

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 24/360 = 0.067$

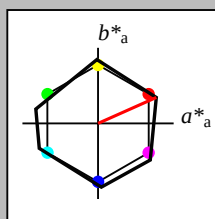
$lab^*ich$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 53 84 24

rgb\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

### NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

### Output: Colorimetric Reflective System ORS18

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

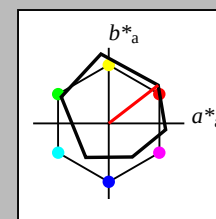
$lab^*ich$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

rgb\*Ma: 1.0 0.0 0.0

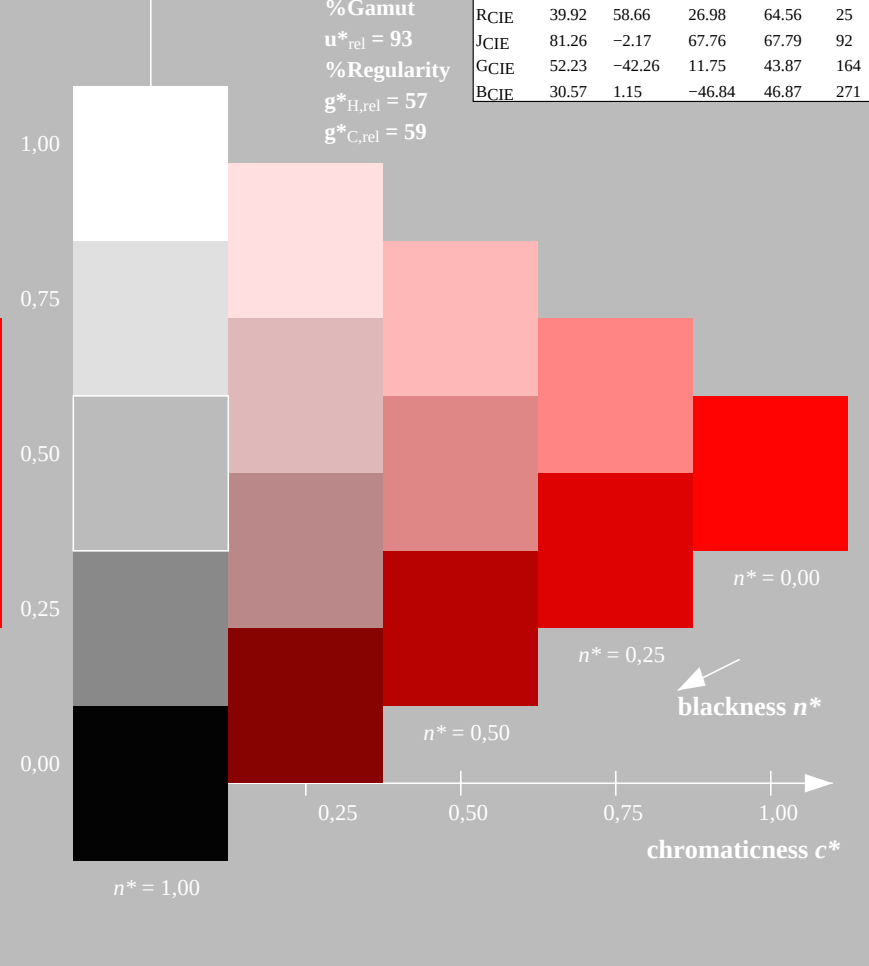
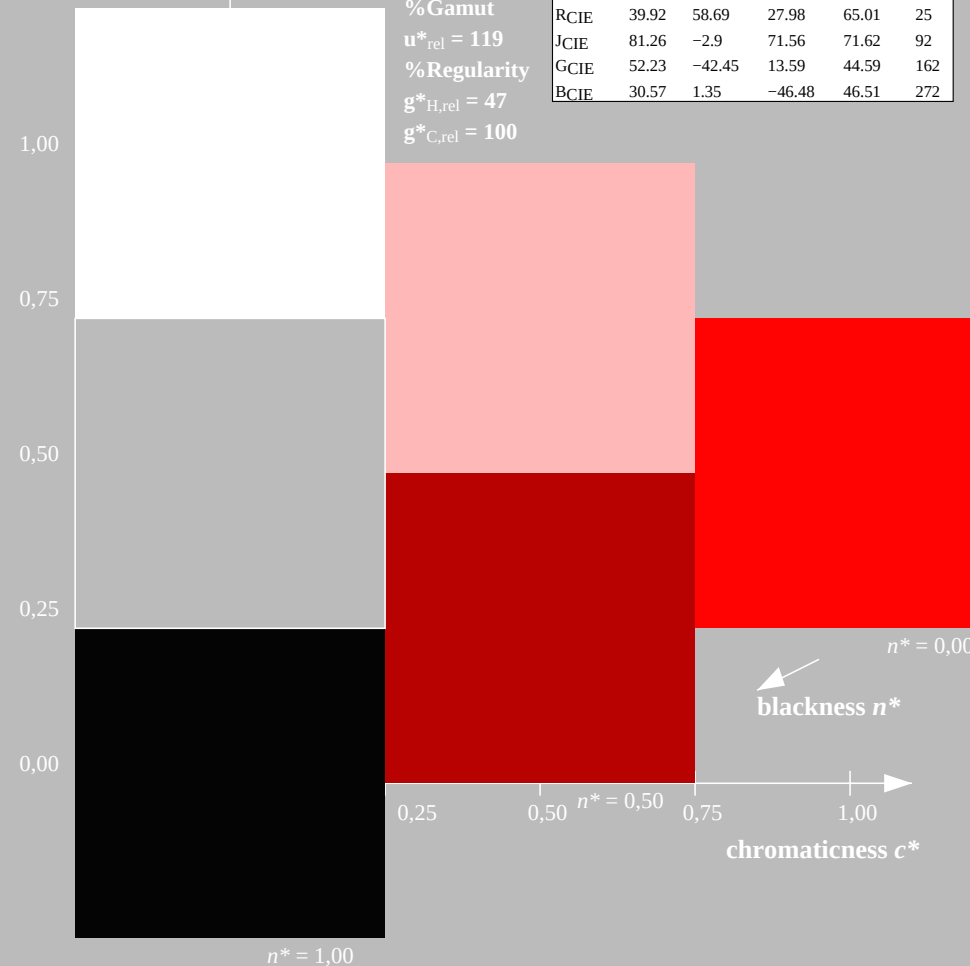
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

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



Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 91/360 = 0.253$

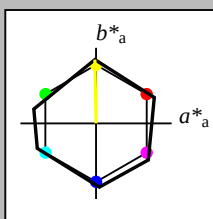
$lab^*ich$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 84 91

rgb\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Output: Colorimetric Reflective System ORS18

