

Input: Colorimetric Reflective System NCS11

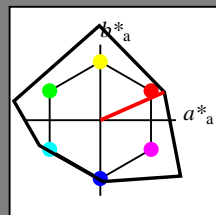
for hue $h^* = lab^*h = 24/360 = 0.066$

LAB*LCH, LAB*NCH

D65: hue R

LCH*Ma: 47 92 24

olv*Ma: 1.0 0.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

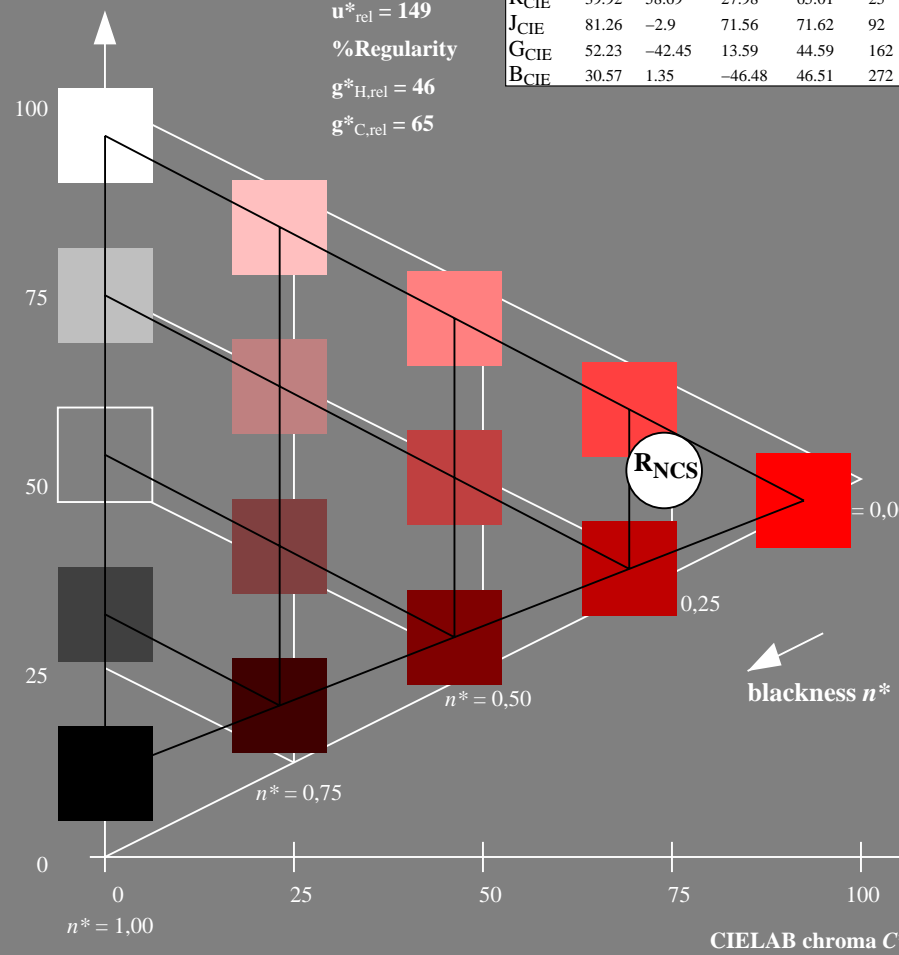
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

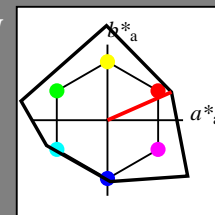
for hue $h^* = lab^*h = 24/360 = 0.066$

LAB*LCH, LAB*NCH

D65: hue R

LCH*Ma: 47 92 24

olv*Ma: 1.0 0.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

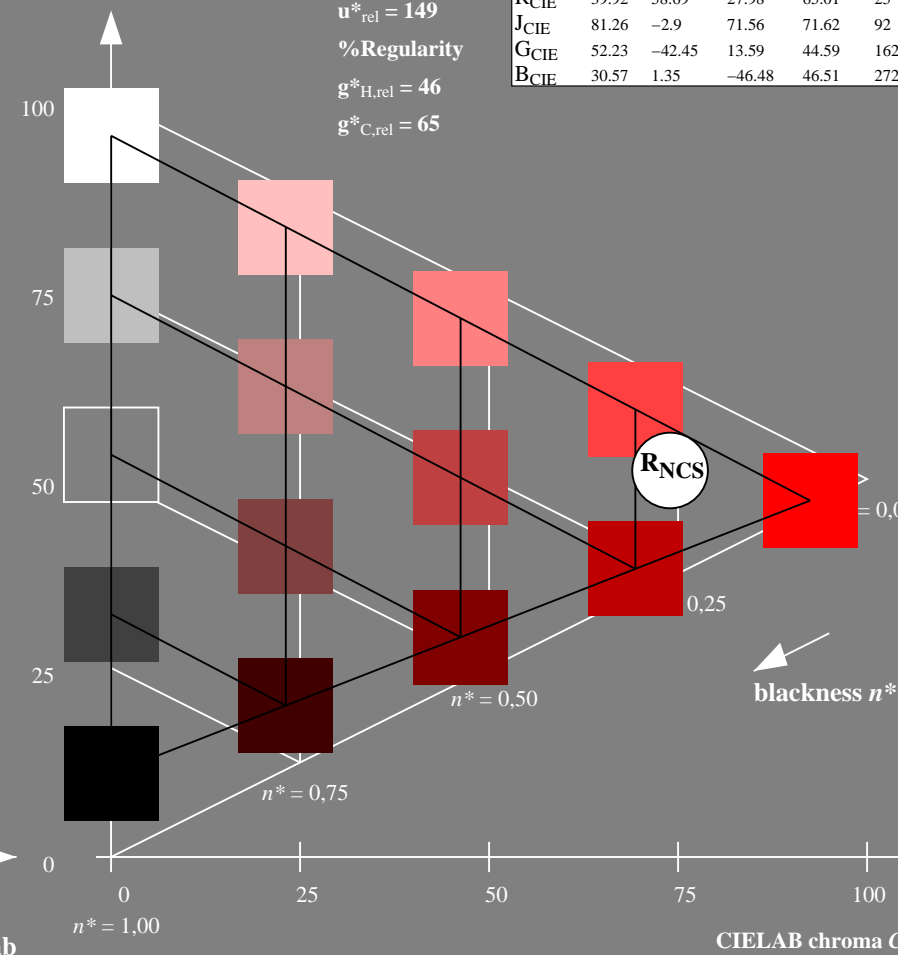
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 24/360 = 0.066 (left)

5 step scales for constant CIELAB hue 24/360 = 0.066 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: $olv^* setrgbcolor$

