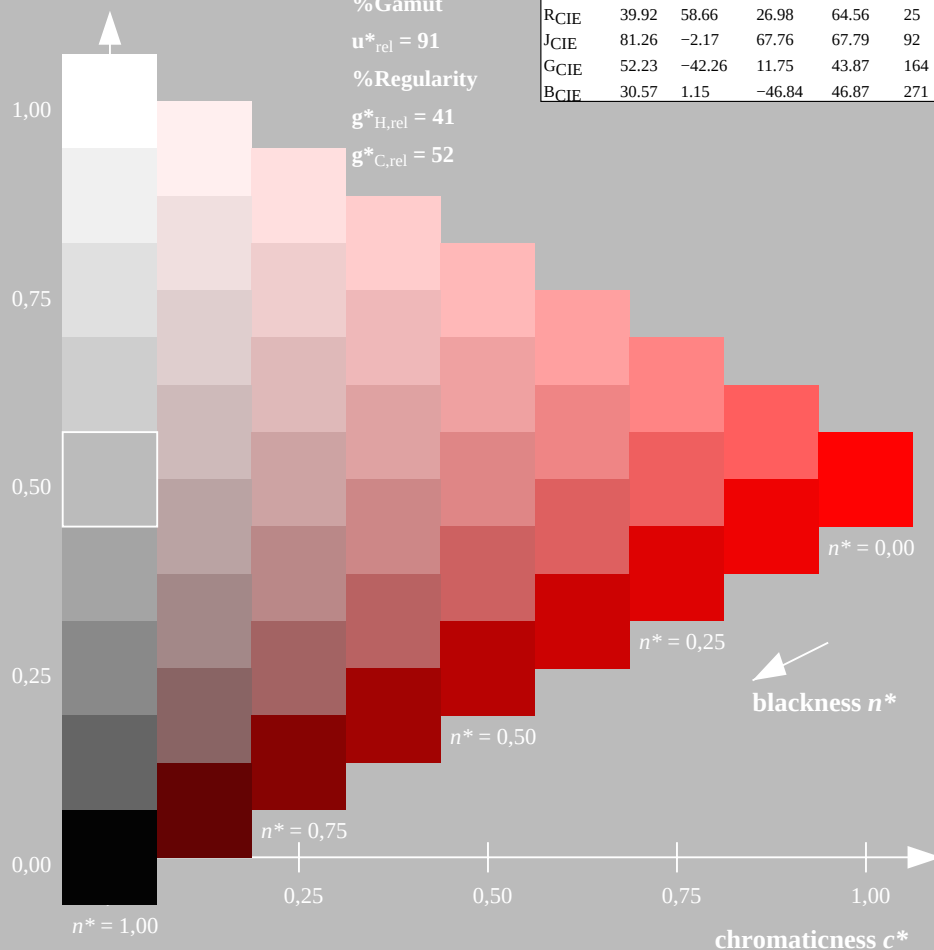
%Regularity

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

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

ORS18; adapted (a) CIELAB data

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



UE950-7, 9 step scales for constant CIELAB hue 30/360 = 0.083 (left)

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

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

input: *cmY0\** *setcmYcolor*

output: *olv\** *setrgbcolor* / *w\** *setgray*

Input: Colorimetric Reflective System MRS18

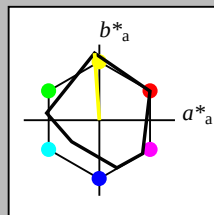
for hue  $h^* = lab \cdot h = 94/360 = 0.261$

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

D65: hue J

LCH\*Ma: 91 89 94

rgb\*Ma: 1.0 1.0 0.0



| 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  $t^*$

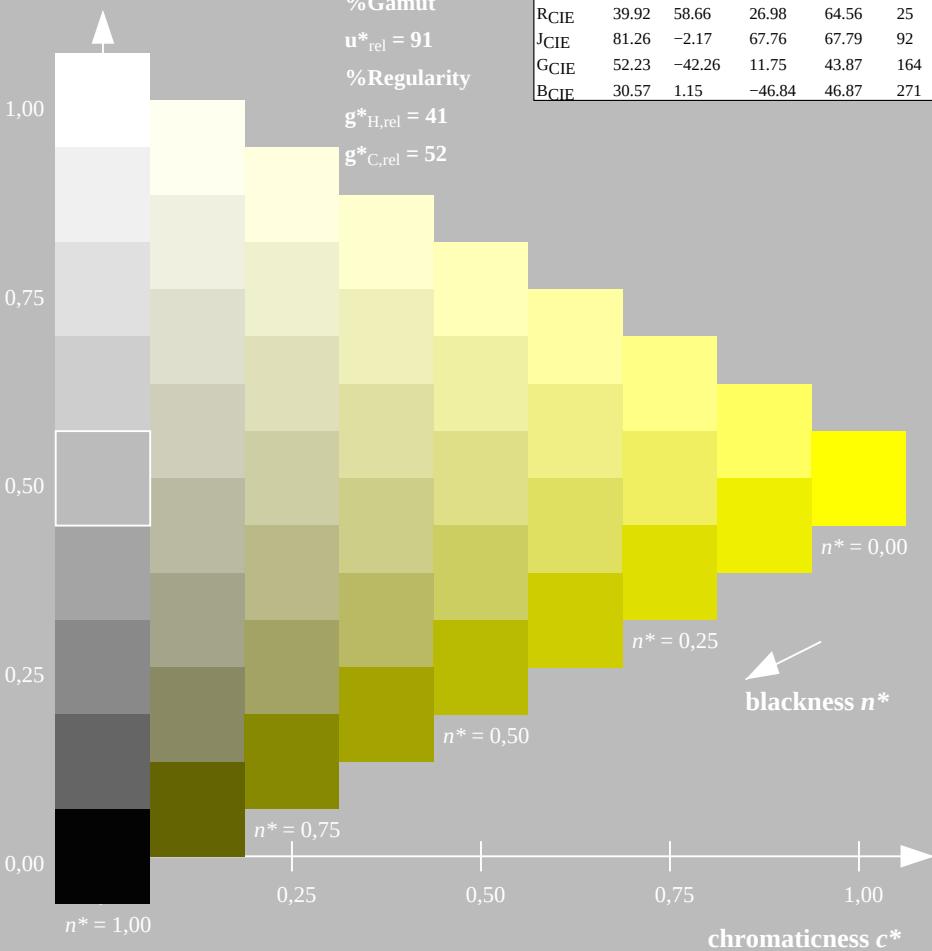
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



UE950-7, 9 step scales for constant CIELAB hue 94/360 = 0.261 (left)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Reflective System ORS18

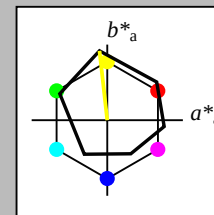
for hue  $h^* = lab \cdot h = 96/360 = 0.268$

