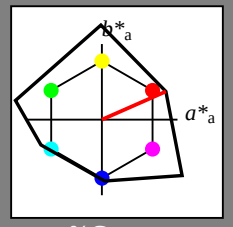
## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 24/360 = 0.066*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
rgb*Ma: 1.0 0.0 0.0

triangle lightness *t**




%Gamut
u*$_{rel}$ = 149

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

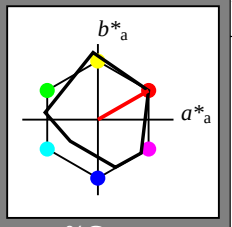
%Regularity
g*$_{H,rel}$ = 46
g*$_{C,rel}$ = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 30/360 = 0.083*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
rgb*Ma: 1.0 0.0 0.0

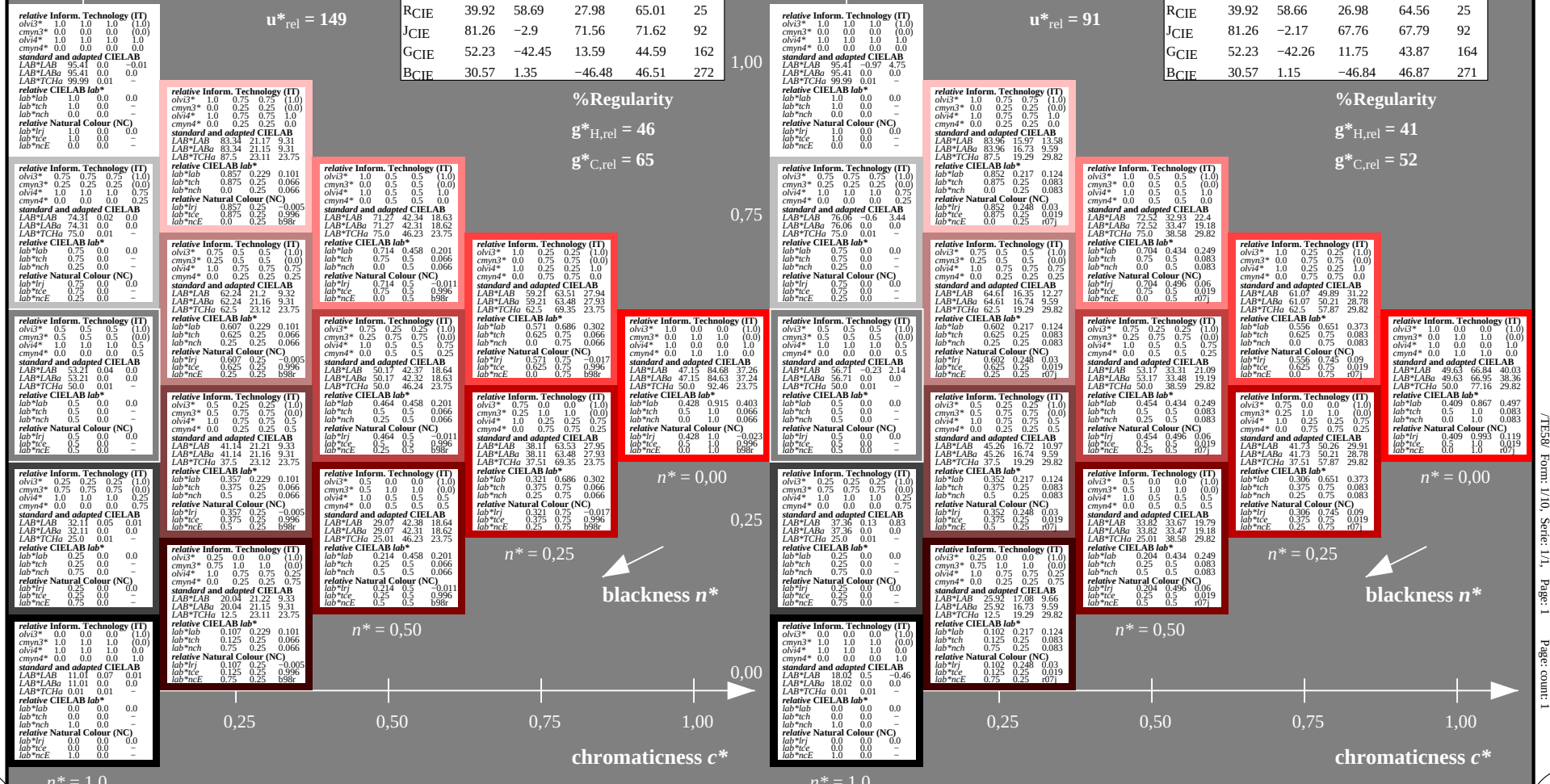
triangle lightness *t**




%Gamut
u*$_{rel}$ = 91

| MRS18; adapted (a) CIELAB data | L*=L*$_a$ | a*$_a$ | b*$_a$ | C*$_{ab,a}$ | h*$_{ab,a}$ |
|---|---|---|---|---|---|
| R$_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| J$_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| G$_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| G50B$_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| B$_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| B50R$_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| N$_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| W$_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| R$_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| J$_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| G$_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| B$_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity
g*$_{H,rel}$ = 41
g*$_{C,rel}$ = 52




TE580−7, 5 step scales for constant CIELAB hue 24/360 = 0.066 (left)

5 step scales for constant CIELAB hue 30/360 = 0.083 (right)

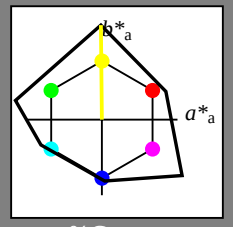
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 91/360 = 0.252*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 125 91
