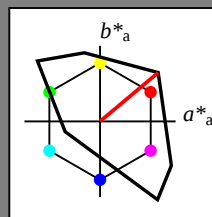


### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 40/360 = 0.111$   
 $lab^*ich$  and  $lab^*nch$

D65: hue O  
LCH\*Ma: 51 100 40  
olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 158$   
%Regularity  
 $g^*_{H,rel} = 20$   
 $g^*_{C,rel} = 37$

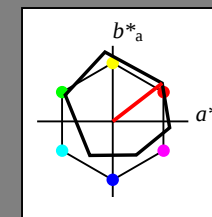
| TLS00; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O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

### Output: Colorimetric Offset Reflective System ORS18

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

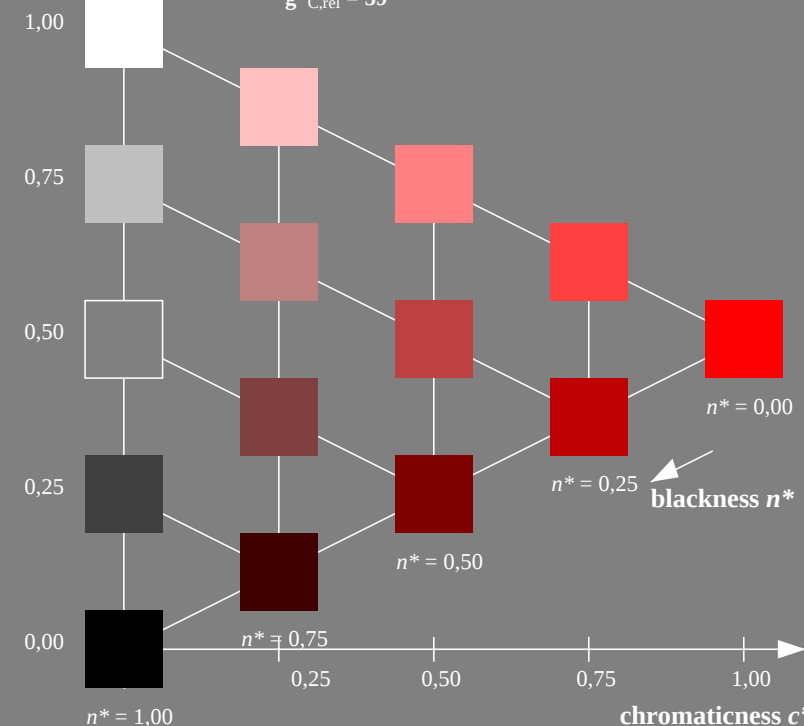
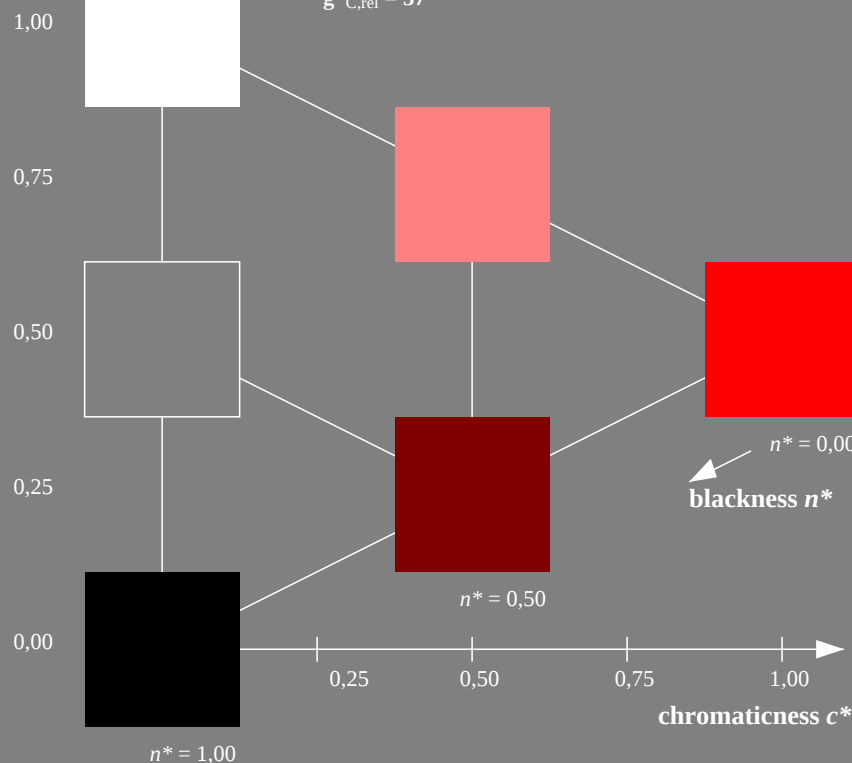
D65: hue O  
LCH\*Ma: 48 83 38  
olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| 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          |