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

D65: hue Y

LCH\*Ma: 90 92 96

rgb\*Ma: 1.0 1.0 0.0



| 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          |

triangle lightness  $t^*$

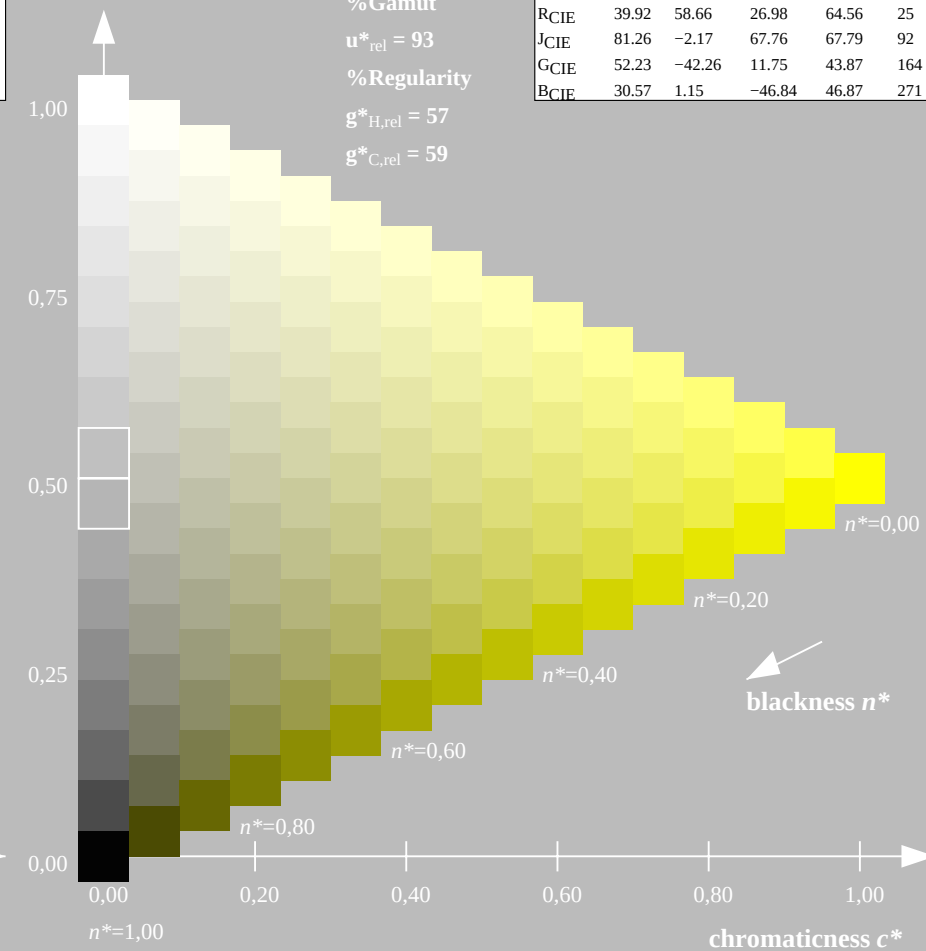
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



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

input:  $cmy0^* \text{ setcmykcolor}$

output:  $olv^* \text{ setrgbcolor} / w^* \text{ setgray}$

Input: Colorimetric Reflective System MRS18

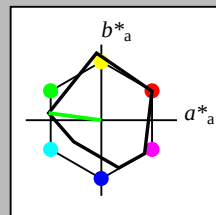
for hue  $h^* = lab \cdot h = 172/360 = 0.479$

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

D65: hue G

LCH\*Ma: 52 70 172

rgb\*Ma: 0.0 1.0 0.0



| 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  $t^*$

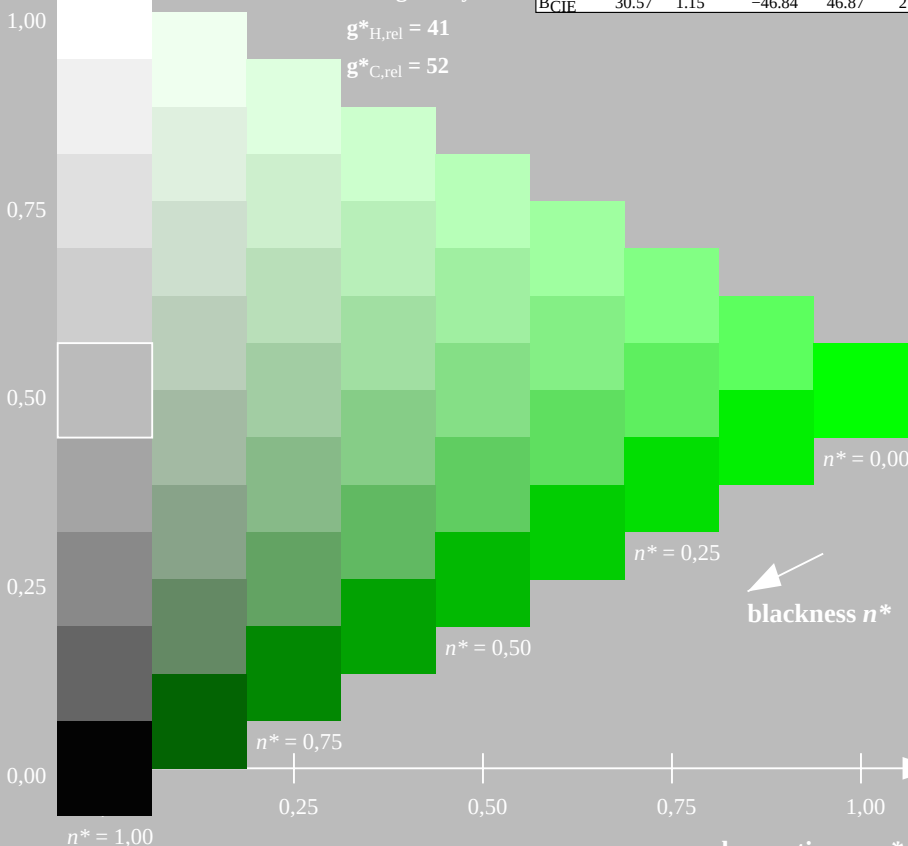
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



UE950-7, 9 step scales for constant CIELAB hue 172/360 = 0.479 (left)

Output: Colorimetric Reflective System ORS18

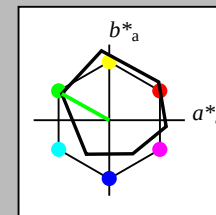
for hue  $h^* = lab \cdot h = 151/360 = 0.419$

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

D65: hue L

LCH\*Ma: 51 72 151

rgb\*Ma: 0.0 1.0 0.0



| 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          |

triangle lightness  $t^*$

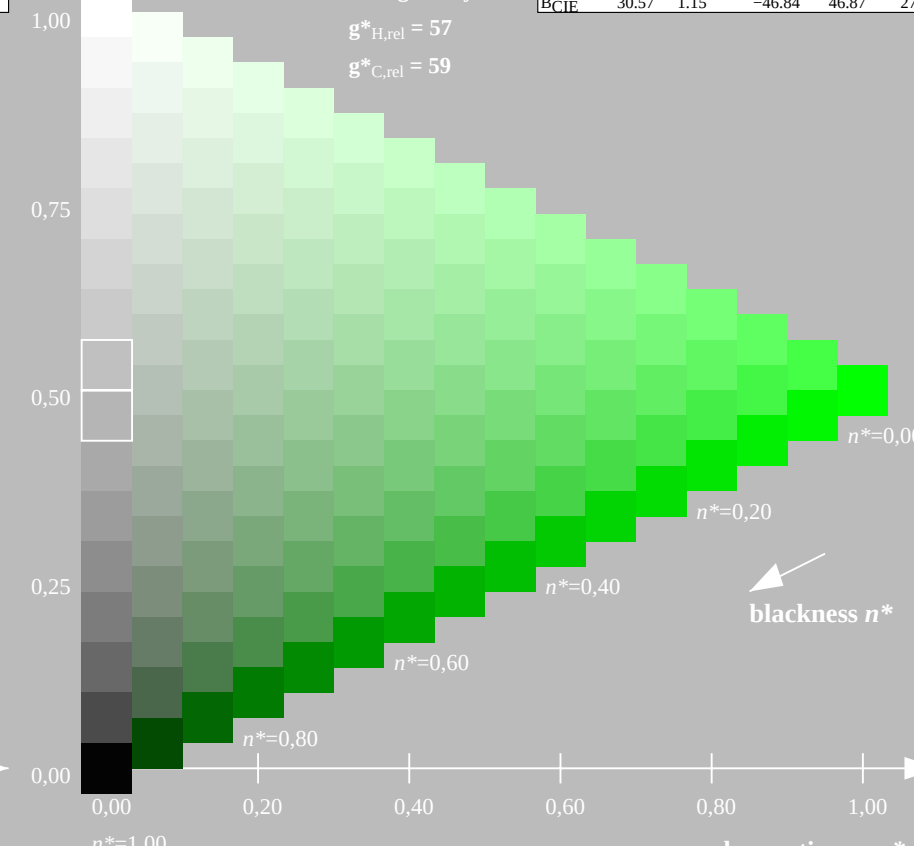
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