rgb*Ma: 1.0 1.0 0.0

triangle lightness *t**




%Gamut

u*$_{rel}$ = 149

| NCS11; adapted (a) CIELAB data | L*=L*$_a$ | a*$_a$ | b*$_a$ | C*$_{ab,a}$ | h*$_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

%Regularity

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

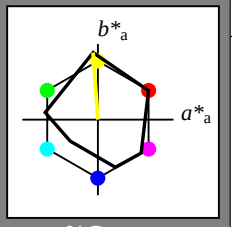
g*$_{C,rel}$ = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 94/360 = 0.261*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 89 94
rgb*Ma: 1.0 1.0 0.0

triangle lightness *t**




%Gamut

u*$_{rel}$ = 91

| MRS18; adapted (a) CIELAB data | L*=L*$_a$ | a*$_a$ | b*$_a$ | C*$_{ab,a}$ | h*$_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity

g*$_{H,rel}$ = 41

g*$_{C,rel}$ = 52


TE580−7, 5 step scales for constant CIELAB hue 91/360 = 0.252 (left)

5 step scales for constant CIELAB hue 94/360 = 0.261 (right)

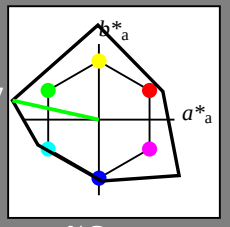
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 167/360 = 0.465*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 63 117 167
rgb*Ma: 0.0 1.0 0.0

triangle lightness *t**




%Gamut

$u^*_{rel}$ = 149

%Regularity

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

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

**NCS11; adapted (a) CIELAB data**

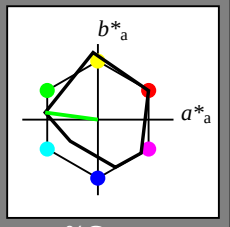
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 172/360 = 0.479*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 70 172
rgb*Ma: 0.0 1.0 0.0

triangle lightness *t**




%Gamut

$u^*_{rel}$ = 91

%Regularity

$g^*_{H,rel}$ = 41

$g^*_{C,rel}$ = 52

**MRS18; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

1,00
0,75
0,50
0,25
0,00
*n** = 1,0
*n** = 0,75
*n** = 0,50
*n** = 0,25
*n** = 0,00
blackness *n**
0,25
0,50
0,75
1,00
chromaticness *c**