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

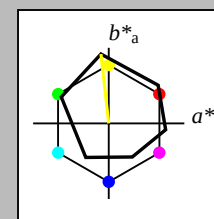
$lab^*ich$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

rgb\*Ma: 1.0 1.0 0.0

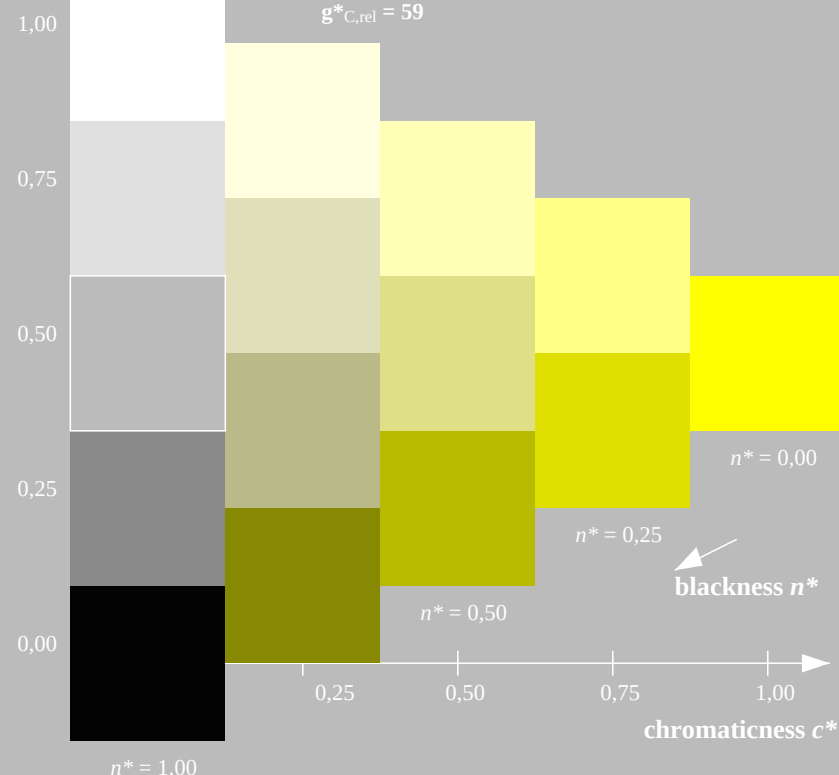
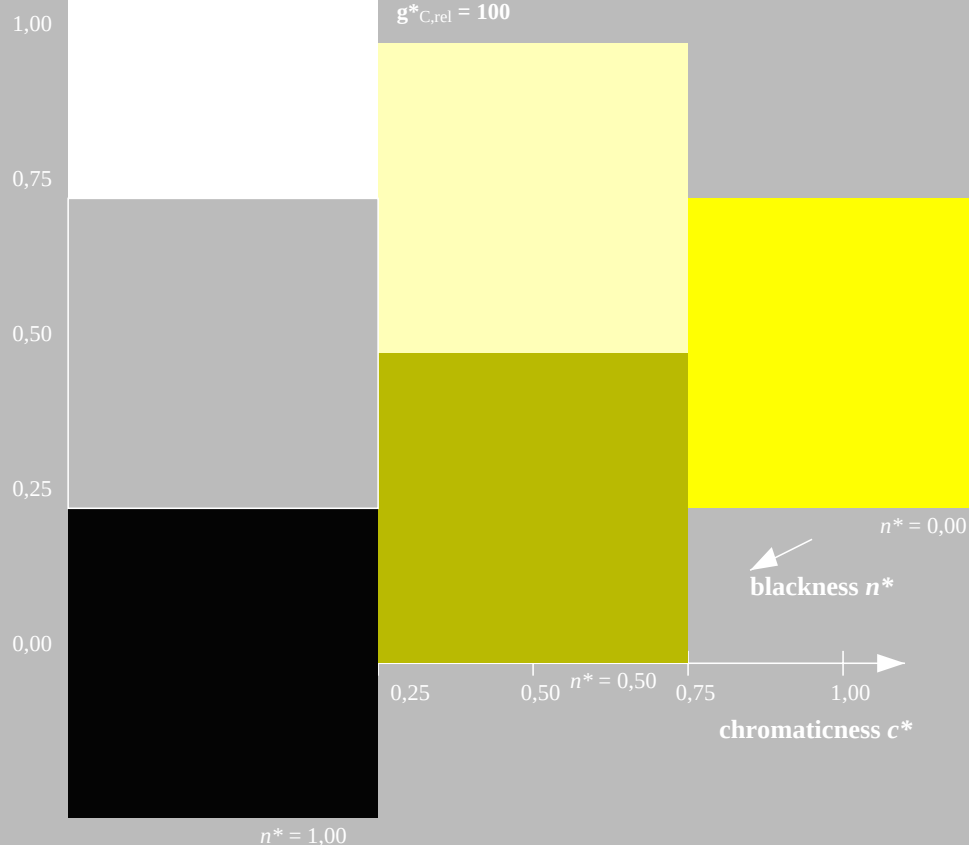
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

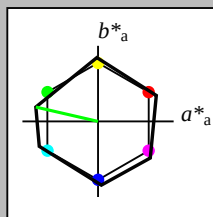
output:  $olv^* setrgbcolor / w^* setgray$



### Input: Colorimetric Reflective System NRS11

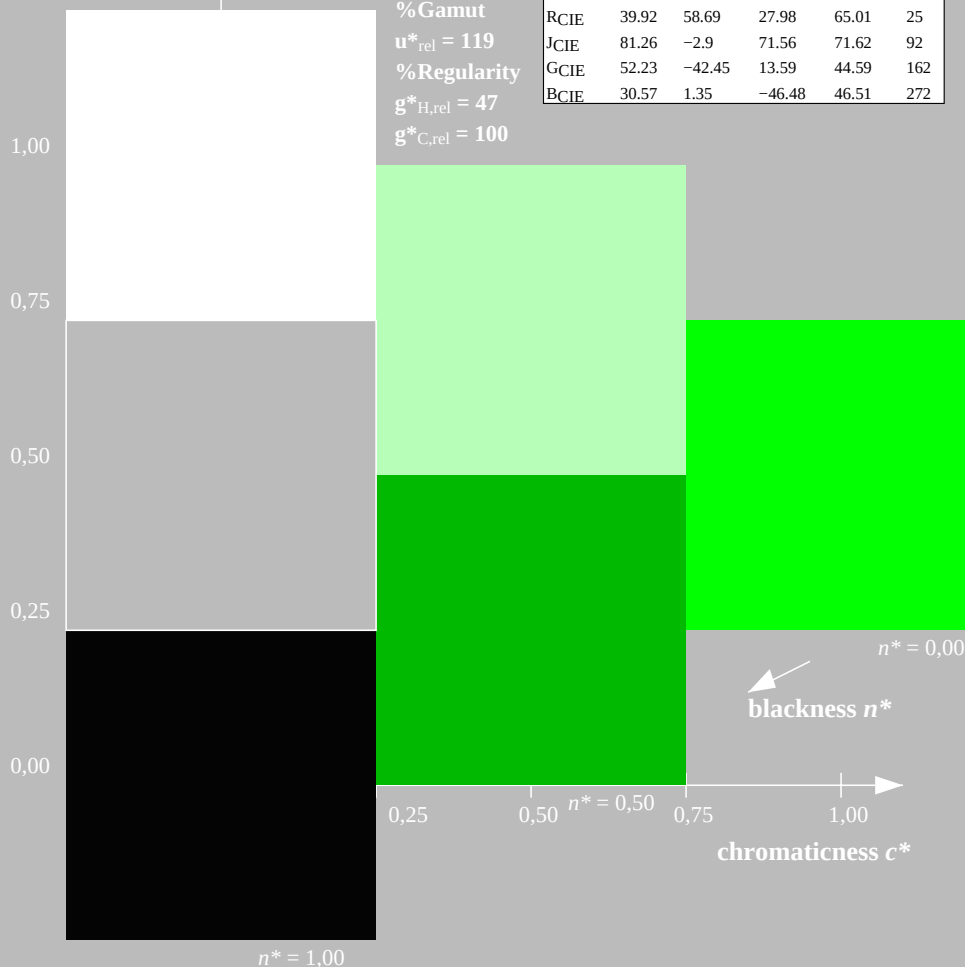
for hue  $h^* = lab^*h = 167/360 = 0.464$   
 $lab^*ich$  and  $lab^*nch$

D65: hue G  
LCH\*Ma: 53 84 167  
rgb\*Ma: 0.0 1.0 0.0  
triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa                            | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa                            | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa                         | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa                            | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa                         | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa                            | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