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

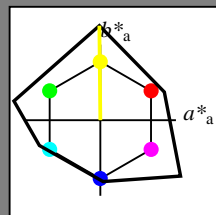
for hue $h^* = lab^*h = 91/360 = 0.252$

LAB*LCH, LAB*NCH

D65: hue J

LCH*Ma: 91 125 91

olv*Ma: 1.0 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

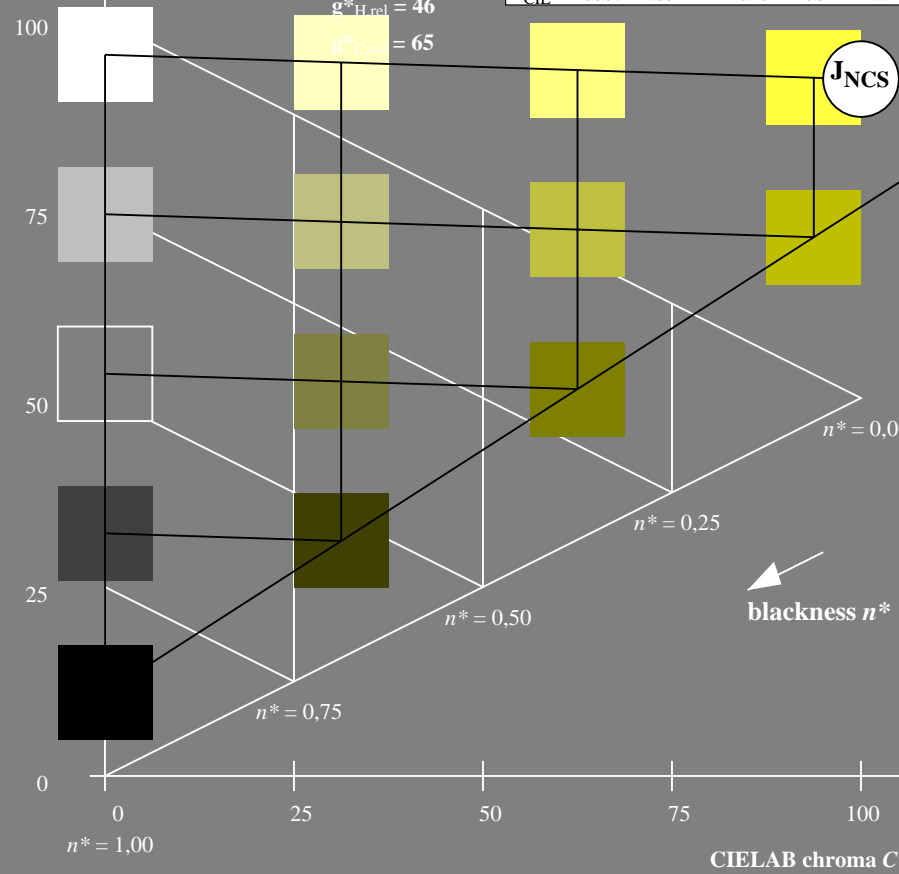
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

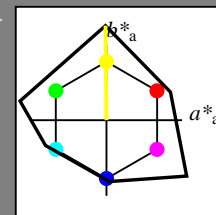
for hue $h^* = lab^*h = 91/360 = 0.252$

LAB*LCH, LAB*NCH

D65: hue J

LCH*Ma: 91 125 91

olv*Ma: 1.0 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

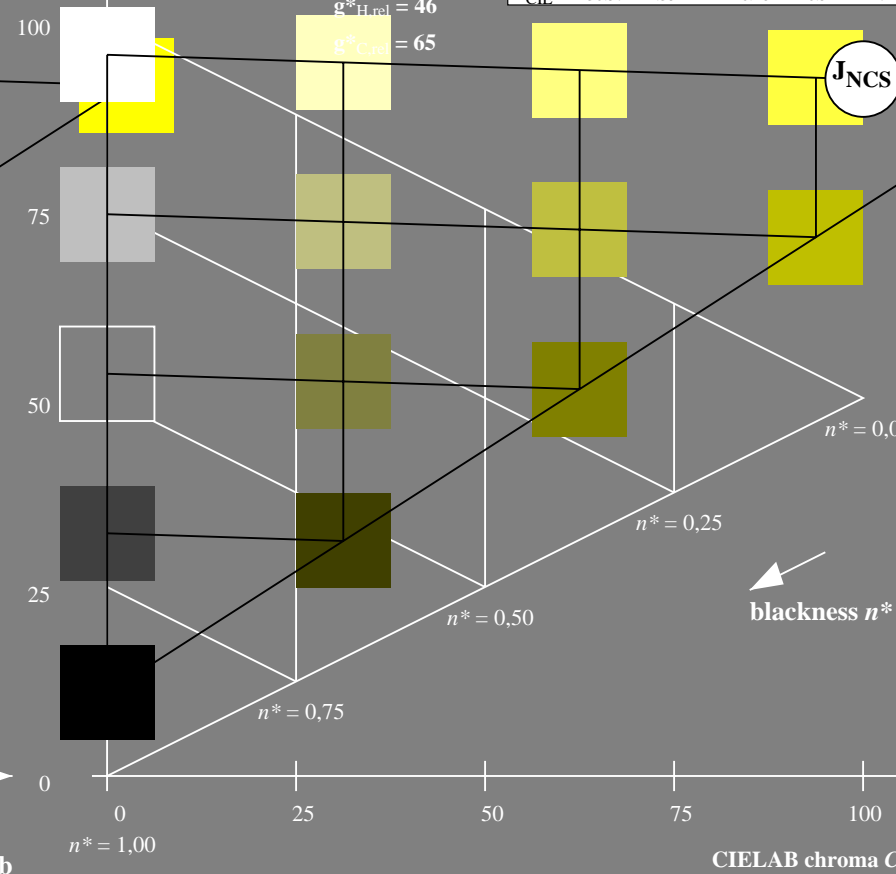
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 91/360 = 0.252 (left)

5 step scales for constant CIELAB hue 91/360 = 0.252 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

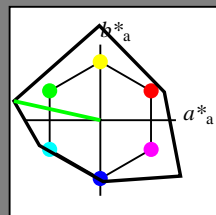
for hue $h^* = lab^*h = 167/360 = 0.465$

LAB*LCH, LAB*NCH

D65: hue G

LCH*Ma: 63 117 167

olv*Ma: 0.0 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

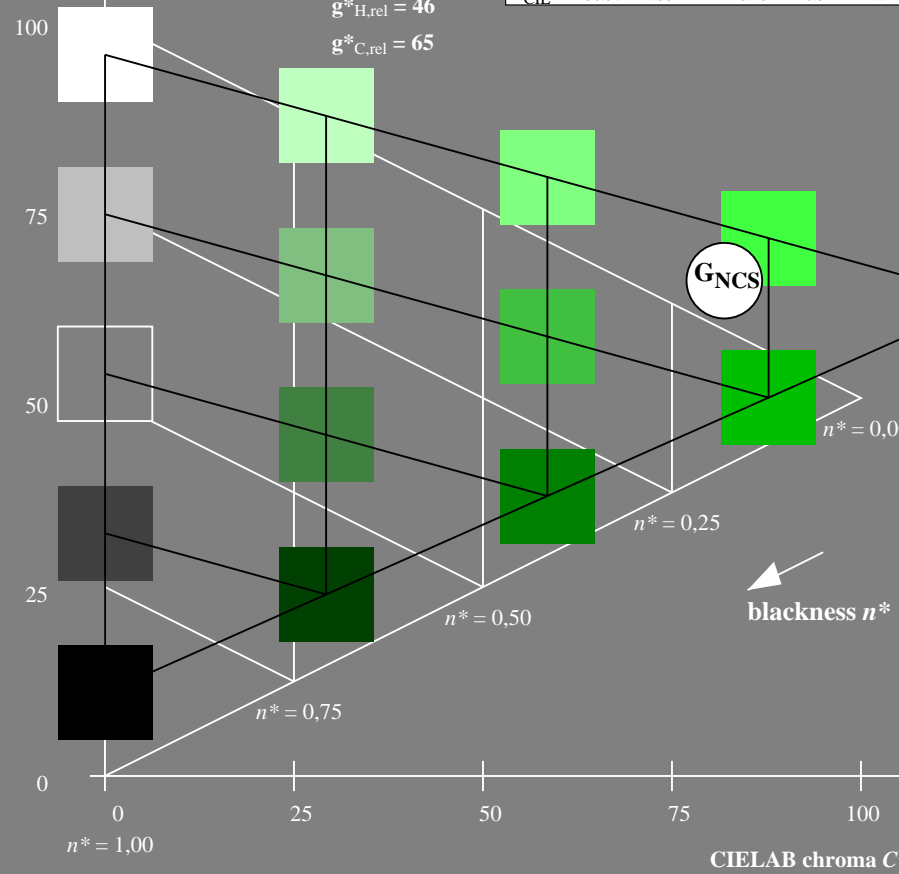
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

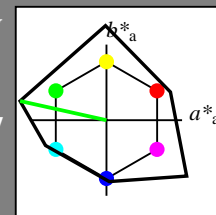
for hue $h^* = lab^*h = 167/360 = 0.465$

