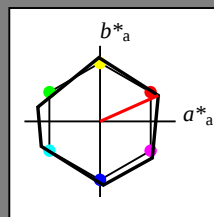


### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 24/360 = 0.067$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue R  
LCH\*Ma: 53 84 24  
rgb\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



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

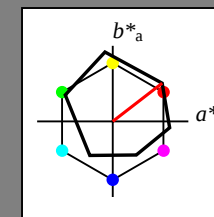
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 38/360 = 0.105$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

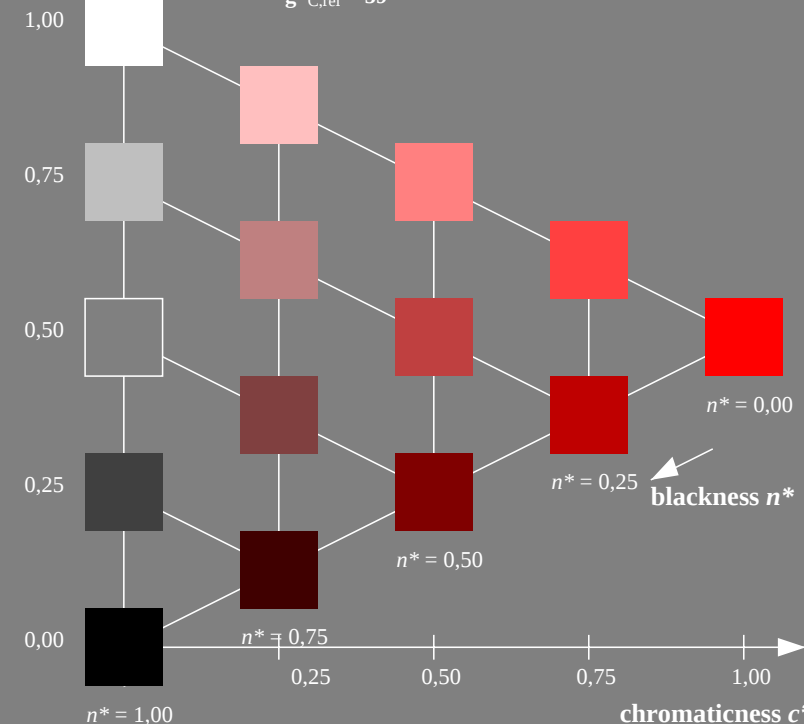
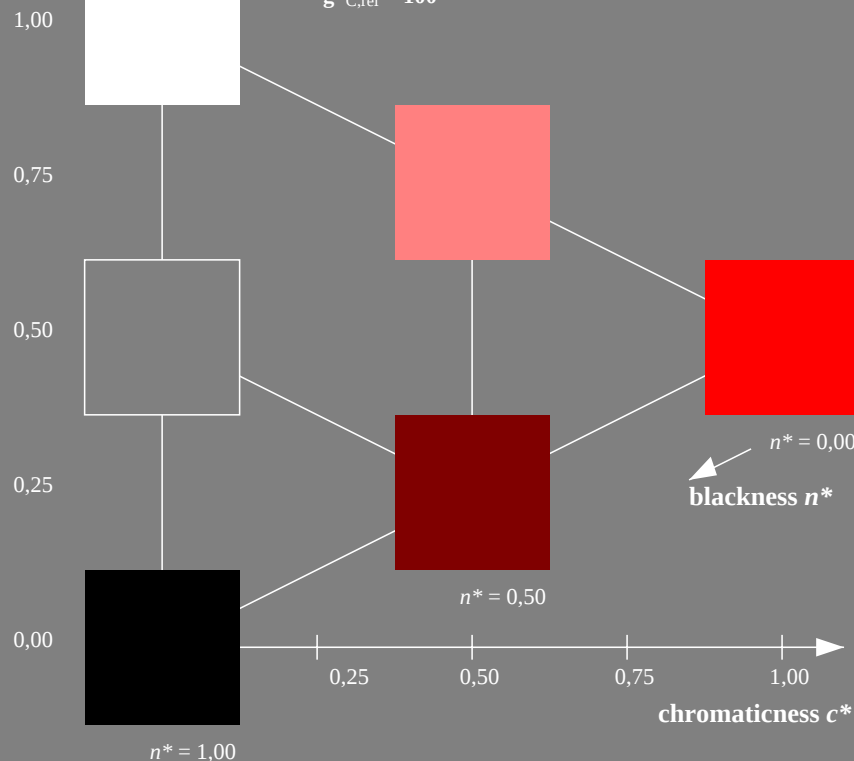
D65: hue O  
LCH\*Ma: 48 83 38  
rgb\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

