

### Input: Colorimetric Reflective System ORS18

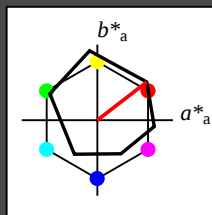
for hue  $h^* = lab \cdot h = 38/360 = 0.105$

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

D65: hue O

LCH\*Ma: 48 83 38

rgb\*Ma: 1.0 0.0 0.0



%Gamut

$u^*_{rel} = 93$

%Regularity

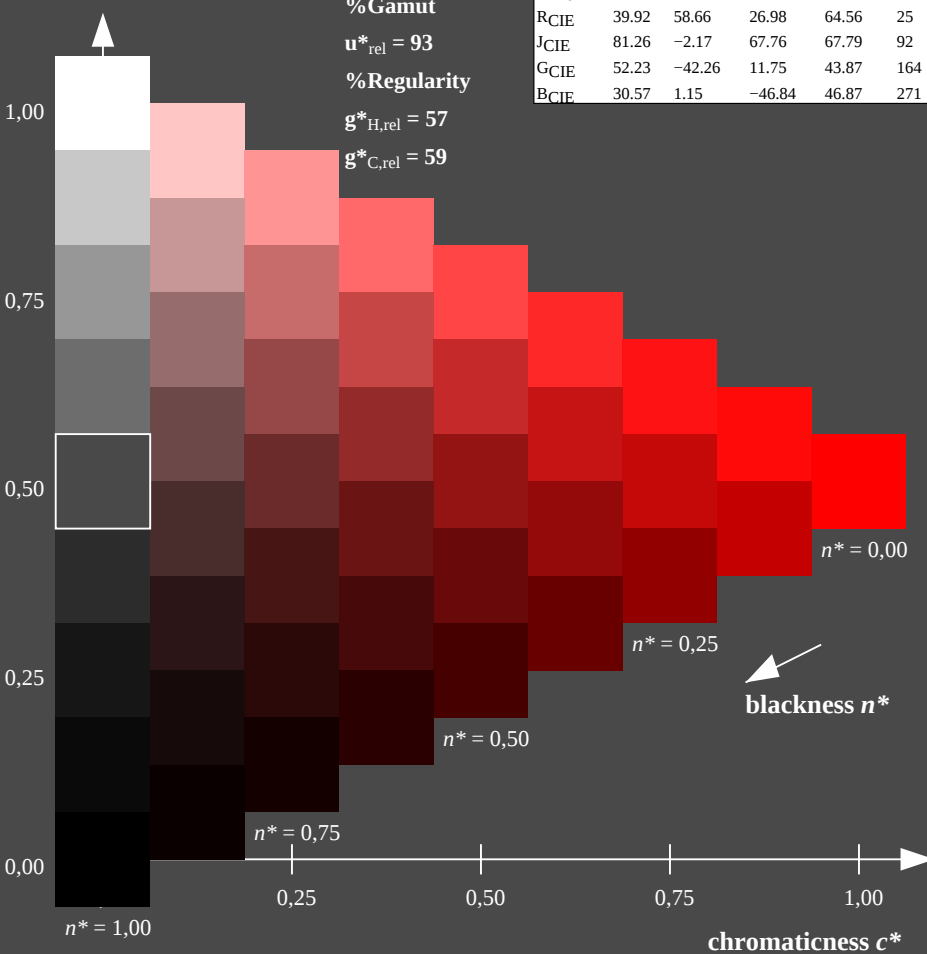
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 38/360 = 0.105 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmY0\* setcmykcolor*  
D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

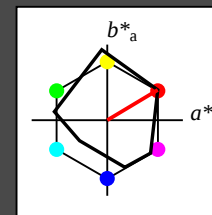
for hue  $h^* = lab \cdot h = 31/360 = 0.086$

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

D65: hue R

LCH\*Ma: 50 78 31

rgb\*Ma: 1.0 0.0 0.0



%Gamut

$u^*_{rel} = 92$

%Regularity

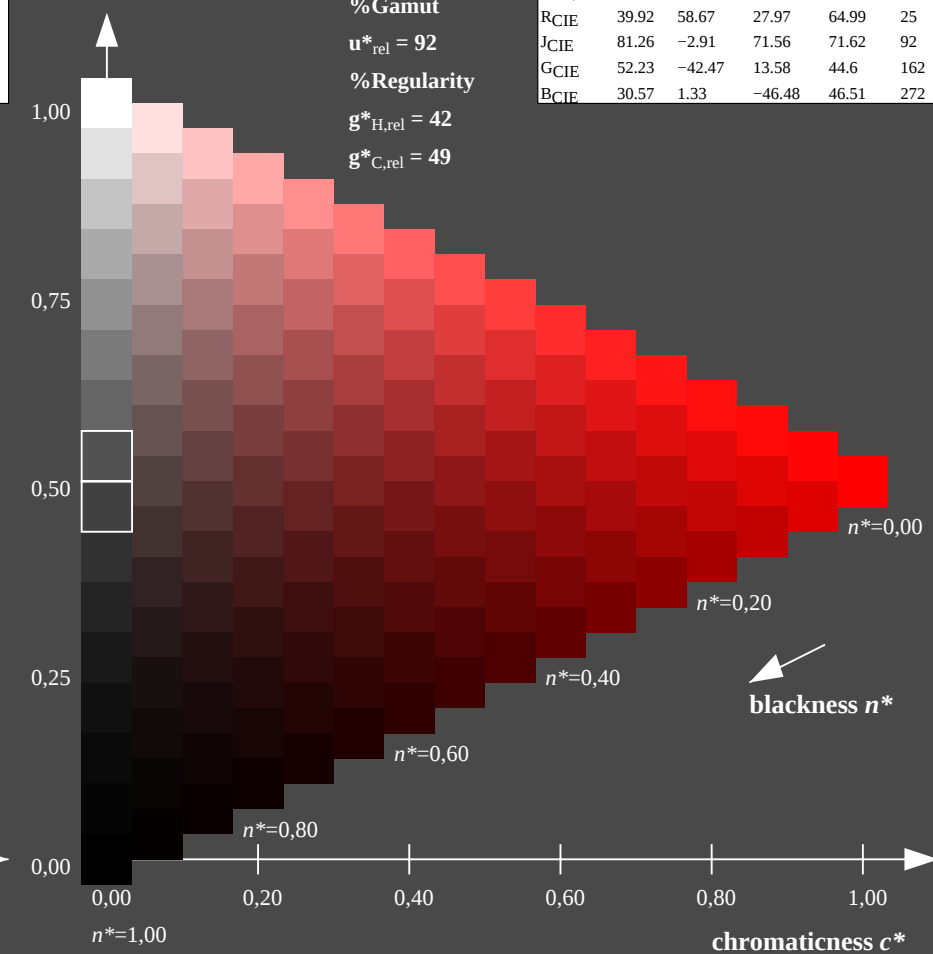
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



16 step scales for constant CIELAB hue 31/360 = 0.086 (right)

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



### Input: Colorimetric Reflective System ORS18

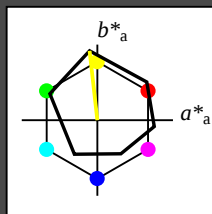
for hue  $h^* = lab \cdot h = 96/360 = 0.268$