TE580−7, 5 step scales for constant CIELAB hue 167/360 = 0.465 (left)

5 step scales for constant CIELAB hue 172/360 = 0.479 (right)

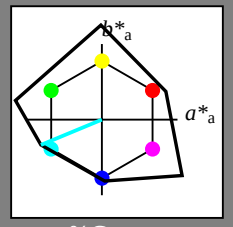
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 203/360 = 0.563*
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 59 87 203
rgb*Ma: 0.0 1.0 1.0

triangle lightness *t**




%Gamut
$u^*_{rel}$ = 149

**NCS11; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

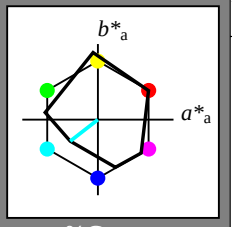
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 218/360 = 0.605*
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 45 46 218
rgb*Ma: 0.0 1.0 1.0

triangle lightness *t**




%Gamut
$u^*_{rel}$ = 91

**MRS18; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

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

$n^*$ = 0,00
$n^*$ = 0,25
$n^*$ = 0,50
$n^*$ = 1,0

blackness $n^*$

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

chromaticness $c^*$

TE580−7, 5 step scales for constant CIELAB hue 203/360 = 0.563 (left)

5 step scales for constant CIELAB hue 218/360 = 0.605 (right)

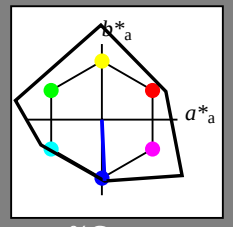
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 273/360 = 0.757*
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 81 273
rgb*Ma: 0.0 0.0 1.0

triangle lightness *t**




%Gamut
u*rel = 149

**NCS11; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| JMa | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| GMa | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| G50BMa | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| BMa | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| B50RMa | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| NMa | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| JCIE | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| GCIE | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| BCIE | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

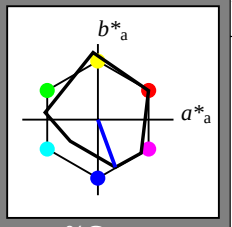
%Regularity
g*H,rel = 46
g*C,rel = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 290/360 = 0.806*
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 67 290
rgb*Ma: 0.0 0.0 1.0