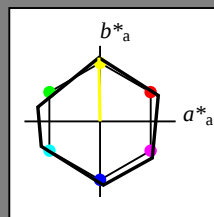
input:  $olv^* \text{ setrgbcolor}$   
output: no change compared to input

### 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  
 $g^*_{H,rel} = 47$   
 $g^*_{C,rel} = 100$

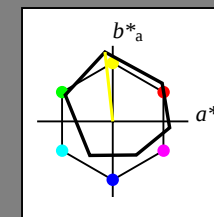
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $lab^*nch$

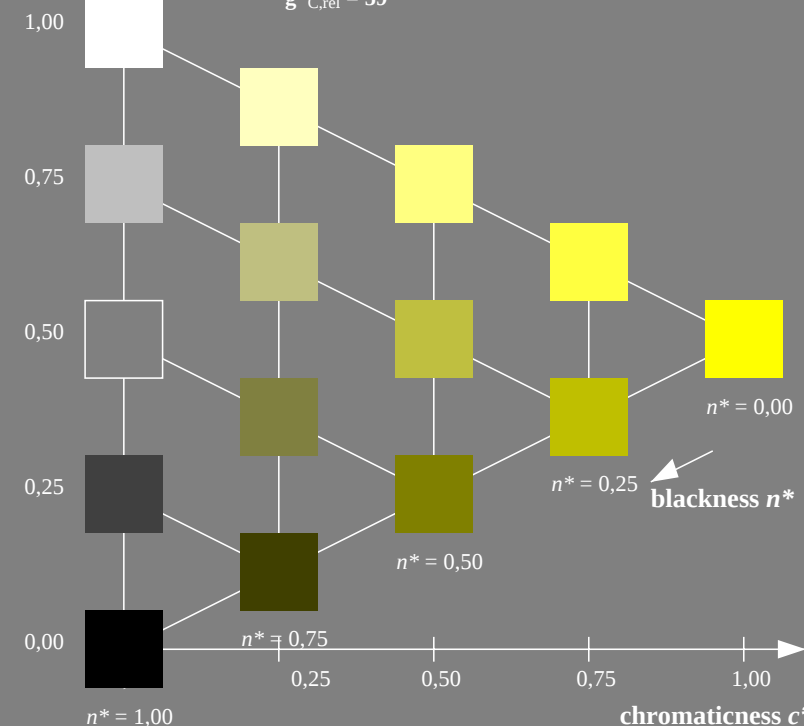
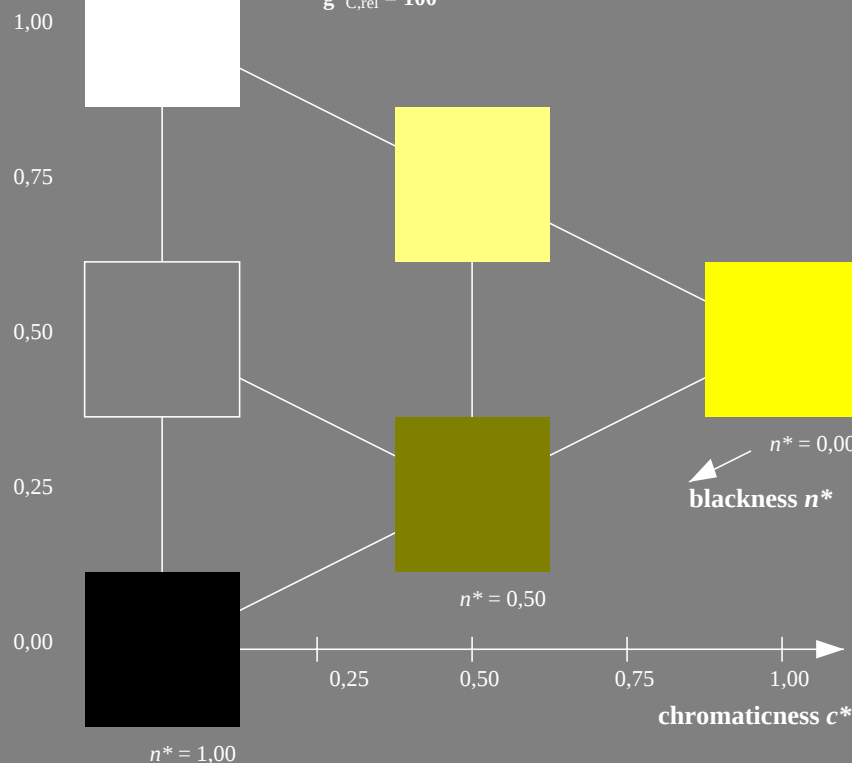
D65: hue Y  
LCH\*Ma: 90 92 96  
rgb\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 93$   
%Regularity  
 $g^*_{H,rel} = 57$   
 $g^*_{C,rel} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