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

D65: hue Y

LCH\*Ma: 90 92 96

rgb\*Ma: 1.0 1.0 0.0



%Gamut

$u^*_{rel} = 93$

%Regularity

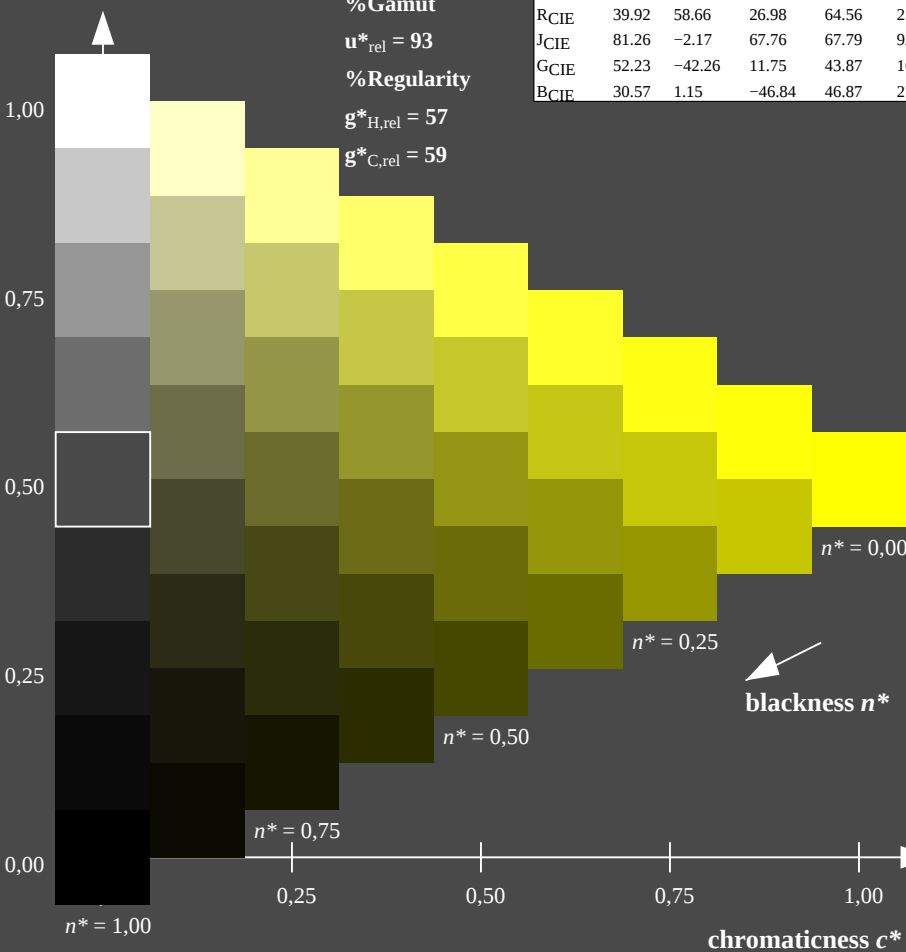
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 96/360 = 0.268 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmY0\* setcmykcolor*  
D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

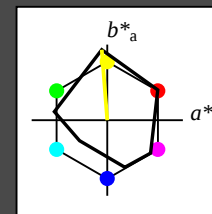
for hue  $h^* = lab \cdot h = 94/360 = 0.262$

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

D65: hue J

LCH\*Ma: 91 93 94

rgb\*Ma: 1.0 1.0 0.0



%Gamut

$u^*_{rel} = 92$

%Regularity

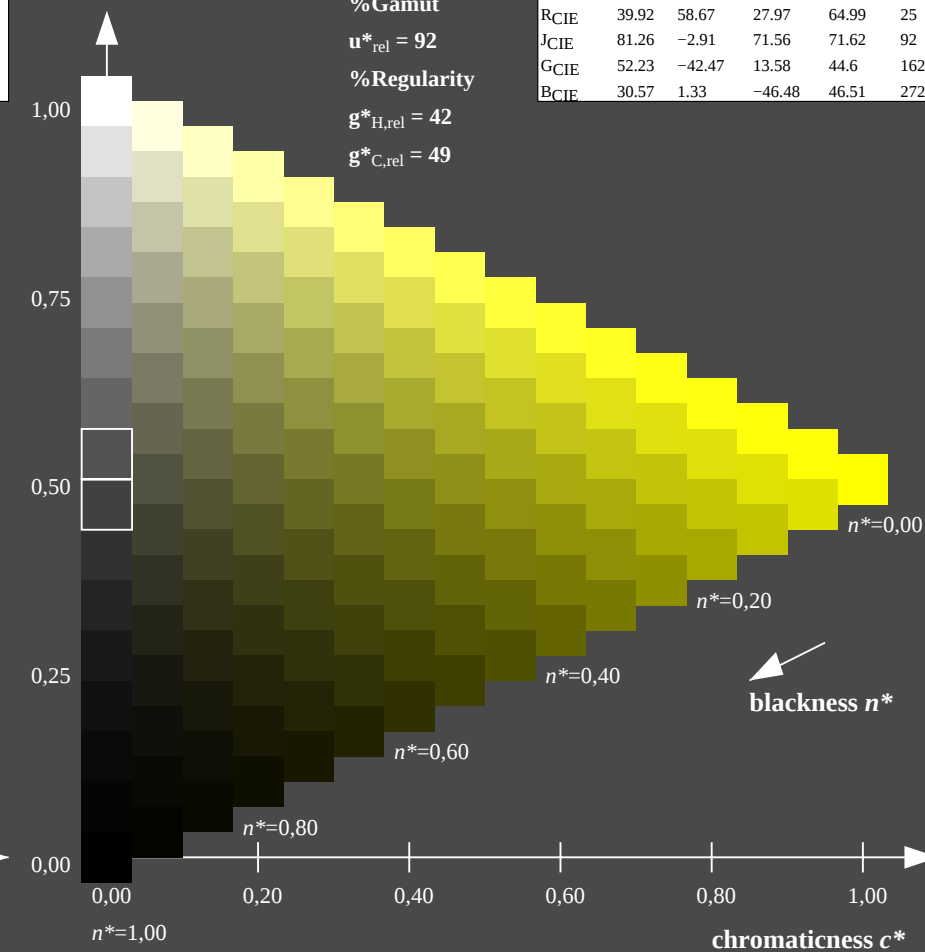
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



16 step scales for constant CIELAB hue 94/360 = 0.262 (right)

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



**Input: Colorimetric Reflective System ORS18**

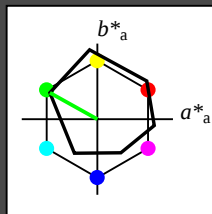
**for hue  $h^* = lab^*h = 151/360 = 0.419$**

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

D65: hue L

**LCH\*Ma: 51 72 151**

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  $t^*$**

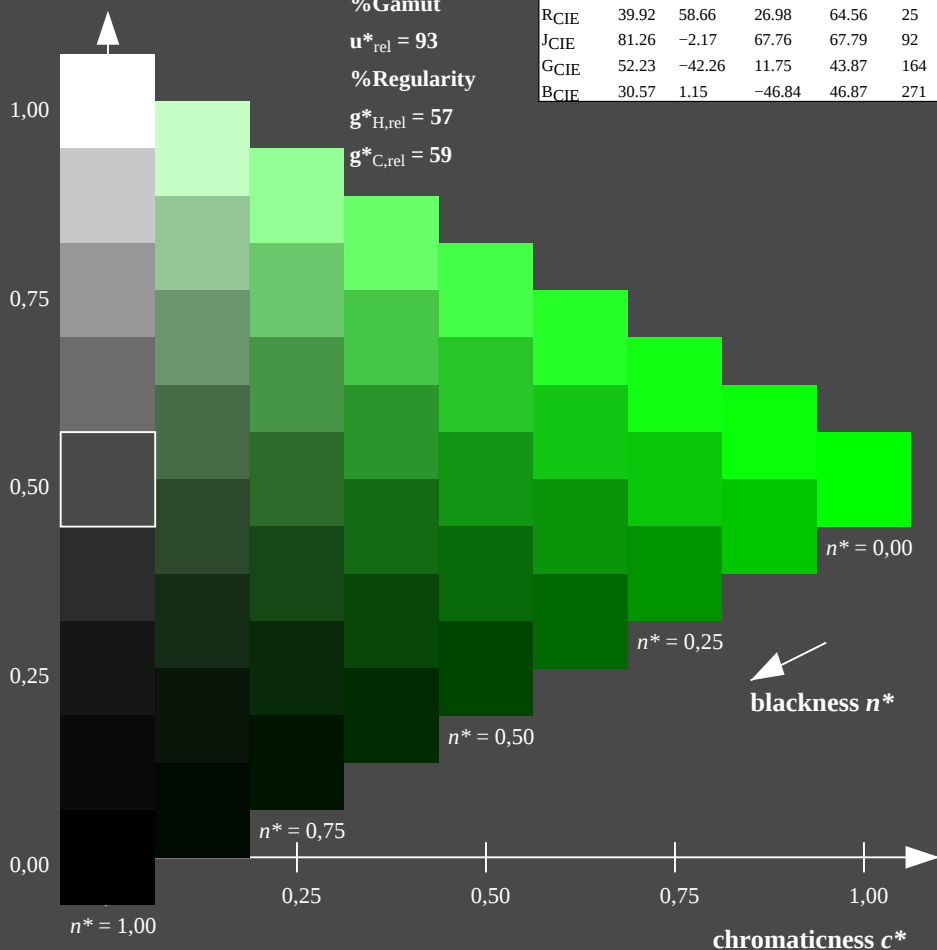
## % Gamut

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

### %Regularity

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

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



UE910-7, 9 step scales for constant CIELAB hue 151/360 = 0.419 (left)

BAM-test chart UE91: Colorimetric systems ORS18 & MRS18a input: *cmv0\* setcmykcolor*

D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

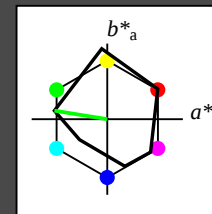
**for hue  $h^* = lab^*h = 171/360 = 0.475$**

