

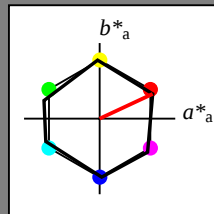
### Input: Colorimetric Natural Reflective System CNS18

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

$lab^*tch$  and  $lab^*nch$

D65: hue R  
LCH\*Ma: 57 77 25  
olv\*Ma: 1.0 0.0 0.0

triangle lightness



| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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

1,00

0,75

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness  $c^*$

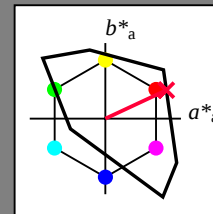
### Output: Colorimetric Television Luminous System TLS00

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

$lab^*tch$  and  $lab^*nch$

D65: hue O  
LCH\*Ma: 52 89 25  
olv\*Ma: 1.0 0.0 0.22

triangle lightness



| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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

$n^* = 0,00$

0,25

$n^* = 0,25$

$n^* = 0,50$

chromaticness  $c^*$

VE540-7, 5 step scales for constant CIE LAB hue 25/360 = 0.069 (left)

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

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

D65: 5 step colour scales and coordinate data for 10 hues

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Natural Reflective System CNS18

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

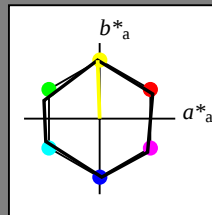
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 92

olv\*Ma: 1.0 1.0 0.0

triangle lightness

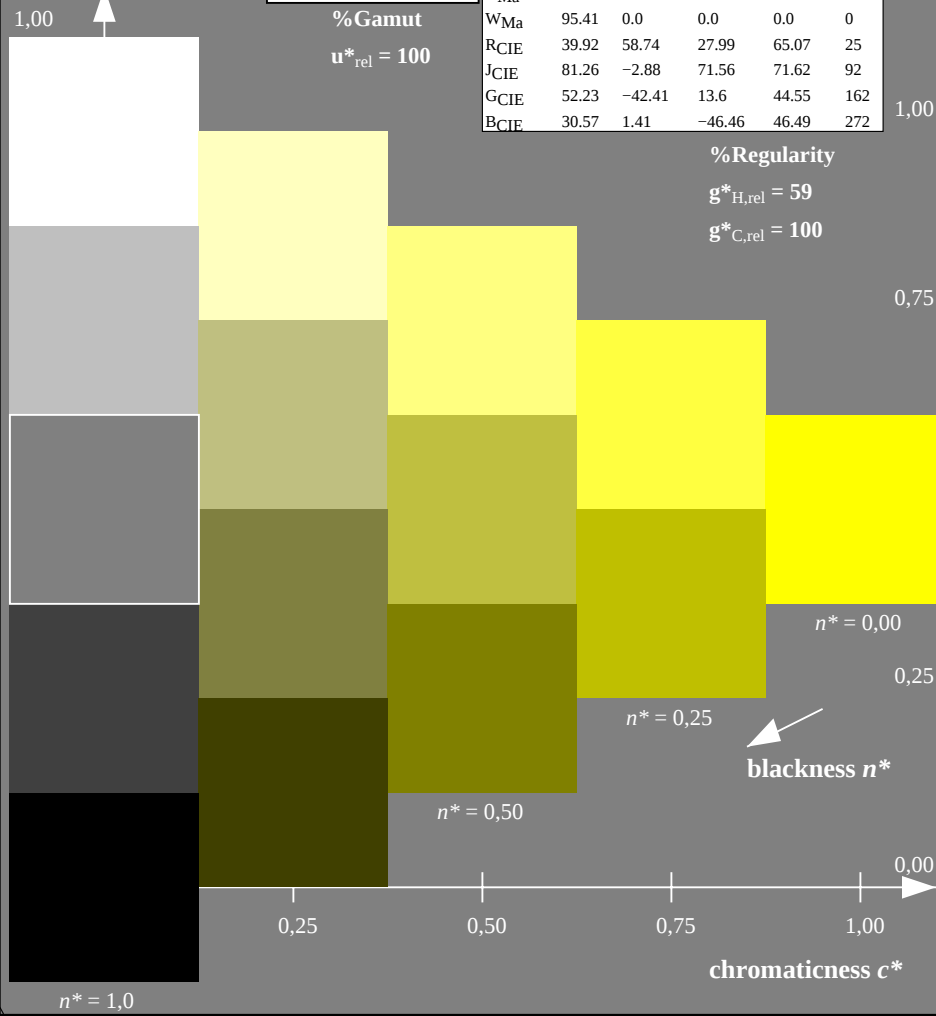


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

D65: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

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

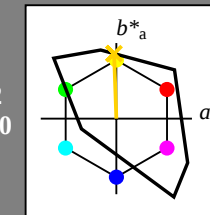
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 85 86 92

olv\*Ma: 1.0 0.82 0.0

triangle lightness

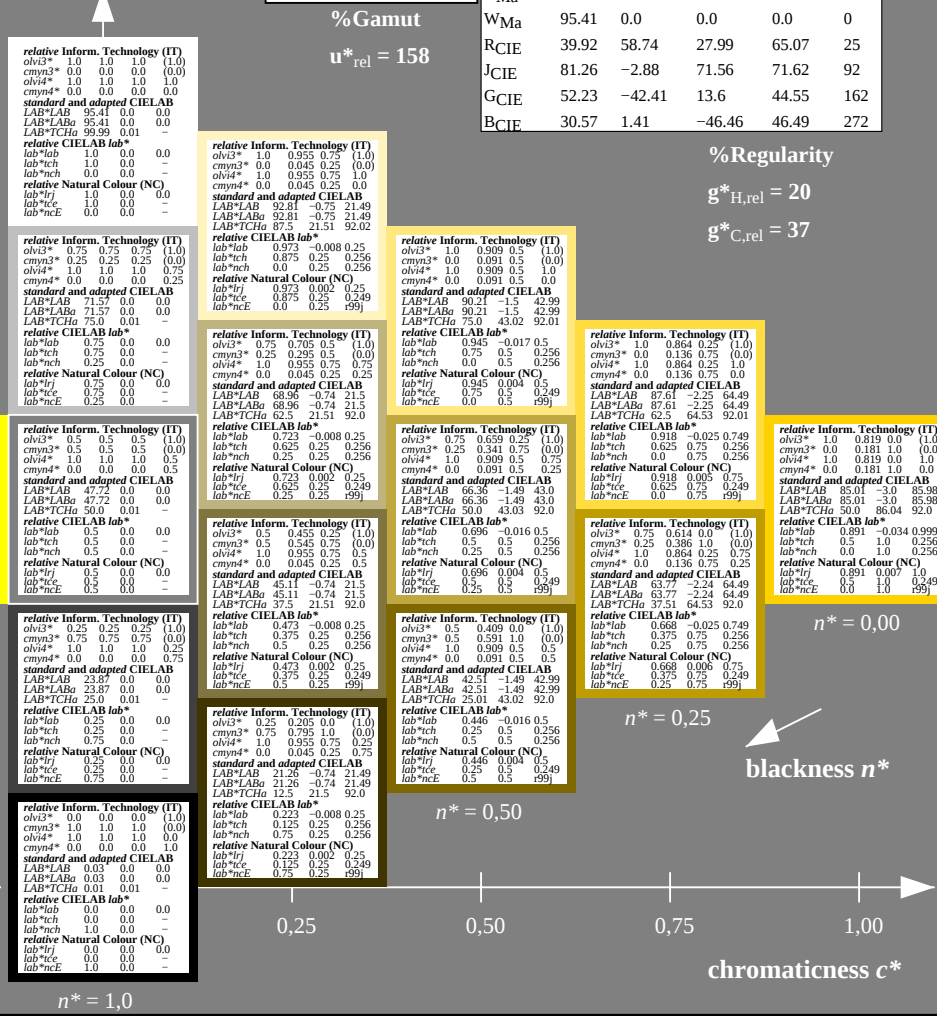


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



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

input: olv\* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

for hue  $h^* = lab^*h = 162/360 = 0.45$

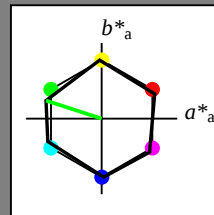
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 162