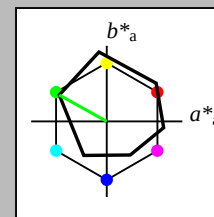


UE870-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

### Output: Colorimetric Reflective System ORS18

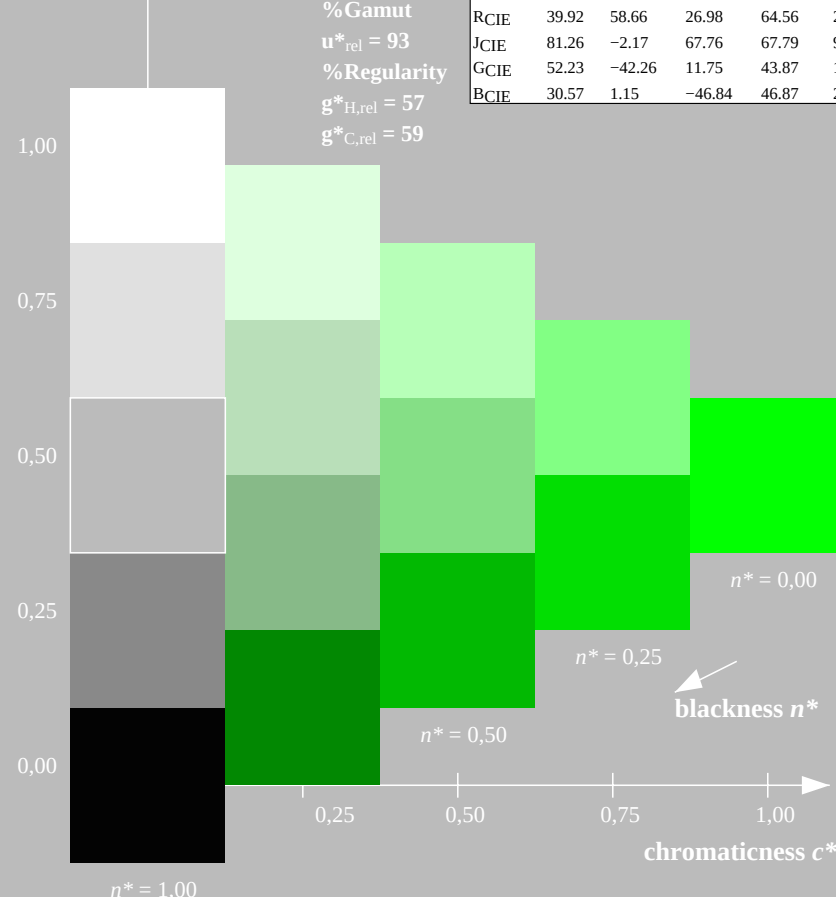
for hue  $h^* = lab^*h = 151/360 = 0.419$   
 $lab^*ich$  and  $lab^*nch$

D65: hue L  
LCH\*Ma: 51 72 151  
rgb\*Ma: 0.0 1.0 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          |



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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

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



Input: Colorimetric Reflective System NRS11

for hue  $h^* = lab^*h = 203/360 = 0.564$

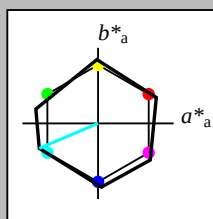
$lab^*ich$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 53 84 203

rgb\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Output: Colorimetric Reflective System ORS18

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

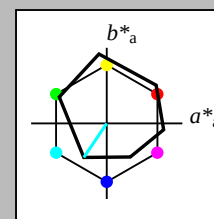
$lab^*ich$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

rgb\*Ma: 0.0 1.0 1.0

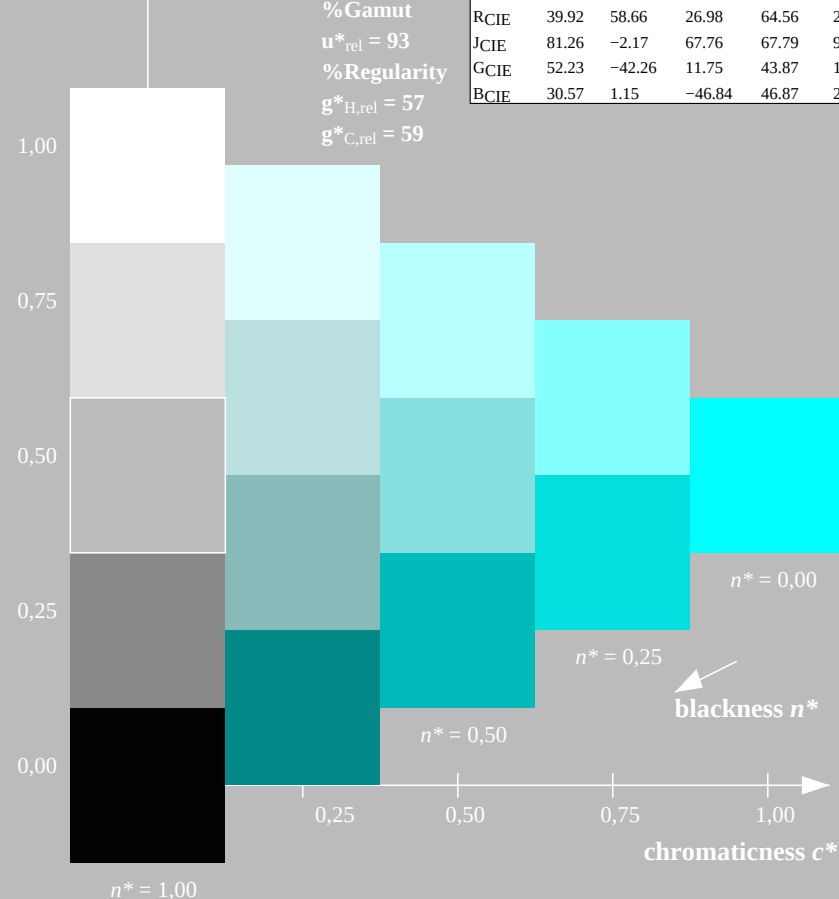
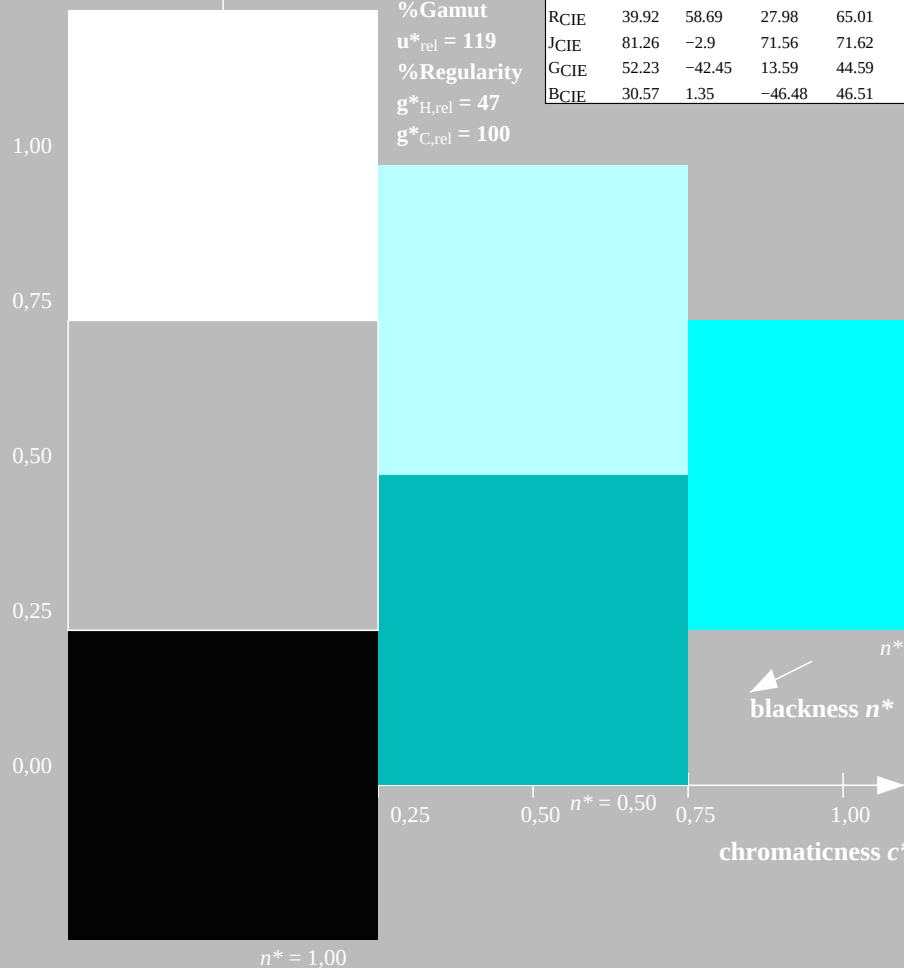
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