LAB*LCH, LAB*NCH

D65: hue G

LCH*Ma: 63 117 167

olv*Ma: 0.0 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

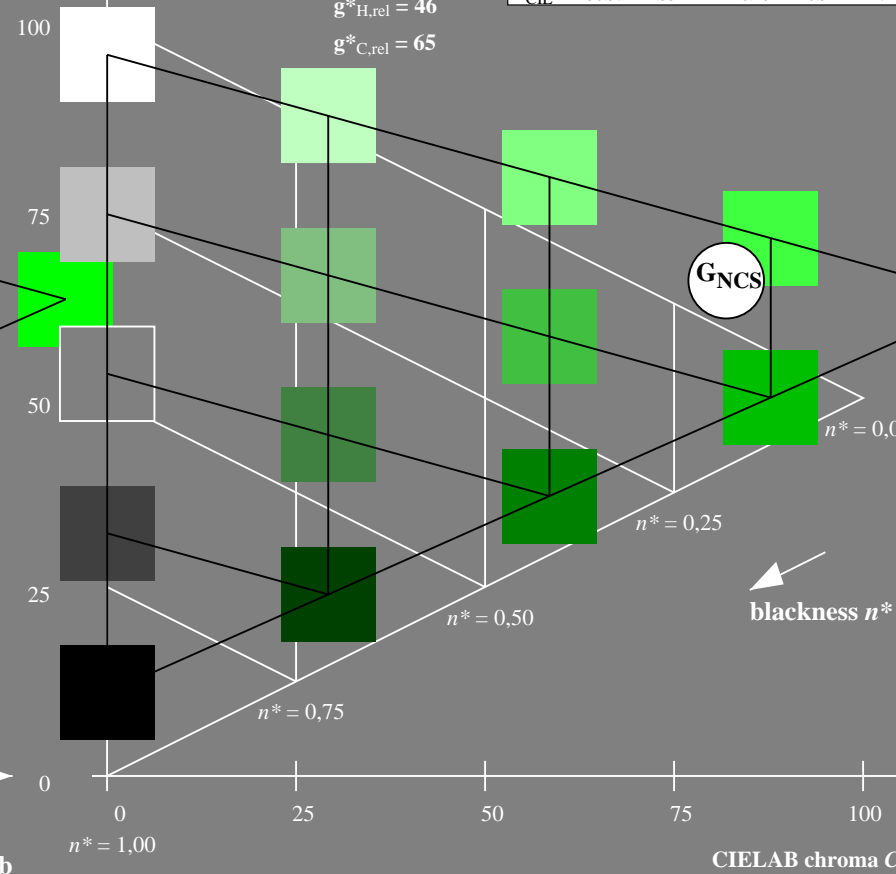
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 167/360 = 0.465 (left)

5 step scales for constant CIELAB hue 167/360 = 0.465 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

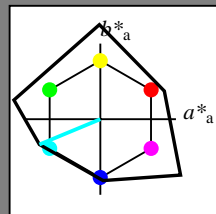
for hue $h^* = lab^*h = 203/360 = 0.563$

LAB*LCH, LAB*NCH

D65: hue G50B

LCH*Ma: 59 87 203

olv*Ma: 0.0 1.0 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

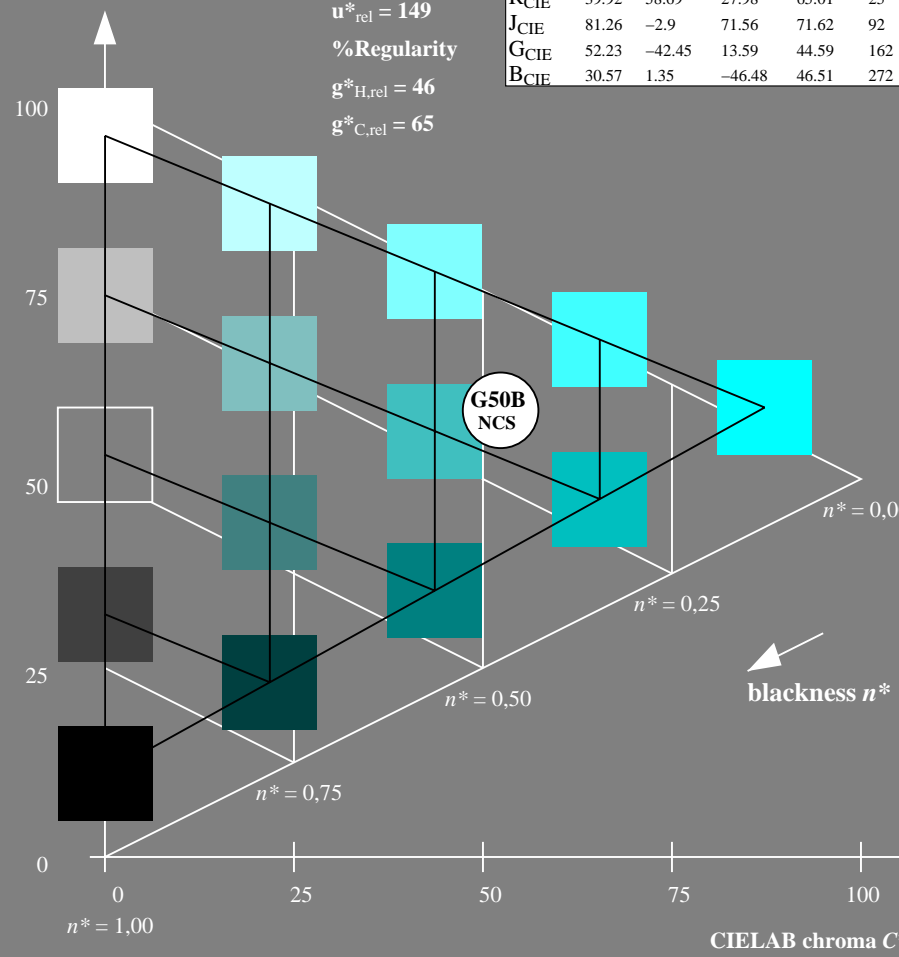
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

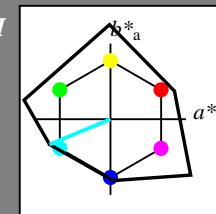
for hue $h^* = lab^*h = 203/360 = 0.563$

LAB*LCH, LAB*NCH

D65: hue G50B

LCH*Ma: 59 87 203

olv*Ma: 0.0 1.0 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

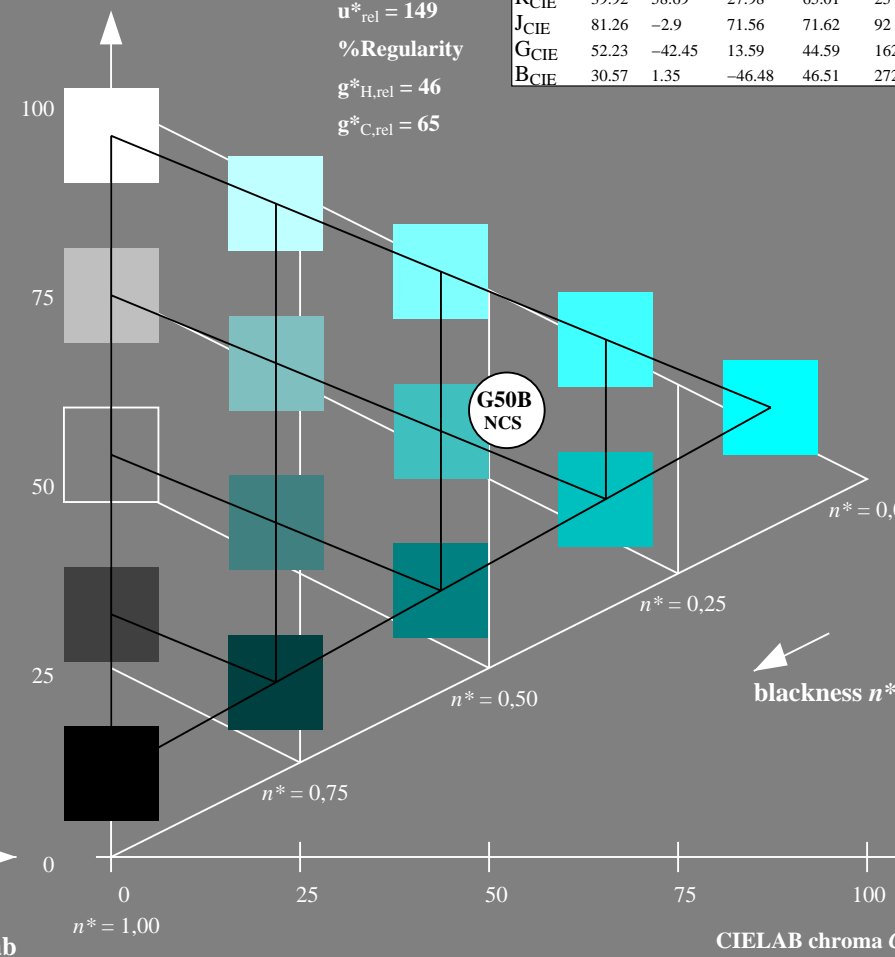
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 203/360 = 0.563 (left)