NE650-7, 3 step scales for constant CIE LAB hue 40/360 = 0.111 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

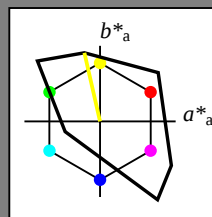
input: olv\* setrgbcolor  
output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 103/360 = 0.286$   
 $lab^*ich$  and  $lab^*nch$

D65: hue Y  
LCH\*Ma: 93 93 103  
olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 158$   
%Regularity  
 $g^*_{H,rel} = 20$   
 $g^*_{C,rel} = 37$

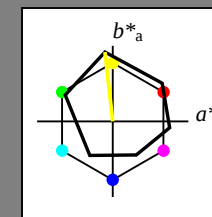
| TLS00; adapted (a) CIELAB data |         |         |              |              |  |
|--------------------------------|---------|---------|--------------|--------------|--|
| $L^*=L^*_a$                    | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| O <sub>Ma</sub> 50.5           | 76.92   | 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          |  |

### Output: Colorimetric Offset Reflective System ORS18

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

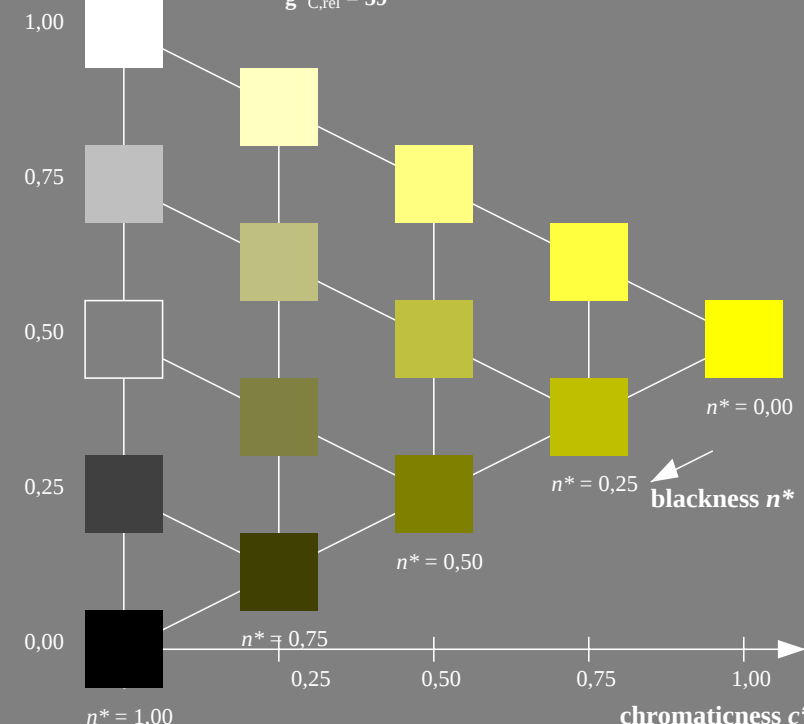
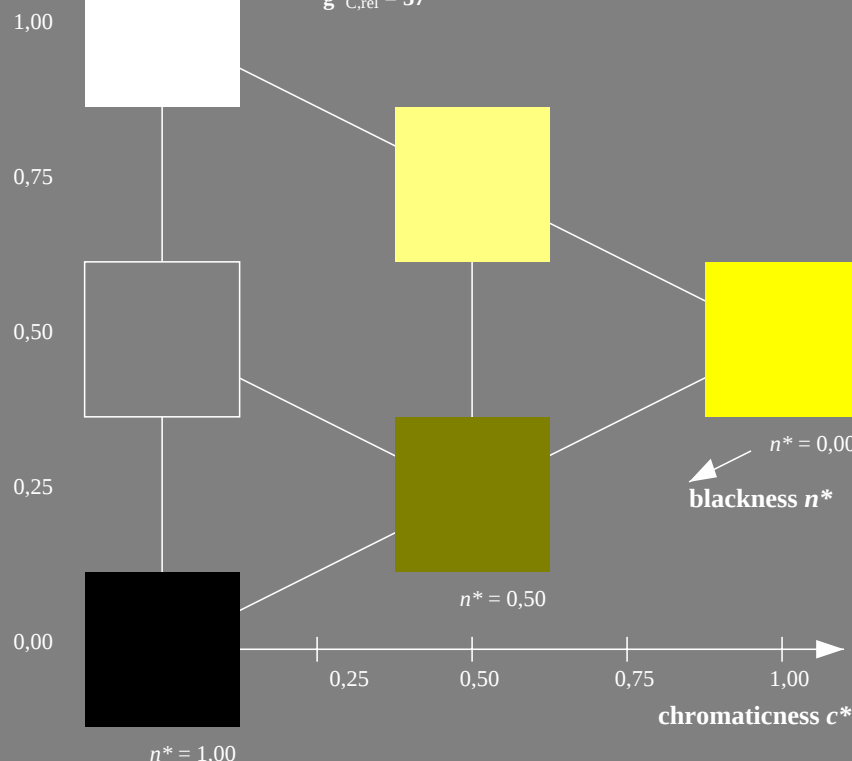
D65: hue Y  
LCH\*Ma: 90 92 96  
olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |         |         |              |              |  |
|--------------------------------|---------|---------|--------------|--------------|--|
| $L^*=L^*_a$                    | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| 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          |  |