olv\*Ma: 0.0 1.0 0.0

triangle lightness

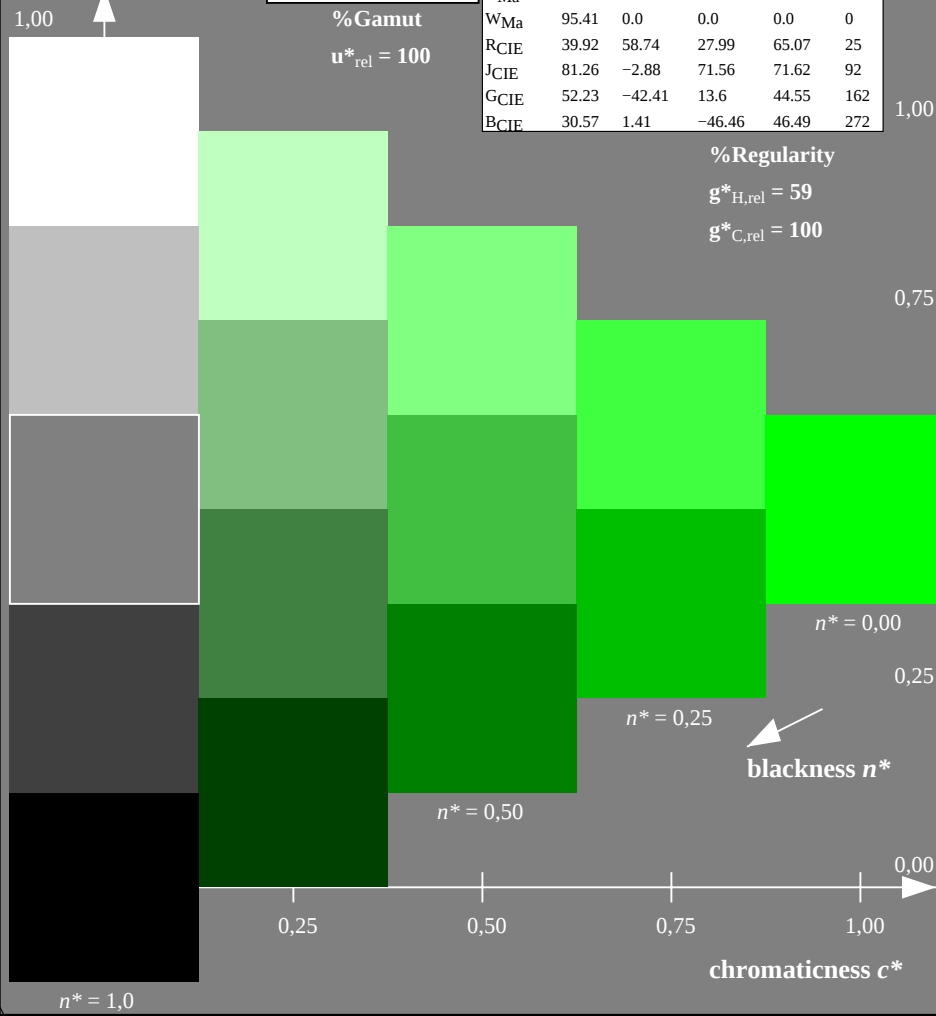


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 162/360 = 0.45 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 162/360 = 0.45$

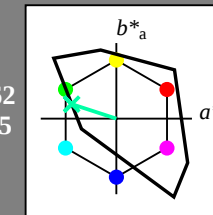
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 86 62 162

olv\*Ma: 0.0 1.0 0.65

triangle lightness

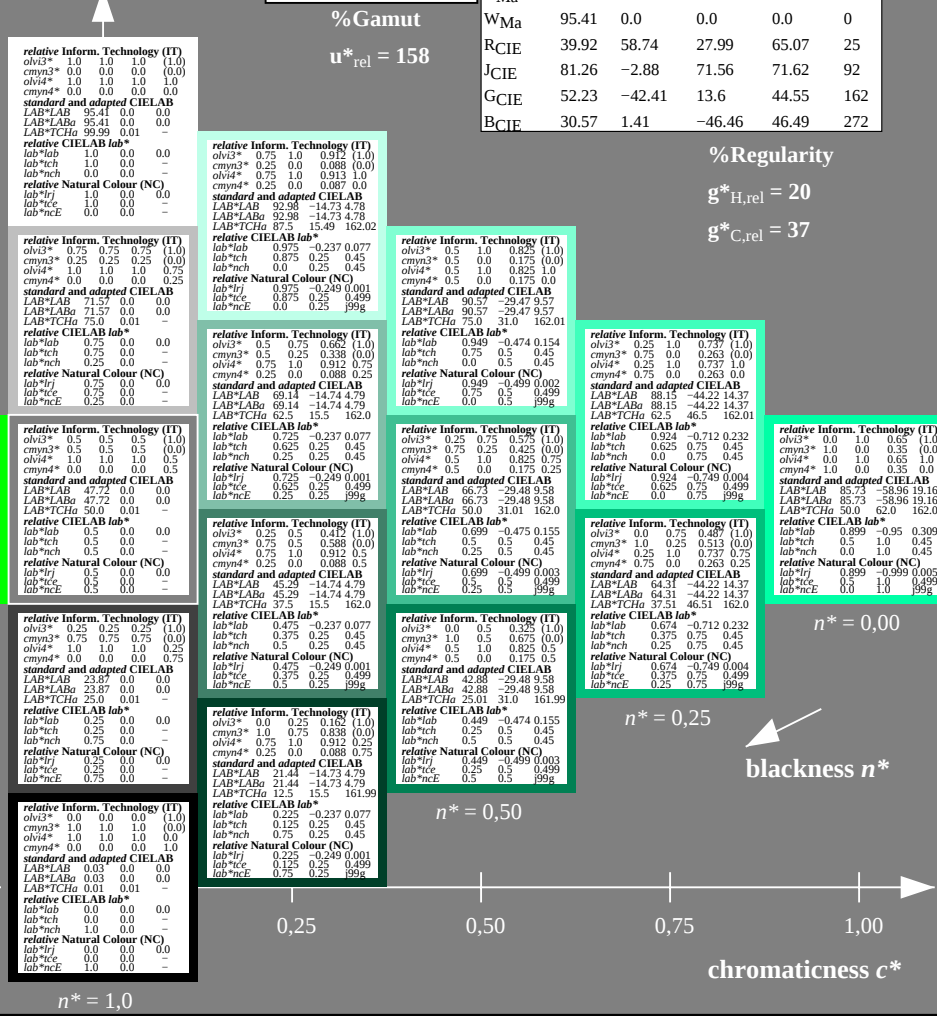


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



5 step scales for constant CIELAB hue 162/360 = 0.45 (right)