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

### D65: hue G

LCH\*Ma: 52 71 171

rgb\*Ma: 0.0 1.0 0.0



MRS18a; adapted (a) CIELAB data

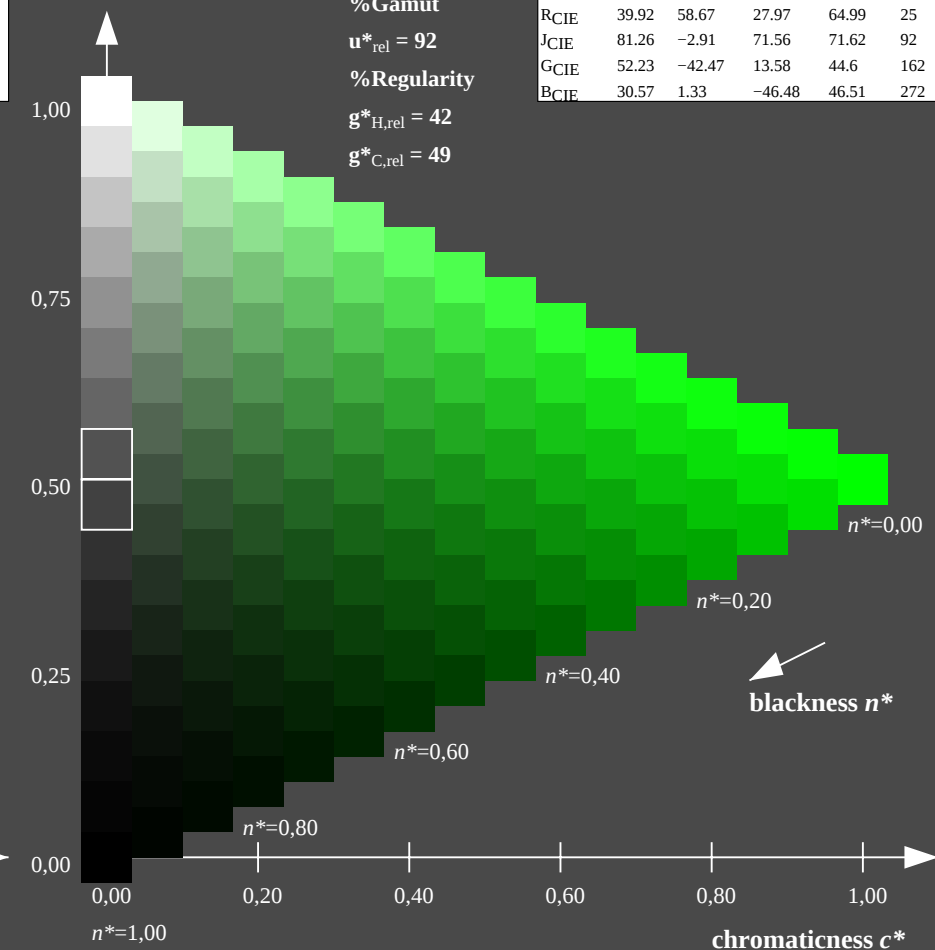
|                    | $L^* = L_a^*$ | $a_a^*$ | $b_a^*$ | $C_{ab,a}^*$ | $h_{ab,a}^*$ |
|--------------------|---------------|---------|---------|--------------|--------------|
| R <sub>Ma</sub>    | 49.63         | 66.8    | 40.02   | 77.87        | 31           |
| J <sub>Ma</sub>    | 90.7          | -7.27   | 93.19   | 93.48        | 94           |
| G <sub>Ma</sub>    | 52.11         | -69.93  | 11.26   | 70.85        | 171          |
| G50B <sub>Ma</sub> | 45.03         | -36.65  | -27.13  | 45.61        | 217          |
| B <sub>Ma</sub>    | 36.65         | 23.26   | -62.27  | 66.49        | 290          |
| B50R <sub>Ma</sub> | 34.94         | 57.27   | -43.6   | 71.99        | 323          |
| 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            |
| R <sub>CIE</sub>   | 39.92         | 58.67   | 27.97   | 64.99        | 25           |
| J <sub>CIE</sub>   | 81.26         | -2.91   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>   | 52.23         | -42.47  | 13.58   | 44.6         | 162          |
| B <sub>CIE</sub>   | 30.57         | 1.33    | -46.48  | 46.51        | 272          |

**triangle lightness  $t^*$**

## %Gamut

$$\mathbf{u}_{rel}^* = 92$$

### %Regularity

$$g^*_{H,rel} = 42$$
$$g^*_{C,rel} = 49$$


16 step scales for constant CIELAB hue 171/360 = 0.475 (right)

```

input: cmy0* setcmykcolor
output: olv* setrgbcolor / w* setgray

```

### Input: Colorimetric Reflective System ORS18

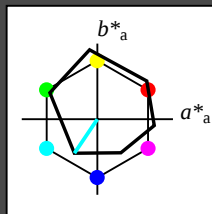
for hue  $h^* = lab \cdot h = 236/360 = 0.656$

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

D65: hue C

LCH\*Ma: 59 54 236

rgb\*Ma: 0.0 1.0 1.0



%Gamut

$u^*_{rel} = 93$

%Regularity

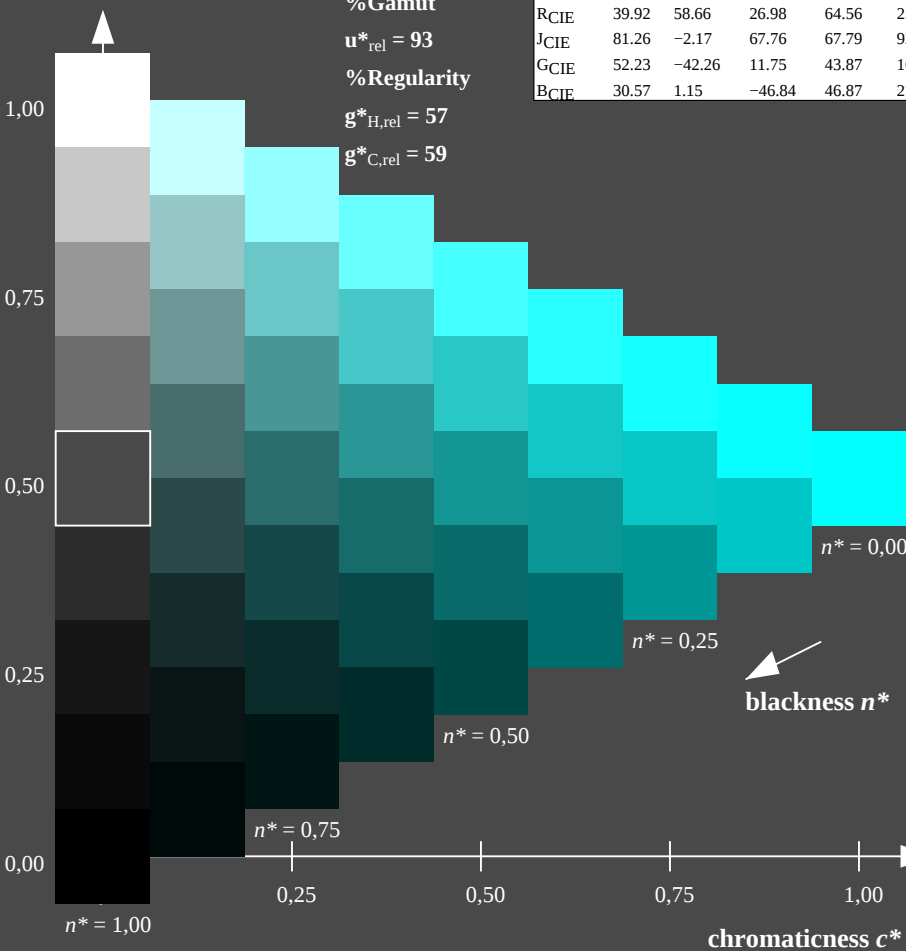
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 236/360 = 0.656 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input:  $cmY0^*$  set  $cmYcolor$   
D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

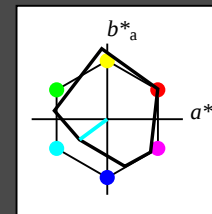
for hue  $h^* = lab \cdot h = 217/360 = 0.601$