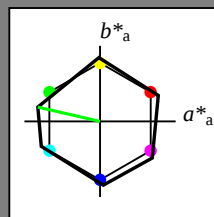
input:  $olv^* setrgbcolor$   
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 167/360 = 0.464$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue G  
LCH\*Ma: 53 84 167  
rgb\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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

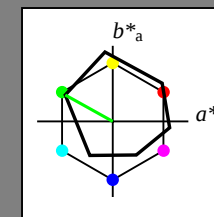
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 151/360 = 0.419$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

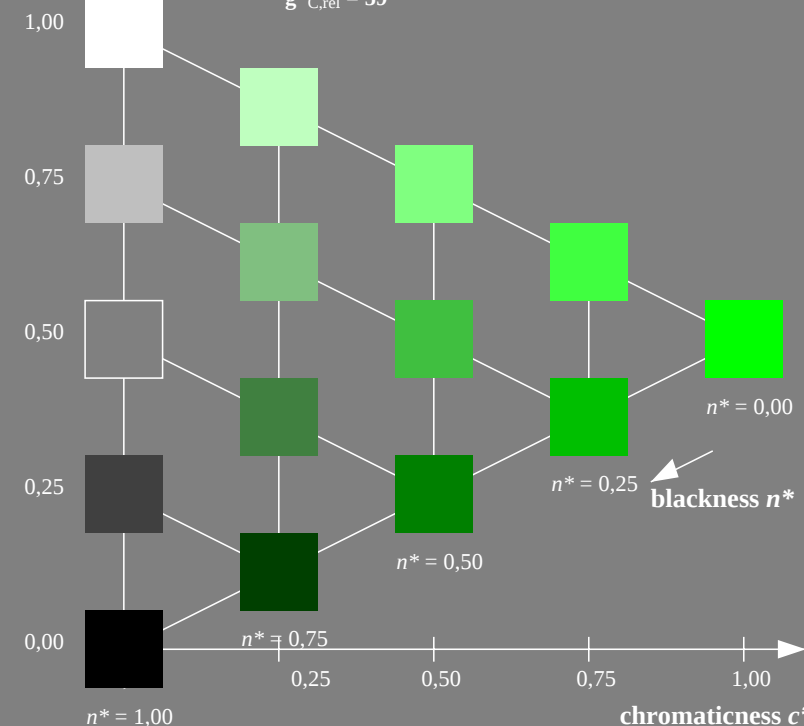
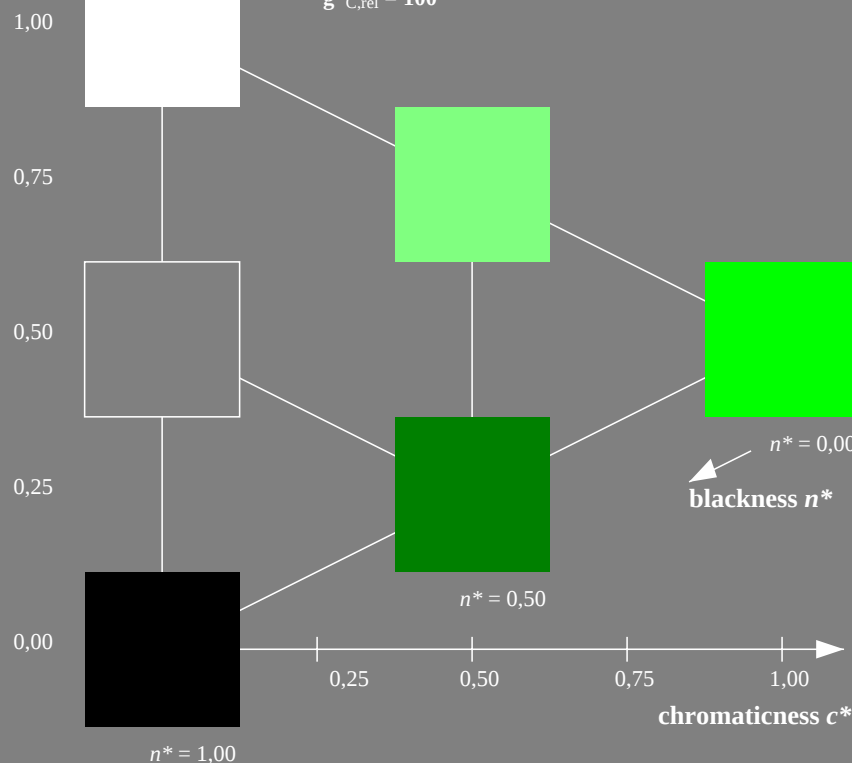
D65: hue L  
LCH\*Ma: 51 72 151  
rgb\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

