

Input: Colorimetric Offset Reflective System ORS18

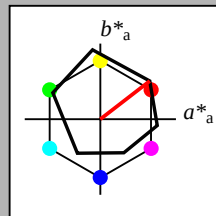
for hue  $h^* = lab \cdot h = 38/360 = 0.105$

LAB\*LCH, LAB\*NCH

A: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0



ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

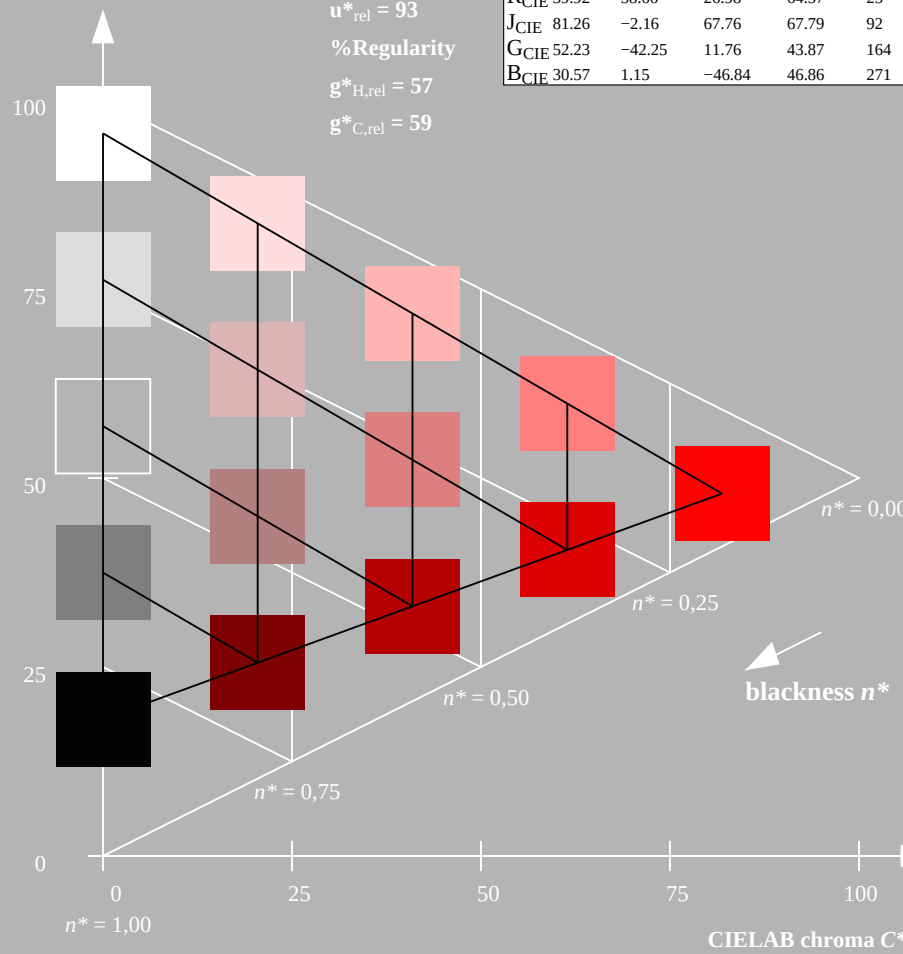
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 38/360 = 0.105 (left)

Output: Colorimetric Television Luminous System TLS00

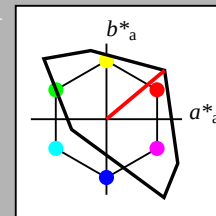
for hue  $h^* = lab \cdot h = 40/360 = 0.111$

LAB\*LCH, LAB\*NCH

A: hue O

LCH\*Ma: 51 100 40

olv\*Ma: 1.0 0.0 0.0



TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

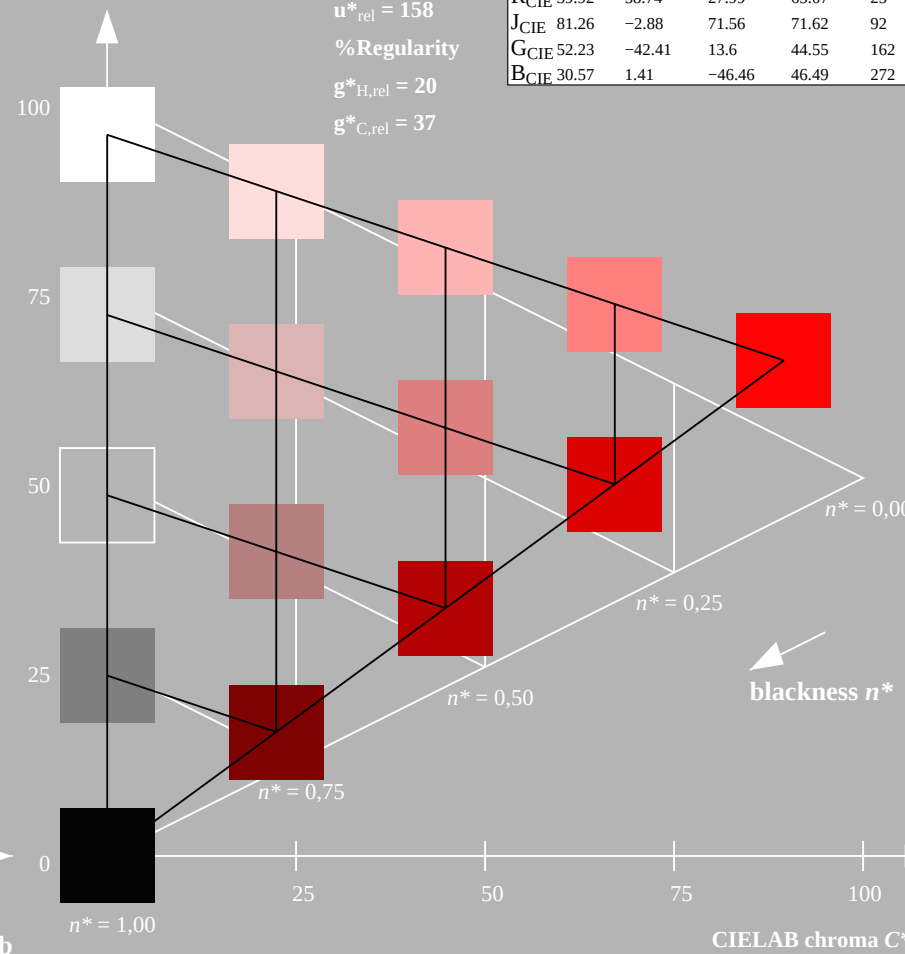
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



5 step scales for constant CIELAB hue 40/360 = 0.111 (right)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