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

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

input: *cmY0\* setcmykcolor*

output: *olv\* setrgbcolor / w\* setgray*

Input: Colorimetric Reflective System MRS18

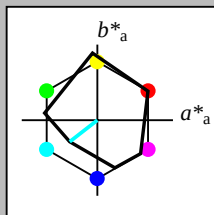
for hue  $h^* = lab \cdot h = 218/360 = 0.605$

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

D65: hue G50B

LCH\*Ma: 45 46 218

rgb\*Ma: 0.0 1.0 1.0



| 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  $t^*$

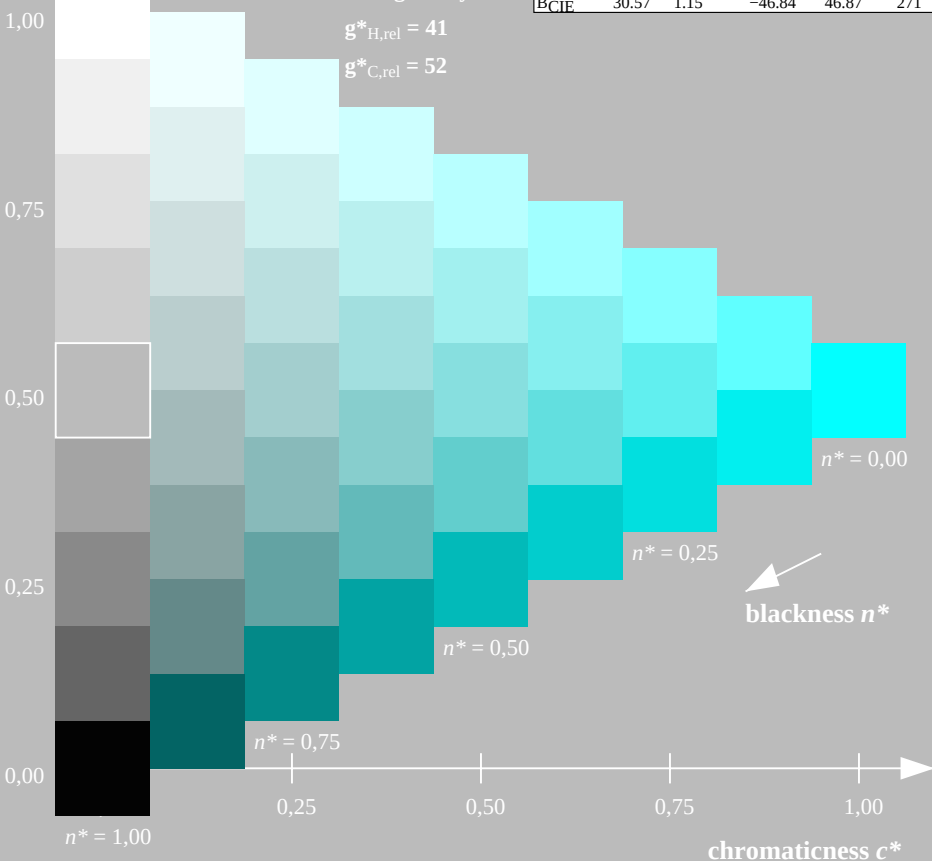
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



UE950-7, 9 step scales for constant CIELAB hue 218/360 = 0.605 (left)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Reflective System ORS18

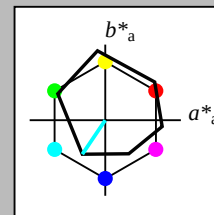
for hue  $h^* = lab \cdot h = 236/360 = 0.656$

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

D65: hue C

LCH\*Ma: 59 54 236

rgb\*Ma: 0.0 1.0 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          |

triangle lightness  $t^*$

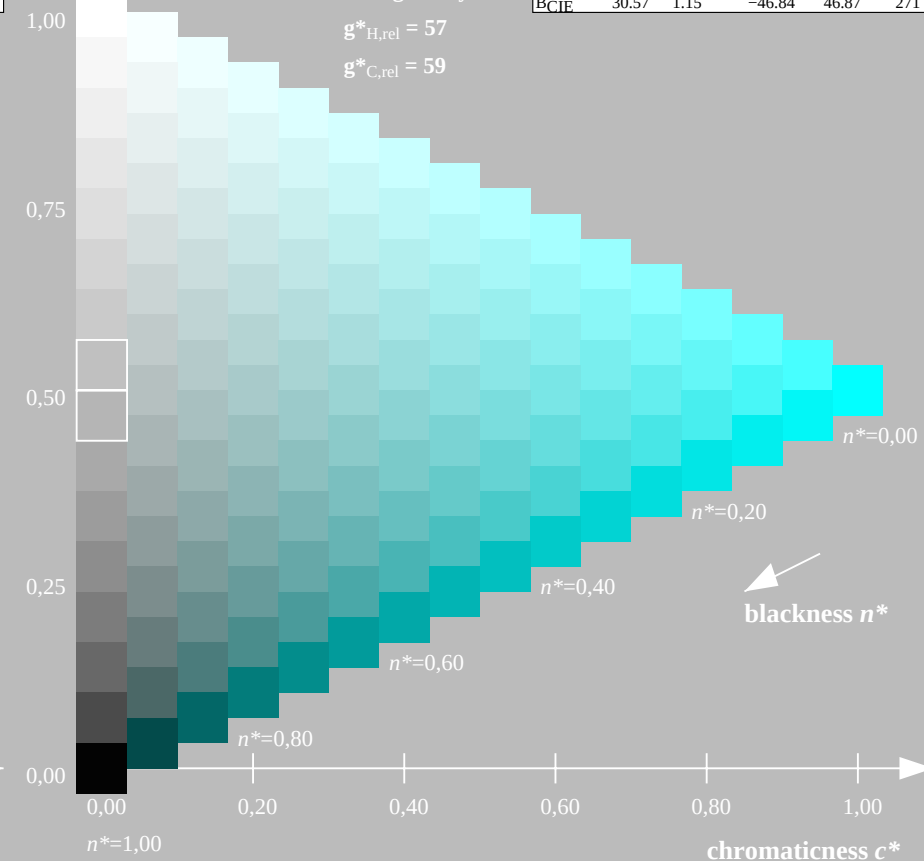
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



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

input:  $cmY0^* setcmykcolor$

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

Input: Colorimetric Reflective System MRS18

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

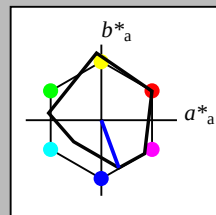
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue B

LCH\*Ma: 37 67 290

rgb\*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 ORS18

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

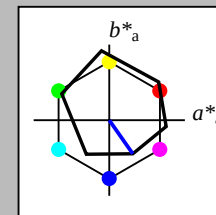
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue V