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

**Input: Colorimetric Reflective System NRS11**

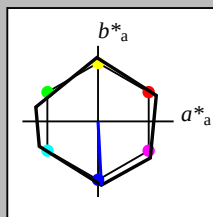
for hue  $h^* = lab^*h = 273/360 = 0.758$

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

**D65: hue B**

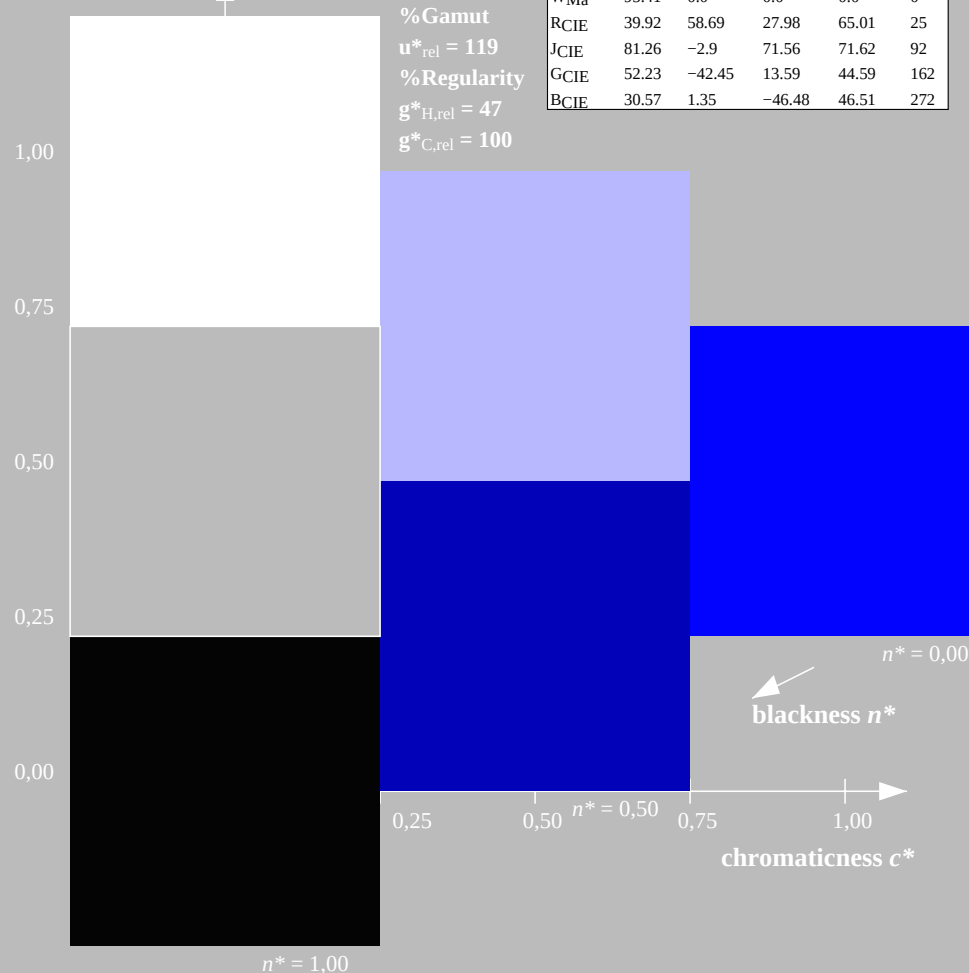
LCH\*Ma: 53 84 273

rgb\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$ 

NRS11; adapted (a) CIELAB data

|        | $L^*=L_a^* a_a^*$ | $b_a^*$ | $C_{ab,a}^*$ | $h_{ab,a}^*$ |     |
|--------|-------------------|---------|--------------|--------------|-----|
| RMa    | 53.2              | 77.06   | 34.32        | 84.36        | 24  |
| JMa    | 53.2              | -1.51   | 84.38        | 84.39        | 91  |
| GMa    | 53.2              | -82.27  | 18.98        | 84.44        | 167 |
| G50BMa | 53.2              | -77.72  | -32.98       | 84.44        | 203 |
| BMa    | 53.2              | 4.37    | -84.28       | 84.41        | 273 |
| B50RMa | 53.2              | 69.09   | -48.41       | 84.37        | 325 |
| NMa    | 10.99             | 0.0     | 0.0          | 0.0          | 0   |
| WMa    | 95.41             | 0.0     | 0.0          | 0.0          | 0   |
| RCIE   | 39.92             | 58.69   | 27.98        | 65.01        | 25  |
| JCIE   | 81.26             | -2.9    | 71.56        | 71.62        | 92  |
| GCIE   | 52.23             | -42.45  | 13.59        | 44.59        | 162 |
| BCIE   | 30.57             | 1.35    | -46.48       | 46.51        | 272 |



UE870-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

## D65: 3 and 5 step colour scales for 10 hues

### Output: Colorimetric Reflective System ORS18

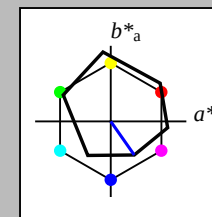
```
for hue  $h^* = lab^*h = 305/360 = 0.847$ 
```

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

D65: hue V

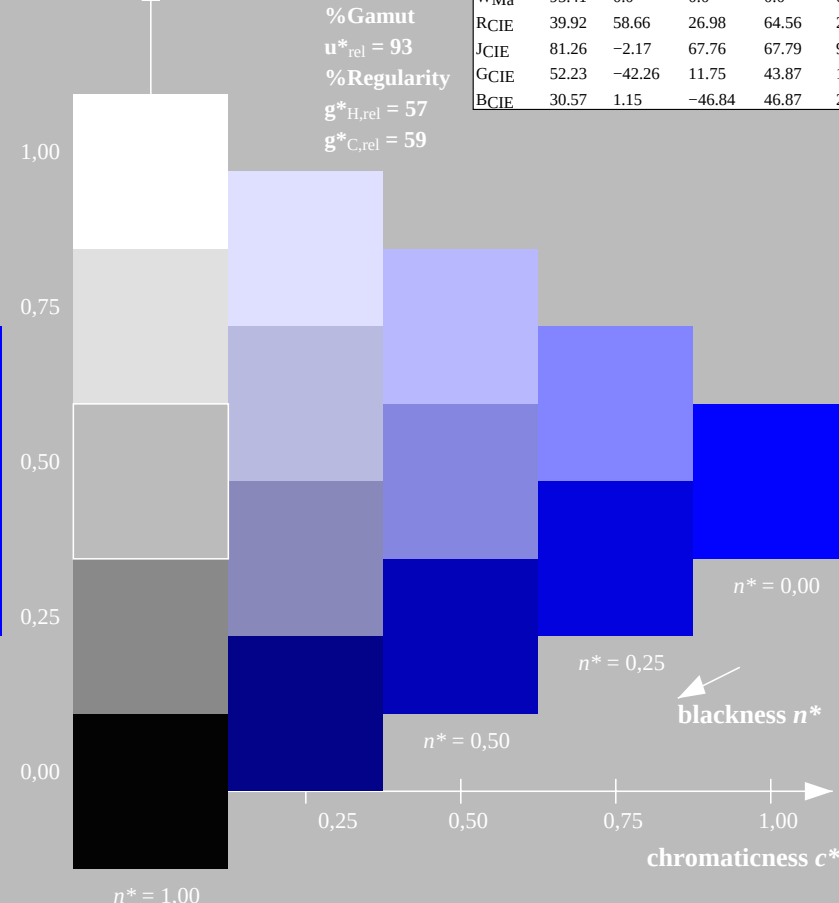
LCH\*Ma: 26 54 305

rgb\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$ 

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 305/360 = 0.847 (right)

```
input: cmy0* setcmykcolor
```