5 step scales for constant CIELAB hue 203/360 = 0.563 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

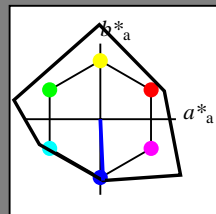
for hue $h^* = lab^*h = 273/360 = 0.757$

LAB*LCH, LAB*NCH

D65: hue B

LCH*Ma: 49 81 273

olv*Ma: 0.0 0.0 1.0



| NCS11; adapted (a) CIELAB data | | | | | |
|--------------------------------|-------------|---------|---------|--------------|--------------|
| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

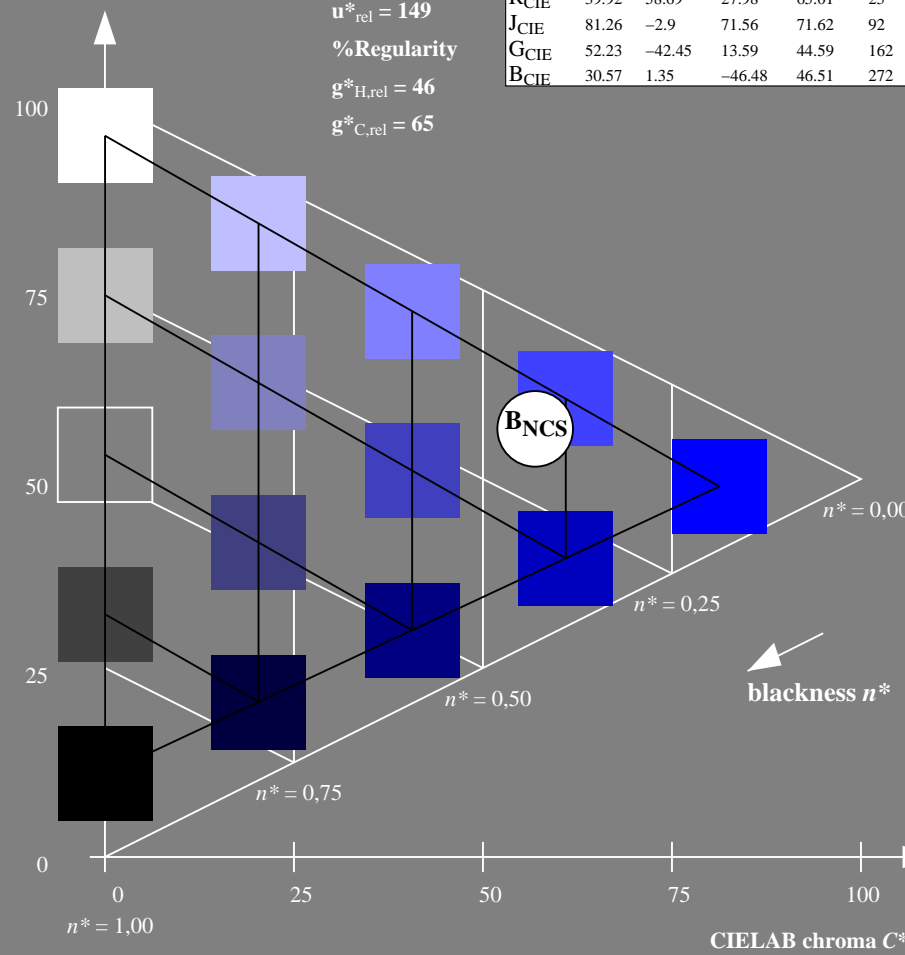
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

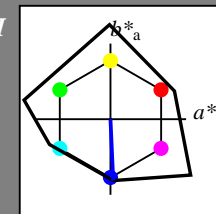
for hue $h^* = lab^*h = 273/360 = 0.757$

LAB*LCH, LAB*NCH

D65: hue B

LCH*Ma: 49 81 273

olv*Ma: 0.0 0.0 1.0



| NCS11; adapted (a) CIELAB data | | | | | |
|--------------------------------|-------------|---------|---------|--------------|--------------|
| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

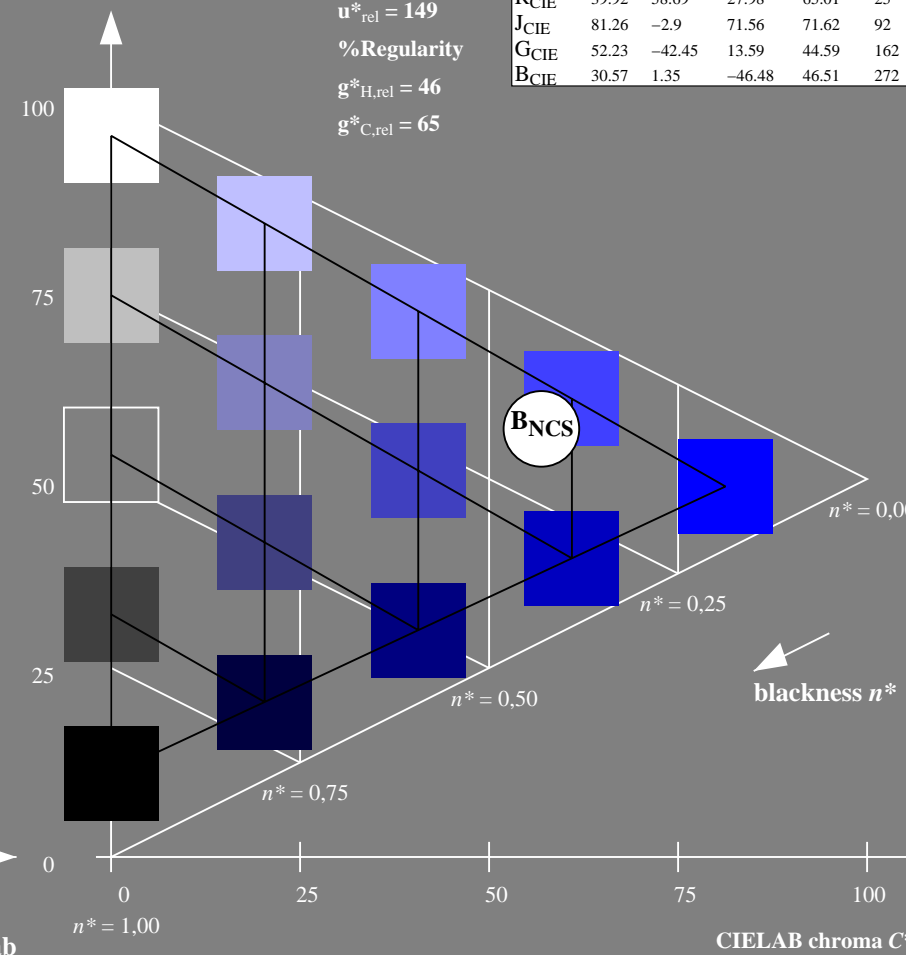
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 273/360 = 0.757 (left)

5 step scales for constant CIELAB hue 273/360 = 0.757 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

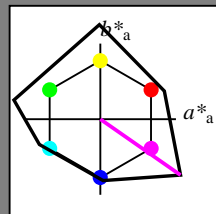
for hue $h^* = lab^*h = 325/360 = 0.903$