LCH\*Ma: 26 54 305

rgb\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

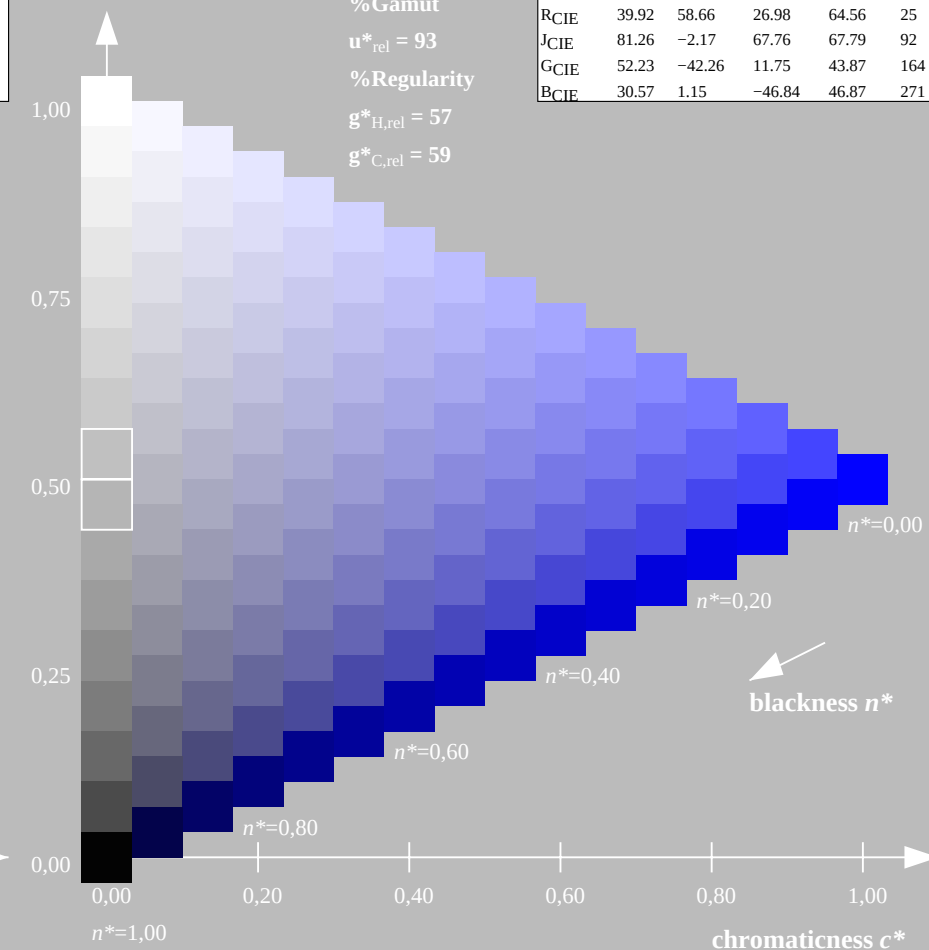
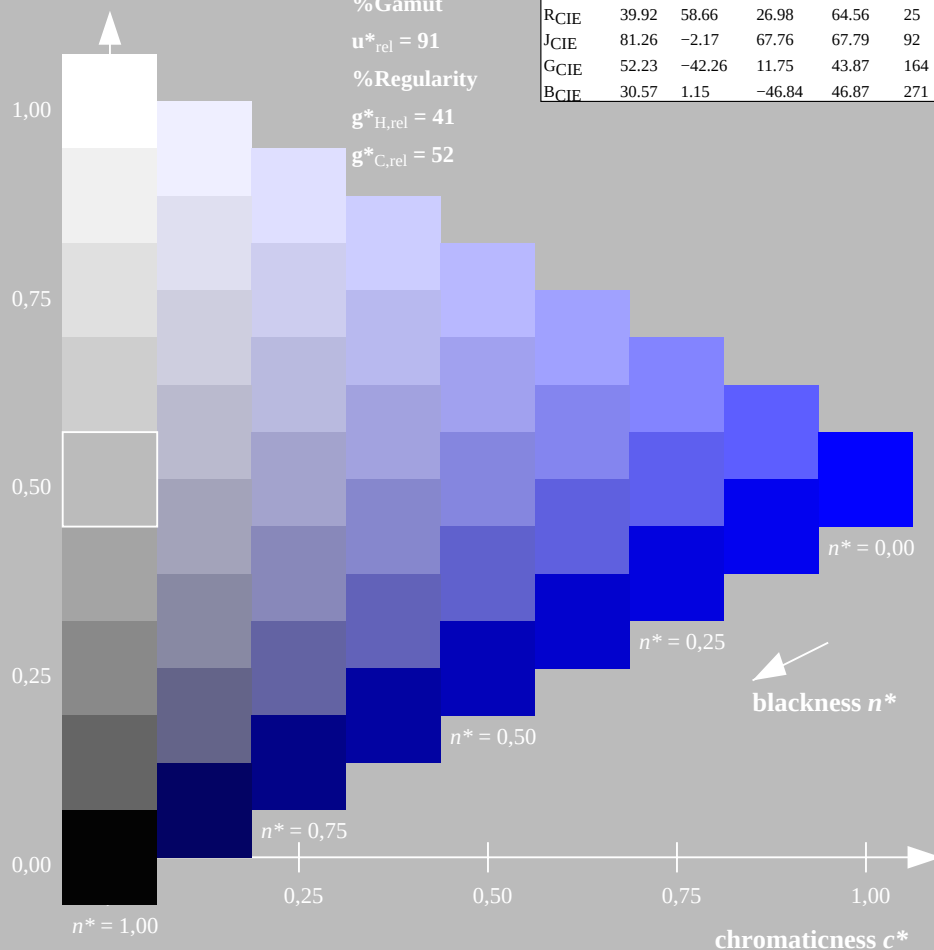
%Regularity

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

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

ORS18; adapted (a) CIELAB data

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



UE950-7, 9 step scales for constant CIELAB hue 290/360 = 0.806 (left)

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

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

input:  $cmY0^* \text{ setcmYcolor}$

output:  $olv^* \text{ setrgbcolor} / w^* \text{ setgray}$

Input: Colorimetric Reflective System MRS18

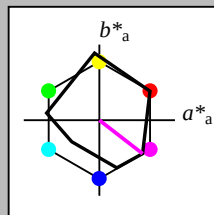
for hue  $h^* = lab \cdot h = 322/360 = 0.895$

$lab \cdot tch$  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  $t^*$

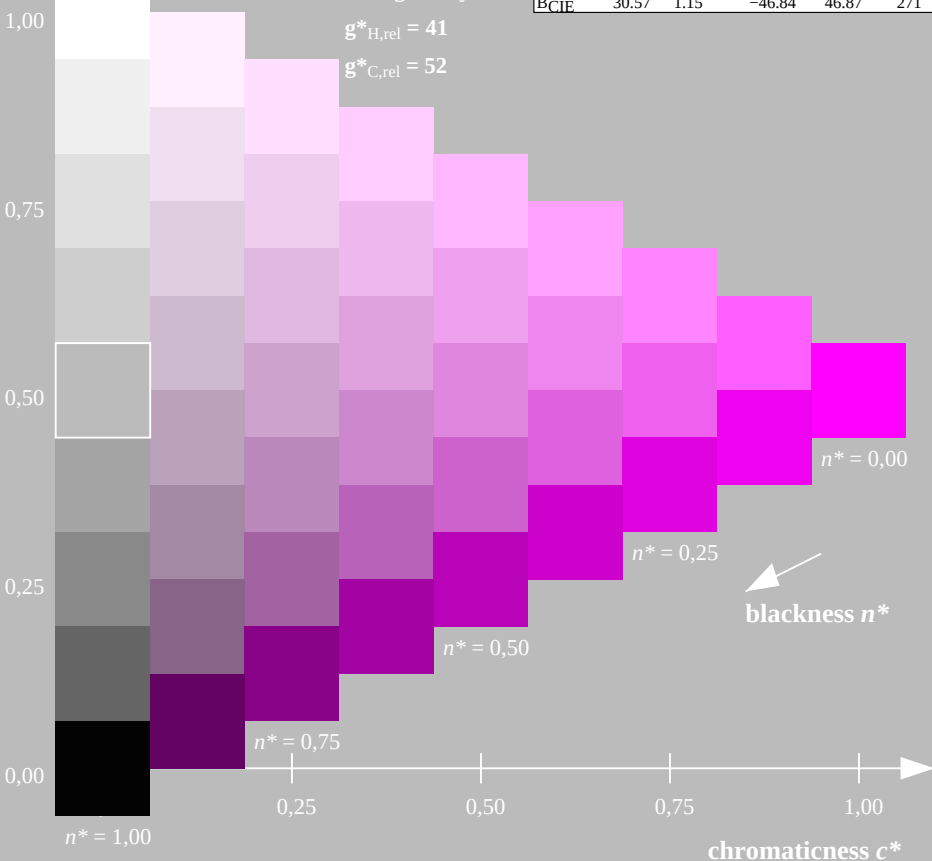
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