input: olv\* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

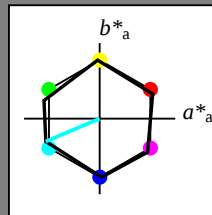
$lab^*tch$  and  $lab^*nch$

D65: hue G50B

LCH\*Ma: 57 77 203

olv\*Ma: 0.0 1.0 1.0

triangle lightness

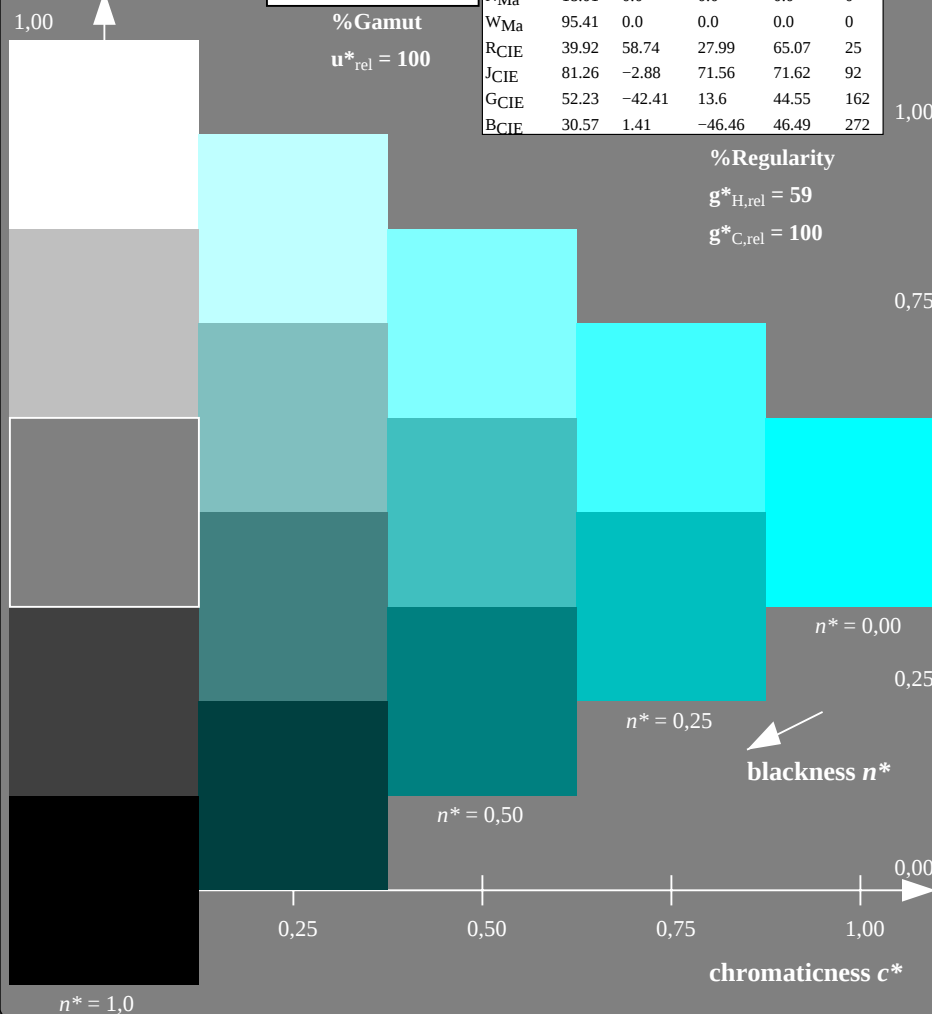


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50B <sub>Ma</sub>             | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| B <sub>Ma</sub>                | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50R <sub>Ma</sub>             | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| 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       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 203/360 = 0.564 (left)



D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Television Luminous System TLS00

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

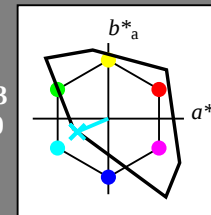
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 84 45 203

olv\*Ma: 0.0 0.96 1.0

triangle lightness

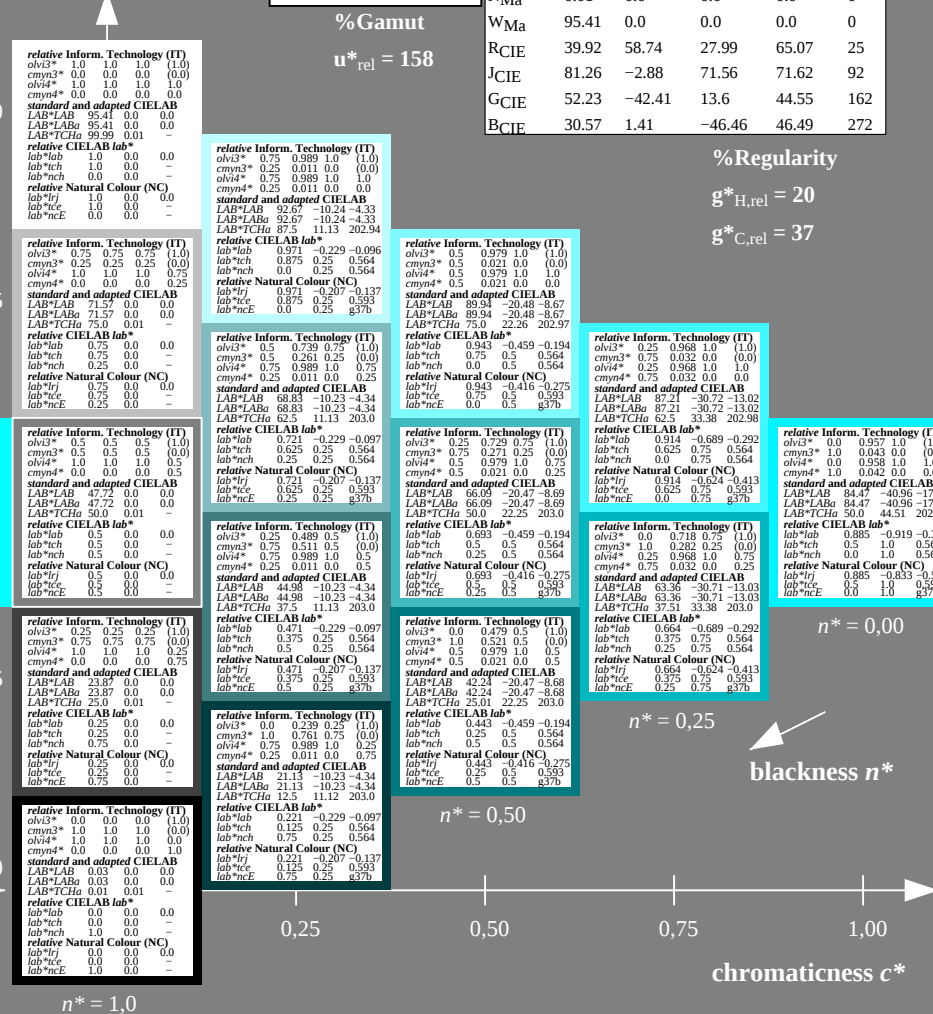


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 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            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



5 step scales for constant CIELAB hue 203/360 = 0.564 (right)

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Natural Reflective System CNS18

for hue  $h^* = lab^*h = 272/360 = 0.756$

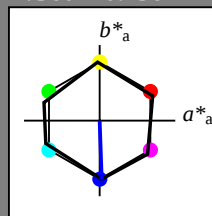
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 272

olv\*Ma: 0.0 0.0 1.0

triangle lightness

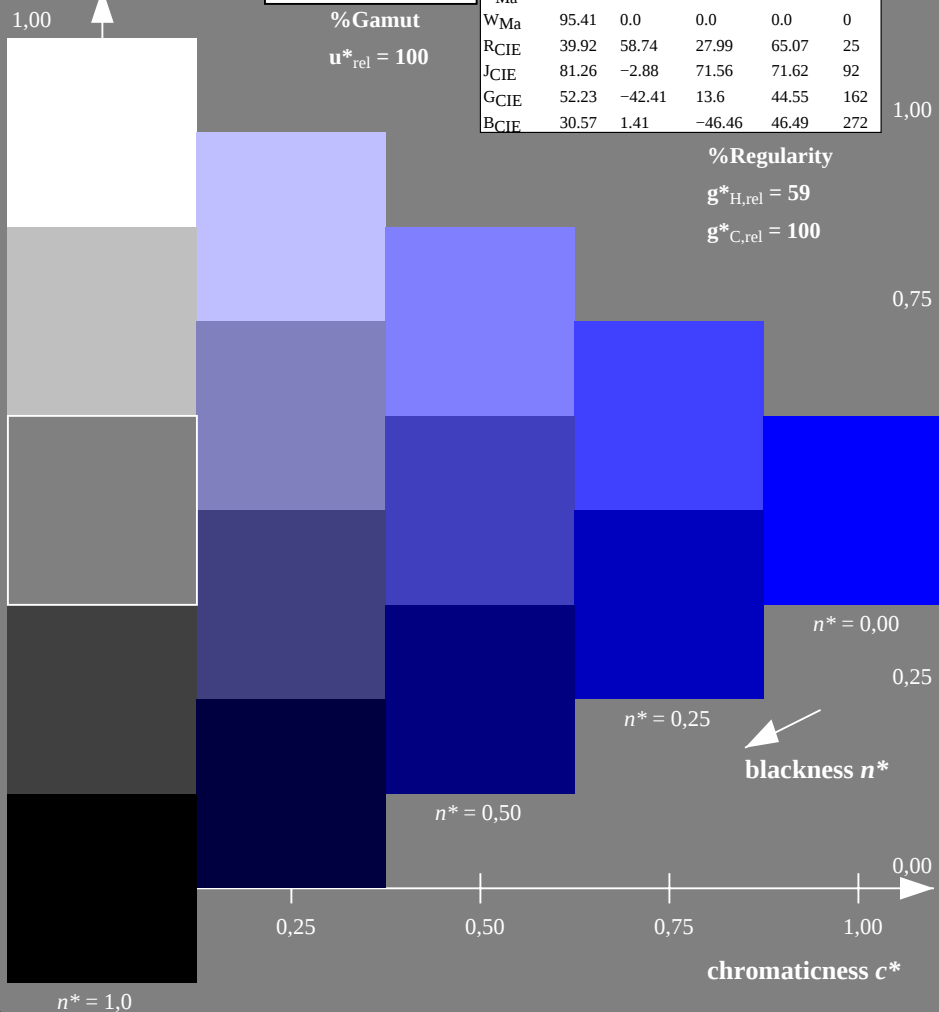


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50B <sub>Ma</sub>             | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| B <sub>Ma</sub>                | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50R <sub>Ma</sub>             | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| 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       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 272/360 = 0.756 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