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

### Input: Colorimetric Reflective System NRS11

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

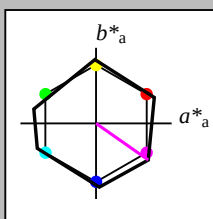
$lab^*ich$  and  $lab^*nch$

D65: hue B50R

LCH\*Ma: 53 84 325

rgb\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

### NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

### Output: Colorimetric Reflective System ORS18

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

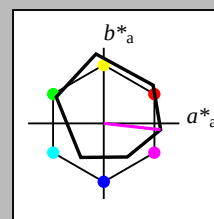
$lab^*ich$  and  $lab^*nch$

D65: hue M

LCH\*Ma: 48 76 354

rgb\*Ma: 1.0 0.0 1.0

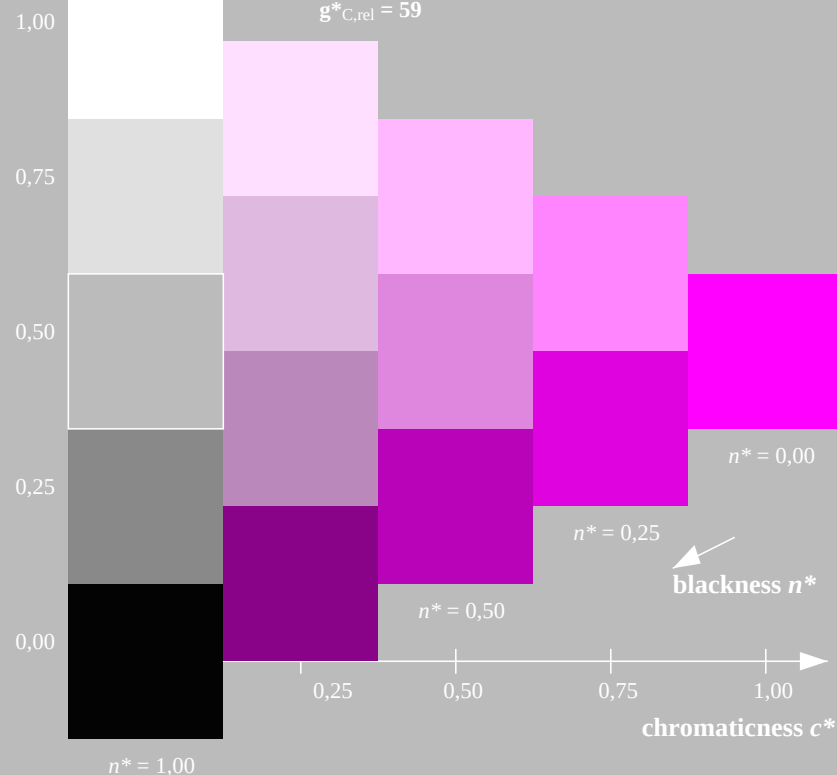
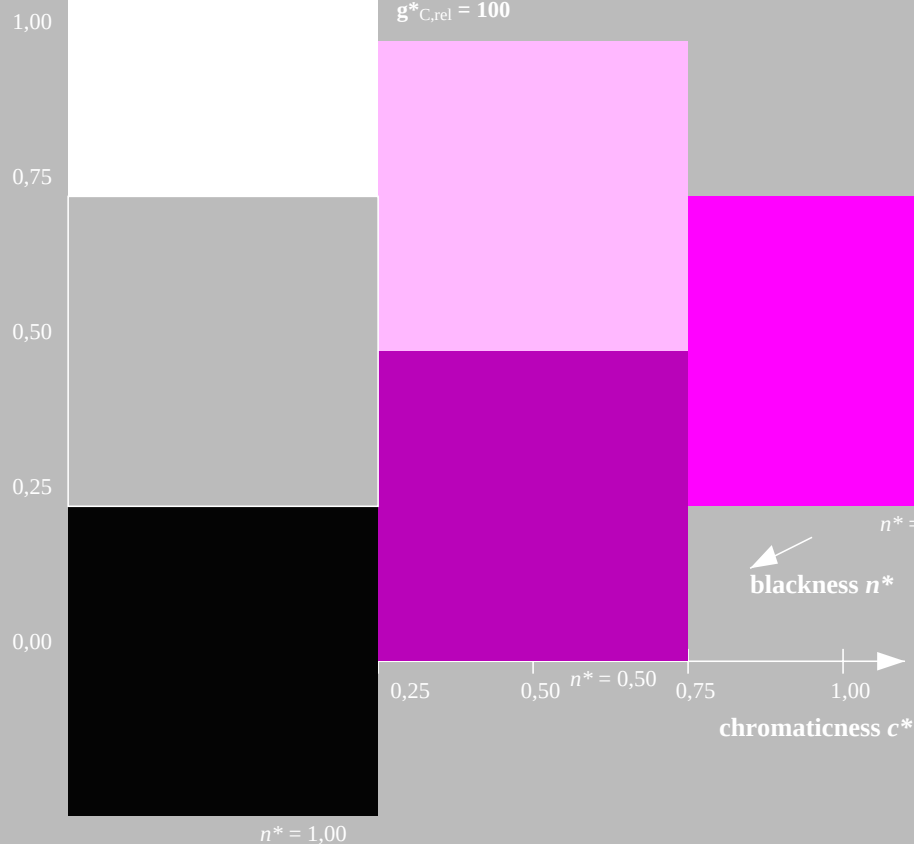
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

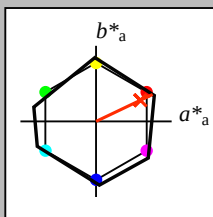
output:  $olv^* setrgbcolor / w^* setgray$



### Input: Colorimetric Reflective System NRS11

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

D65: hue R  
LCH\*Ma: 53 83 25  
rgb\*Ma: 1.0 0.03 0.0  
triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

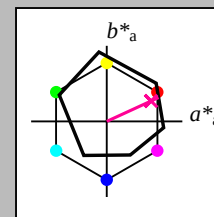
### NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