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

BAM-test chart TE67; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $olv^* \text{ setrgbcolor}$

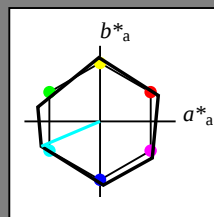
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 203/360 = 0.564$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue G50B  
LCH\*Ma: 53 84 203  
rgb\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



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

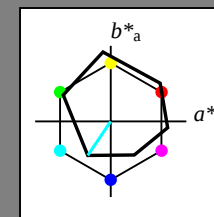
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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          |
| G50B <sub>Ma</sub>             | 53.2        | -77.72  | -32.98  | 84.44        | 203          |
| B <sub>Ma</sub>                | 53.2        | 4.37    | -84.28  | 84.41        | 273          |
| B50R <sub>Ma</sub>             | 53.2        | 69.09   | -48.41  | 84.37        | 325          |
| N <sub>Ma</sub>                | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

### Output: Colorimetric Reflective System ORS18

for hue  $h^* = \text{lab}^*h = 236/360 = 0.656$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue C  
LCH\*Ma: 59 54 236  
rgb\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50B <sub>Ma</sub>             | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| B <sub>Ma</sub>                | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50R <sub>Ma</sub>             | 48.13       | 75.27   | -8.35   | 75.73        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.66   | 26.98   | 64.56        | 25           |
| JCIE                           | 81.26       | -2.17   | 67.76   | 67.79        | 92           |
| GCIE                           | 52.23       | -42.26  | 11.75   | 43.87        | 164          |
| BCIE                           | 30.57       | 1.15    | -46.84  | 46.87        | 271          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,00$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

chromaticness  $c^*$

blackness  $n^*$

TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $olv^* \text{ setrgbcolor}$

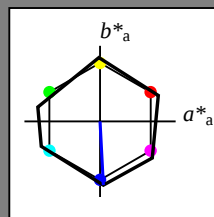
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 273/360 = 0.758$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue B  
LCH\*Ma: 53 84 273  
rgb\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



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

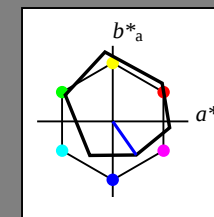
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 305/360 = 0.847$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue V  
LCH\*Ma: 26 54 305  
rgb\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

TE670-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

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

BAM-test chart TE67; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $olv^* \text{ setrgbcolor}$

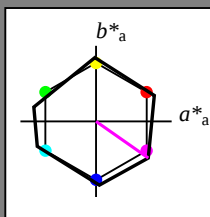
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 325/360 = 0.903$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue B50R  
LCH\*Ma: 53 84 325  
rgb\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



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

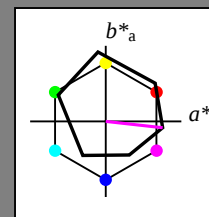
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 354/360 = 0.982$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue M  
LCH\*Ma: 48 76 354  
rgb\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

TE670-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)



BAM-test chart TE67; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

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

input:  $olv^* \text{ setrgbcolor}$

output: no change compared to input

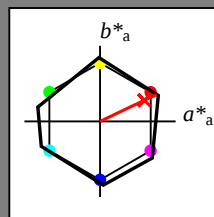


### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 25/360 = 0.071$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue R  
LCH\*Ma: 53 83 25  
rgb\*Ma: 1.0 0.03 0.0

triangle lightness  $t^*$



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

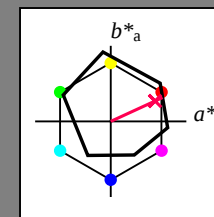
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 25/360 = 0.069$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