LAB*LCH, LAB*NCH

D65: hue B50R

LCH*Ma: 44 129 325

olv*Ma: 1.0 0.0 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

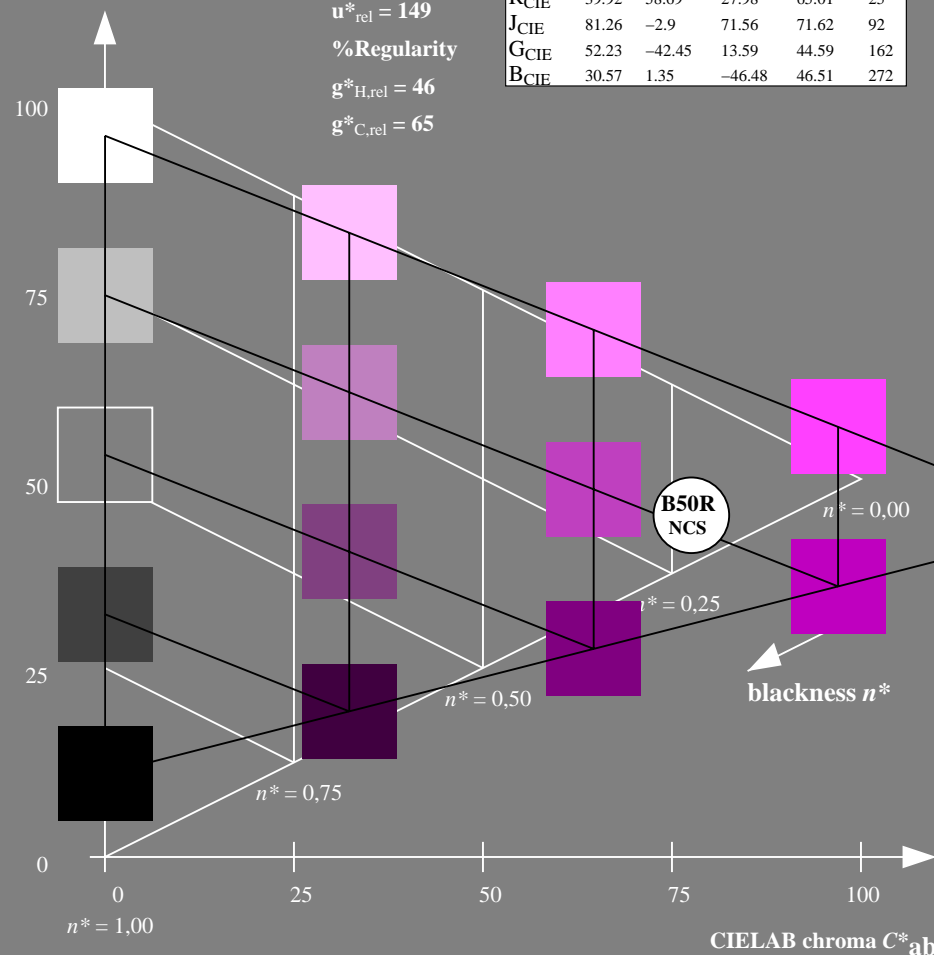
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

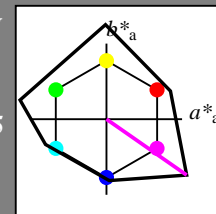
for hue $h^* = lab^*h = 325/360 = 0.903$

LAB*LCH, LAB*NCH

D65: hue B50R

LCH*Ma: 44 129 325

olv*Ma: 1.0 0.0 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

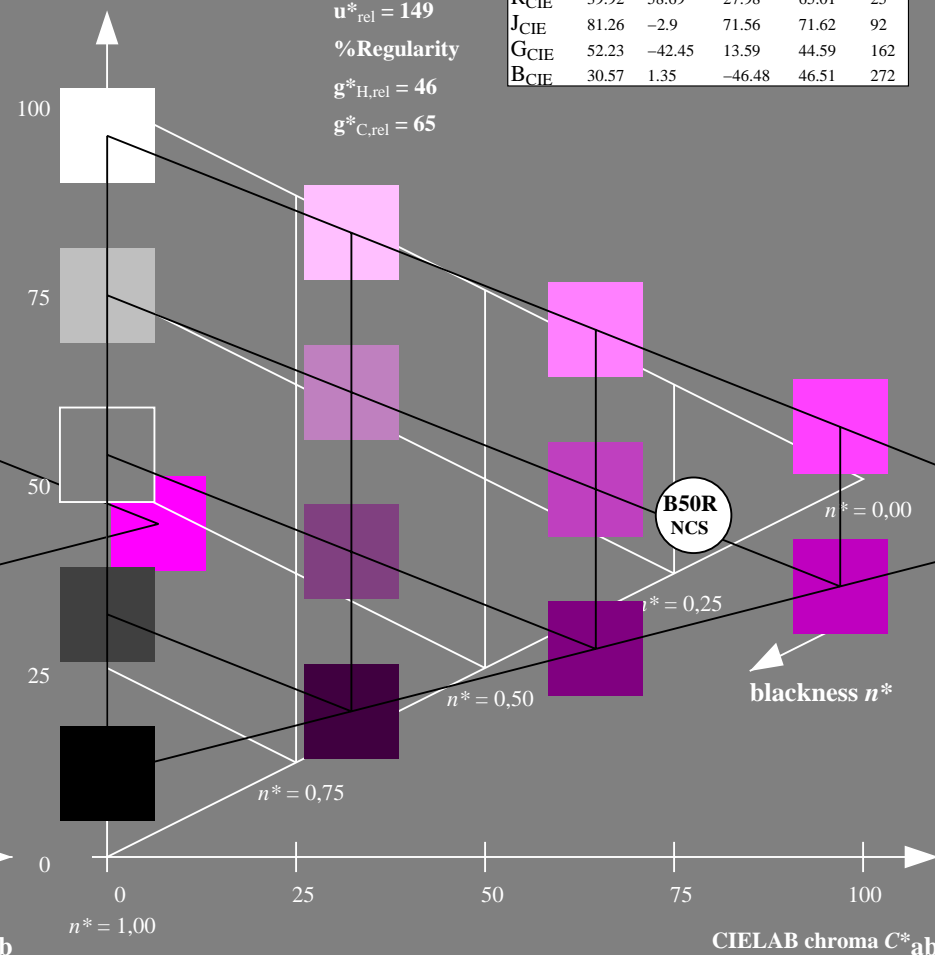
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 325/360 = 0.903 (left)

5 step scales for constant CIELAB hue 325/360 = 0.903 (right)

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

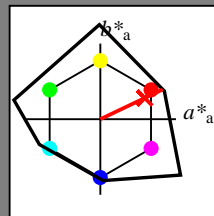
for hue $h^* = lab^*h = 25/360 = 0.071$

LAB*LCH, LAB*NCH

D65: hue R

LCH*Ma: 48 91 25

olv*Ma: 1.0 0.02 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

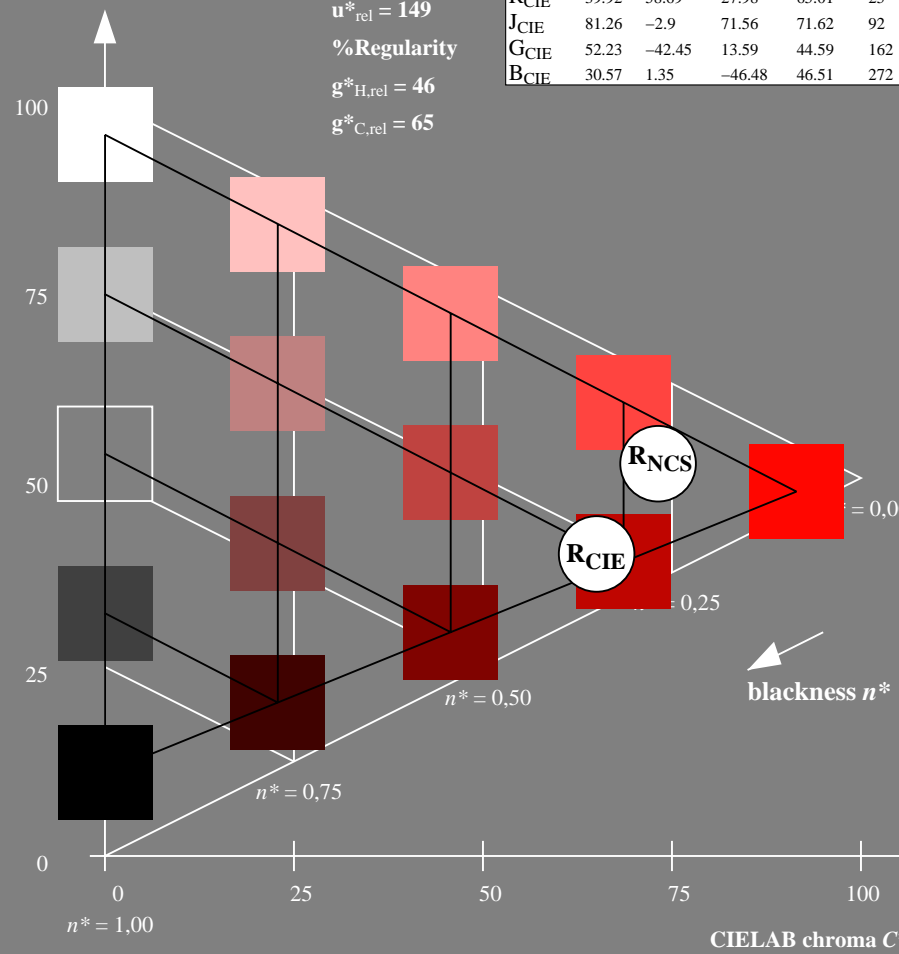
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