UE950-7, 9 step scales for constant CIELAB hue 322/360 = 0.895 (left)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Reflective System ORS18

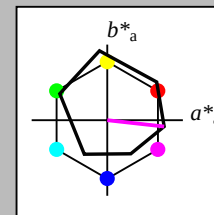
for hue  $h^* = lab \cdot h = 354/360 = 0.982$

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

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          |

triangle lightness  $t^*$

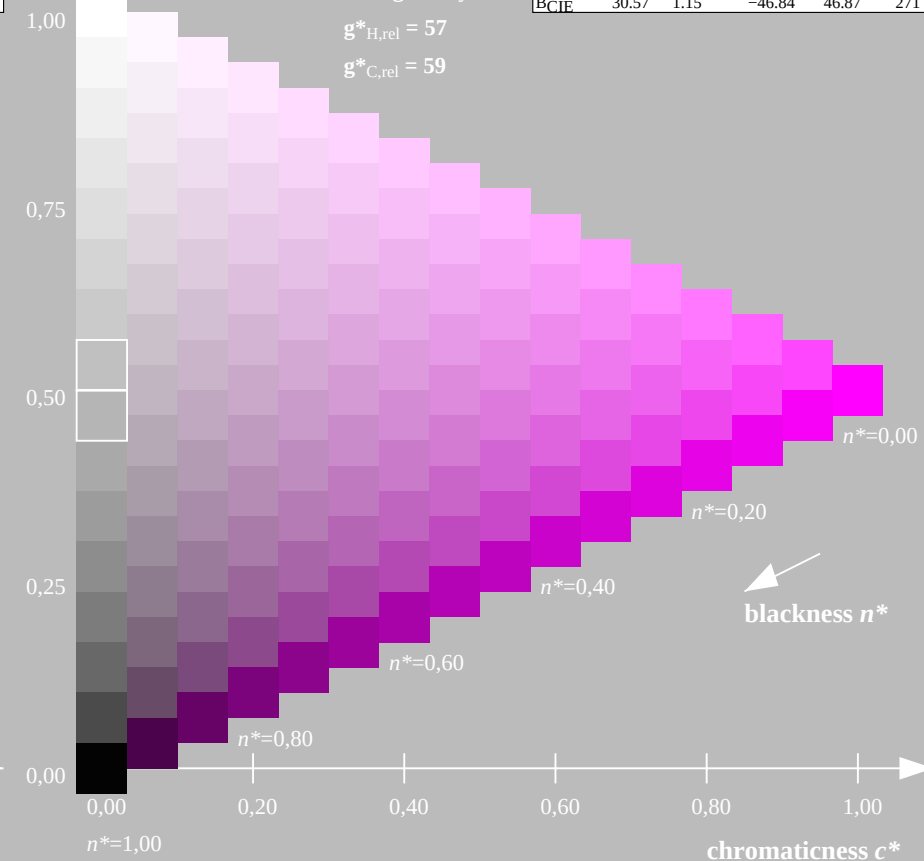
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



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

input:  $cmY0^* setcmykcolor$

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

Input: Colorimetric Reflective System MRS18

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

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

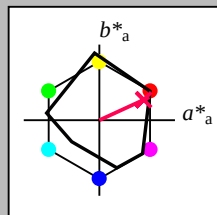
D65: hue R

LCH\*Ma: 48 73 25

rgb\*Ma: 1.0 0.0 0.1

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          |



%Gamut

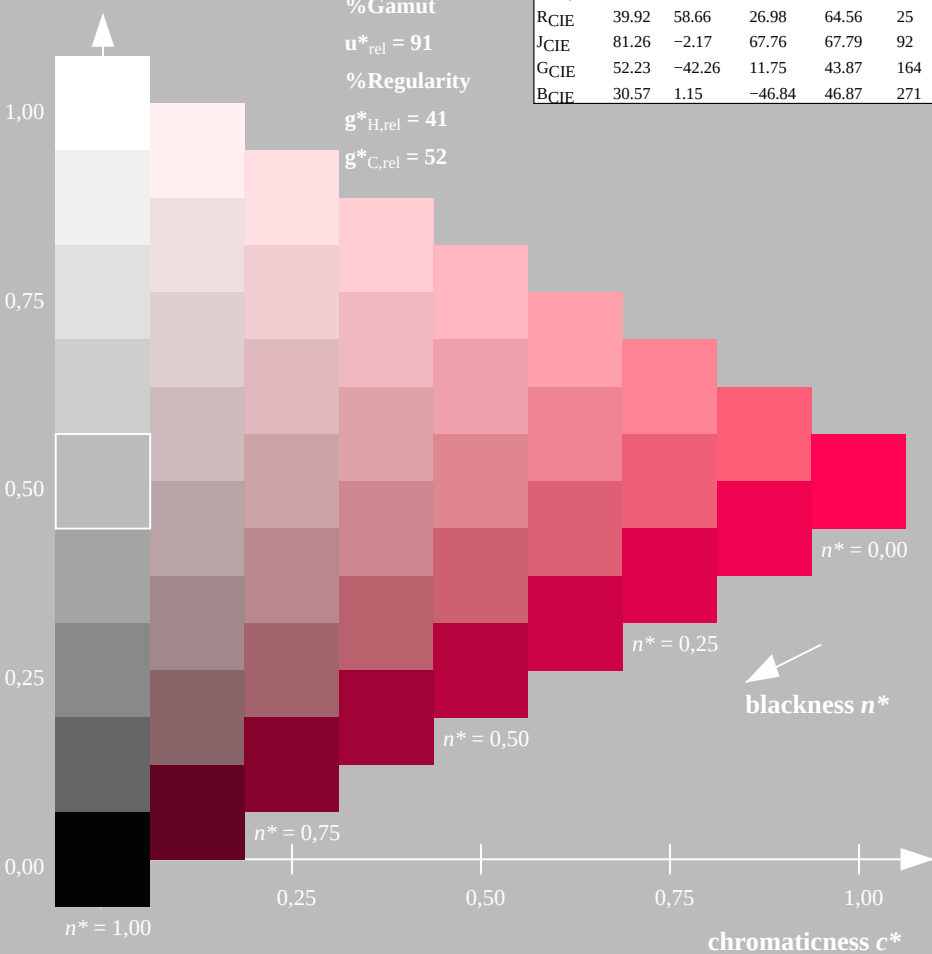
$u^*_{rel} = 91$

%Regularity

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

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

triangle lightness  $t^*$



UE950-7, 9 step scales for constant CIELAB hue 25/360 = 0.069 (left)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Reflective System ORS18