NE650-7, 3 step scales for constant CIE LAB hue 103/360 = 0.286 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18  
D65: 3 and 5 step colour scales for 10 hues

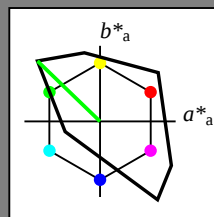
input: olv\* setrgbcolor  
output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 136/360 = 0.378$   
 $lab^*ich$  and  $lab^*nch$

D65: hue L  
LCH\*Ma: 84 115 136  
olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 158$   
%Regularity  
 $g^*_{H,rel} = 20$   
 $g^*_{C,rel} = 37$

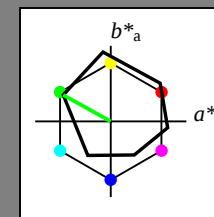
| TLS00; adapted (a) CIELAB data |         |         |              |              |  |
|--------------------------------|---------|---------|--------------|--------------|--|
| $L^*=L^*_a$                    | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| O <sub>Ma</sub> 50.5           | 76.92   | 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          |  |

### Output: Colorimetric Offset Reflective System ORS18

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

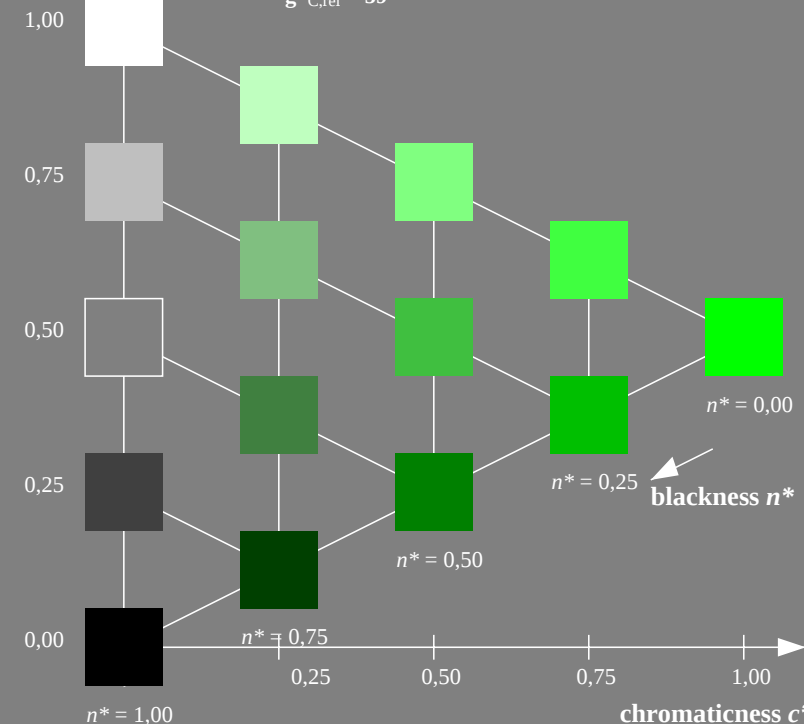
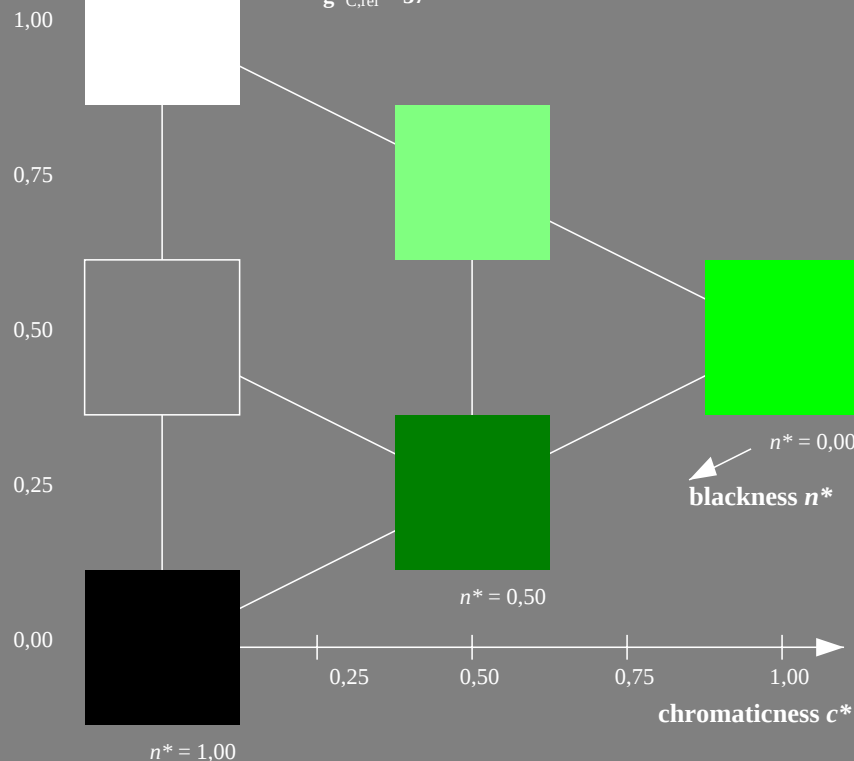
D65: hue L  
LCH\*Ma: 51 72 151  
olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |         |         |              |              |  |
|--------------------------------|---------|---------|--------------|--------------|--|
| $L^*=L^*_a$                    | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| 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          |  |