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

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

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

A: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

CIELAB lightness  $L^*$

% Gamut

$u^*_{rel} = 93$

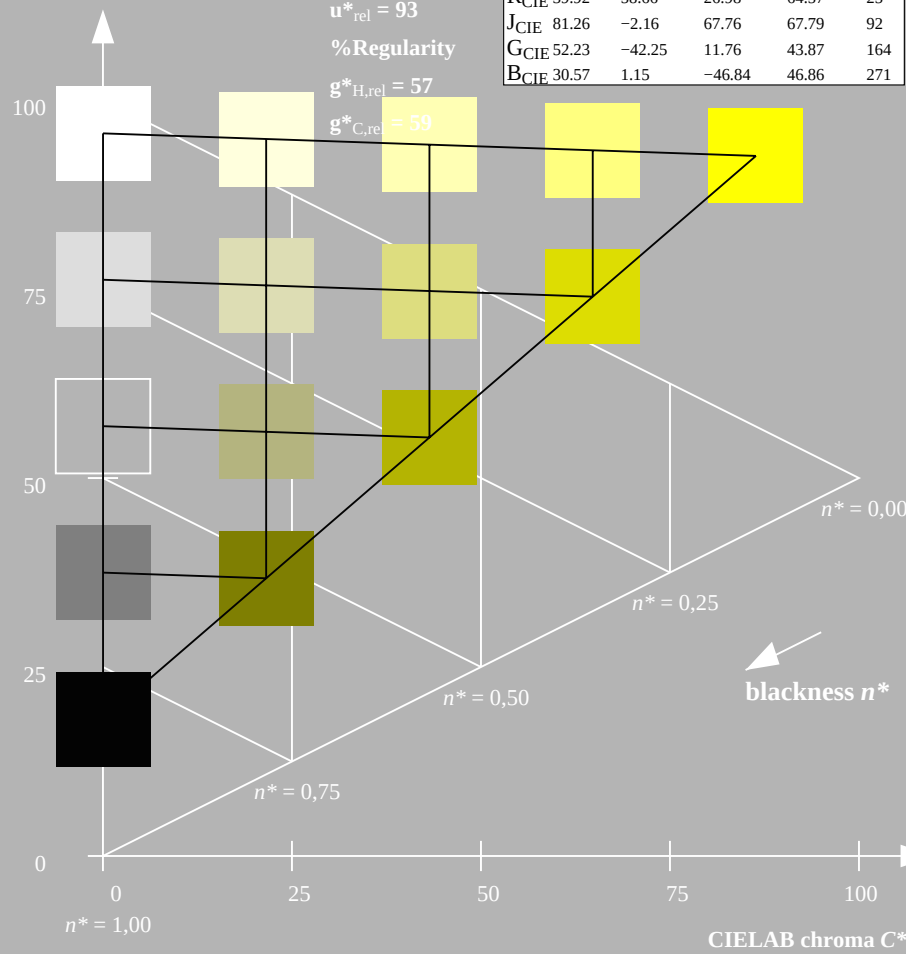
% Regularity

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

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

ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



RE300-7, 5 step scales for constant CIELAB hue 96/360 = 0.268 (left)

Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab \cdot h = 103/360 = 0.286$

LAB\*LCH, LAB\*NCH

A: hue Y

LCH\*Ma: 93 93 103

olv\*Ma: 1.0 1.0 0.0

CIELAB lightness  $L^*$

% Gamut

$u^*_{rel} = 158$

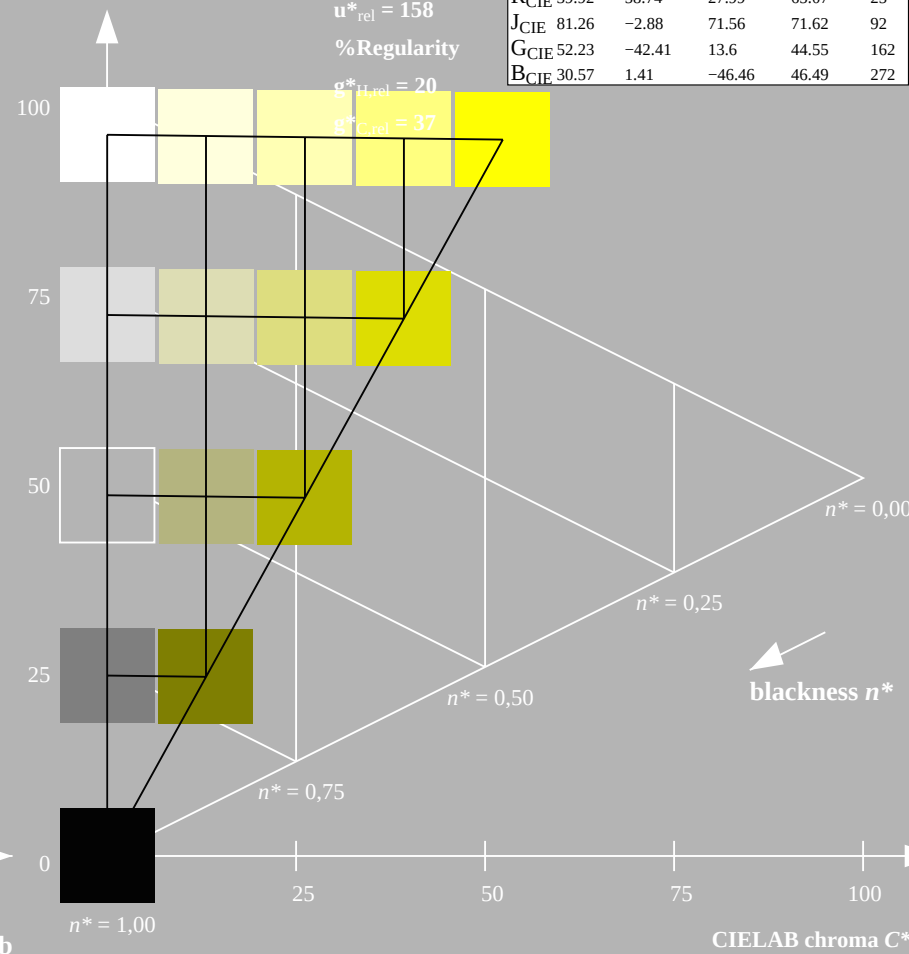
% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |



5 step scales for constant CIELAB hue 103/360 = 0.286 (right)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Offset Reflective System ORS18

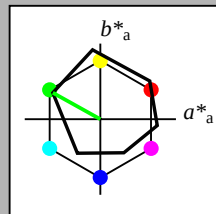
for hue  $h^* = lab \cdot h = 151/360 = 0.419$

LAB\*LCH, LAB\*NCH

A: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0



ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

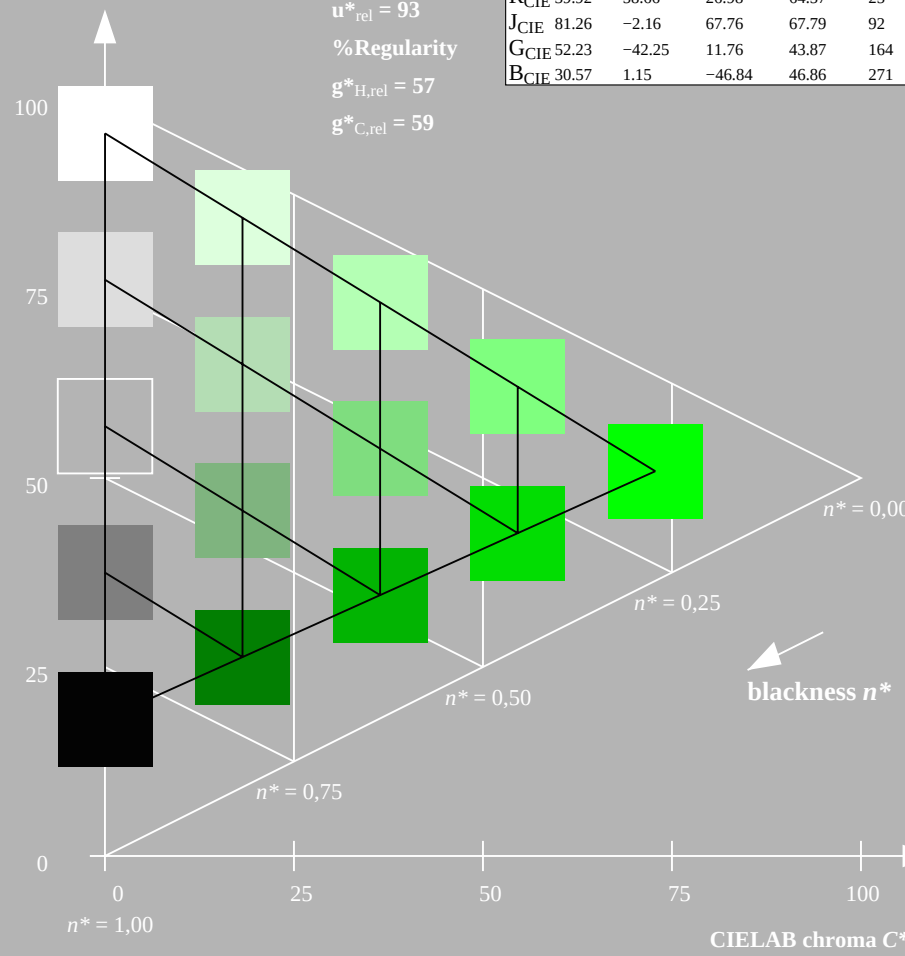
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 151/360 = 0.419 (left)



BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

Output: Colorimetric Television Luminous System TLS00

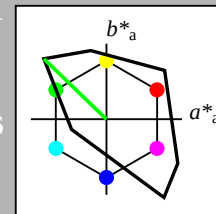
for hue  $h^* = lab \cdot h = 136/360 = 0.378$