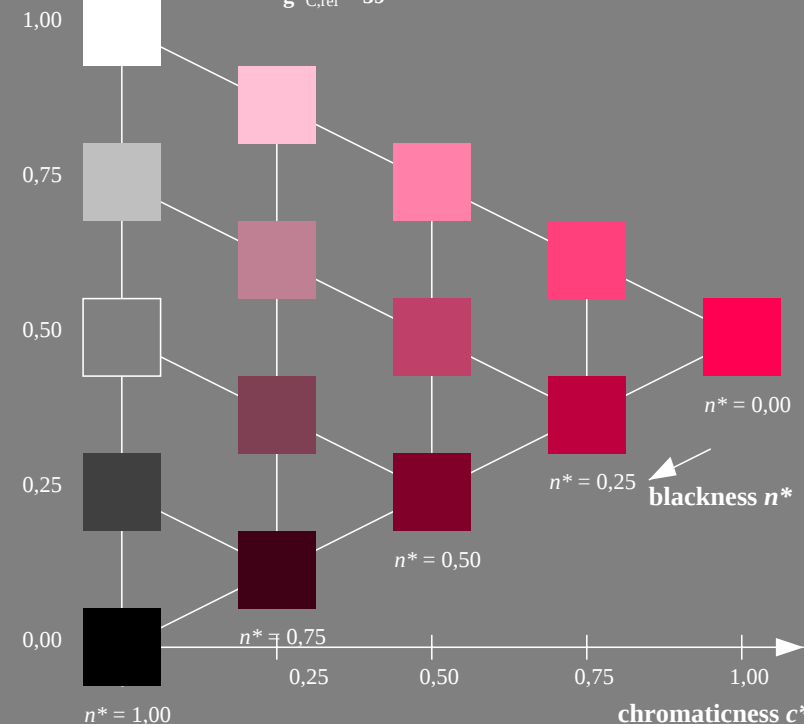
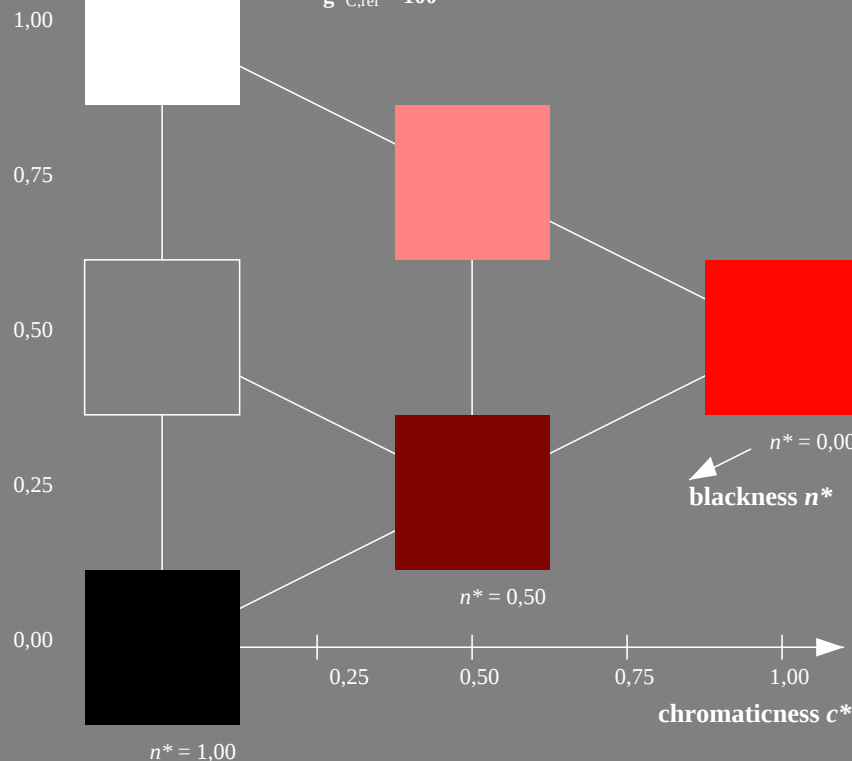
D65: hue R  
LCH\*Ma: 48 75 25  
rgb\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

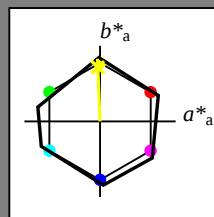
input:  $olv^* \text{ setrgbcolor}$   
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 92/360 = 0.256$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue J  
LCH\*Ma: 53 83 92  
rgb\*Ma: 0.98 1.0 0.0

triangle lightness  $t^*$



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

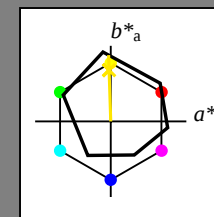
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 92/360 = 0.255$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