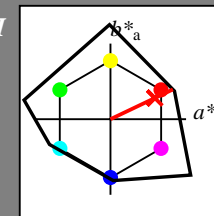
for hue $h^* = lab^*h = 25/360 = 0.071$

LAB*LCH, LAB*NCH

D65: hue R

LCH*Ma: 48 91 25

olv*Ma: 1.0 0.02 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

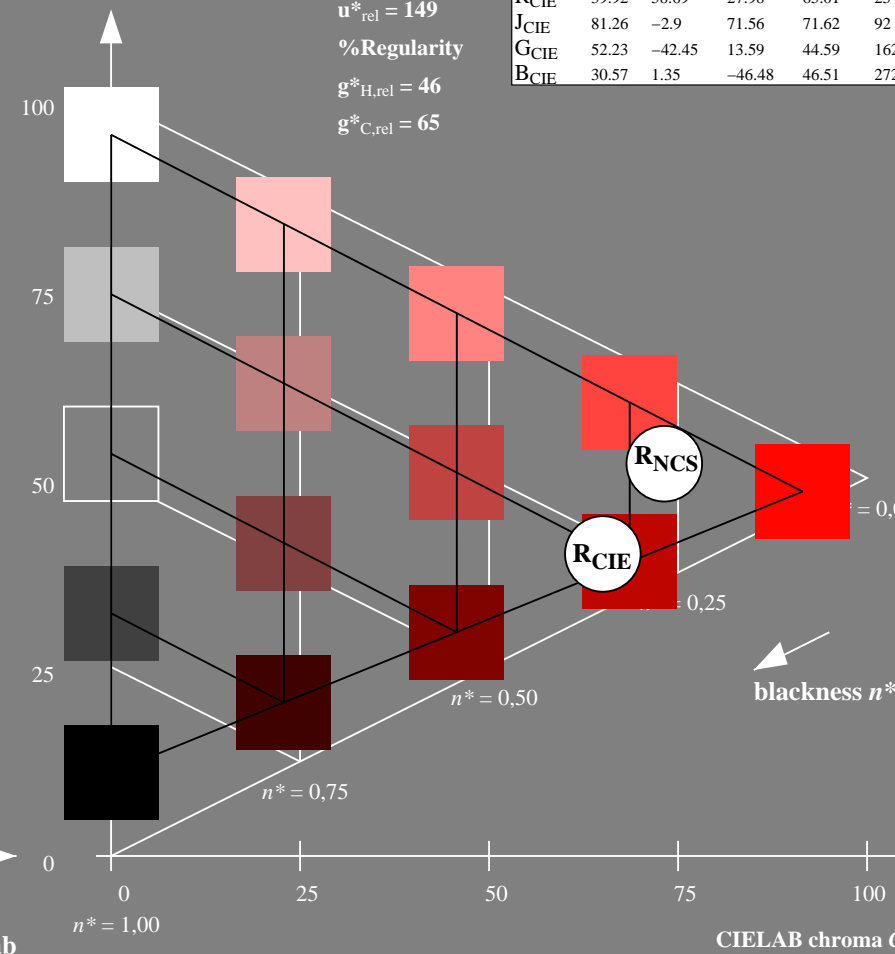
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

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

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

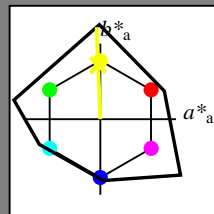
for hue $h^* = lab^*h = 92/360 = 0.256$

LAB*LCH, LAB*NCH

D65: hue J

LCH*Ma: 90 122 92

olv*Ma: 0.97 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

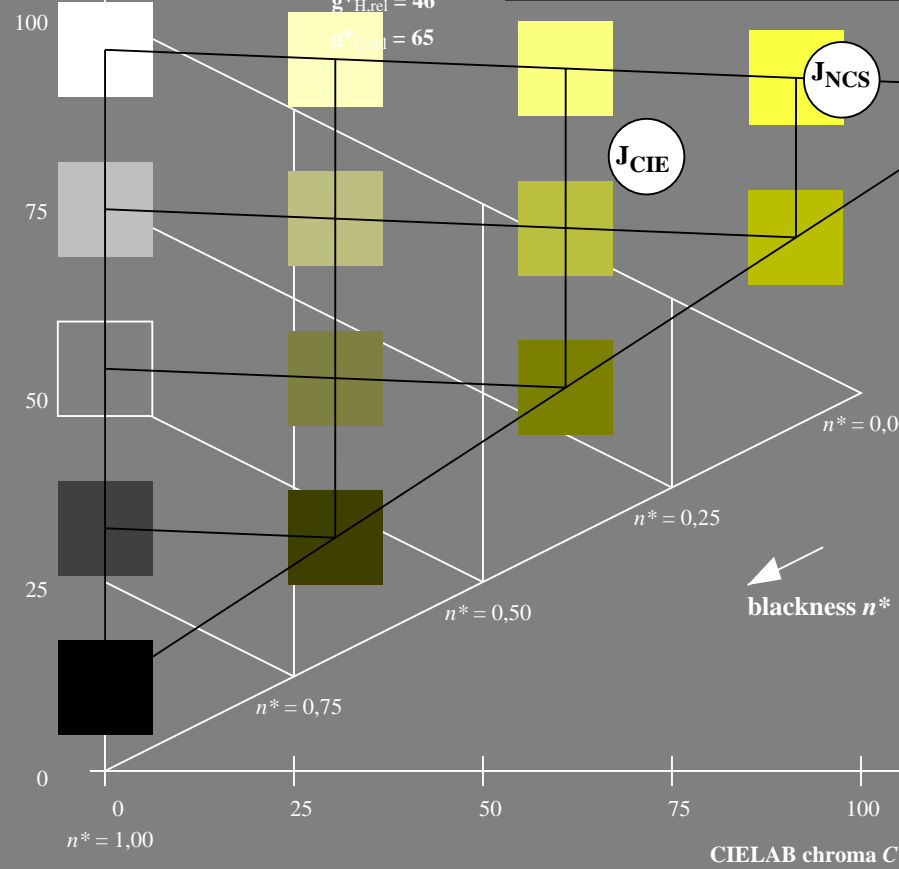
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