LAB\*LCH, LAB\*NCH

A: hue L

LCH\*Ma: 84 115 136

olv\*Ma: 0.0 1.0 0.0



TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

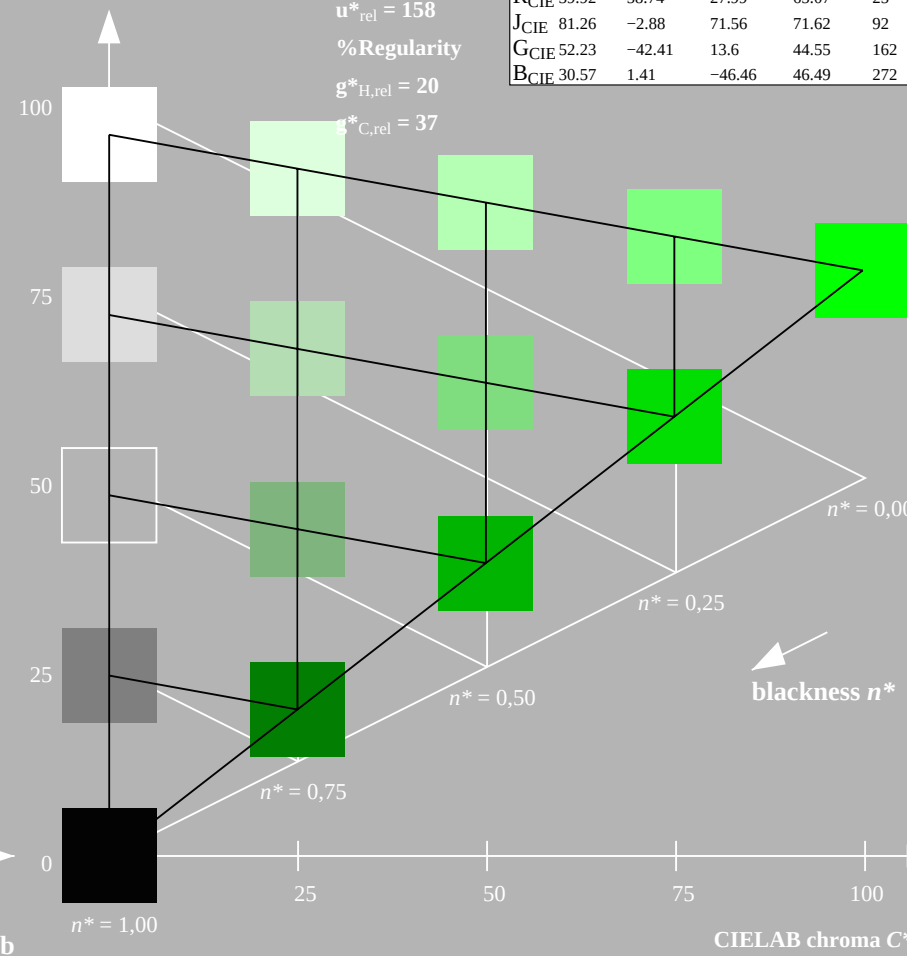
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



5 step scales for constant CIELAB hue 136/360 = 0.378 (right)

input: olv\* setrgbcolor

output: olv\* setrgbcolor / w\* setgray



Input: Colorimetric Offset Reflective System ORS18

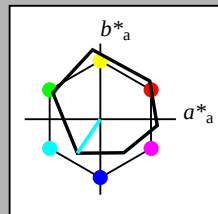
for hue  $h^* = lab \cdot h = 236/360 = 0.656$

LAB\*LCH, LAB\*NCH

A: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0



ORS18; adapted (a) CIELAB data

|                  | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|---------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94         | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37         | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9          | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62         | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72         | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13         | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92         | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26         | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23         | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57         | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

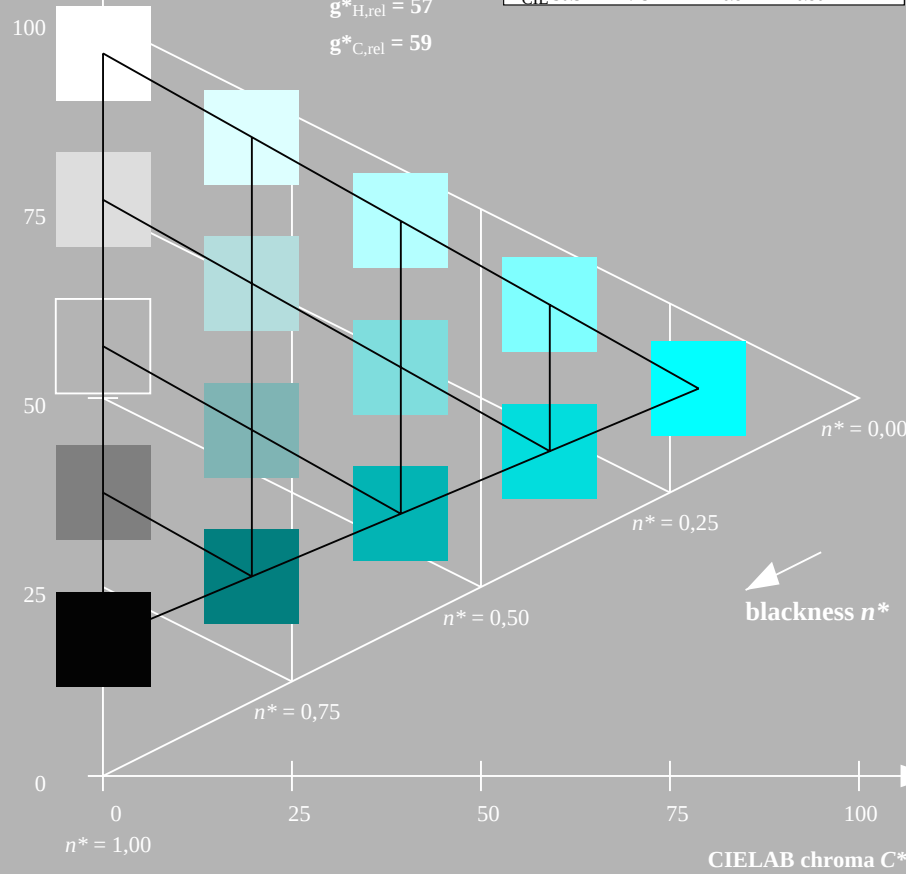
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 236/360 = 0.656 (left)

Output: Colorimetric Television Luminous System TLS00

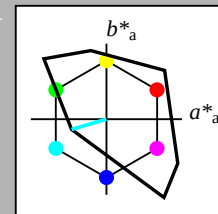
for hue  $h^* = lab \cdot h = 196/360 = 0.545$

LAB\*LCH, LAB\*NCH

A: hue C

LCH\*Ma: 87 48 196

olv\*Ma: 0.0 1.0 1.0



TLS00; adapted (a) CIELAB data

|                  | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|---------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5          | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66         | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63         | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88         | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39         | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3          | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01          | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92         | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26         | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23         | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57         | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

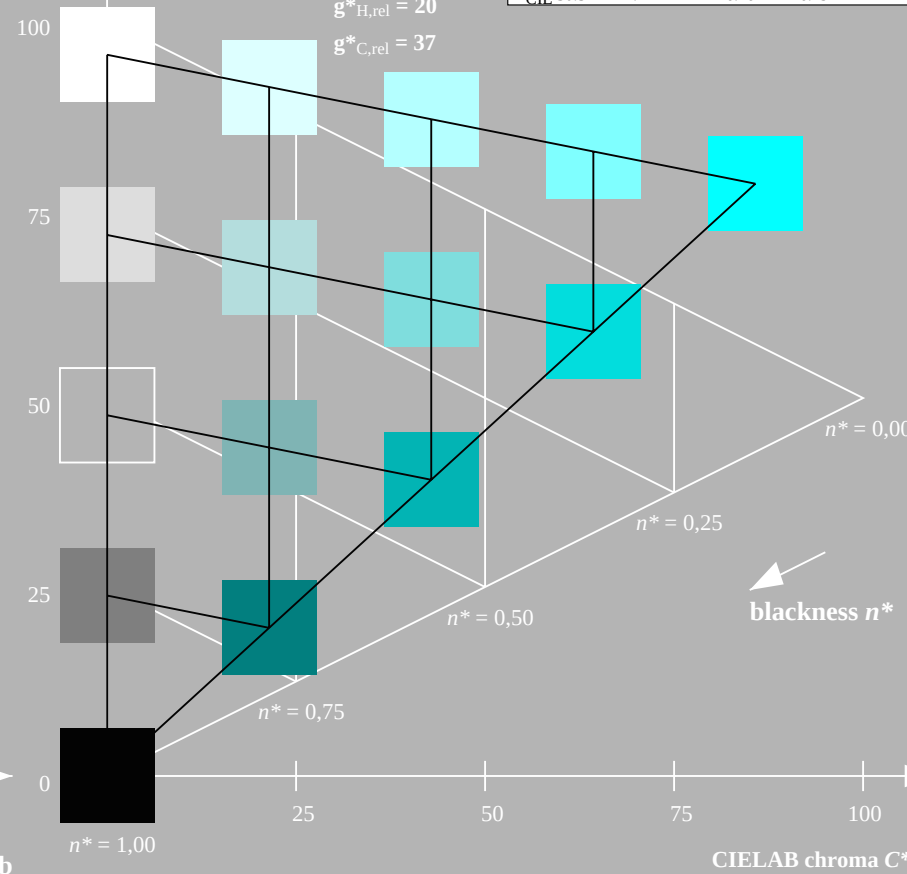
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