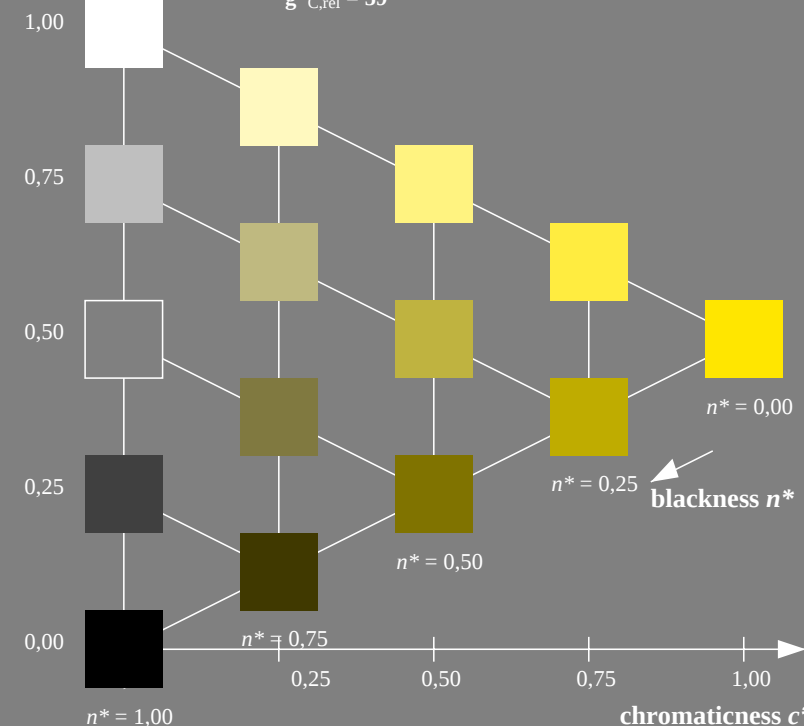
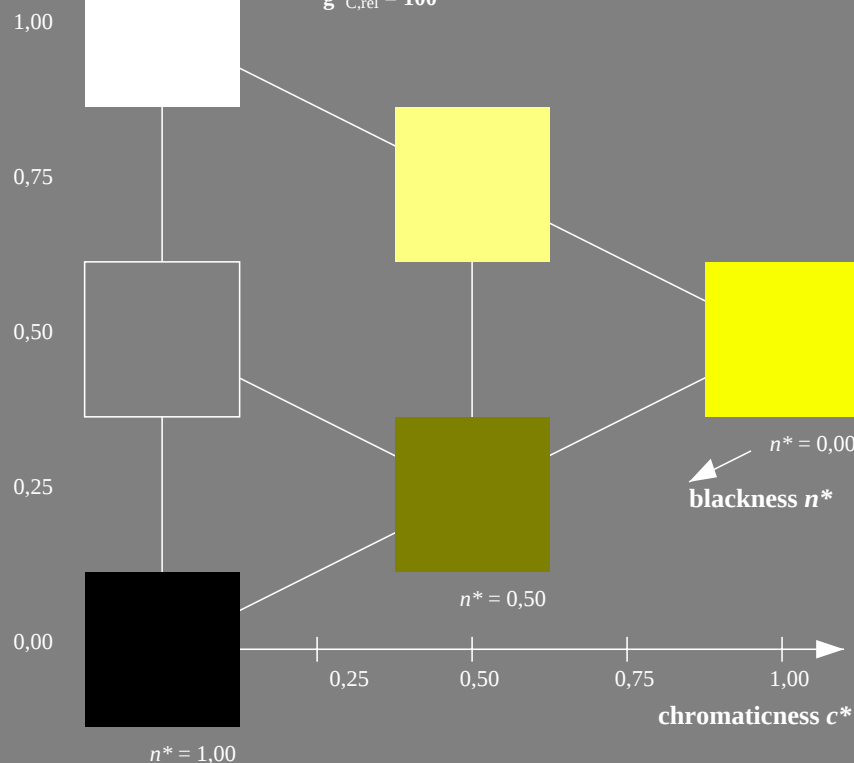
D65: hue J  
LCH\*Ma: 86 88 92  
rgb\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

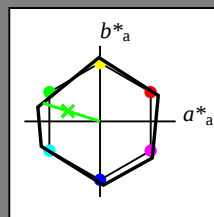
input:  $olv^* \text{ setrgbcolor}$   
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 162/360 = 0.451$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue G  
LCH\*Ma: 53 80 162  
rgb\*Ma: 0.08 1.0 0.0

triangle lightness  $t^*$



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

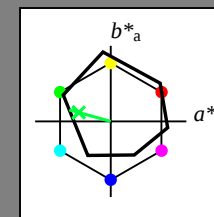
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 164/360 = 0.457$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