D65: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 272/360 = 0.756$

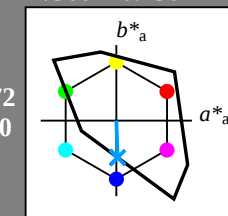
$lab^*tch$  and  $lab^*nch$

D65: hue V

LCH\*Ma: 65 49 272

olv\*Ma: 0.0 0.61 1.0

triangle lightness

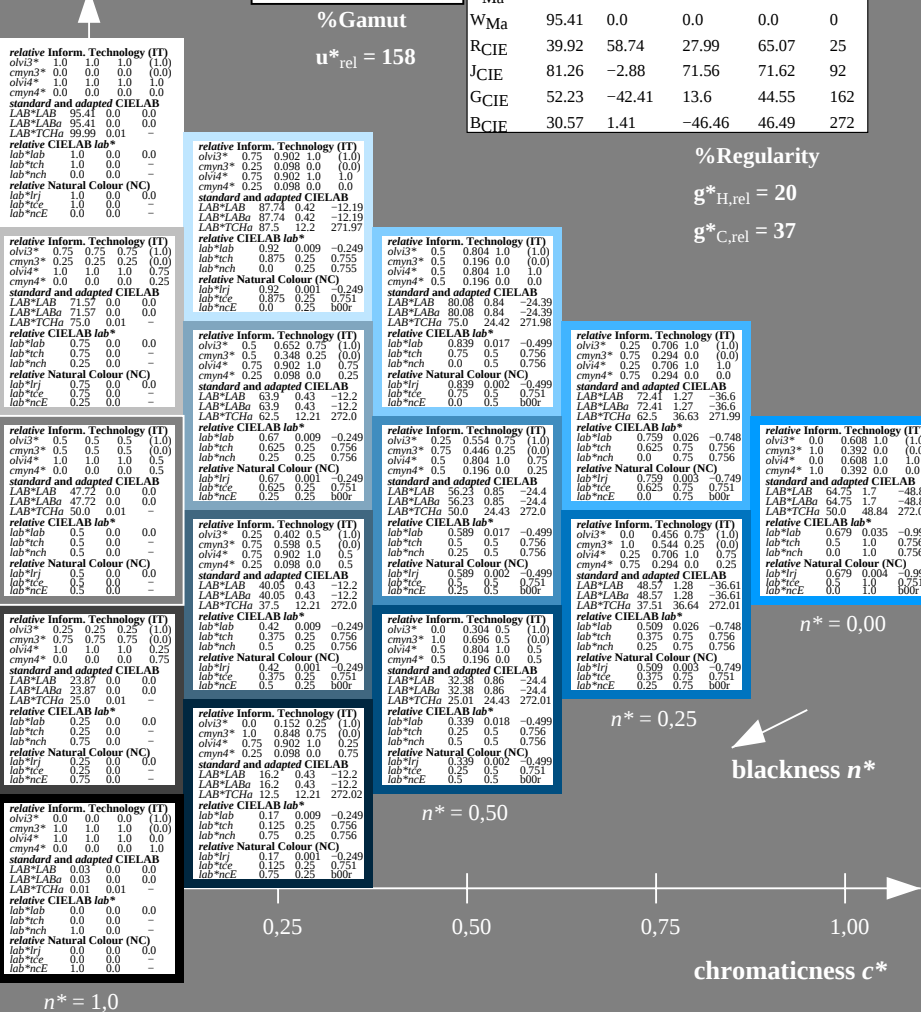


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 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            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



5 step scales for constant CIELAB hue 272/360 = 0.756 (right)

input: olv\* setrgbcolor

output: no change compared to input

**Input: Colorimetric Natural Reflective System CNS18**

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

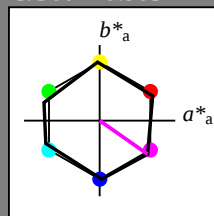
**lab\*tch and lab\*nch**

D65: hue B50R

**LCH\*Ma: 57 77 325**

**olv\*Ma: 1.0 0.0 1.0**

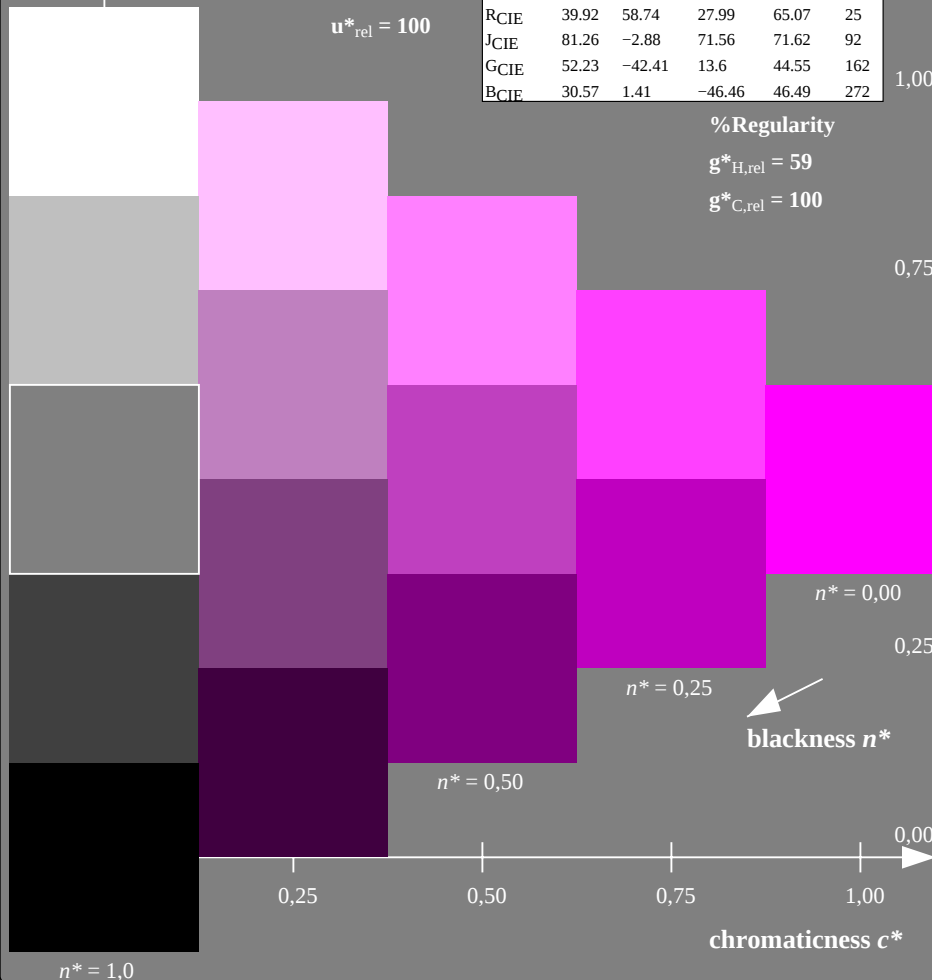
## triangle lightness



%Gamut

| CNS18; adapted (a) CIELAB data |         |         |         |              |              |  |
|--------------------------------|---------|---------|---------|--------------|--------------|--|
|                                | $L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| RMa                            | 56.7    | 70.15   | 32.71   | 77.4         | 25           |  |
| JMa                            | 56.7    | -2.69   | 77.35   | 77.4         | 92           |  |
| GMa                            | 56.7    | -73.6   | 23.92   | 77.4         | 162          |  |
| G50B <sub>Ma</sub>             | 56.7    | -71.24  | -30.23  | 77.4         | 203          |  |
| B <sub>Ma</sub>                | 56.7    | 2.7     | -77.34  | 77.4         | 272          |  |
| B50R <sub>Ma</sub>             | 56.7    | 63.4    | -44.38  | 77.4         | 325          |  |
| 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   | 58.74   | 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          |  |