5 step scales for constant CIELAB hue 196/360 = 0.545 (right)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Offset Reflective System ORS18

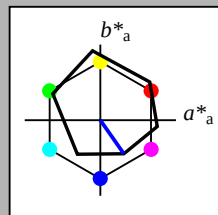
for hue  $h^* = lab \cdot h = 305/360 = 0.847$

LAB\*LCH, LAB\*NCH

A: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0



ORS18; adapted (a) CIELAB data

|                  | $L^*=L_a^*$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

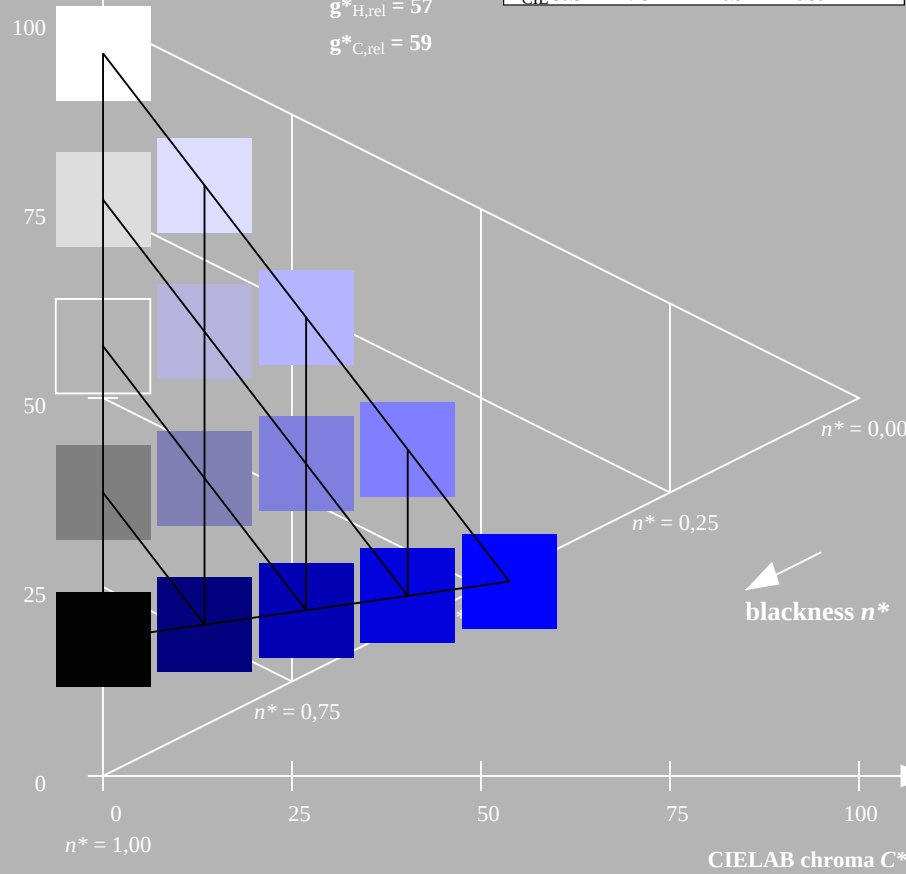
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 305/360 = 0.847 (left)

Output: Colorimetric Television Luminous System TLS00

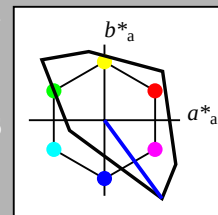
for hue  $h^* = lab \cdot h = 306/360 = 0.851$

LAB\*LCH, LAB\*NCH

A: hue V

LCH\*Ma: 30 129 306

olv\*Ma: 0.0 0.0 1.0



TLS00; adapted (a) CIELAB data

|                  | $L^*=L_a^*$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

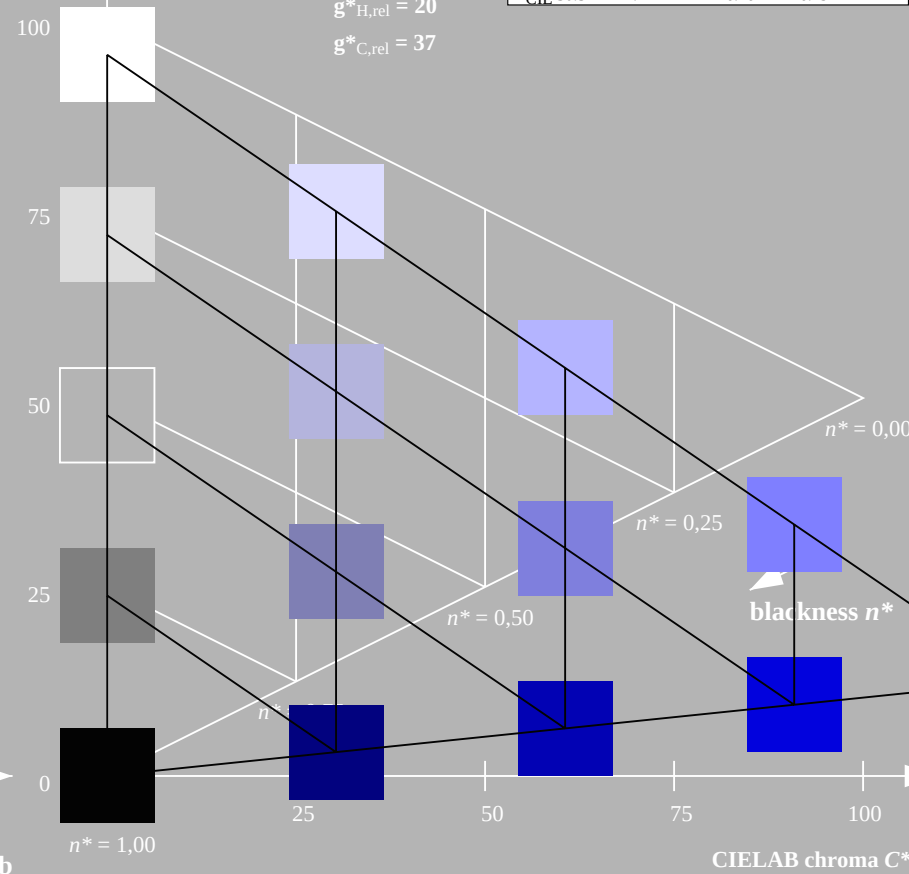
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



5 step scales for constant CIELAB hue 306/360 = 0.851 (right)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Offset Reflective System ORS18

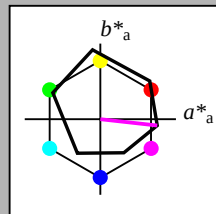
for hue  $h^* = lab \cdot h = 354/360 = 0.982$

LAB\*LCH, LAB\*NCH

A: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0



ORS18; adapted (a) CIELAB data

|                  | $L^*=L_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-----------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94     | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37     | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9      | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62     | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72     | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13     | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92     | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26     | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23     | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57     | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