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

D65: hue G50B

LCH\*Ma: 45 46 217

rgb\*Ma: 0.0 1.0 1.0



%Gamut

$u^*_{rel} = 92$

%Regularity

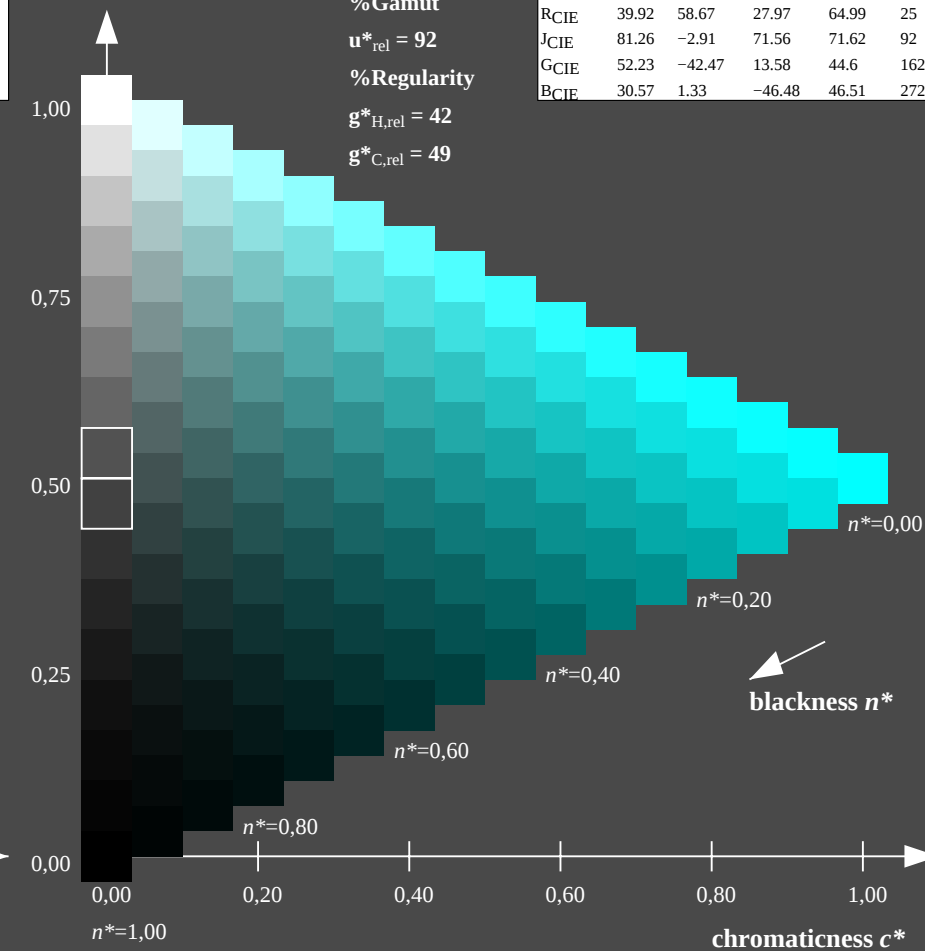
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



16 step scales for constant CIELAB hue 217/360 = 0.601 (right)

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



### Input: Colorimetric Reflective System ORS18

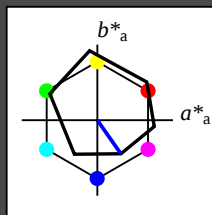
for hue  $h^* = lab \cdot h = 305/360 = 0.847$

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

D65: hue V

LCH\*Ma: 26 54 305

rgb\*Ma: 0.0 0.0 1.0



%Gamut

$u^*_{rel} = 93$

%Regularity

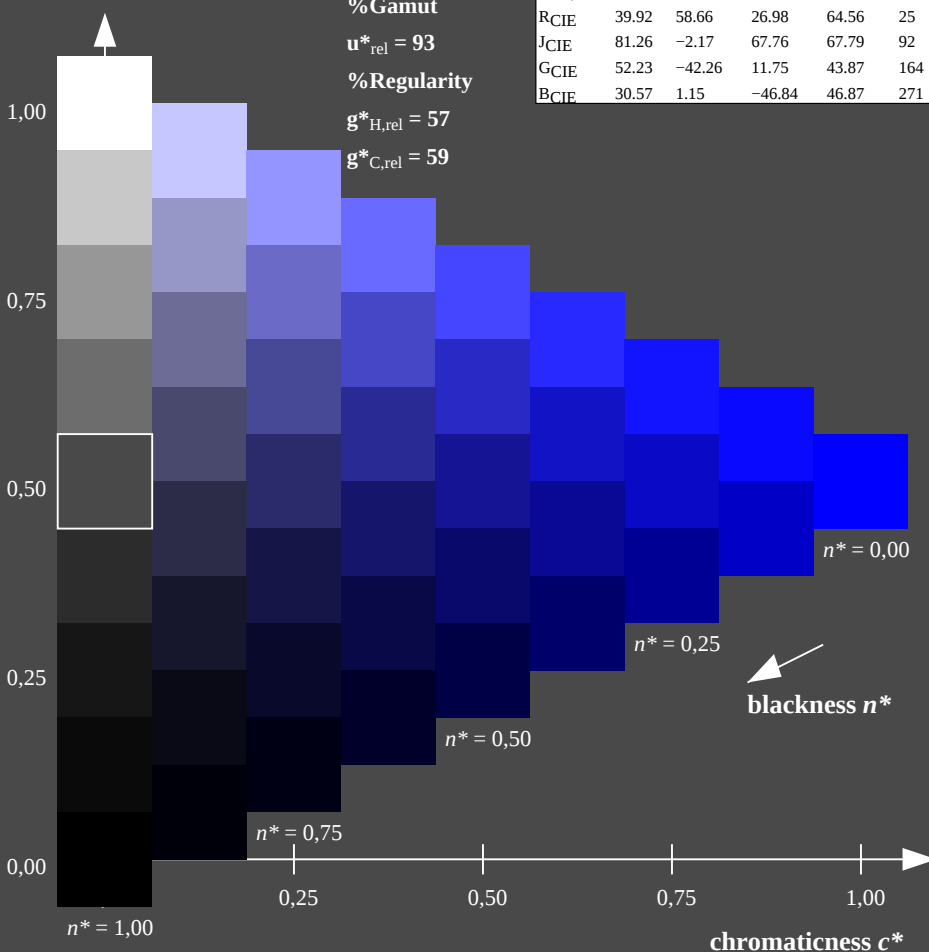
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



### Output: Colorimetric Reflective System MRS18a

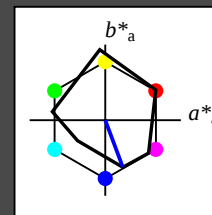
for hue  $h^* = lab \cdot h = 290/360 = 0.807$

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

D65: hue B

LCH\*Ma: 37 66 290

rgb\*Ma: 0.0 0.0 1.0



%Gamut

$u^*_{rel} = 92$

%Regularity

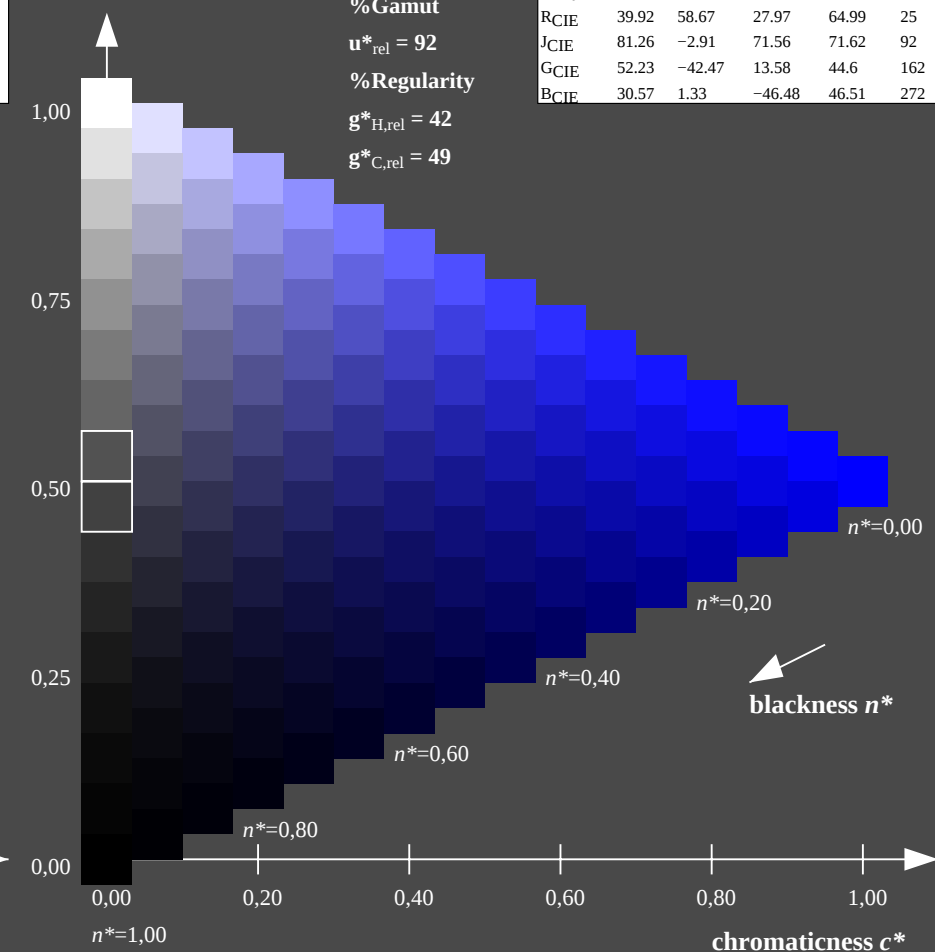
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 305/360 = 0.847 (left)