### %Regularity

$$g^*_{H,rel} = 59$$
$$g^*_{C,rel} = 100$$


VE540-7, 5 step scales for constant CIELAB hue 325/360 = 0.903 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

## D65: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

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

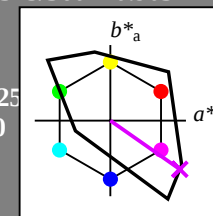
*lab\*tch* and *lab\*nch*

D65: hue M

LCH\*Ma: 54 112 325

olv\*Ma: 0.87 0.0 1.0

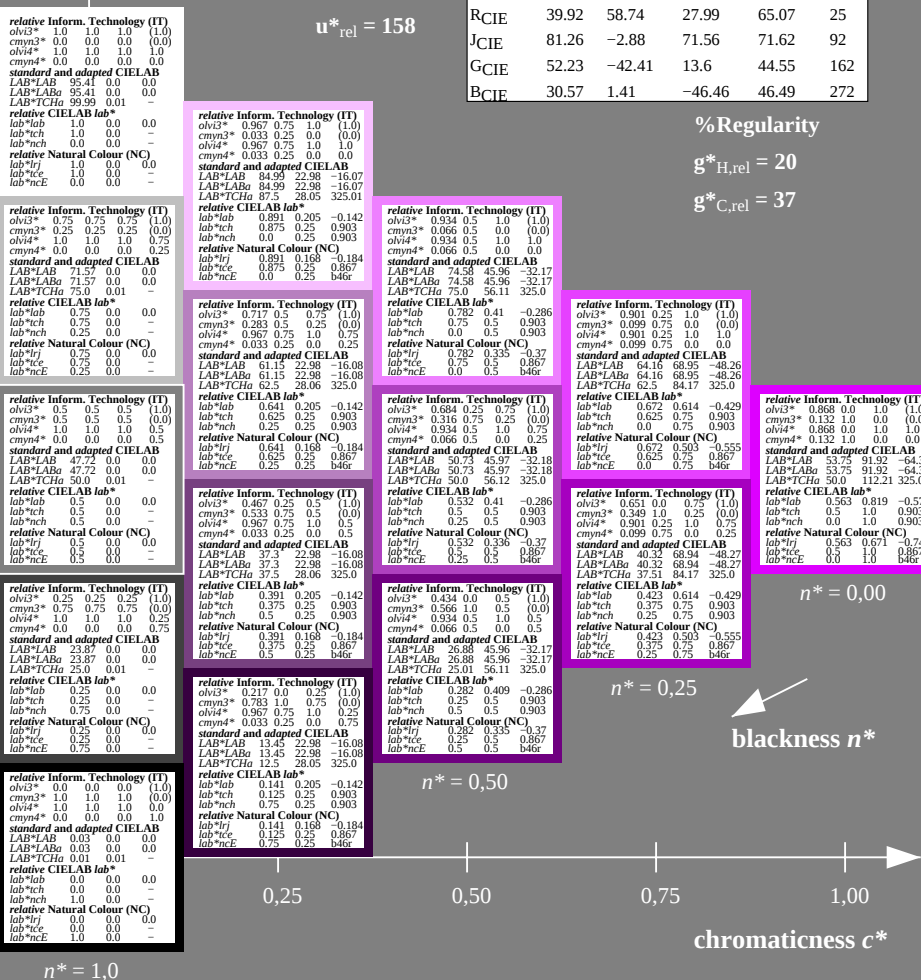
triangle lightness



%Gamut

| TLS00; adapted (a) CIELAB data |         |         |         |              |            |  |
|--------------------------------|---------|---------|---------|--------------|------------|--|
|                                | $L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab}$ |  |
| 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        |  |

### %Regularity

$$g^*_{H,rel} = 20$$
$$g^*_{C,rel} = 37$$


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

input: *olv\** *setrgbcolor*

output: *no change compared to input*

### Input: Colorimetric Natural Reflective System CNS18

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

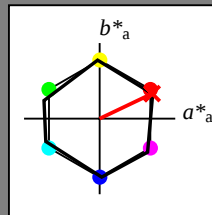
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 57 77 25

olv\*Ma: 1.0 0.01 0.0

triangle lightness

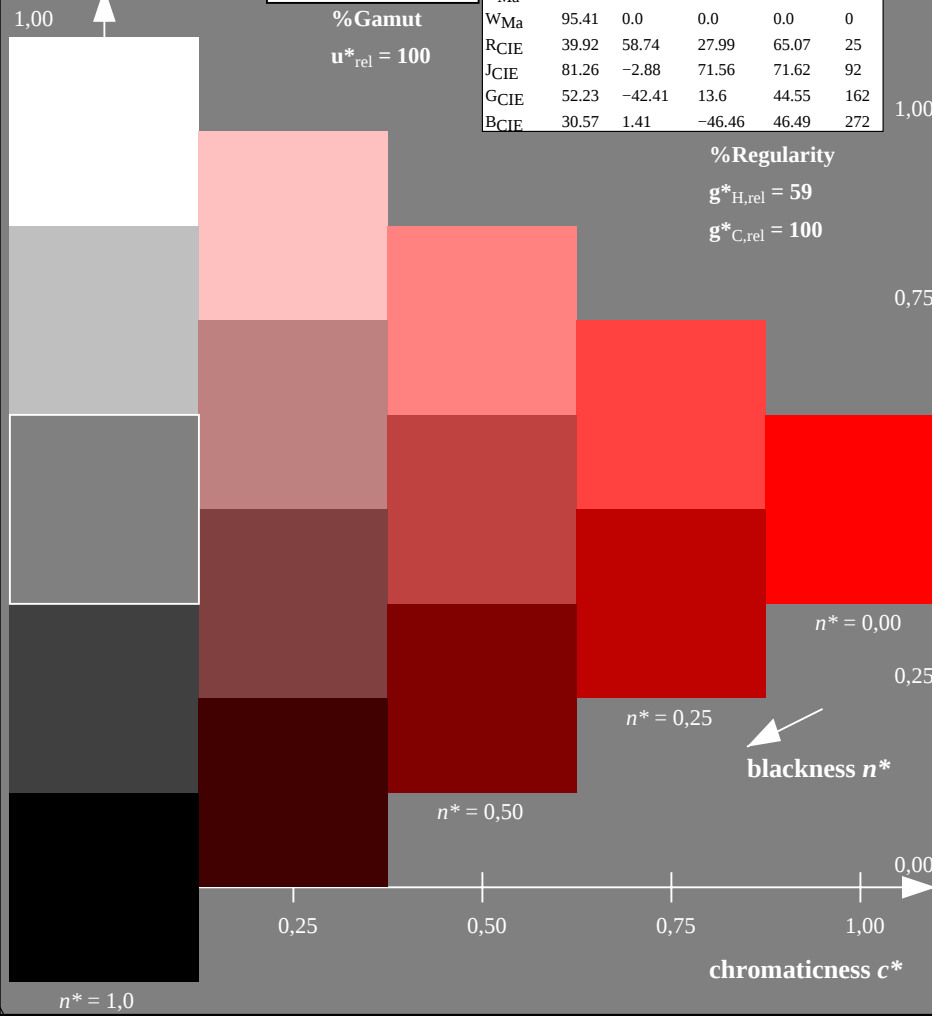


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50B <sub>Ma</sub>             | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| B <sub>Ma</sub>                | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50R <sub>Ma</sub>             | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| 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       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)



BAM-test chart VE54; Colorimetric systems CNS18 & TLS00  
D65: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