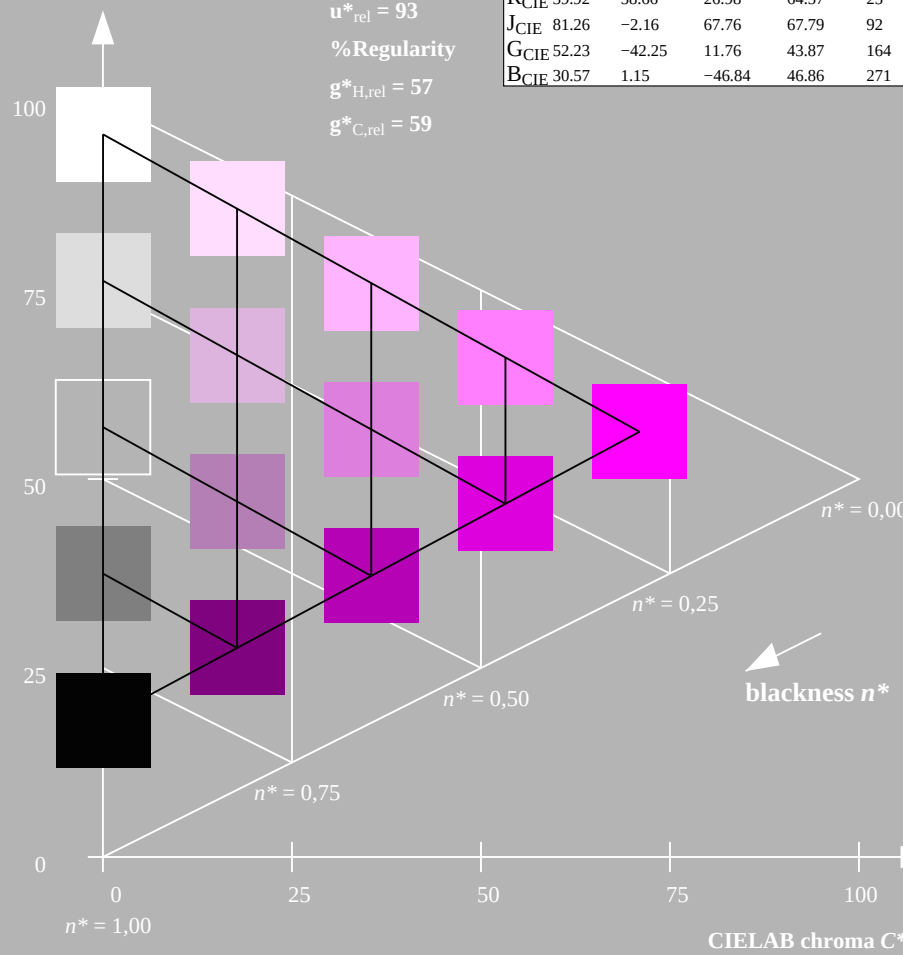
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 354/360 = 0.982 (left)

Output: Colorimetric Television Luminous System TLS00

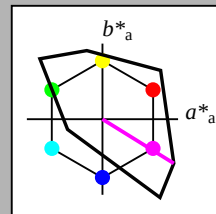
for hue  $h^* = lab \cdot h = 328/360 = 0.912$

LAB\*LCH, LAB\*NCH

A: hue M

LCH\*Ma: 57 111 328

olv\*Ma: 1.0 0.0 1.0



TLS00; adapted (a) CIELAB data

|                  | $L^*=L_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-----------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5      | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66     | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63     | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88     | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39     | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3      | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01      | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41     | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92     | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26     | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23     | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57     | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

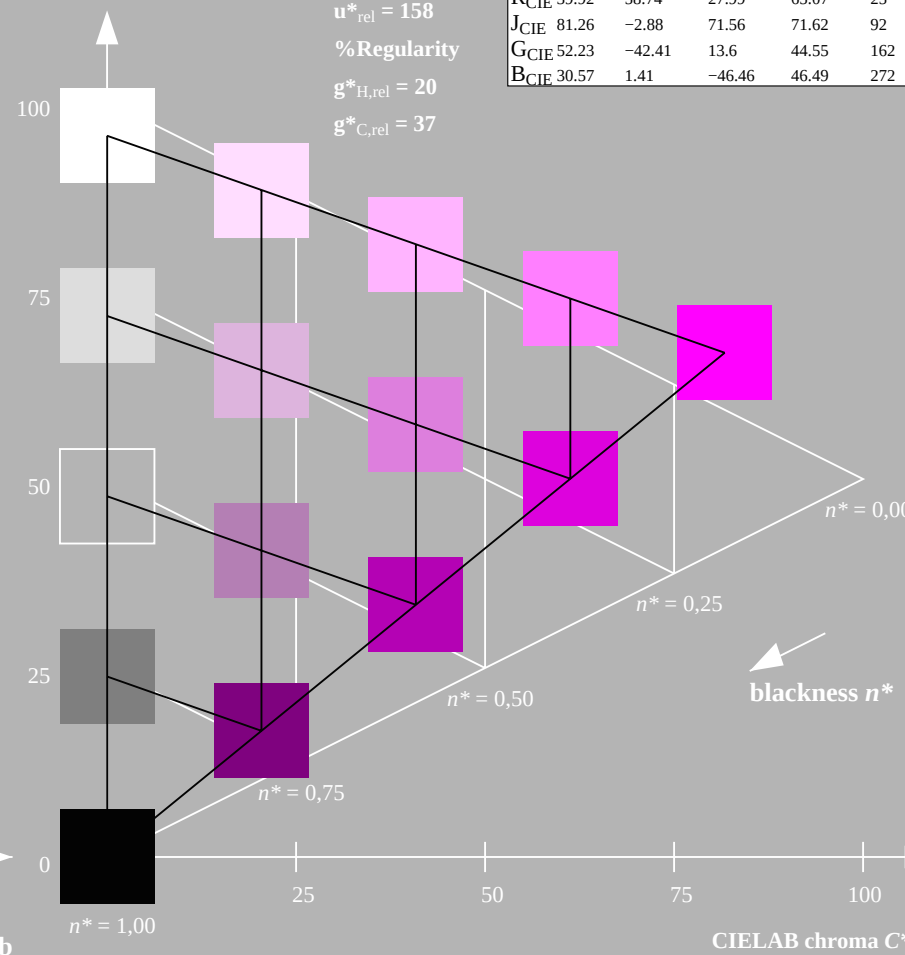
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



5 step scales for constant CIELAB hue 328/360 = 0.912 (right)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

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

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

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

A: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

CIELAB lightness  $L^*$

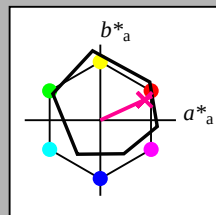
% Gamut

$u^*_{rel} = 93$

% Regularity

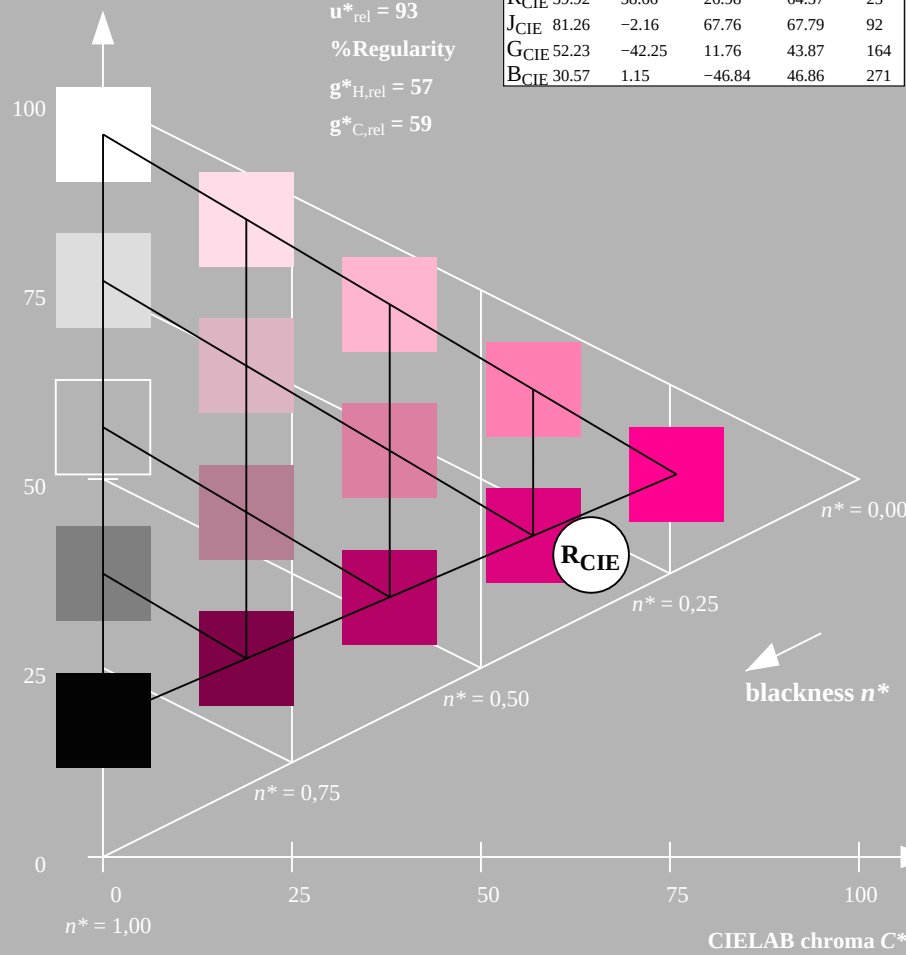
$g^*_{H,rel} = 57$

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



ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



RE300-7, 5 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Television Luminous System TLS00