16 step scales for constant CIELAB hue 290/360 = 0.807 (right)

BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmy0\* setcmykcolor*

D65: 9 and 16 step colour scales for 10 hues

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

### Input: Colorimetric Reflective System ORS18

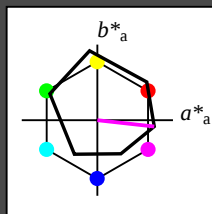
for hue  $h^* = lab \cdot h = 354/360 = 0.982$

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

D65: hue M

LCH\*Ma: 48 76 354

rgb\*Ma: 1.0 0.0 1.0



%Gamut

$u^*_{rel} = 93$

%Regularity

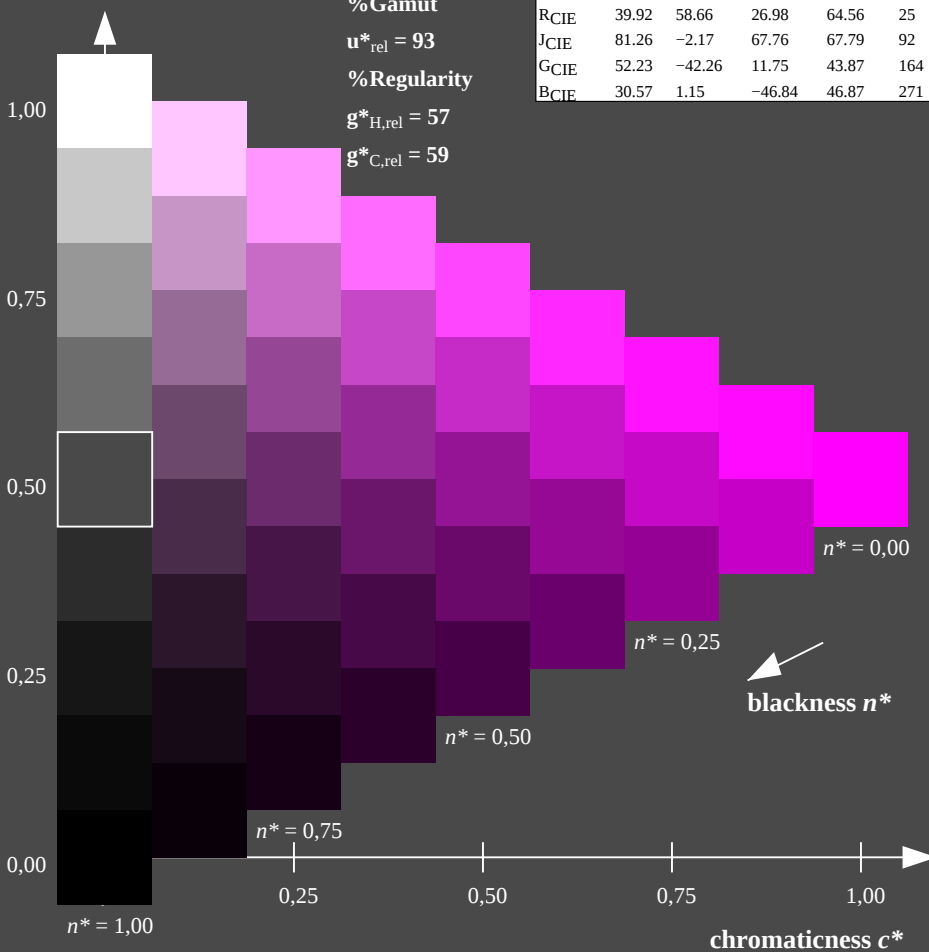
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 354/360 = 0.982 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmY0\* setcmykcolor*

D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

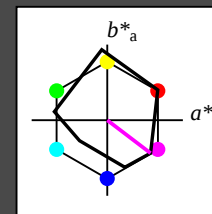
for hue  $h^* = lab \cdot h = 323/360 = 0.896$

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

D65: hue B50R

LCH\*Ma: 35 72 323

rgb\*Ma: 1.0 0.0 1.0



%Gamut

$u^*_{rel} = 92$

%Regularity

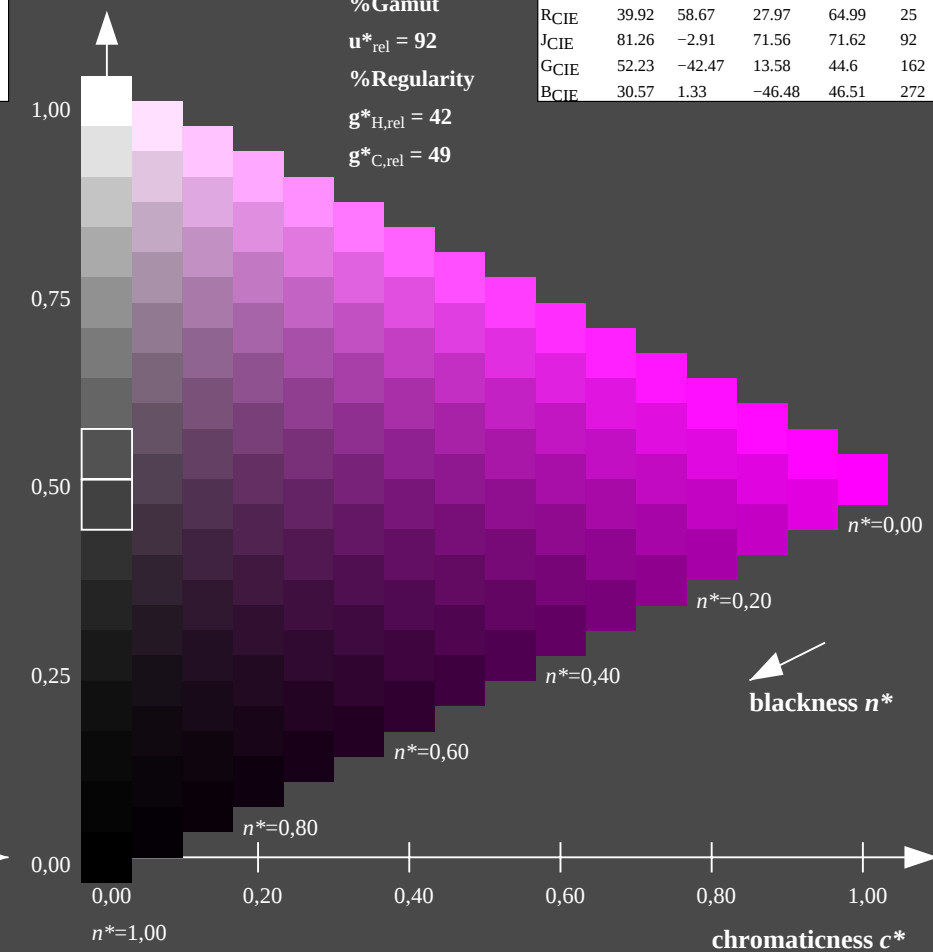
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



16 step scales for constant CIELAB hue 323/360 = 0.896 (right)

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



### Input: Colorimetric Reflective System ORS18

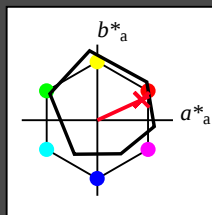
for hue  $h^* = lab \cdot h = 25/360 = 0.069$