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

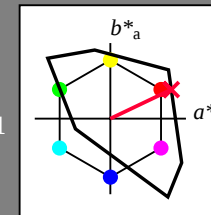
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 52 89 25

olv\*Ma: 1.0 0.0 0.21

triangle lightness

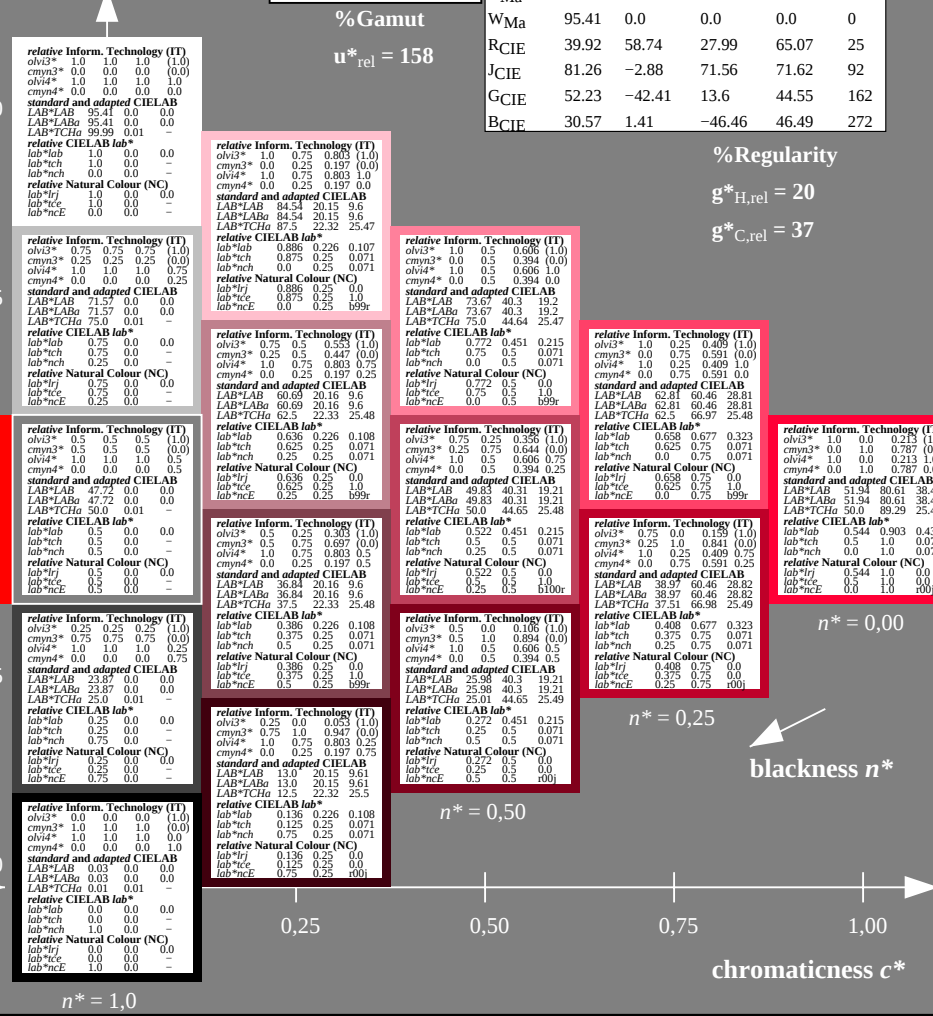


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 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            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



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

input: olv\* setrgbcolor

output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

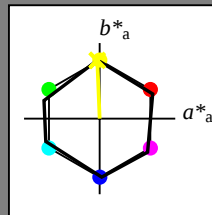
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 57 77 92

olv\*Ma: 0.99 1.0 0.0

triangle lightness

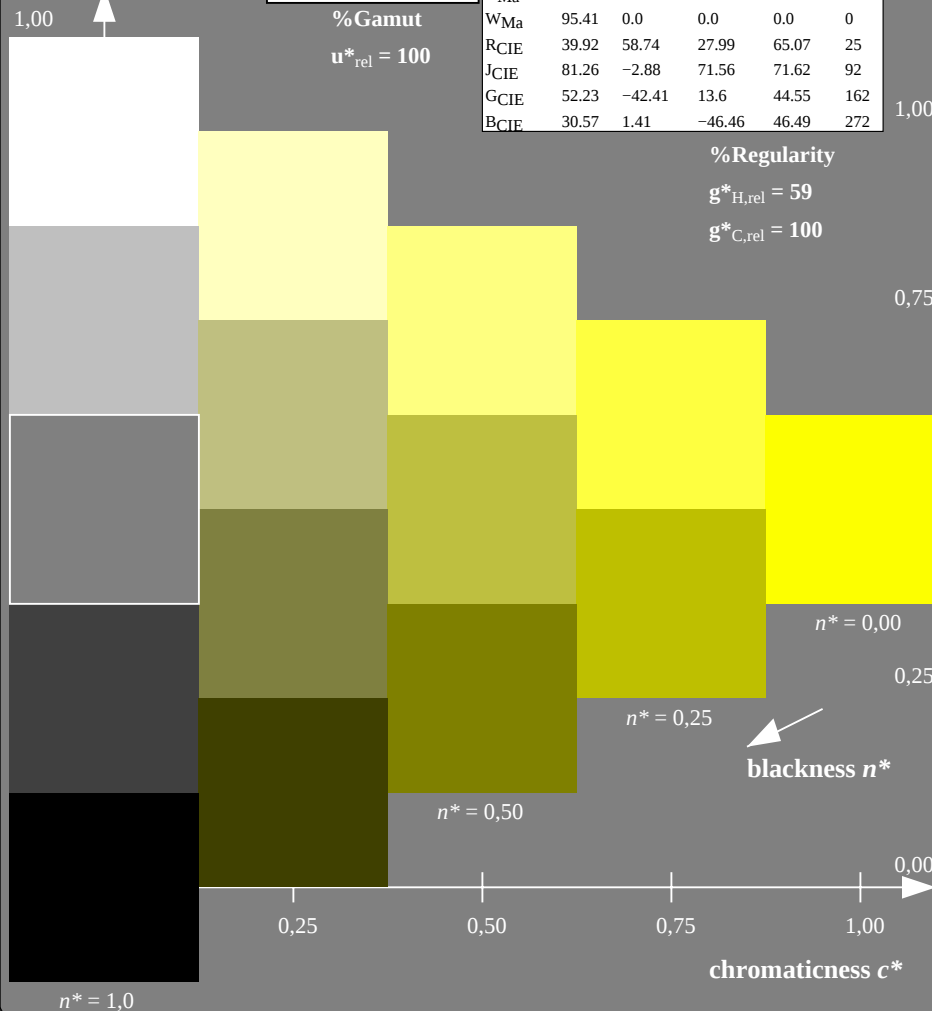


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00  
D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Television Luminous System TLS00

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

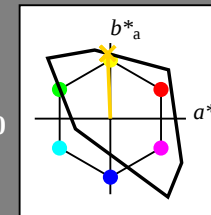
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 85 86 92