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

LAB\*LCH, LAB\*NCH

A: hue R

LCH\*Ma: 52 89 25

olv\*Ma: 1.0 0.0 0.21

CIELAB lightness  $L^*$

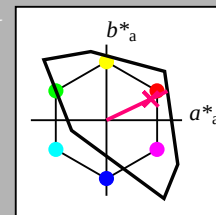
% Gamut

$u^*_{rel} = 158$

% Regularity

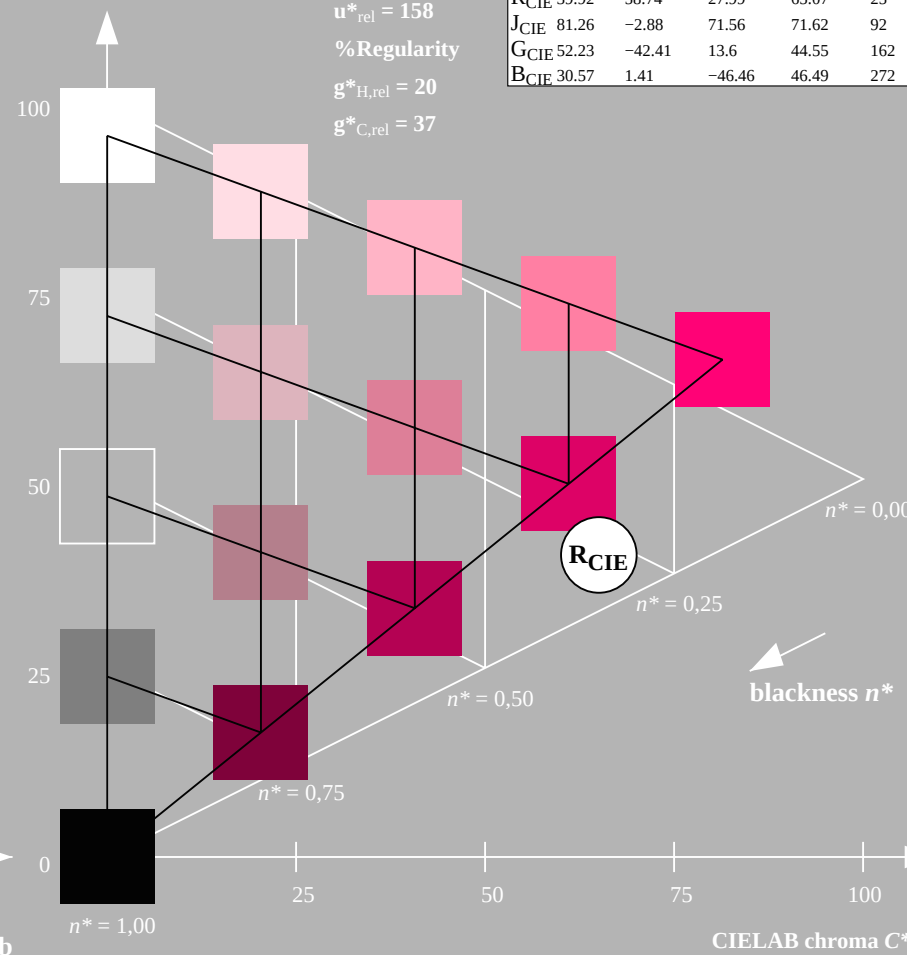
$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |



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

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`



Input: Colorimetric Offset Reflective System ORS18

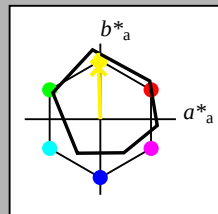
for hue  $h^* = lab \cdot h = 92/360 = 0.255$

LAB\*LCH, LAB\*NCH

A: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0



ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$

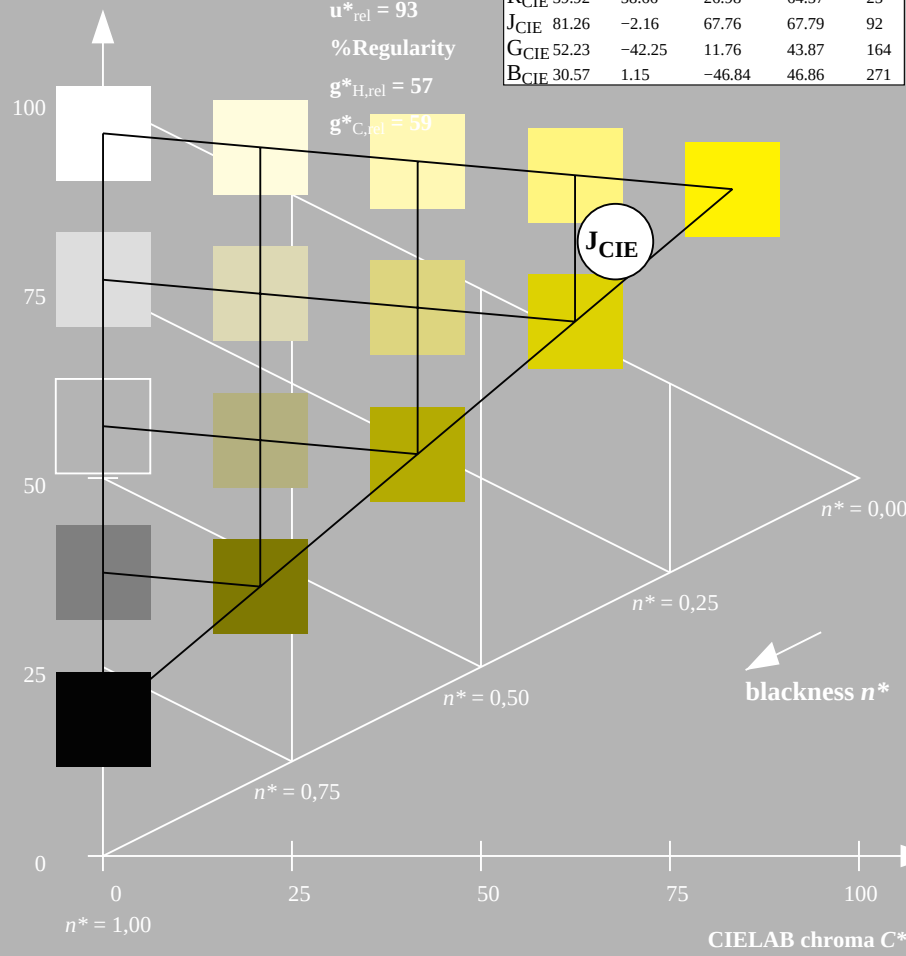
% Gamut

$u^*_{rel} = 93$

% Regularity

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

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



RE300-7, 5 step scales for constant CIELAB hue 92/360 = 0.255 (left)

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

Output: Colorimetric Television Luminous System TLS00

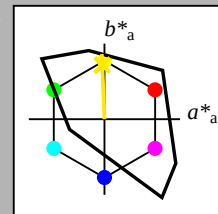
for hue  $h^* = lab \cdot h = 92/360 = 0.256$