NE650-7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

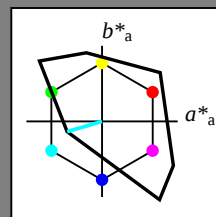
output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 196/360 = 0.545$   
 $lab^*ich$  and  $lab^*nch$

D65: hue C  
LCH\*Ma: 87 48 196  
olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut  
 $u^*_{rel} = 158$   
%Regularity  
 $g^*_{H,rel} = 20$   
 $g^*_{C,rel} = 37$

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

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$

chromaticness  $c^*$

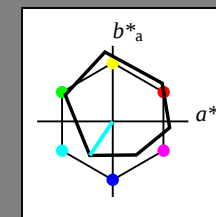
0,25 0,50 0,75 1,00

### Output: Colorimetric Offset Reflective System ORS18

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

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

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |         |         |              |              |  |
|--------------------------------|---------|---------|--------------|--------------|--|
| $L^*=L^*_a$                    | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |  |
| OMa 47.94                      | 65.39   | 50.52   | 82.63        | 38           |  |
| YMa 90.37                      | -10.26  | 91.75   | 92.32        | 96           |  |
| LMa 50.9                       | -62.83  | 34.96   | 71.91        | 151          |  |
| CMa 58.62                      | -30.34  | -45.01  | 54.3         | 236          |  |
| VMa 25.72                      | 31.1    | -44.4   | 54.22        | 305          |  |
| MMa 48.13                      | 75.28   | -8.36   | 75.74        | 354          |  |
| NMa 18.01                      | 0.0     | 0.0     | 0.0          | 0            |  |
| WMa 95.41                      | 0.0     | 0.0     | 0.0          | 0            |  |
| RCIE 39.92                     | 58.66   | 26.98   | 64.57        | 25           |  |
| JCIE 81.26                     | -2.16   | 67.76   | 67.79        | 92           |  |
| GCIE 52.23                     | -42.25  | 11.76   | 43.87        | 164          |  |
| BCIE 30.57                     | 1.15    | -46.84  | 46.86        | 271          |  |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$   
blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

NE650-7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = \text{lab}^*h = 306/360 = 0.851$

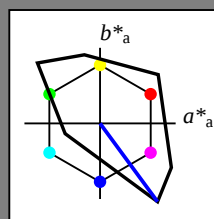
$\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue V