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

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

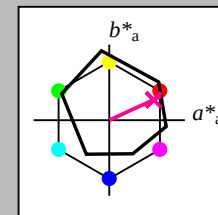
D65: hue R

LCH\*Ma: 48 75 25

rgb\*Ma: 1.0 0.0 0.32

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          |



%Gamut

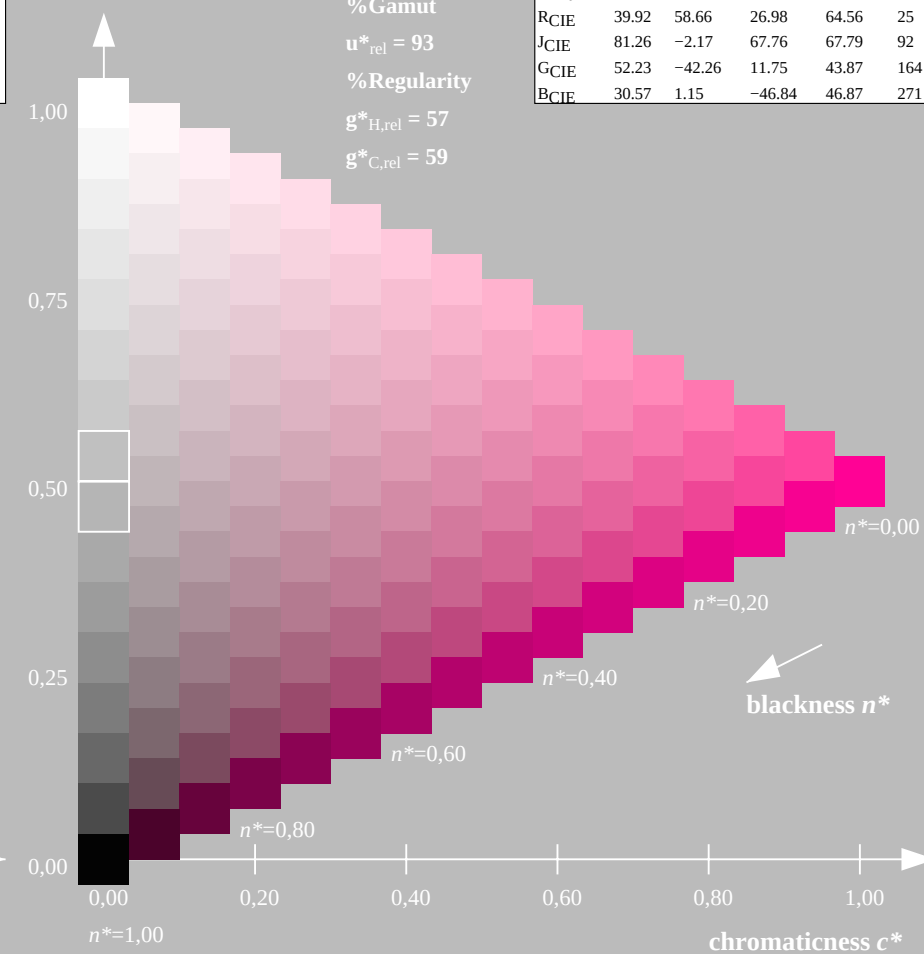
$u^*_{rel} = 93$

%Regularity

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

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

triangle lightness  $t^*$



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

input:  $cmY0^*$  set  $cmYkcolor$

output:  $olv^*$  set  $rgbcolor$  /  $w^*$  set  $gray$

Input: Colorimetric Reflective System MRS18

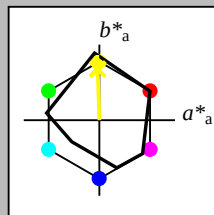
for hue  $h^* = lab^*h = 92/360 = 0.255$

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

D65: hue J

LCH\*Ma: 89 86 92

rgb\*Ma: 1.0 0.95 0.0



| 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  $t^*$

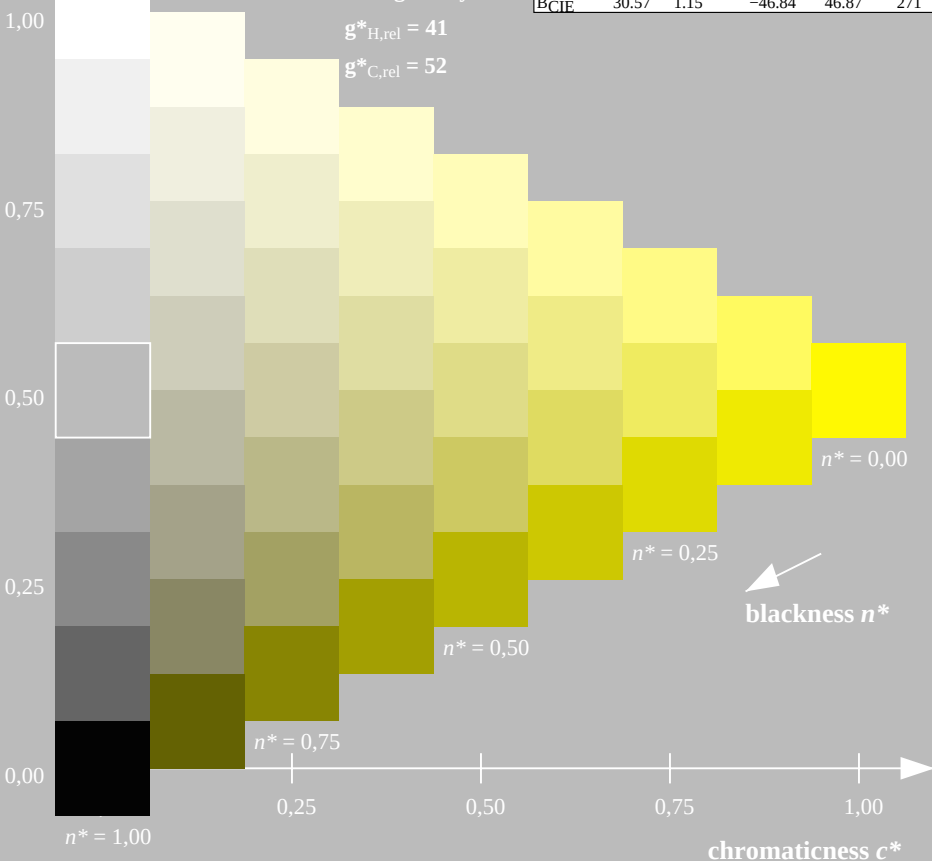
%Gamut

$u^*_{rel} = 91$

%Regularity

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

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



UE950-7, 9 step scales for constant CIELAB hue 92/360 = 0.255 (left)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Reflective System ORS18

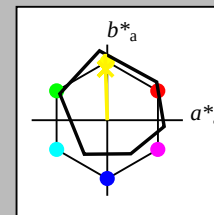
for hue  $h^* = lab^*h = 92/360 = 0.255$