triangle lightness *t**

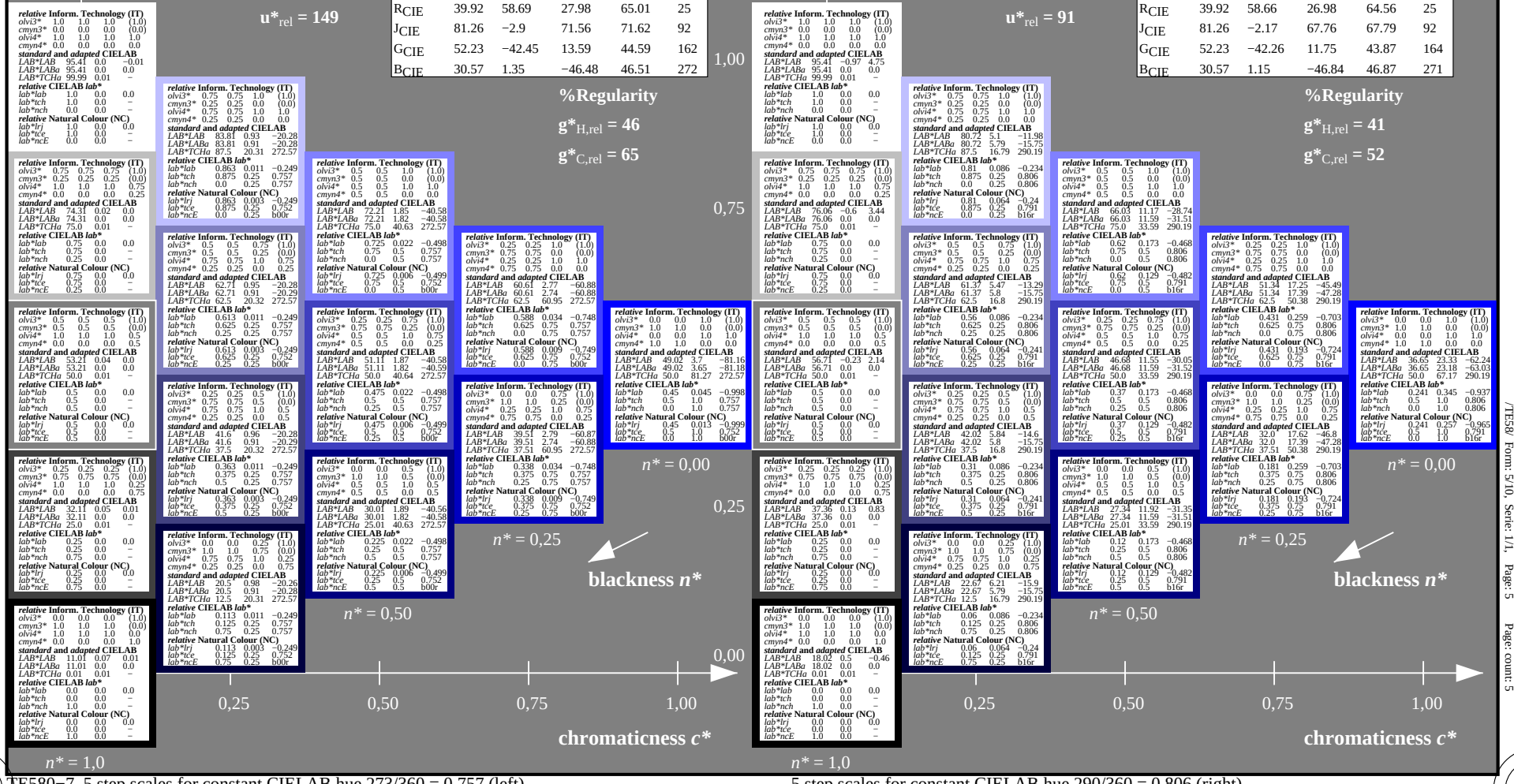



%Gamut
u*rel = 91

**MRS18; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| JMa | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| GMa | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| G50BMa | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| BMa | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| B50RMa | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| NMa | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| JCIE | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| GCIE | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| BCIE | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity
g*H,rel = 41
g*C,rel = 52




TE580−7, 5 step scales for constant CIELAB hue 273/360 = 0.757 (left)

5 step scales for constant CIELAB hue 290/360 = 0.806 (right)

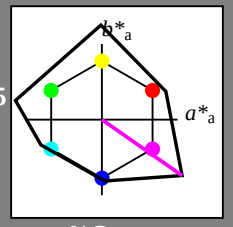
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 325/360 = 0.903*
*lab*tch* and *lab*nch*

D65: hue B50R
LCH*Ma: 44 129 325
rgb*Ma: 1.0 0.0 1.0

triangle lightness *t**




%Gamut
u*rel = 149

**NCS11; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| JMa | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| GMa | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| G50BMa | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| BMa | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| B50RMa | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| NMa | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| JCIE | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| GCIE | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| BCIE | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

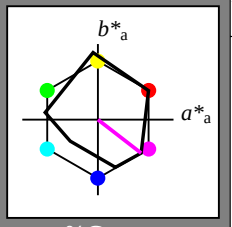
%Regularity
g*H,rel = 46
g*C,rel = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 322/360 = 0.895*
*lab*tch* and *lab*nch*

D65: hue B50R
LCH*Ma: 35 72 322
rgb*Ma: 1.0 0.0 1.0

triangle lightness *t**




%Gamut
u*rel = 91

**MRS18; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| JMa | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| GMa | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| G50BMa | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| BMa | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| B50RMa | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| NMa | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| JCIE | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| GCIE | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| BCIE | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity
g*H,rel = 41
g*C,rel = 52