### Output: Colorimetric Reflective System ORS18

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

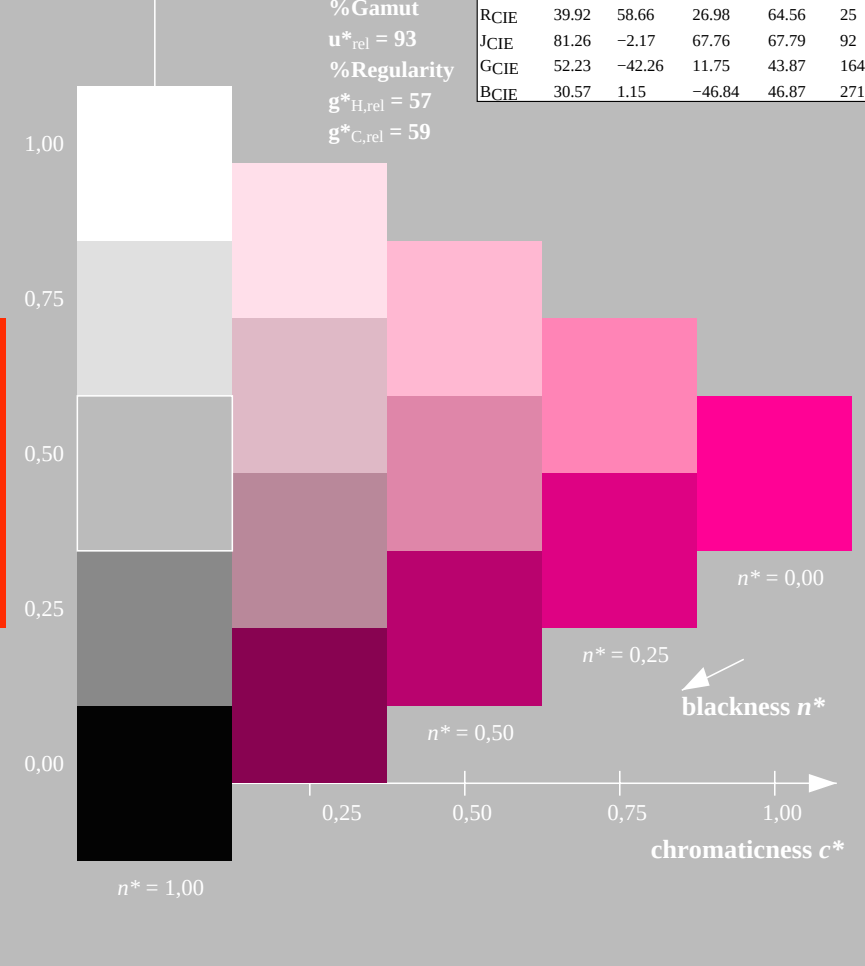
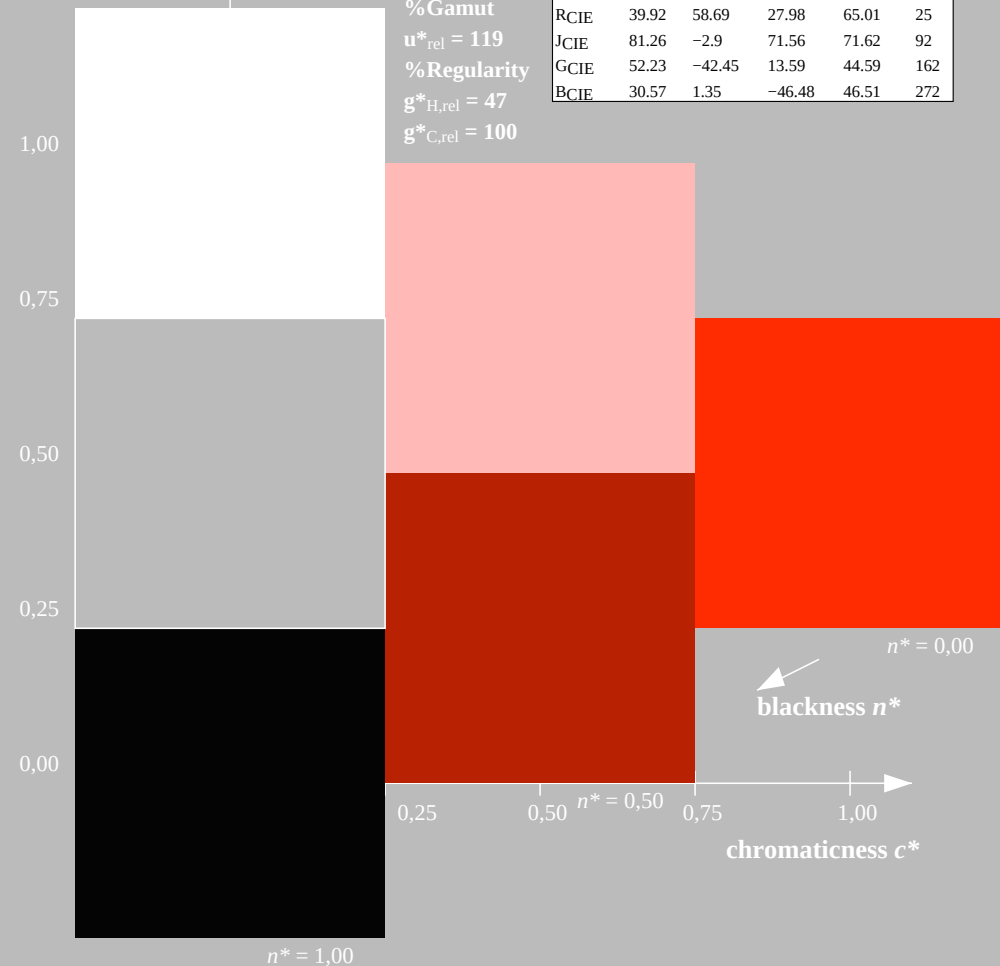
D65: hue R  
LCH\*Ma: 48 75 25  
rgb\*Ma: 1.0 0.0 0.32  
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

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





See for similar files: <http://www.ps.bam.de/UE87/>  
Technical information: <http://www.ps.bam.de> Version 2.1, io=0,1, CIEXYZ

### Input: Colorimetric Reflective System NRS11

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

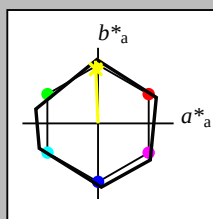
$lab^*ich$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 53 83 92

rgb\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

### NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

### Output: Colorimetric Reflective System ORS18

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

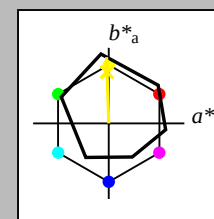
$lab^*ich$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