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

D65: hue R

LCH\*Ma: 48 75 25

rgb\*Ma: 1.0 0.0 0.32



%Gamut

$u^*_{rel} = 93$

%Regularity

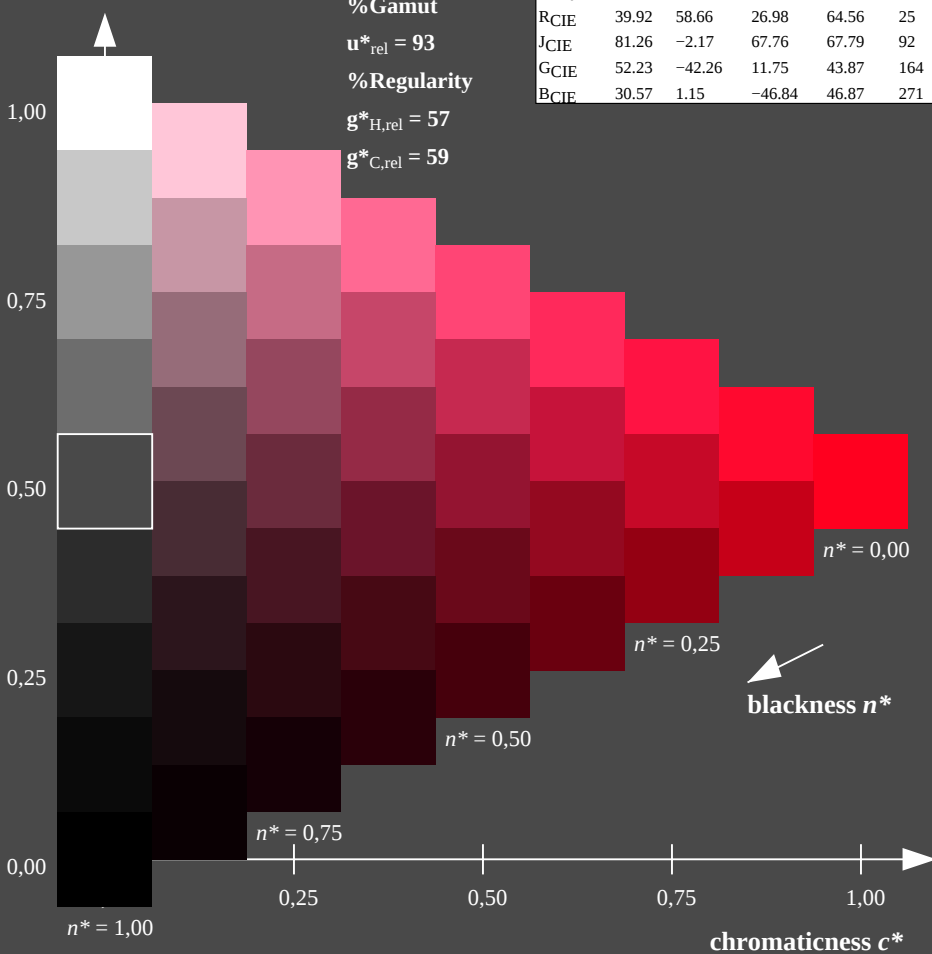
$g^*_{H,rel} = 57$

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

#### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 25/360 = 0.069 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmy0\* setcmykcolor*  
D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

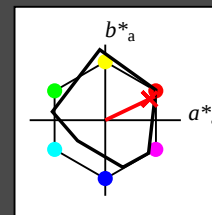
for hue  $h^* = lab \cdot h = 25/360 = 0.071$

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

D65: hue R

LCH\*Ma: 48 73 25

rgb\*Ma: 1.0 0.0 0.1



%Gamut

$u^*_{rel} = 92$

%Regularity

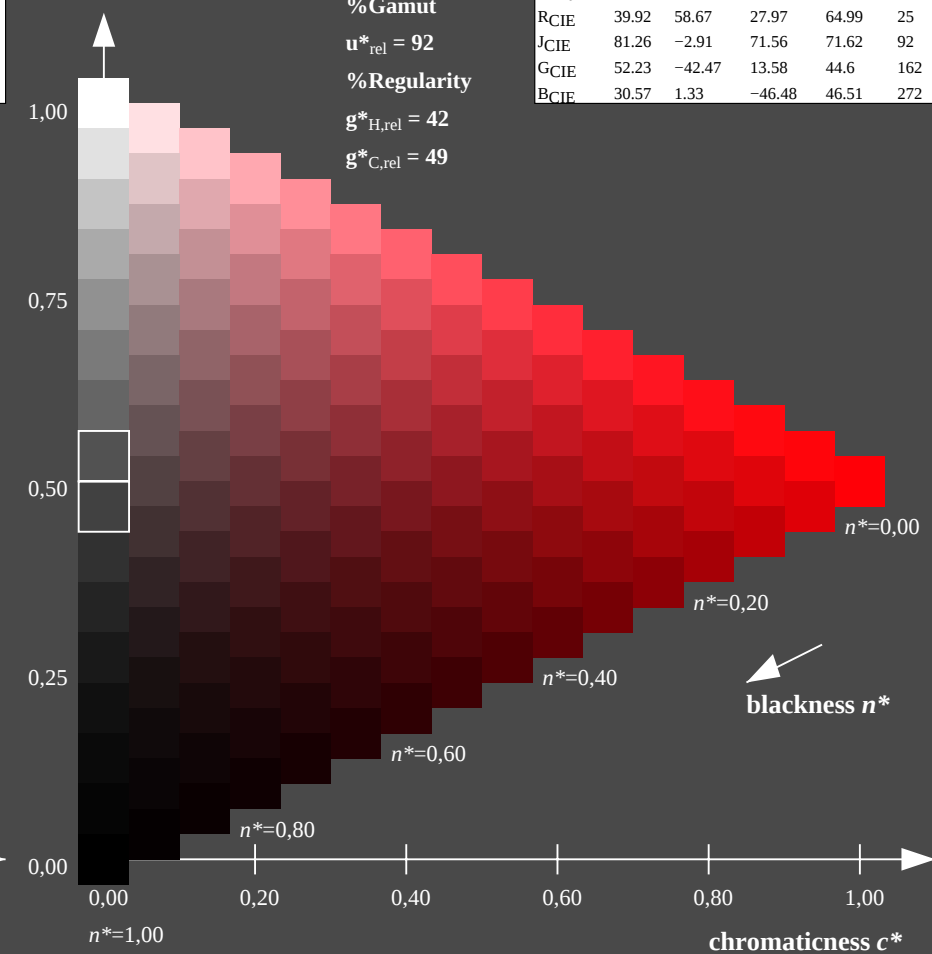
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

#### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



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

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

### Input: Colorimetric Reflective System ORS18

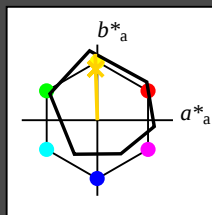
for hue  $h^* = lab \cdot h = 92/360 = 0.255$

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

D65: hue J

LCH\*Ma: 86 88 92

rgb\*Ma: 1.0 0.9 0.0



%Gamut

$u^*_{rel} = 93$

%Regularity

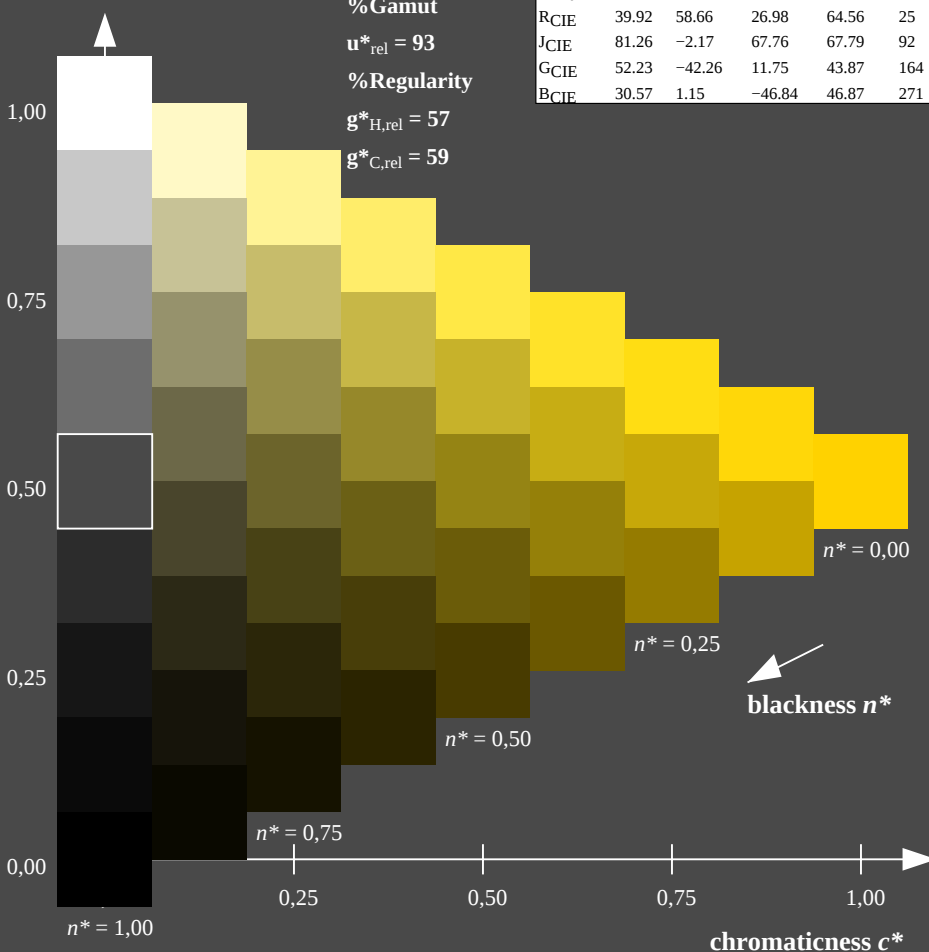
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 92/360 = 0.255 (left)



BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input:  $cmy0^* \text{ setcmykcolor}$

D65: 9 and 16 step colour scales for 10 hues

### Output: Colorimetric Reflective System MRS18a

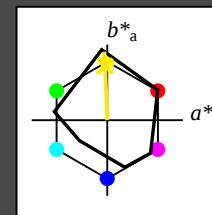
for hue  $h^* = lab \cdot h = 92/360 = 0.256$

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

D65: hue J

LCH\*Ma: 89 91 92

rgb\*Ma: 1.0 0.95 0.0



%Gamut

$u^*_{rel} = 92$

%Regularity

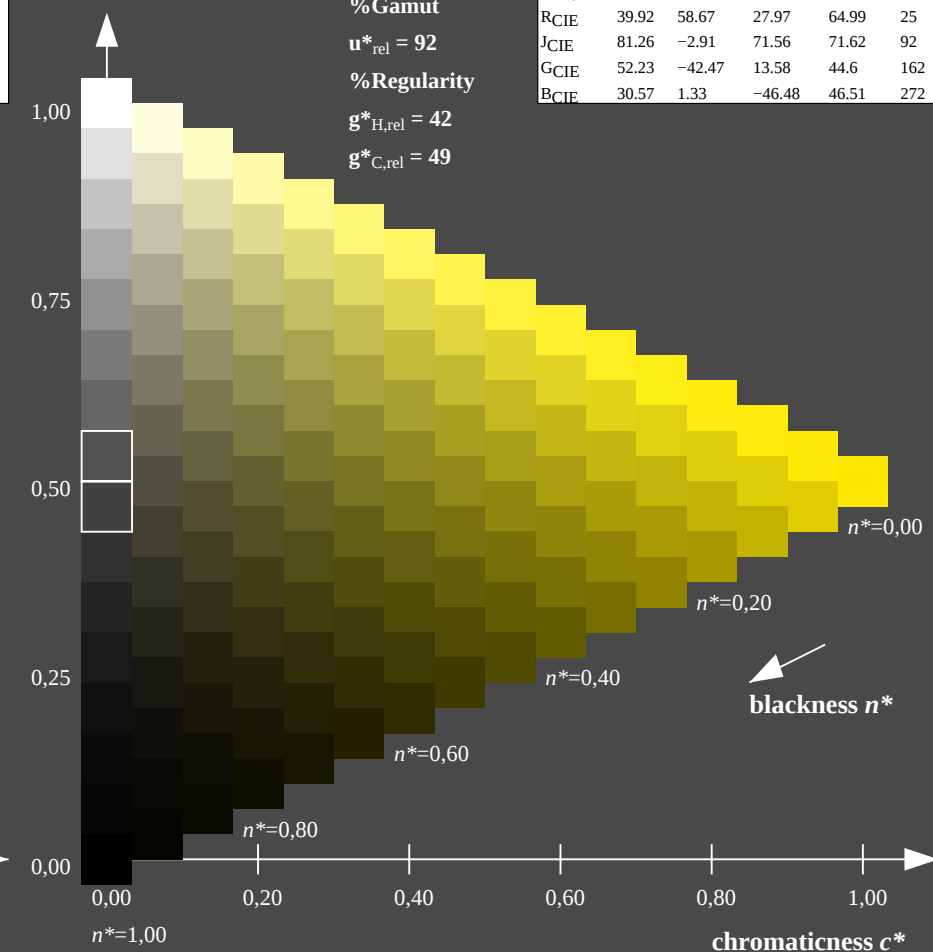
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



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

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



### Input: Colorimetric Reflective System ORS18

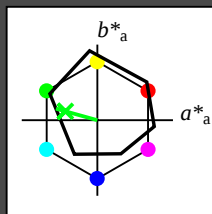
for hue  $h^* = lab \cdot h = 164/360 = 0.457$

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

D65: hue G

LCH\*Ma: 53 57 164

rgb\*Ma: 0.0 1.0 0.25



%Gamut

$u^*_{rel} = 93$

%Regularity

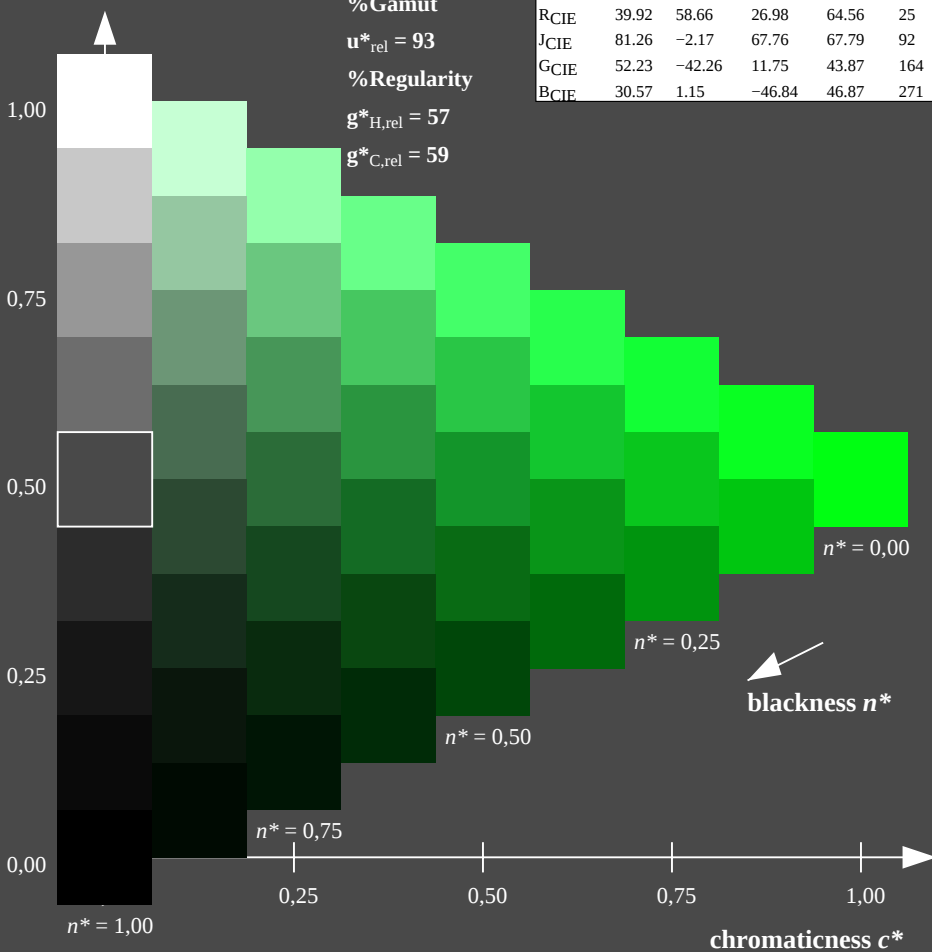
$g^*_{H,rel} = 57$

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

### 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          |

triangle lightness  $t^*$



### Output: Colorimetric Reflective System MRS18a

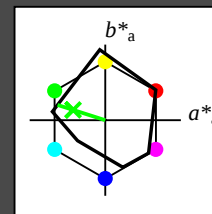
for hue  $h^* = lab \cdot h = 162/360 = 0.451$