1,00
0,75
0,50
0,25
0,00
n* = 0,00
n* = 0,25
n* = 0,50
n* = 1,0
blackness *n**
0,25
0,50
0,75
1,00
chromaticness *c**

TE580−7, 5 step scales for constant CIELAB hue 325/360 = 0.903 (left)

5 step scales for constant CIELAB hue 322/360 = 0.895 (right)

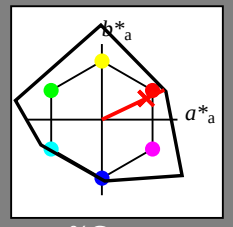
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 91 25
rgb*Ma: 1.0 0.02 0.0

triangle lightness *t**




%Gamut

u*$_{rel}$ = 149

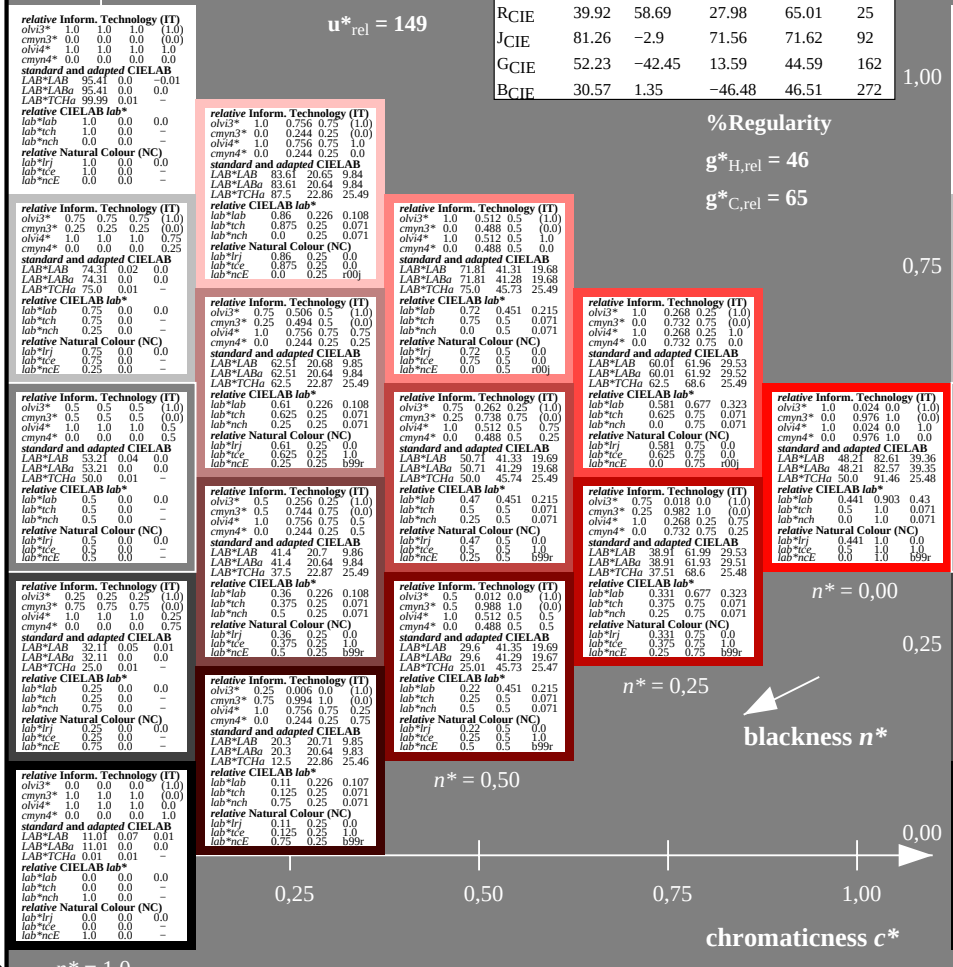
**NCS11; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