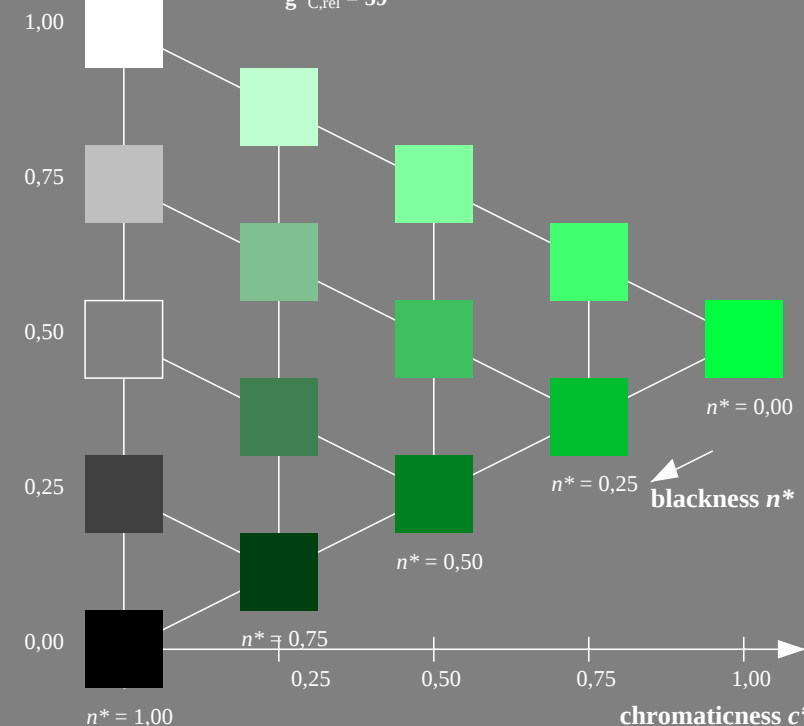
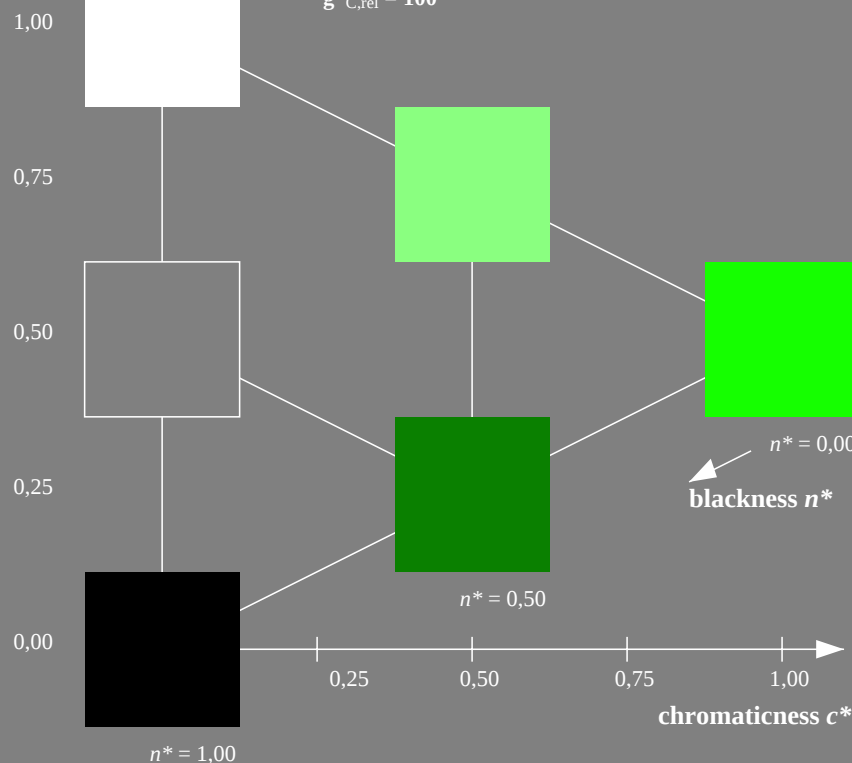
D65: hue G  
LCH\*Ma: 53 57 164  
rgb\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 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 TE67; Colorimetric systems NRS11 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

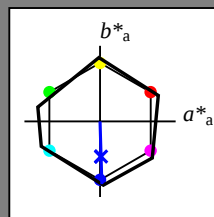
input:  $olv^* \text{ setrgbcolor}$   
output: no change compared to input

### Input: Colorimetric Reflective System NRS11

for hue  $h^* = \text{lab}^*h = 272/360 = 0.755$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue B  
LCH\*Ma: 53 83 272  
rgb\*Ma: 0.0 0.02 1.0

triangle lightness  $t^*$



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

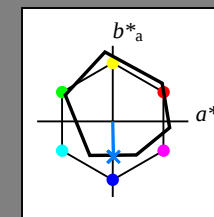
| NRS11; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 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  $h^* = \text{lab}^*h = 271/360 = 0.754$   
 $\text{lab}^*ich$  and  $\text{lab}^*nch$