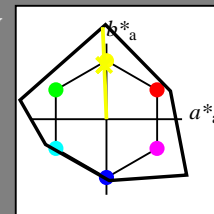
for hue $h^* = lab^*h = 92/360 = 0.256$

LAB*LCH, LAB*NCH

D65: hue J

LCH*Ma: 90 122 92

olv*Ma: 0.97 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

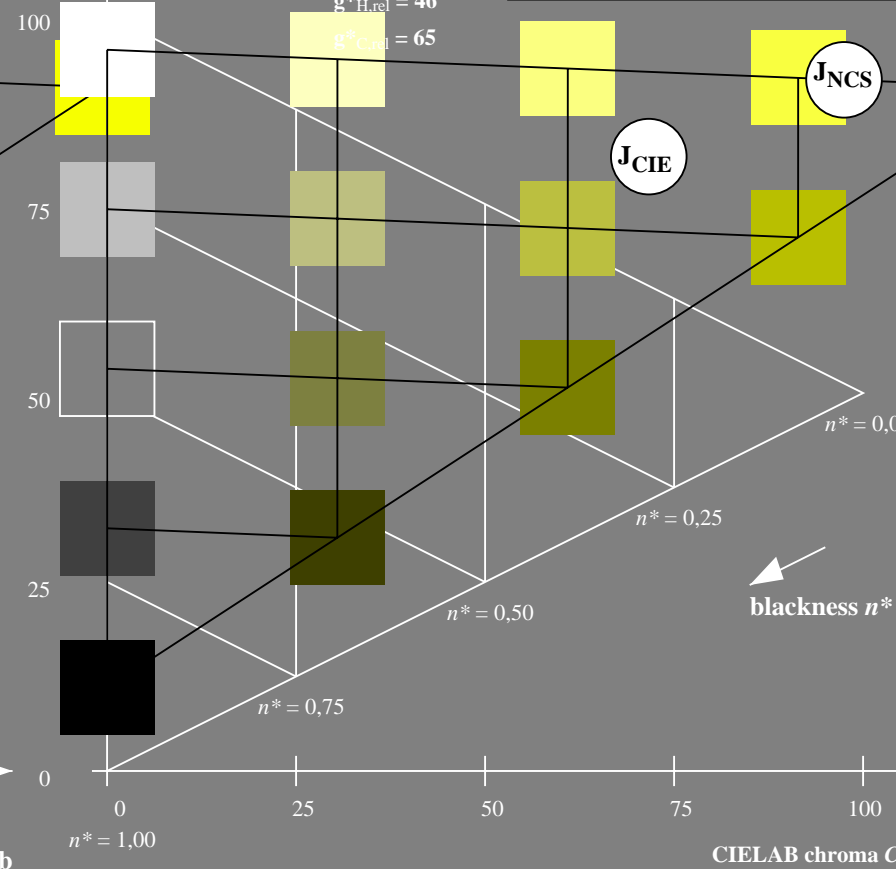
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

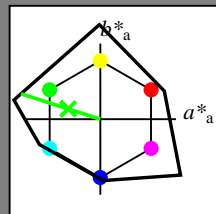
for hue $h^* = lab^*h = 162/360 = 0.451$

LAB*LCH, LAB*NCH

D65: hue G

LCH*Ma: 65 110 162

olv*Ma: 0.08 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

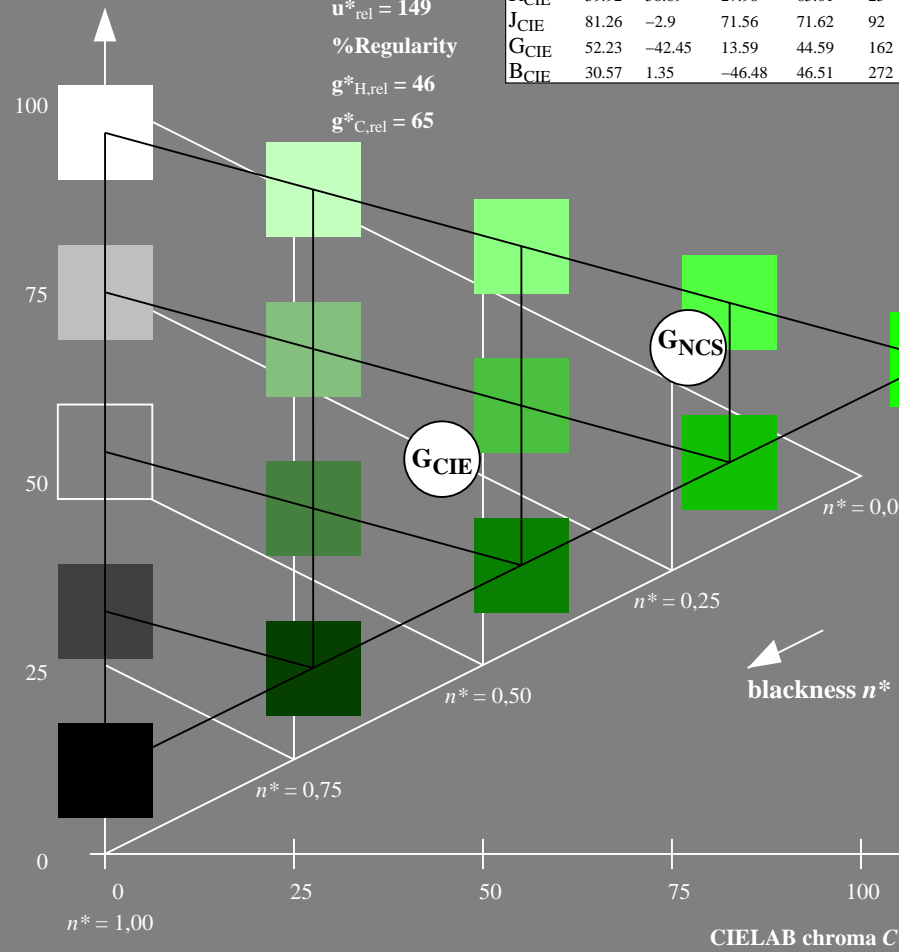
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

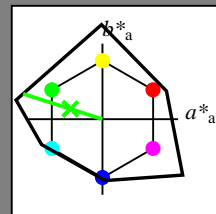
for hue $h^* = lab^*h = 162/360 = 0.451$

LAB*LCH, LAB*NCH

D65: hue G

LCH*Ma: 65 110 162

olv*Ma: 0.08 1.0 0.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

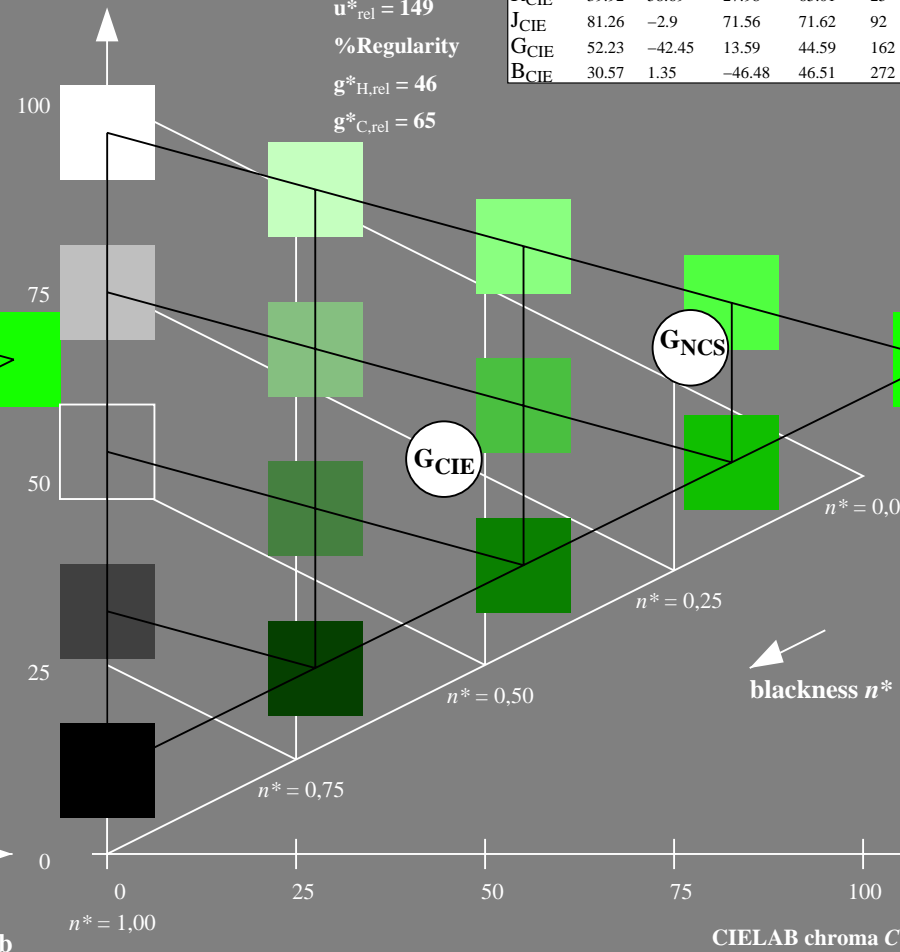
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)