%Regularity

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

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

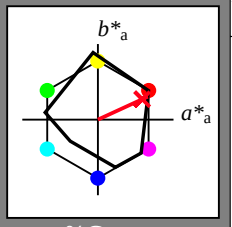



## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 25/360 = 0.069*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 73 25
rgb*Ma: 1.0 0.0 0.1

triangle lightness *t**




%Gamut

u*$_{rel}$ = 91

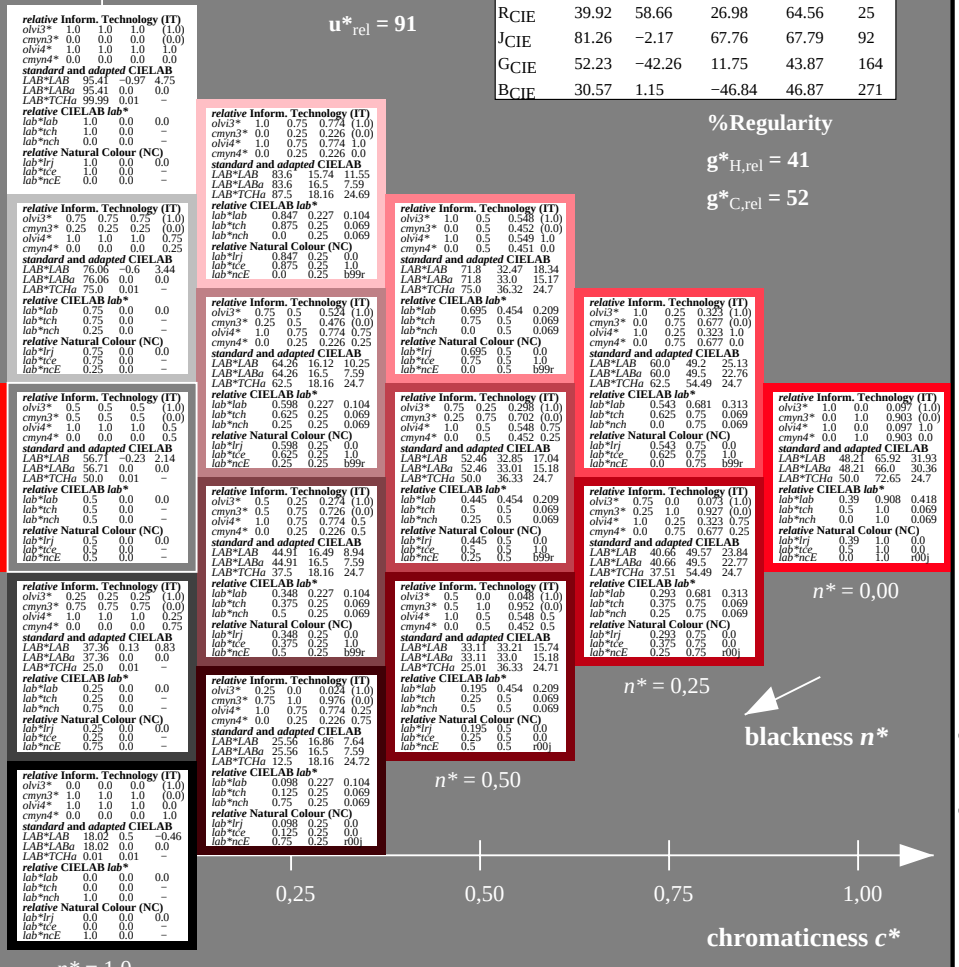
**MRS18; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity

g*$_{H,rel}$ = 41

g*$_{C,rel}$ = 52




TE580−7, 5 step scales for constant CIELAB hue 25/360 = 0.071 (left)

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

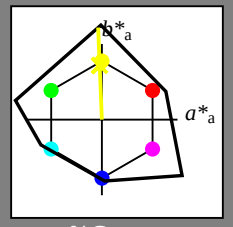
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 92/360 = 0.256*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 90 122 92
rgb*Ma: 0.97 1.0 0.0

triangle lightness *t**




%Gamut

u*$_{rel}$ = 149

**NCS11; adapted (a) CIELAB data**

| | L*=L*$_a$ | a*$_a$ | b*$_a$ | C*$_{ab,a}$ | h*$_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