olv\*Ma: 1.0 0.82 0.0

triangle lightness

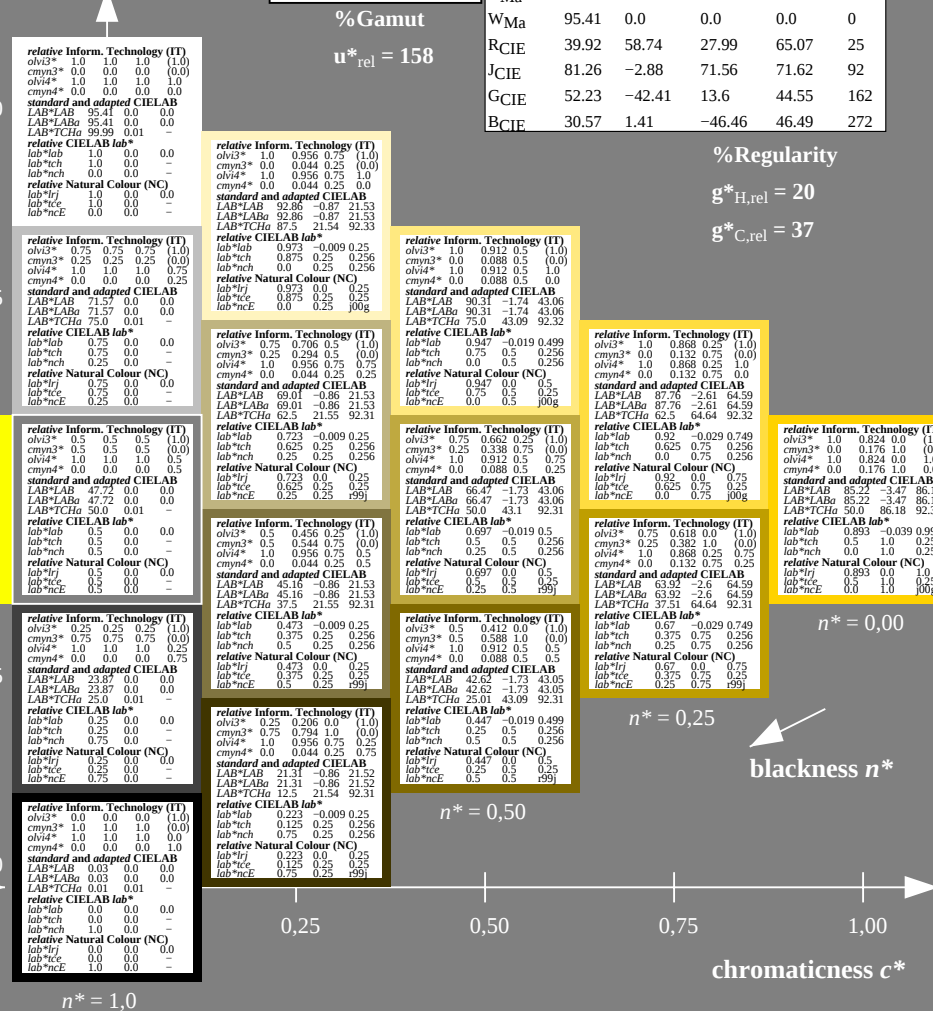


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



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

input: olv\* setrgbcolor  
output: no change compared to input

Input: Colorimetric Natural Reflective System CNS18

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

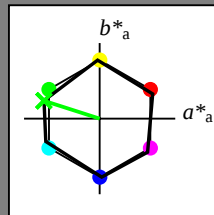
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 57 77 162

olv\*Ma: 0.0 1.0 0.01

triangle lightness

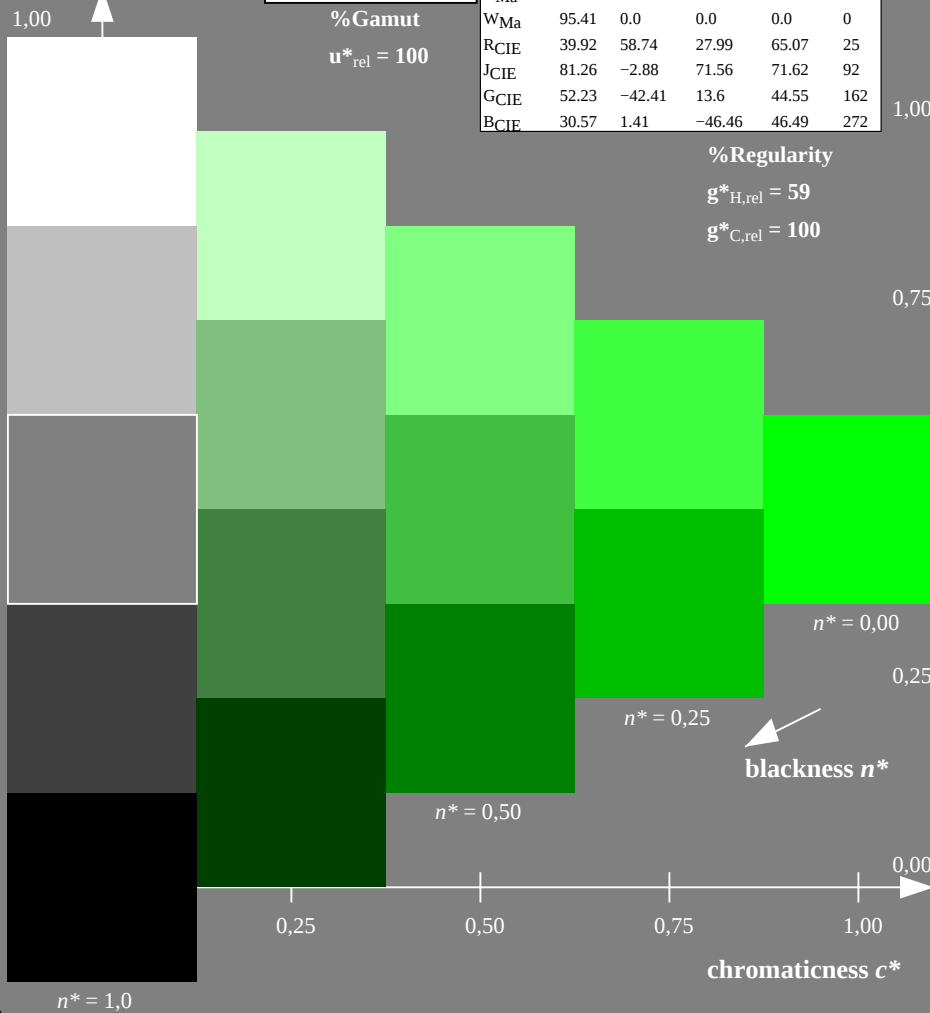


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)



BAM-test chart VE54; Colorimetric systems CNS18 & TLS00  
D65: 5 step colour scales and coordinate data for 10 hues

Output: Colorimetric Television Luminous System TLS00

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

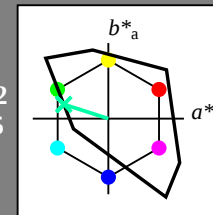
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 86 62 162

olv\*Ma: 0.0 1.0 0.65

triangle lightness

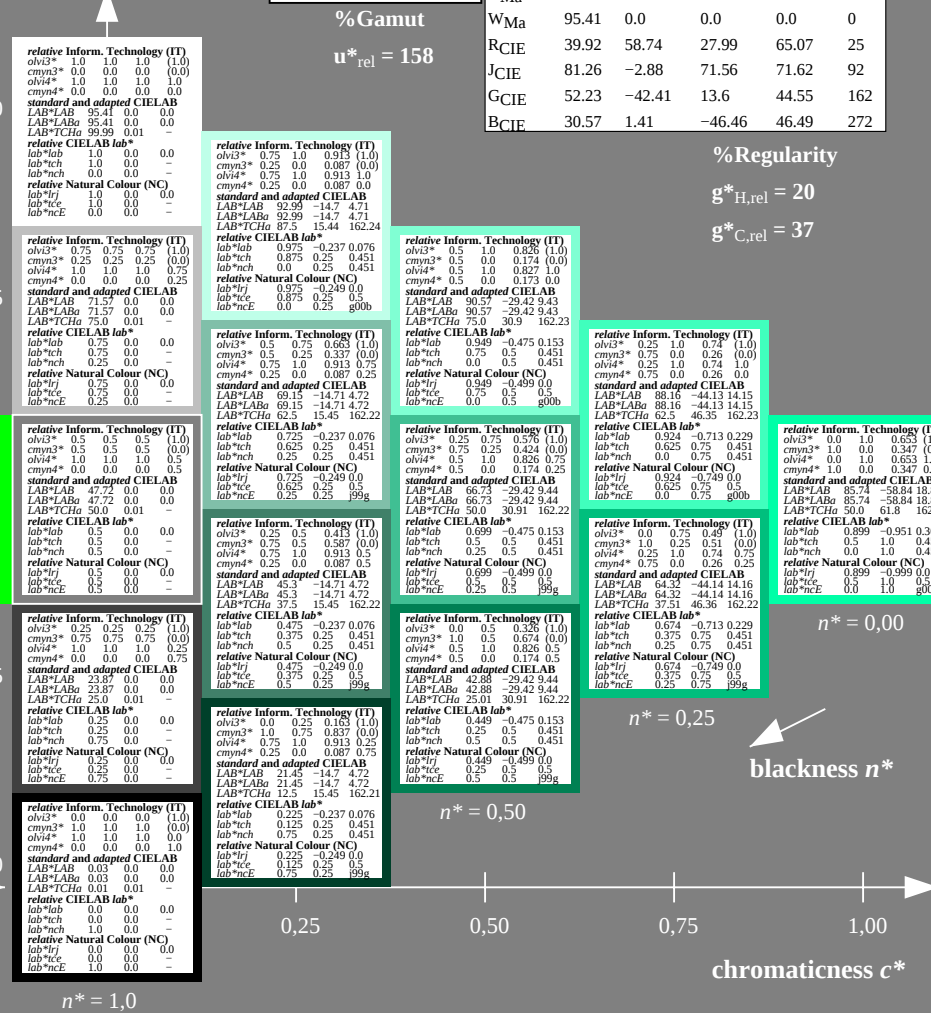


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



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

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Natural Reflective System CNS18