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

D65: hue J

LCH\*Ma: 86 88 92

rgb\*Ma: 1.0 0.9 0.0



| 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          |

triangle lightness  $t^*$

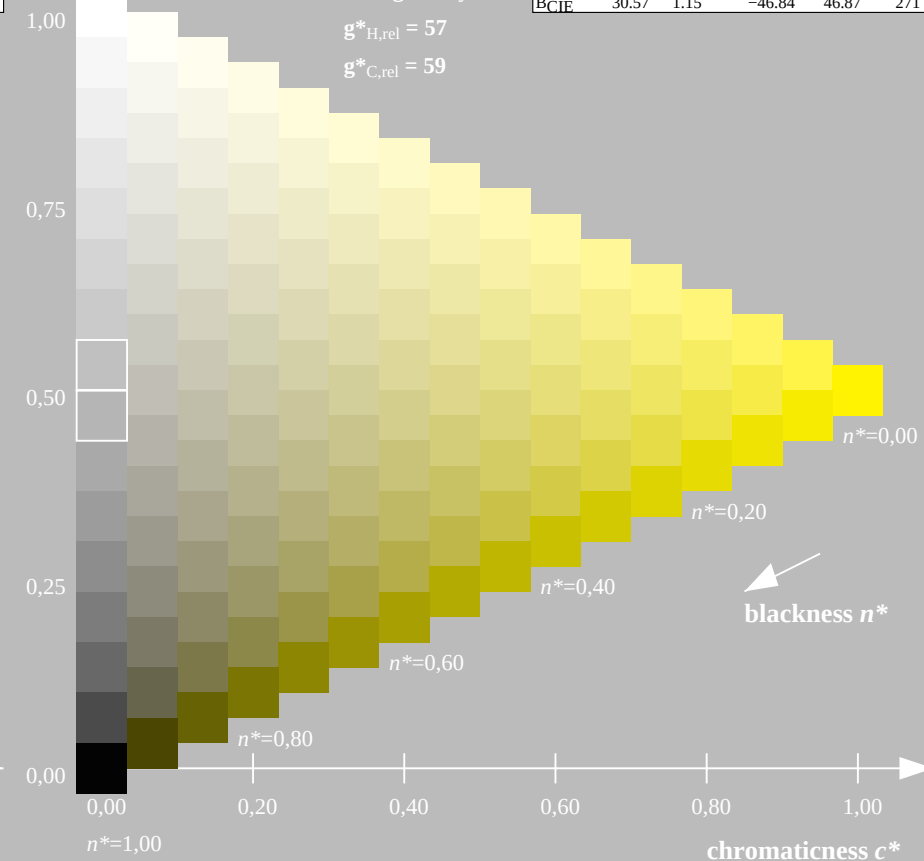
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



16 step scales for constant CIELAB hue 92/360 = 0.255 (right)

input:  $cmY0^* setcmykcolor$

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



Input: Colorimetric Reflective System MRS18

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

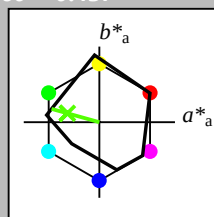
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue G

LCH\*Ma: 56 66 164

rgb\*Ma: 0.1 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

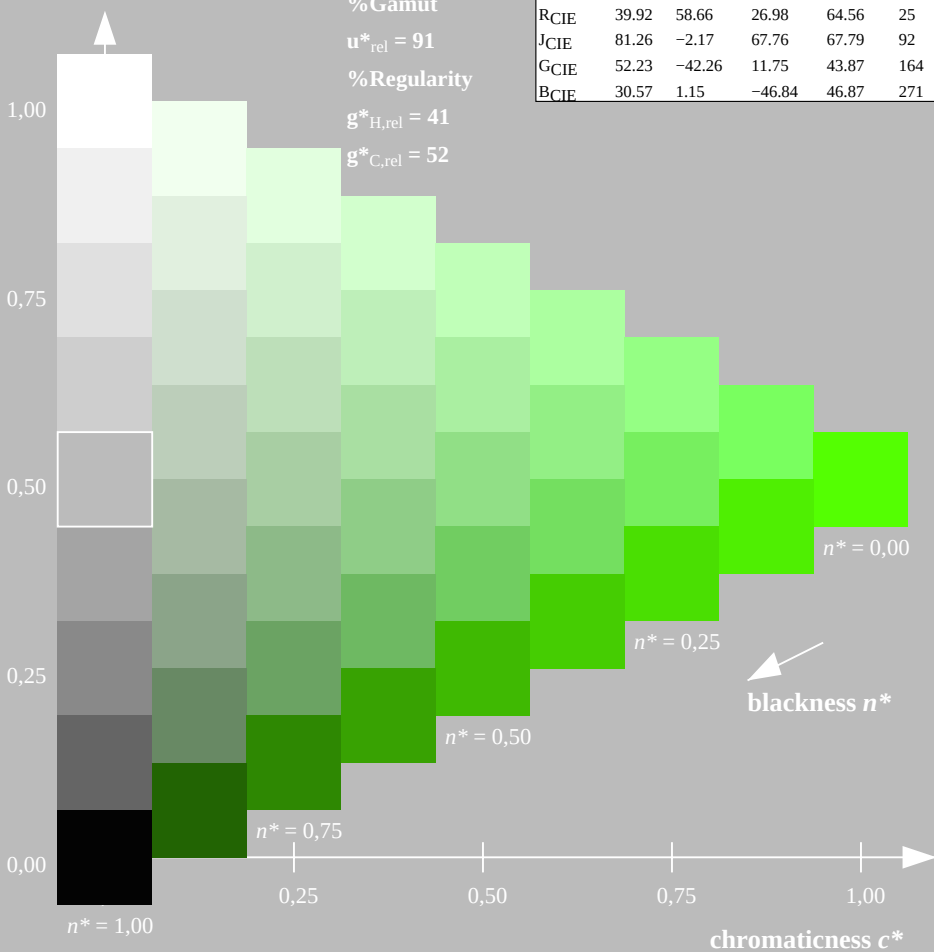
%Regularity

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

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

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          |



UE950-7, 9 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System ORS18

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

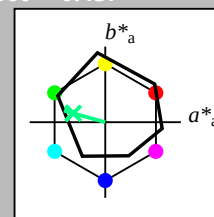
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue G

LCH\*Ma: 53 57 164

rgb\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

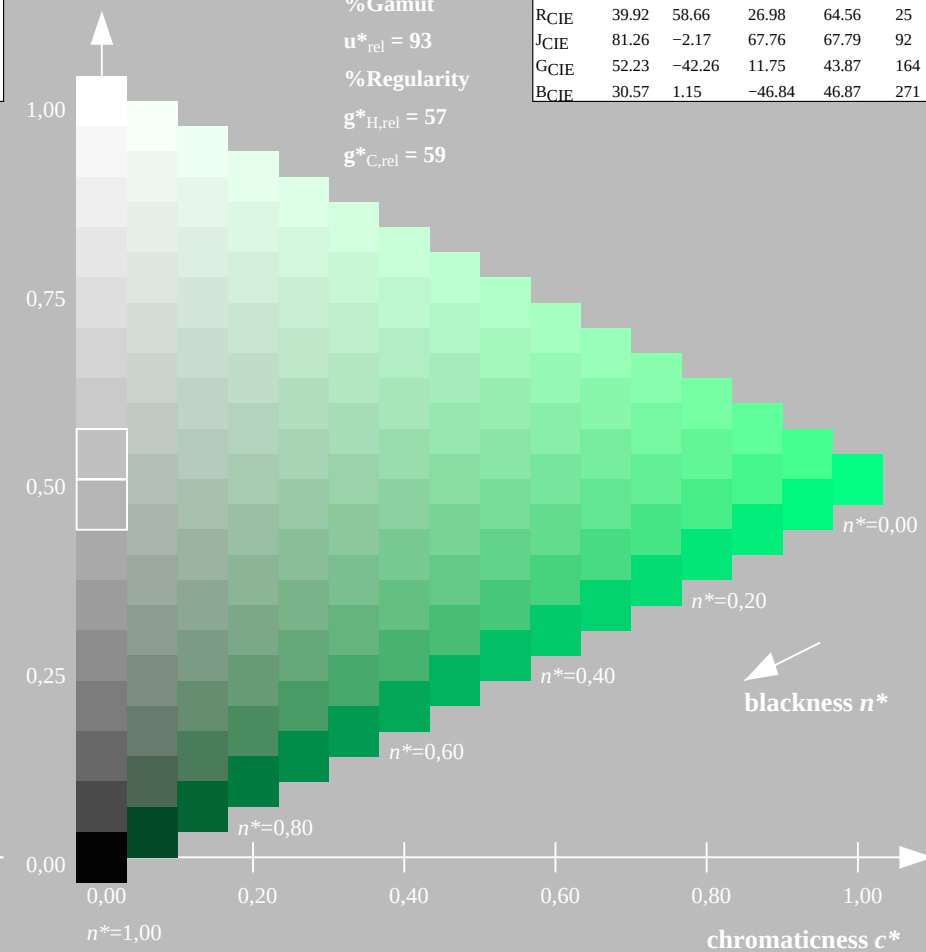
%Regularity

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

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

ORS18; adapted (a) CIELAB data

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



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

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

input: *cmY0\** *setcmykcolor*

output: *olv\** *setrgbcolor* / *w\** *setgray*

Input: Colorimetric Reflective System MRS18

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

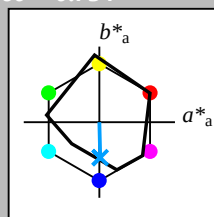
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue B