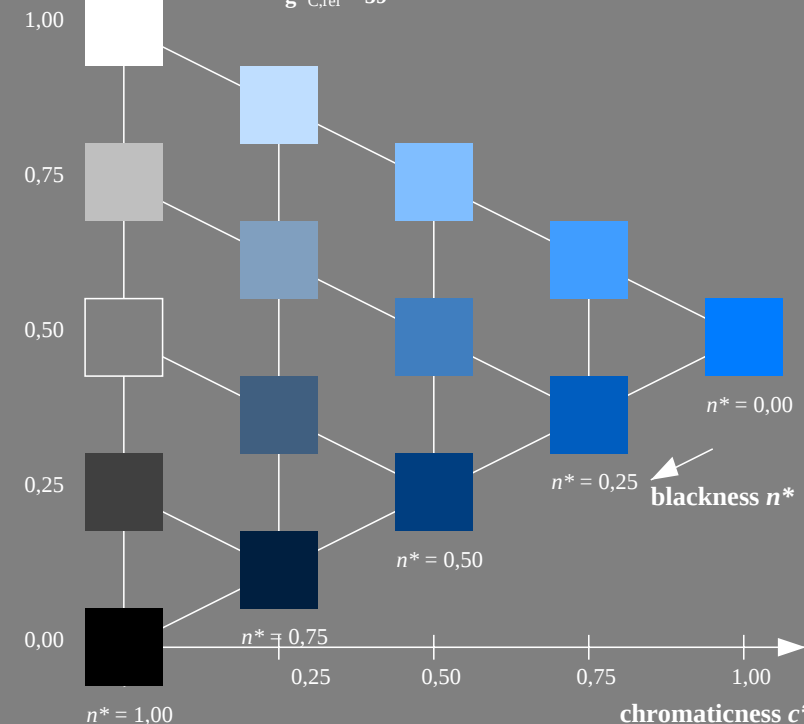
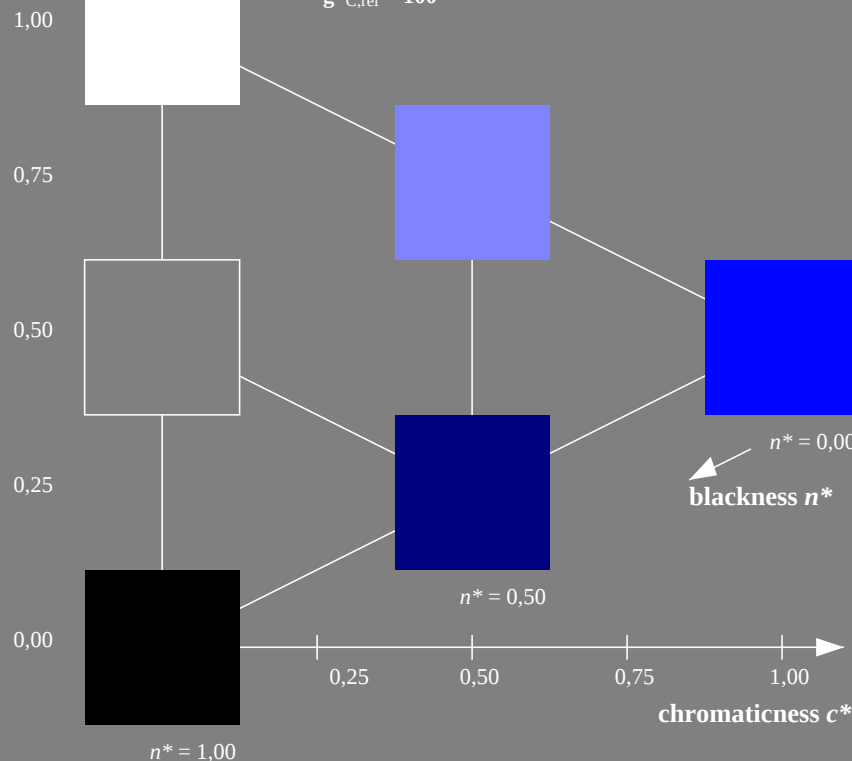
D65: hue B  
LCH\*Ma: 42 45 271  
rgb\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{\text{rel}} = 93$   
%Regularity  
 $g^*_{H,\text{rel}} = 57$   
 $g^*_{C,\text{rel}} = 59$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.94       | 65.37   | 50.52   | 82.62        | 38           |
| JMa                            | 90.37       | -10.27  | 91.77   | 92.34        | 96           |
| GMa                            | 50.9        | -62.79  | 34.95   | 71.87        | 151          |
| G50BMa                         | 58.62       | -30.35  | -45.01  | 54.3         | 236          |
| BMa                            | 25.71       | 31.11   | -44.42  | 54.24        | 305          |
| B50RMa                         | 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          |



TE670-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

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

BAM-test chart TE67; Colorimetric systems NRS11 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input:  $olv^* \text{ setrgbcolor}$

output: no change compared to input