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

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System NCS11

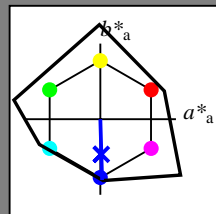
for hue $h^* = lab^*h = 272/360 = 0.755$

LAB*LCH, LAB*NCH

D65: hue B

LCH*Ma: 49 80 272

olv*Ma: 0.0 0.02 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

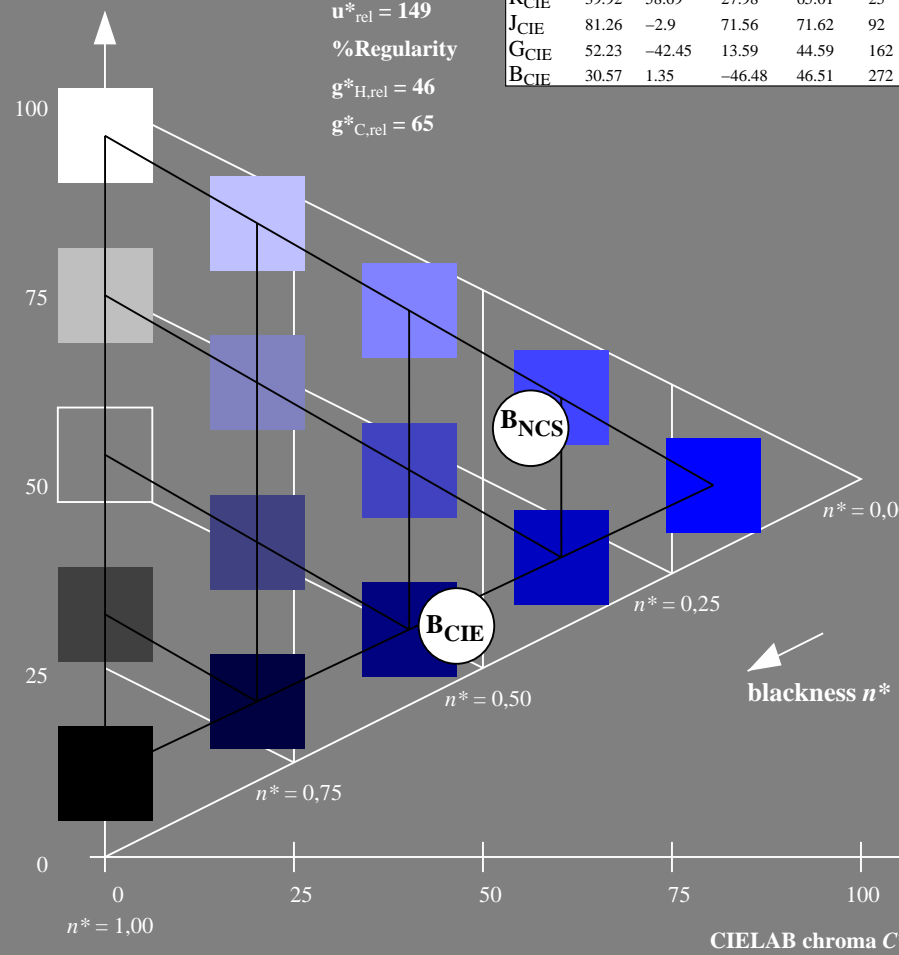
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



Output: Colorimetric Reflective System NCS11

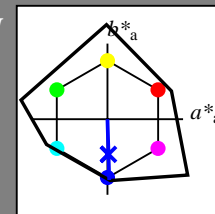
for hue $h^* = lab^*h = 272/360 = 0.755$

LAB*LCH, LAB*NCH

D65: hue B

LCH*Ma: 49 80 272

olv*Ma: 0.0 0.02 1.0



NCS11; adapted (a) CIELAB data

| | $L^*=L^*_a$ | a^*_a | b^*_a | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------|-------------|---------|---------|--------------|--------------|
| R _{Ma} | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| J _{Ma} | 91.37 | -1.27 | 125.03 | 125.03 | 91 |
| G _{Ma} | 63.07 | -114.28 | 25.35 | 117.06 | 167 |
| G50B _{Ma} | 59.47 | -80.6 | -33.45 | 87.28 | 203 |
| B _{Ma} | 49.01 | 3.65 | -81.19 | 81.28 | 273 |
| B50R _{Ma} | 44.06 | 106.09 | -73.93 | 129.32 | 325 |
| N _{Ma} | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| W _{Ma} | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R _{CIE} | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| J _{CIE} | 81.26 | -2.9 | 71.56 | 71.62 | 92 |
| G _{CIE} | 52.23 | -42.45 | 13.59 | 44.59 | 162 |
| B _{CIE} | 30.57 | 1.35 | -46.48 | 46.51 | 272 |

CIELAB lightness L^*

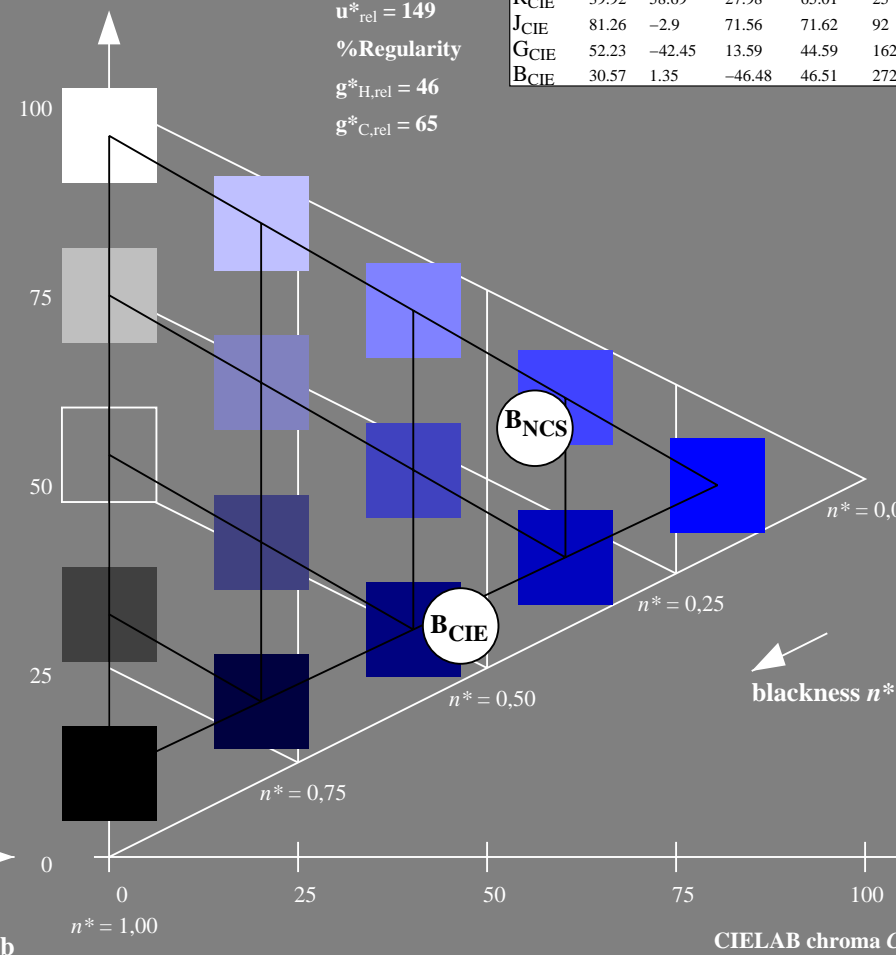
%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TE390-7, 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

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

BAM-test chart TE39; Colorimetric systems NCS11a & NCS11a input: olv* setrgbcolor

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

output: no change compared to input