LCH\*Ma: 30 129 306

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{\text{rel}} = 158$

%Regularity

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

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

### 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          |

### Output: Colorimetric Offset Reflective System ORS18

for hue  $h^* = \text{lab}^*h = 305/360 = 0.847$

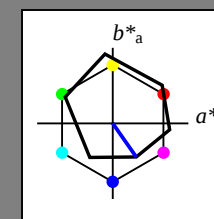
$\text{lab}^*ich$  and  $\text{lab}^*nch$

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{\text{rel}} = 93$

%Regularity

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

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

### ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,00$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

chromaticness  $c^*$

blackness  $n^*$

NE650-7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

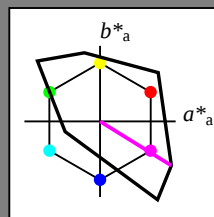
output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 328/360 = 0.912$   
 $lab^*ich$  and  $lab^*nch$

D65: hue M  
LCH\*Ma: 57 111 328  
olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$



%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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$

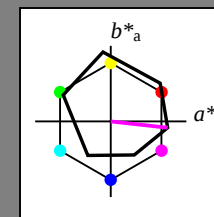
chromaticness  $c^*$

### Output: Colorimetric Offset Reflective System ORS18

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

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

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

NE650-7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

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

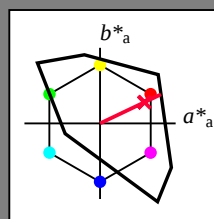
$lab^*ich$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 52 89 25

olv\*Ma: 1.0 0.0 0.21

triangle lightness  $t^*$



%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          |

### Output: Colorimetric Offset Reflective System ORS18

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

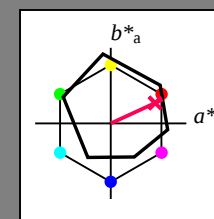
$lab^*ich$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

### ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,00$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

chromaticness  $c^*$

blackness  $n^*$

NE650-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

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

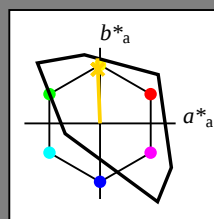
$lab^*ich$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 85 86 92

olv\*Ma: 1.0 0.82 0.0

triangle lightness  $t^*$



%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          |

### Output: Colorimetric Offset Reflective System ORS18

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

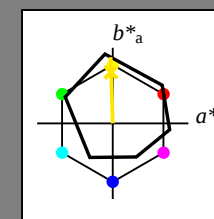
$lab^*ich$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

### ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

chromaticness  $c^*$

NE650-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

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

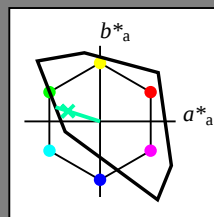
$lab^*ich$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 86 62 162

olv\*Ma: 0.0 1.0 0.65

triangle lightness  $t^*$



%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          |

### Output: Colorimetric Offset Reflective System ORS18

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

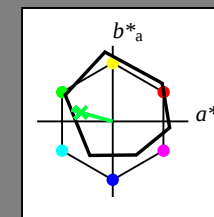
$lab^*ich$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

### ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

chromaticness  $c^*$

blackness  $n^*$

$n^* = 0,00$

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$

chromaticness  $c^*$

blackness  $n^*$

NE650-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

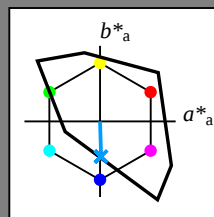
output: no change compared to input

### Input: Colorimetric Television Luminous System TLS00

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

D65: hue B  
LCH\*Ma: 65 49 272  
olv\*Ma: 0.0 0.61 1.0

triangle lightness  $t^*$



%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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,50$

$n^* = 0,00$   
blackness  $n^*$

chromaticness  $c^*$

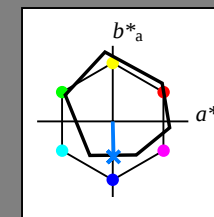
0,25 0,50 0,75 1,00

### Output: Colorimetric Offset Reflective System ORS18

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

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

triangle lightness  $t^*$



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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| 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          |

1,00

0,75

0,50

0,25

0,00

$n^* = 1,00$

$n^* = 0,75$

$n^* = 0,50$

$n^* = 0,25$

$n^* = 0,00$   
blackness  $n^*$

chromaticness  $c^*$

0,25 0,50 0,75 1,00

NE650-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

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

BAM-test chart NE65; Colorimetric systems TLS00 & ORS18

D65: 3 and 5 step colour scales for 10 hues

input: olv\* setrgbcolor

output: no change compared to input