LAB\*LCH, LAB\*NCH

A: hue J

LCH\*Ma: 85 86 92

olv\*Ma: 1.0 0.82 0.0



TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

CIELAB lightness  $L^*$

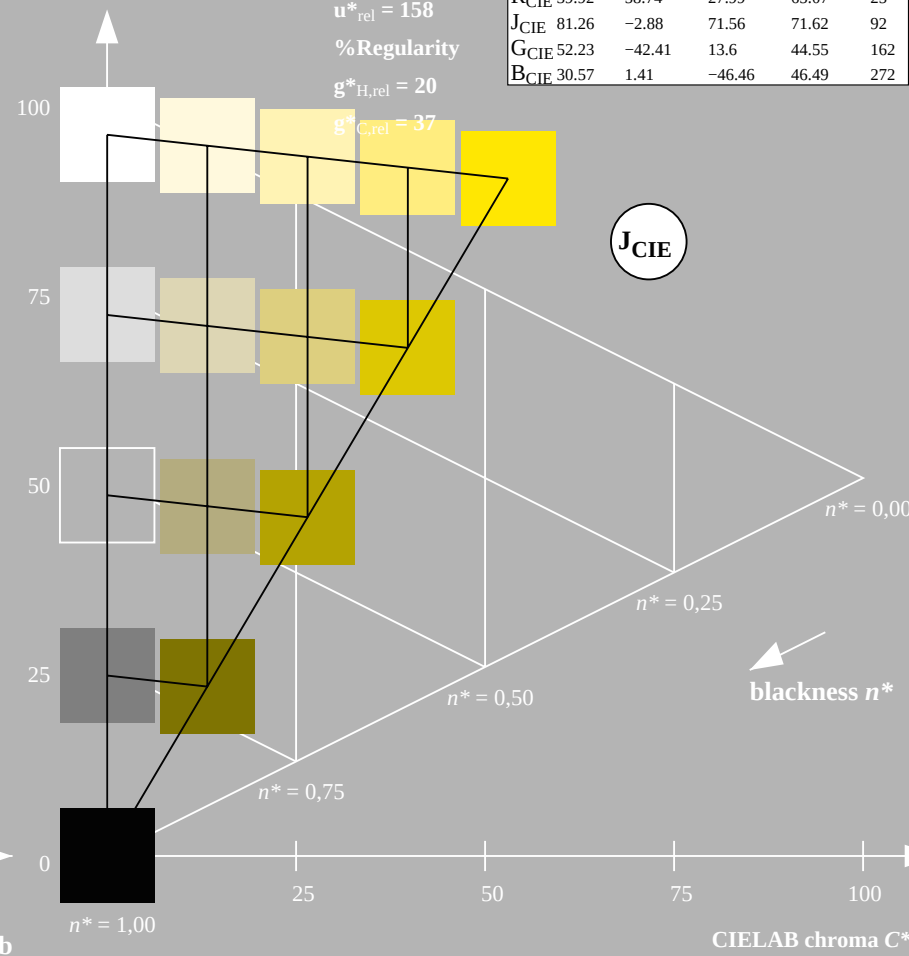
% Gamut

$u^*_{rel} = 158$

% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



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

input:  $olv^* \cdot setrgbcolor$

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



Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

A: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

CIELAB lightness  $L^*$

% Gamut

$u^*_{rel} = 93$

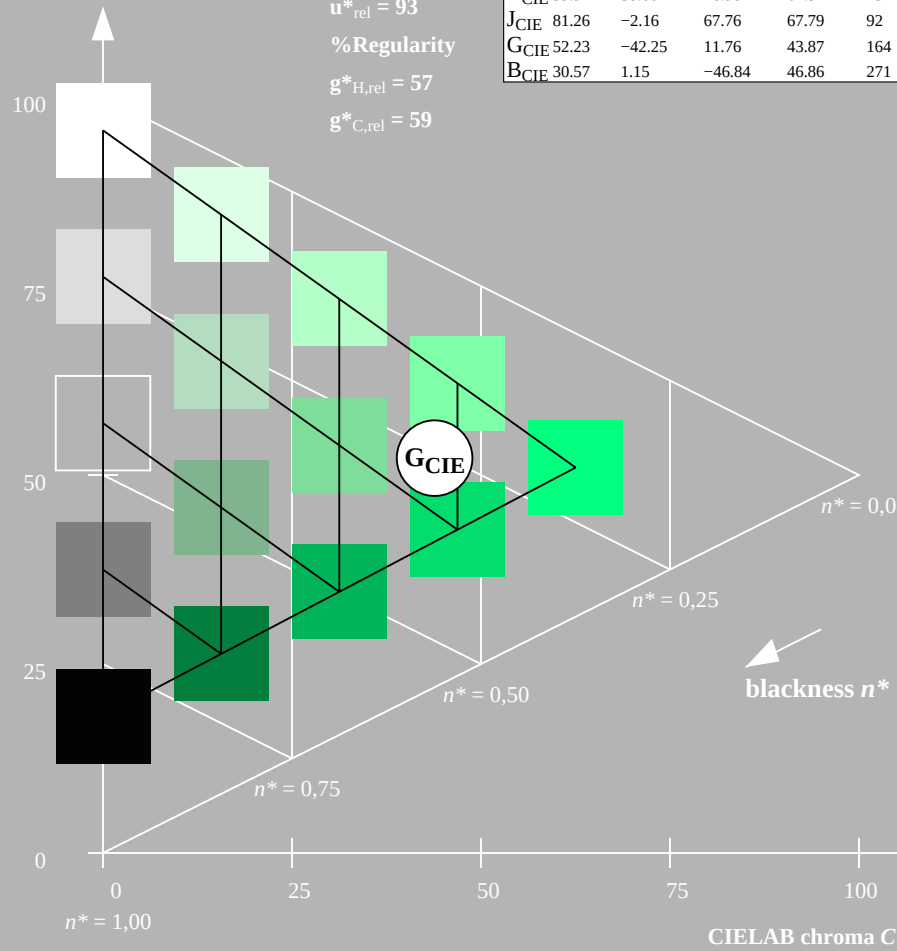
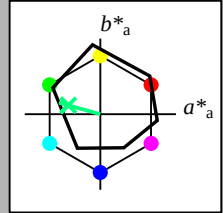
% Regularity

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

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

ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



RE300-7, 5 step scales for constant CIELAB hue 164/360 = 0.457 (left)



BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

Output: Colorimetric Television Luminous System TLS00

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

LAB\*LCH, LAB\*NCH

A: hue G

LCH\*Ma: 86 62 162

olv\*Ma: 0.0 1.0 0.65

CIELAB lightness  $L^*$

% Gamut

$u^*_{rel} = 158$

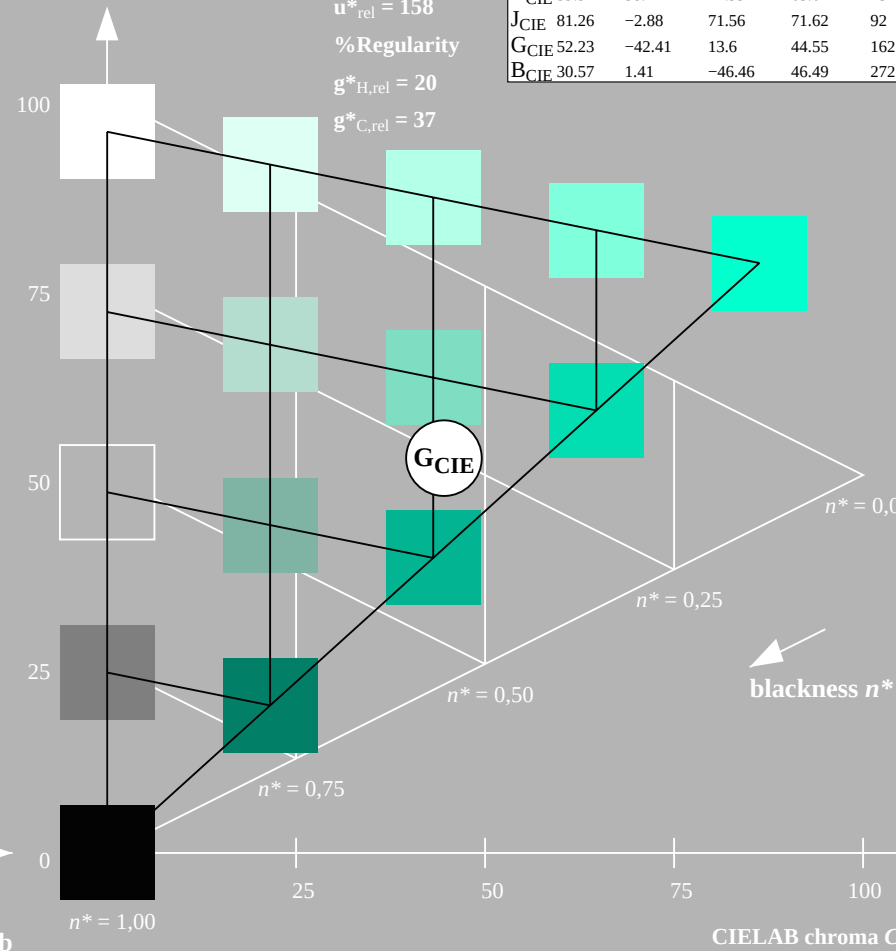
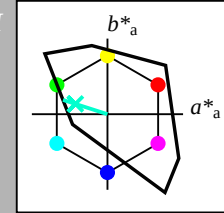
% Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |



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

input: olv\* setrgbcolor

output: olv\* setrgbcolor / w\* setgray



Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

A: hue B

LCH\*Ma: 42 45 271

olv\*Ma: 0.0 0.49 1.0

CIELAB lightness  $L^*$

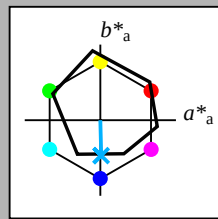
% Gamut

$u^*_{rel} = 93$

% Regularity

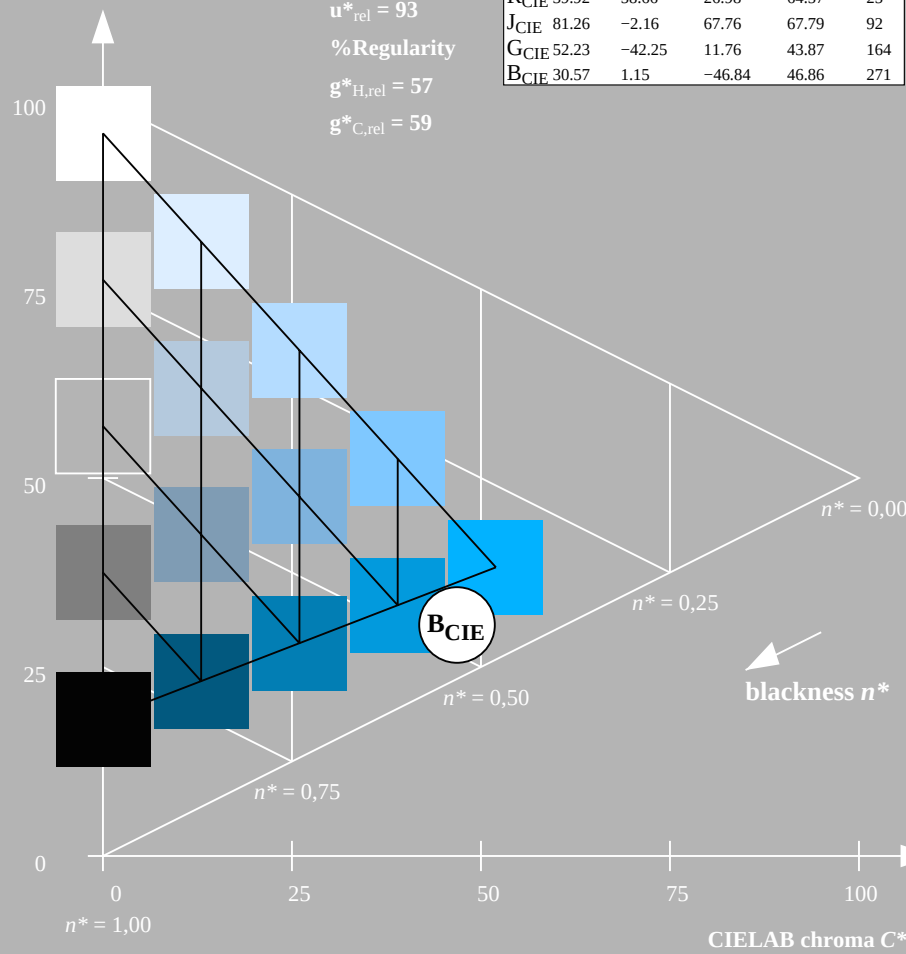
$g^*_{H,rel} = 57$

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



ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 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            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



RE300-7, 5 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Television Luminous System TLS00

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

LAB\*LCH, LAB\*NCH

A: hue B

LCH\*Ma: 65 49 272

olv\*Ma: 0.0 0.61 1.0

CIELAB lightness  $L^*$

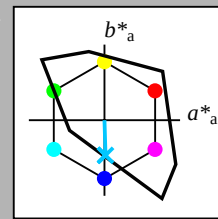
% Gamut

$u^*_{rel} = 158$

% Regularity

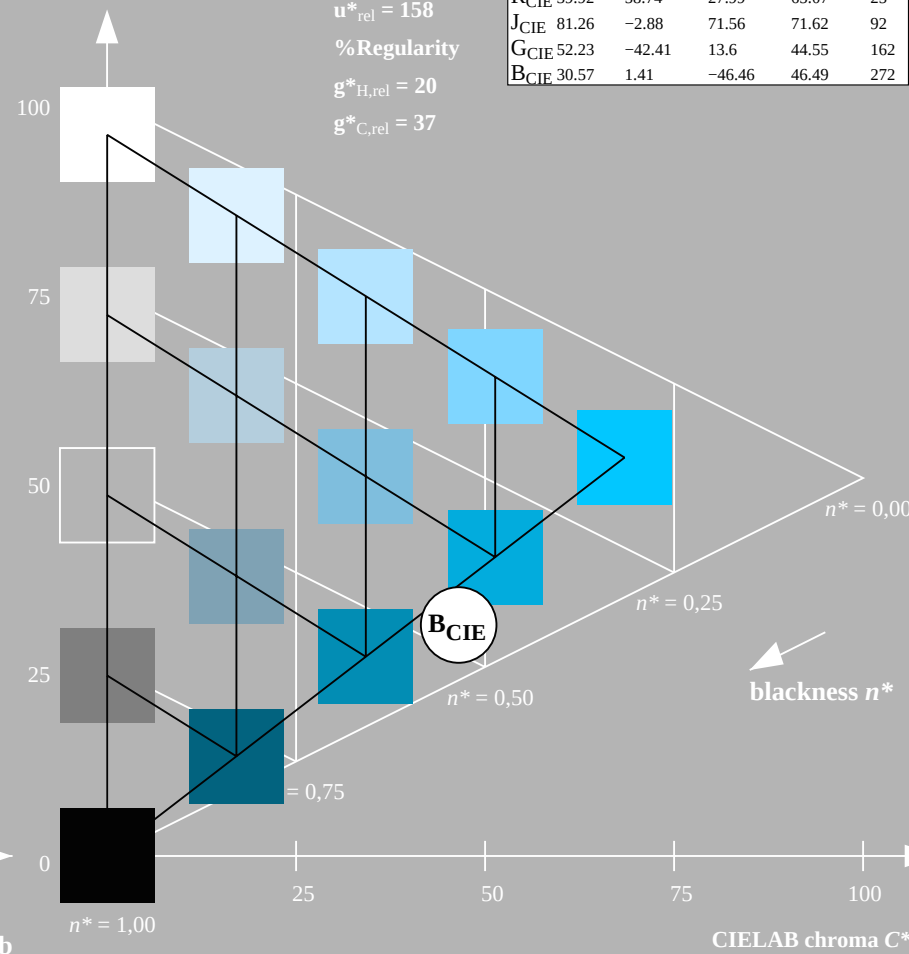
$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$



TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| Y <sub>Ma</sub>  | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| L <sub>Ma</sub>  | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| C <sub>Ma</sub>  | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| V <sub>Ma</sub>  | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| M <sub>Ma</sub>  | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| N <sub>Ma</sub>  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |



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

BAM-test chart RE30; Colorimetric systems ORS18 & TLS00

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

input: `olv* setrgbcolor`

output: `olv* setrgbcolor / w* setgray`