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

D65: hue G

LCH\*Ma: 56 66 162

rgb\*Ma: 0.11 1.0 0.0



%Gamut

$u^*_{rel} = 92$

%Regularity

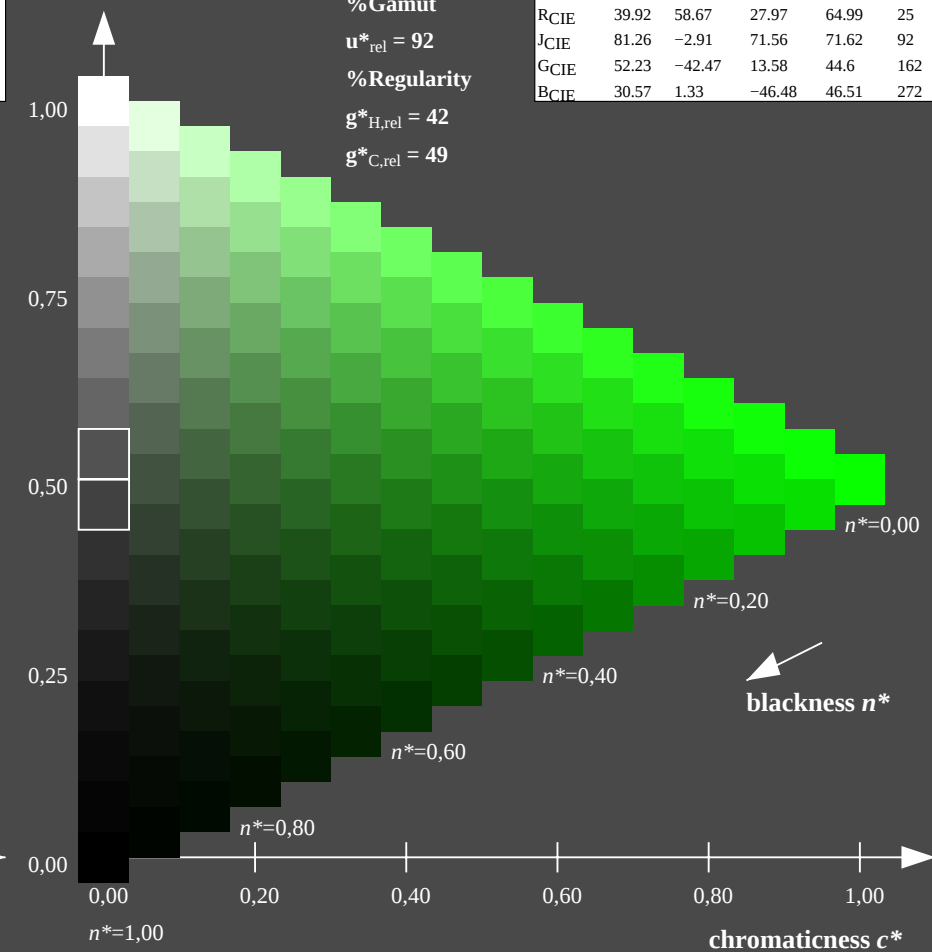
$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$



UE910-7, 9 step scales for constant CIELAB hue 164/360 = 0.457 (left)

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

BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmy0\* setcmykcolor*

D65: 9 and 16 step colour scales for 10 hues

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

### Input: Colorimetric Reflective System ORS18

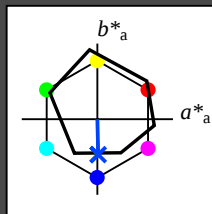
for hue  $h^* = lab \cdot h = 271/360 = 0.754$

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

D65: hue B

LCH\*Ma: 42 45 271

rgb\*Ma: 0.0 0.49 1.0



### 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  $t^*$

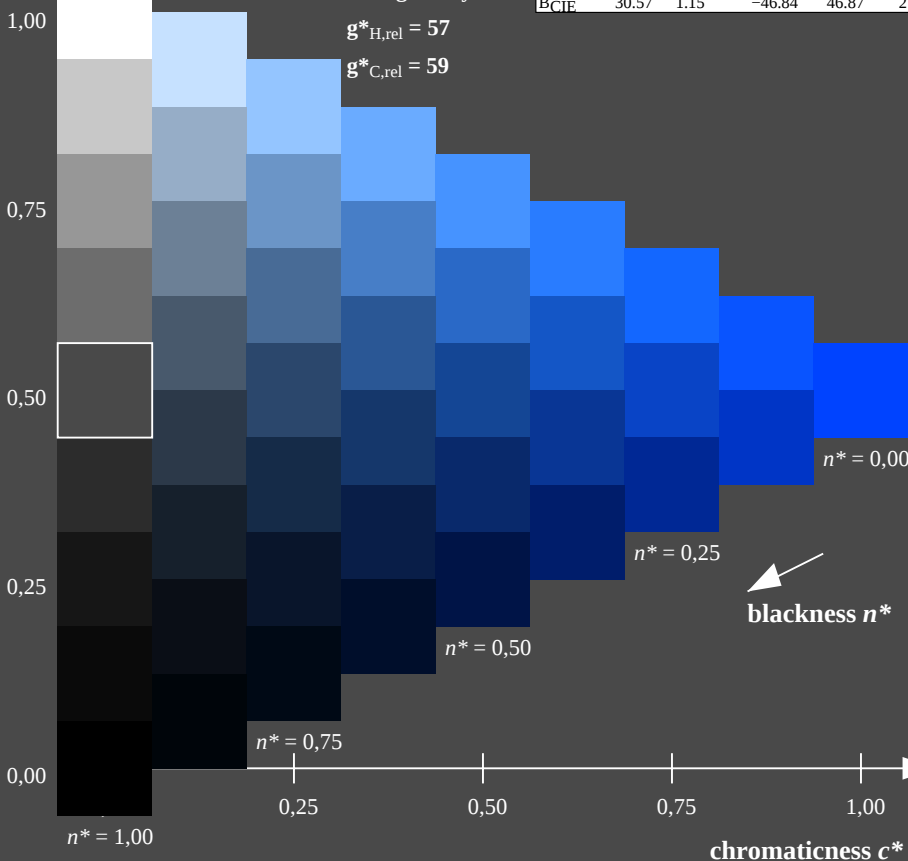
%Gamut

$u^*_{rel} = 93$

%Regularity

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

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



### Output: Colorimetric Reflective System MRS18a

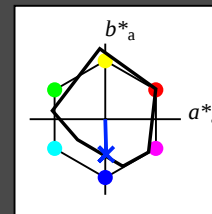
for hue  $h^* = lab \cdot h = 272/360 = 0.755$

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

D65: hue B

LCH\*Ma: 40 49 272

rgb\*Ma: 0.0 0.36 1.0



### MRS18a; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 49.63       | 66.8    | 40.02   | 77.87        | 31           |
| JMa    | 90.7        | -7.27   | 93.19   | 93.48        | 94           |
| GMa    | 52.11       | -69.93  | 11.26   | 70.85        | 171          |
| G50BMa | 45.03       | -36.65  | -27.13  | 45.61        | 217          |
| BMa    | 36.65       | 23.26   | -62.27  | 66.49        | 290          |
| B50RMa | 34.94       | 57.27   | -43.6   | 71.99        | 323          |
| NMa    | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.67   | 27.97   | 64.99        | 25           |
| JCIE   | 81.26       | -2.91   | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.47  | 13.58   | 44.6         | 162          |
| BCIE   | 30.57       | 1.33    | -46.48  | 46.51        | 272          |

triangle lightness  $t^*$

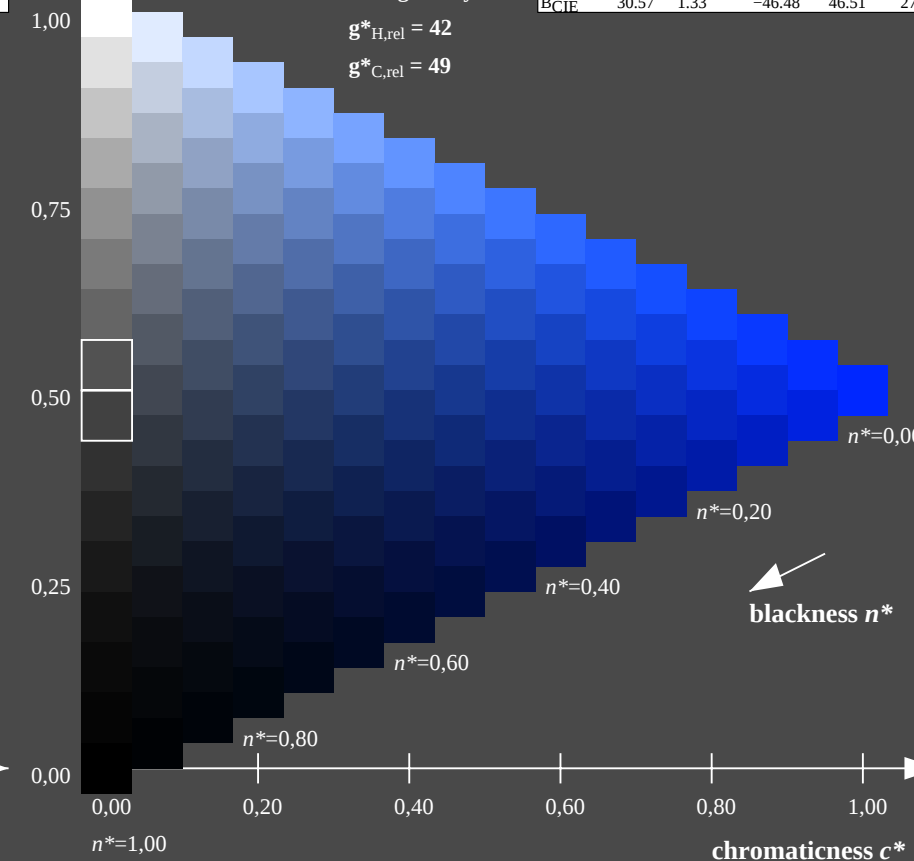
%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$



UE910-7, 9 step scales for constant CIELAB hue 271/360 = 0.754 (left)

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

BAM-test chart UE91; Colorimetric systems ORS18 & MRS18a input: *cmY0\* setcmykcolor*

D65: 9 and 16 step colour scales for 10 hues

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