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

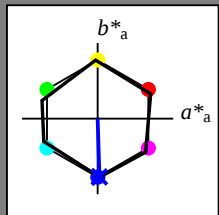
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 57 77 272

olv\*Ma: 0.0 0.0 1.0

triangle lightness

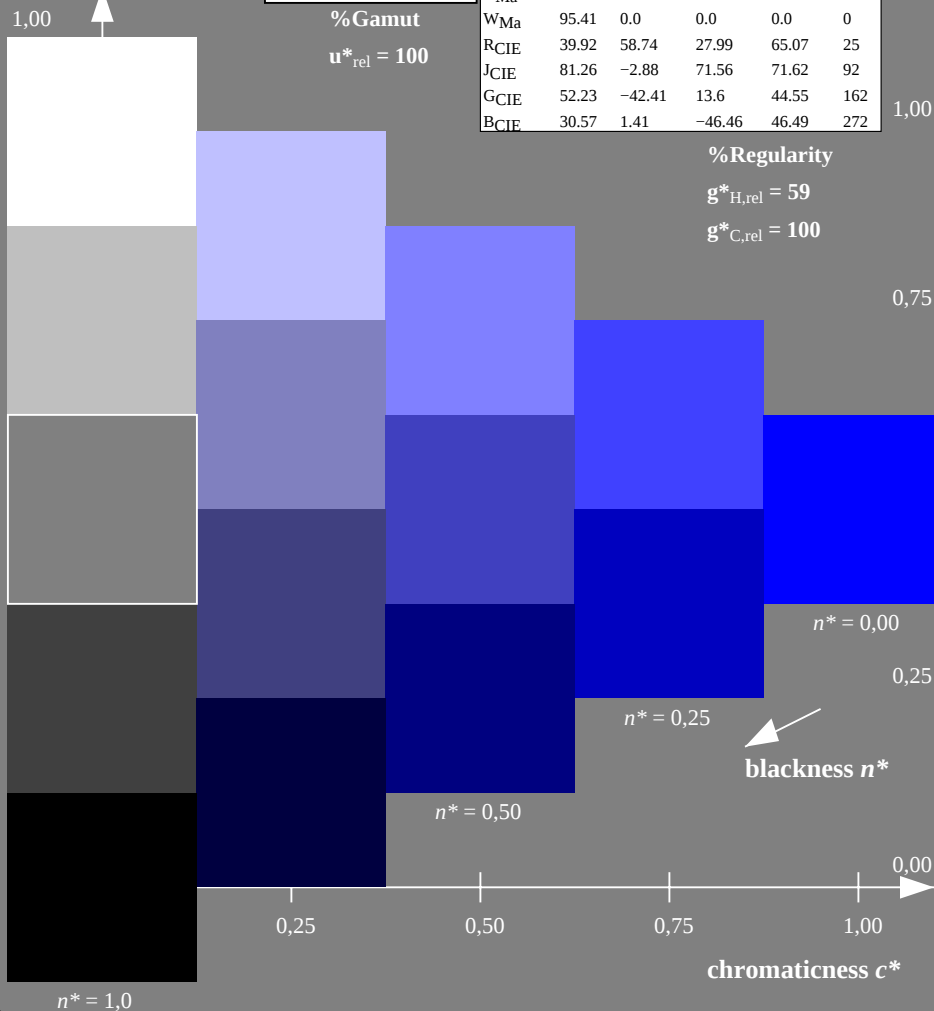


| CNS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 56.7        | 70.15   | 32.71   | 77.4         | 25           |
| JMa                            | 56.7        | -2.69   | 77.35   | 77.4         | 92           |
| GMa                            | 56.7        | -73.6   | 23.92   | 77.4         | 162          |
| G50BMa                         | 56.7        | -71.24  | -30.23  | 77.4         | 203          |
| BMa                            | 56.7        | 2.7     | -77.34  | 77.4         | 272          |
| B50RMa                         | 56.7        | 63.4    | -44.38  | 77.4         | 325          |
| NMa                            | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



VE540-7, 5 step scales for constant CIELAB hue 272/360 = 0.755 (left)

BAM-test chart VE54; Colorimetric systems CNS18 & TLS00

D65: 5 step colour scales and coordinate data for 10 hues

### Output: Colorimetric Television Luminous System TLS00

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

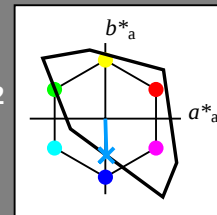
$lab^*tch$  and  $lab^*nch$

D65: hue B

LCH\*Ma: 65 49 272

olv\*Ma: 0.0 0.61 1.0

triangle lightness

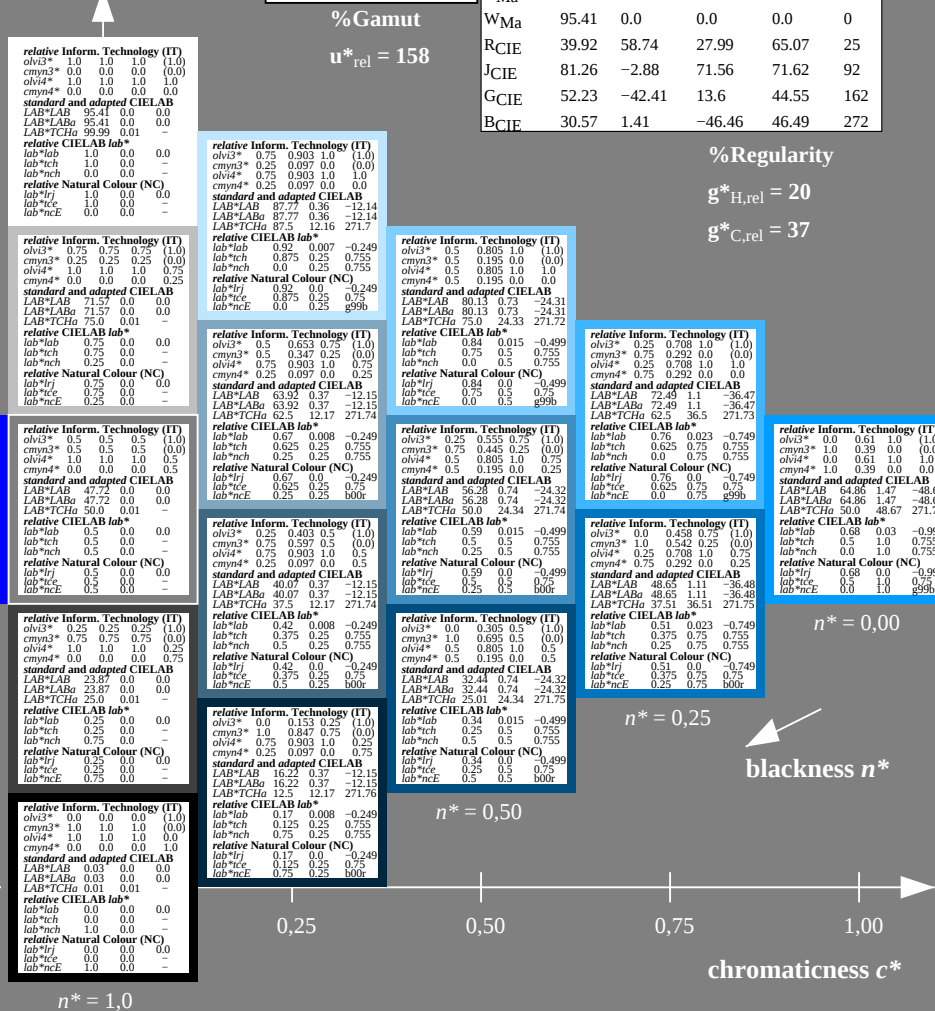


| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| OMa                            | 50.5        | 76.92   | 64.55   | 100.42       | 40           |
| YMa                            | 92.66       | -20.69  | 90.75   | 93.08        | 103          |
| LMa                            | 83.63       | -82.75  | 79.9    | 115.04       | 136          |
| CMa                            | 86.88       | -46.16  | -13.55  | 48.12        | 196          |
| VMa                            | 30.39       | 76.06   | -103.59 | 128.52       | 306          |
| MMa                            | 57.3        | 94.35   | -58.41  | 110.97       | 328          |
| NMa                            | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| JCIE                           | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| BCIE                           | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Regularity

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

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



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

input: olv\* setrgbcolor

output: no change compared to input