rgb\*Ma: 1.0 0.9 0.0

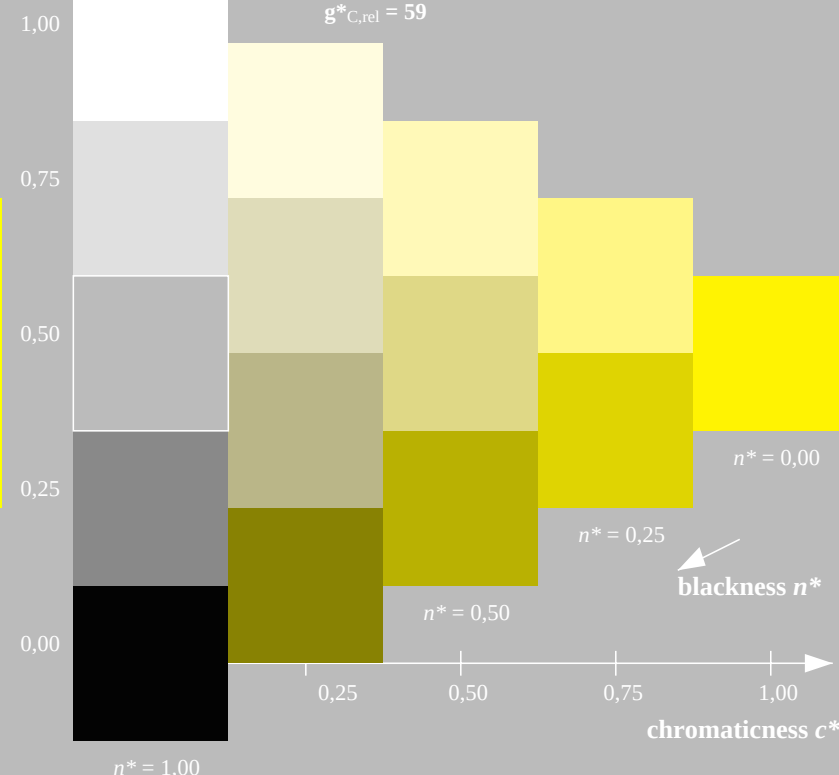
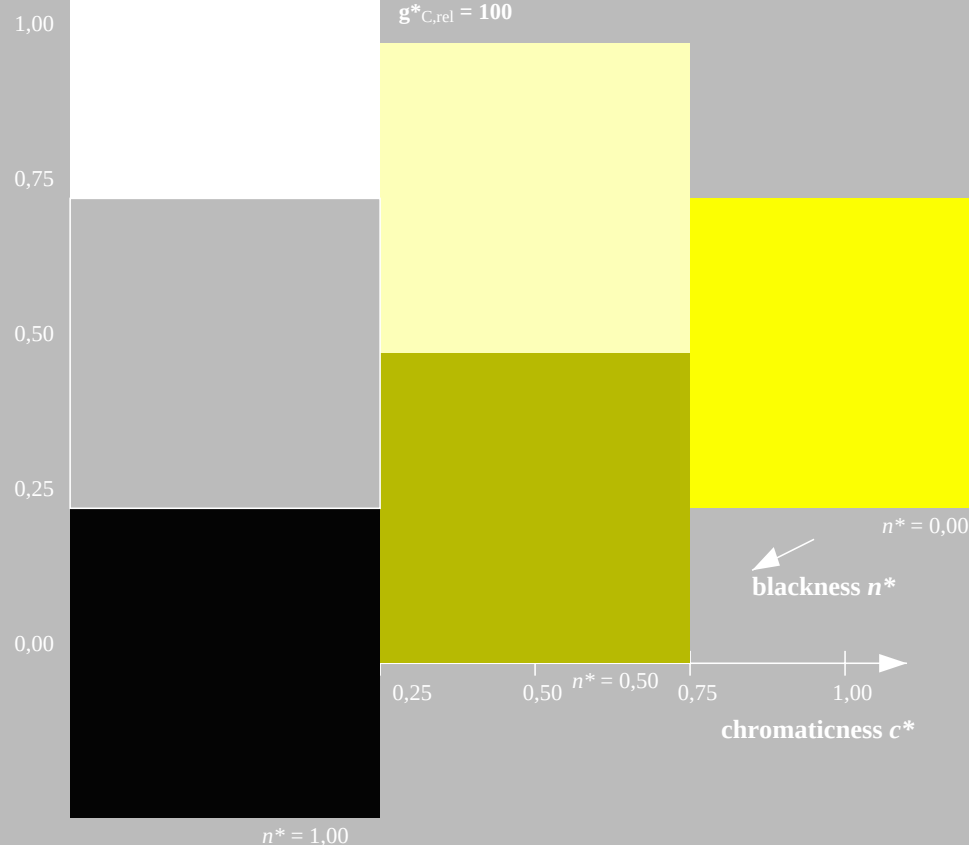
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

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





Input: Colorimetric Reflective System NRS11

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

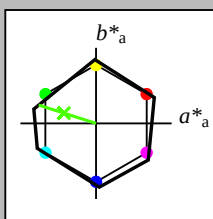
$lab^*ich$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 80 162

rgb\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Output: Colorimetric Reflective System ORS18

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

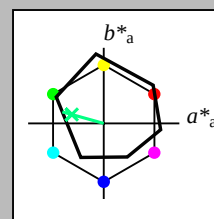
$lab^*ich$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

rgb\*Ma: 0.0 1.0 0.25

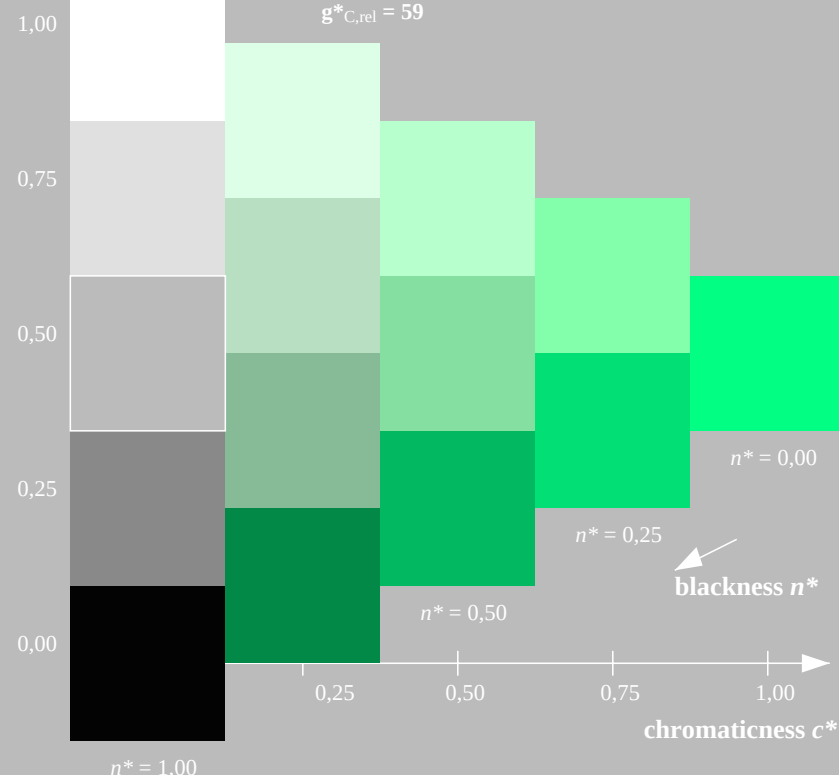
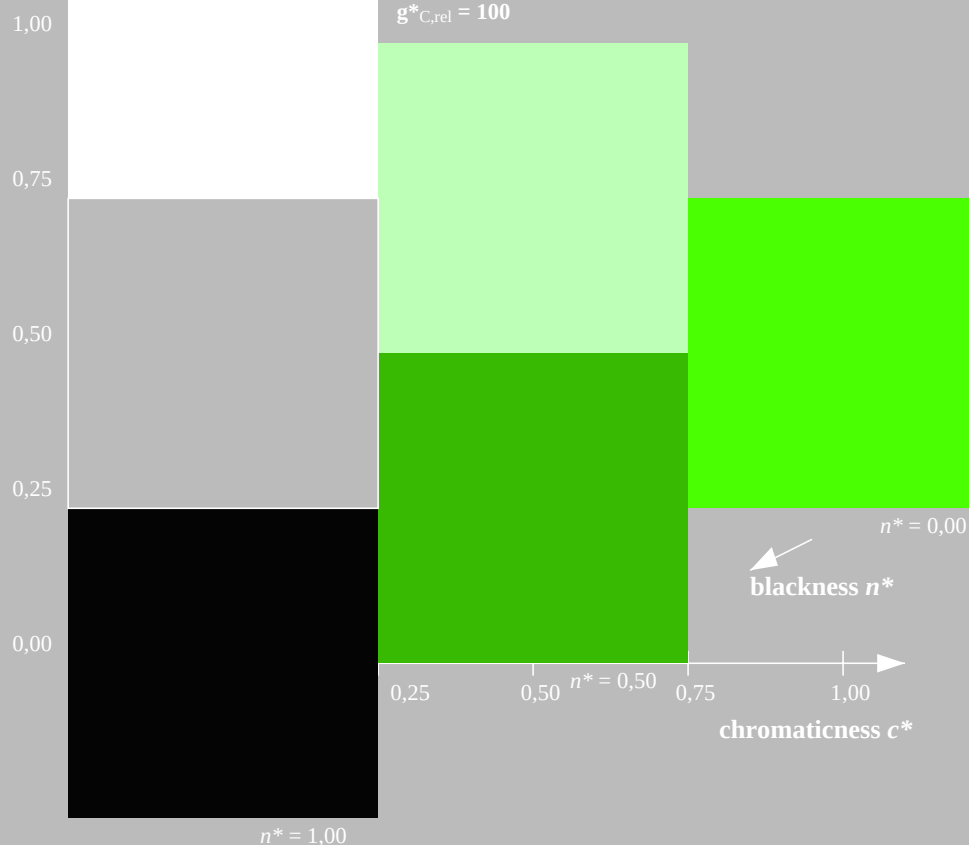
triangle lightness  $t^*$