LCH\*Ma: 40 50 271

rgb\*Ma: 0.0 0.37 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 91$

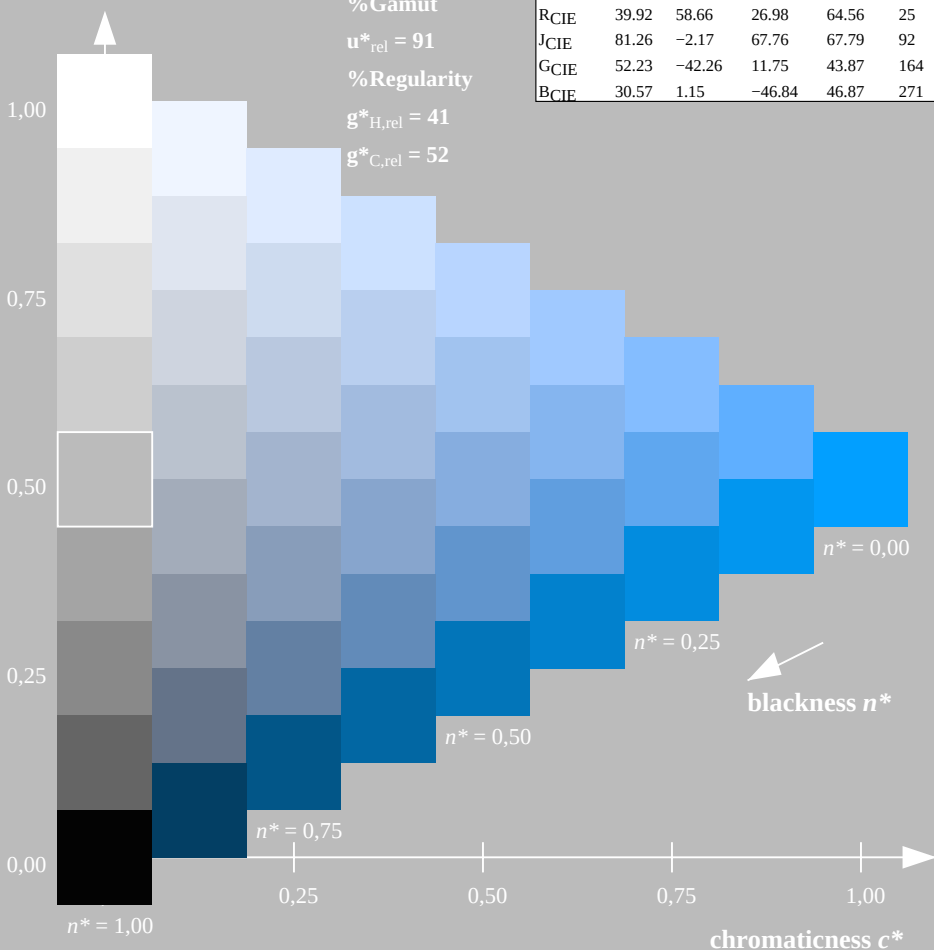
%Regularity

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

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

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          |
| 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          |



UE950-7, 9 step scales for constant CIE hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System ORS18

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

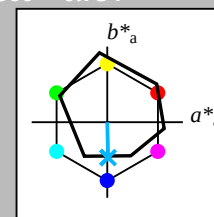
$lab \cdot tch$  and  $lab \cdot nch$

D65: hue B

LCH\*Ma: 42 45 271

rgb\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

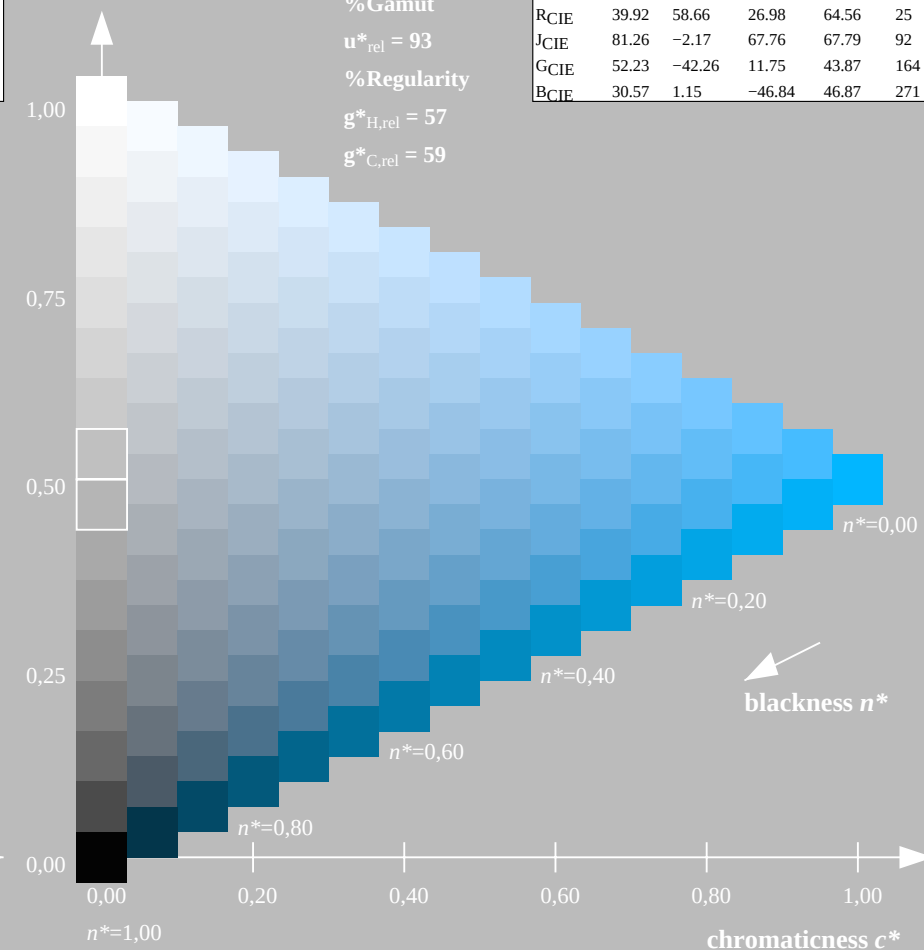
%Regularity

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

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

ORS18; adapted (a) CIELAB data

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



16 step scales for constant CIE hue 271/360 = 0.754 (right)

BAM-test chart UE95; Colorimetric systems MRS18 & ORS18

D65: 9 and 16 step colour scales for 10 hues

input: *cmY0\* setcmykcolor*

output: *olv\* setrgbcolor / w\* setgray*