%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          |



UE870-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

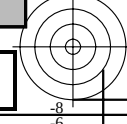
5 step scales for constant CIELAB hue 164/360 = 0.457 (right)

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $cmy0^* setcmykcolor$

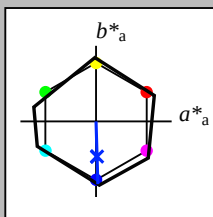
output:  $olv^* setrgbcolor / w^* setgray$



### Input: Colorimetric Reflective System NRS11

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

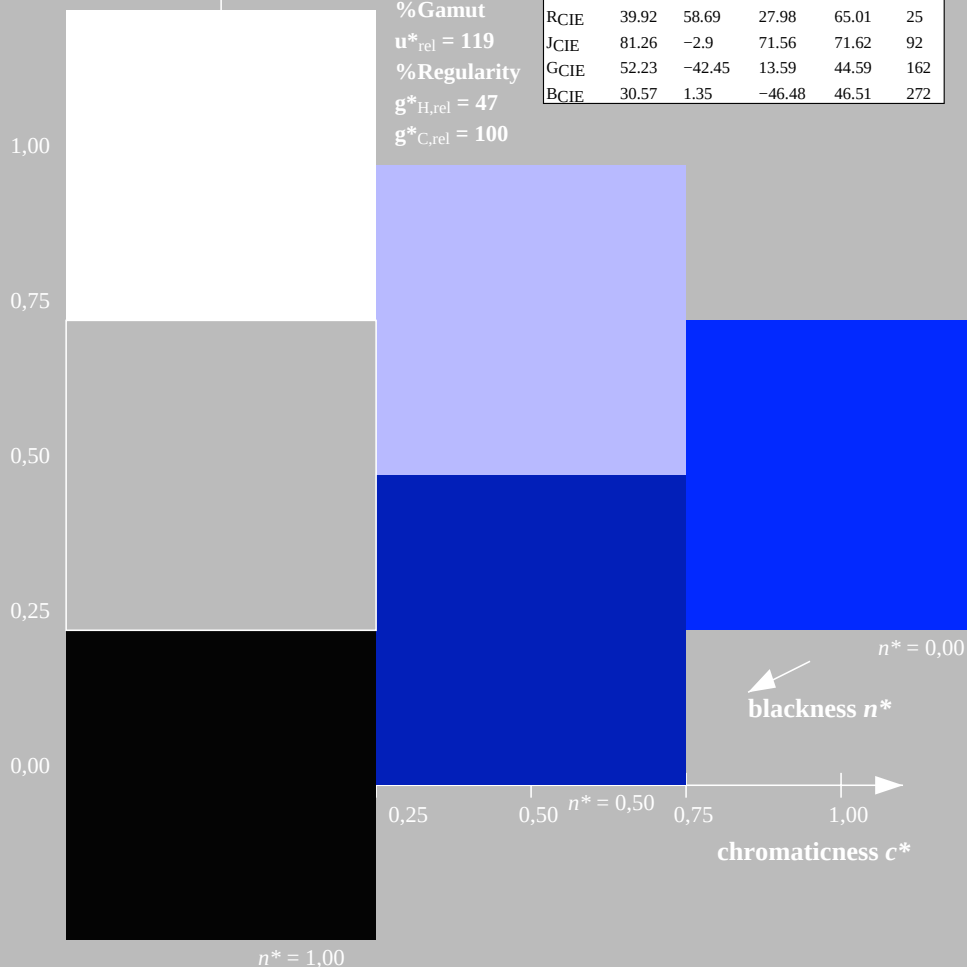
D65: hue B  
LCH\*Ma: 53 83 272  
rgb\*Ma: 0.0 0.02 1.0  
triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 119$   
%Regularity  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

### NRS11; adapted (a) CIELAB data

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 53.2        | 77.06   | 34.32   | 84.36        | 24           |
| JMa    | 53.2        | -1.51   | 84.38   | 84.39        | 91           |
| GMa    | 53.2        | -82.27  | 18.98   | 84.44        | 167          |
| G50BMa | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| BMa    | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50RMa | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |



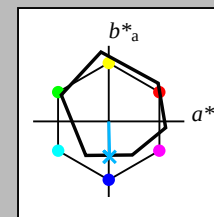
UE870-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

BAM-test chart UE87; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

### Output: Colorimetric Reflective System ORS18

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

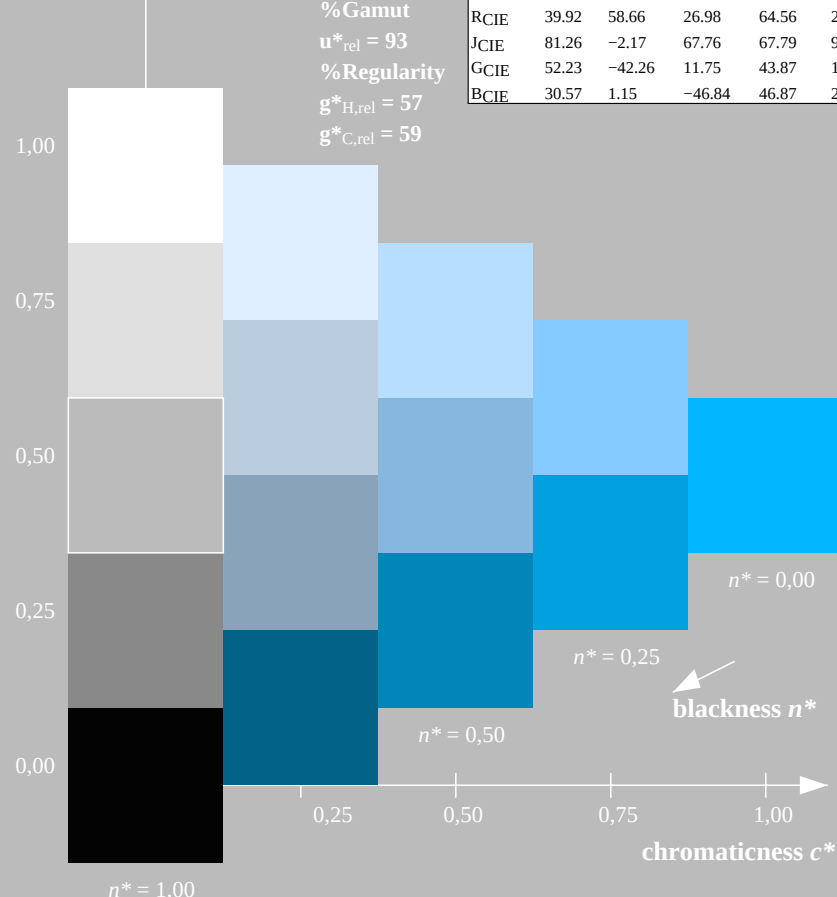
D65: hue B  
LCH\*Ma: 42 45 271  
rgb\*Ma: 0.0 0.49 1.0  
triangle lightness  $t^*$



%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          |



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

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