%Regularity

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

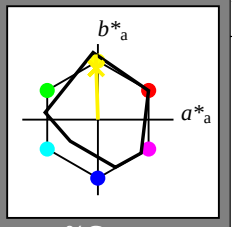
g*$_{C,rel}$ = 65

## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 92/360 = 0.255*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 86 92
rgb*Ma: 1.0 0.95 0.0

triangle lightness *t**




%Gamut

u*$_{rel}$ = 91

**MRS18; adapted (a) CIELAB data**

| | L*=L*$_a$ | a*$_a$ | b*$_a$ | C*$_{ab,a}$ | h*$_{ab,a}$ |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

%Regularity

g*$_{H,rel}$ = 41

g*$_{C,rel}$ = 52


TE580−7, 5 step scales for constant CIELAB hue 92/360 = 0.256 (left)

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

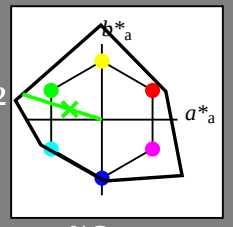
BAM-test chart TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*

## Input: Colorimetric Reflective System NCS11

**for hue *h* = lab*h = 162/360 = 0.451***
***lab*tch* and *lab*nch***

**D65: hue G**
**LCH*Ma: 65 110 162**
**rgb*Ma: 0.08 1.0 0.0**

**triangle lightness *t****




**%Gamut**
**u*$_{rel}$ = 149**

**%Regularity**
**g*$_{H,rel}$ = 46**
**g*$_{C,rel}$ = 65**

**NCS11; adapted (a) CIELAB data**

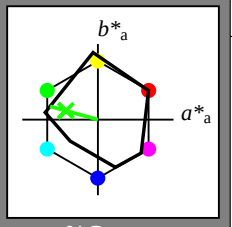
| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| $R_{Ma}$ | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| $J_{Ma}$ | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| $G_{Ma}$ | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| $G50B_{Ma}$ | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| $B_{Ma}$ | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| $B50R_{Ma}$ | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| $N_{Ma}$ | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| $J_{CIE}$ | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| $B_{CIE}$ | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

## Output: Colorimetric Reflective System MRS18

**for hue *h* = lab*h = 164/360 = 0.457***
***lab*tch* and *lab*nch***

**D65: hue G**
**LCH*Ma: 56 66 164**
**rgb*Ma: 0.1 1.0 0.0**

**triangle lightness *t****




**%Gamut**
**u*$_{rel}$ = 91**

**%Regularity**
**g*$_{H,rel}$ = 41**
**g*$_{C,rel}$ = 52**

**MRS18; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| $R_{Ma}$ | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| $J_{Ma}$ | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| $G_{Ma}$ | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| $G50B_{Ma}$ | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| $B_{Ma}$ | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| $B50R_{Ma}$ | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| $N_{Ma}$ | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| $J_{CIE}$ | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| $G_{CIE}$ | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| $B_{CIE}$ | 30.57 | 1.15 | −46.84 | 46.87 | 271 |

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

**blackness *n****

*n** = 0,00
*n** = 0,25
*n** = 0,50
*n** = 1,0

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

**chromaticness *c****

TE580−7, 5 step scales for constant CIELAB hue 162/360 = 0.451 (left)

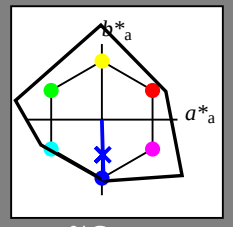
5 step scales for constant CIELAB hue 164/360 = 0.457 (right)

## Input: Colorimetric Reflective System NCS11

for hue *h* = lab*h = 272/360 = 0.755*
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 80 272
rgb*Ma: 0.0 0.02 1.0

triangle lightness *t**

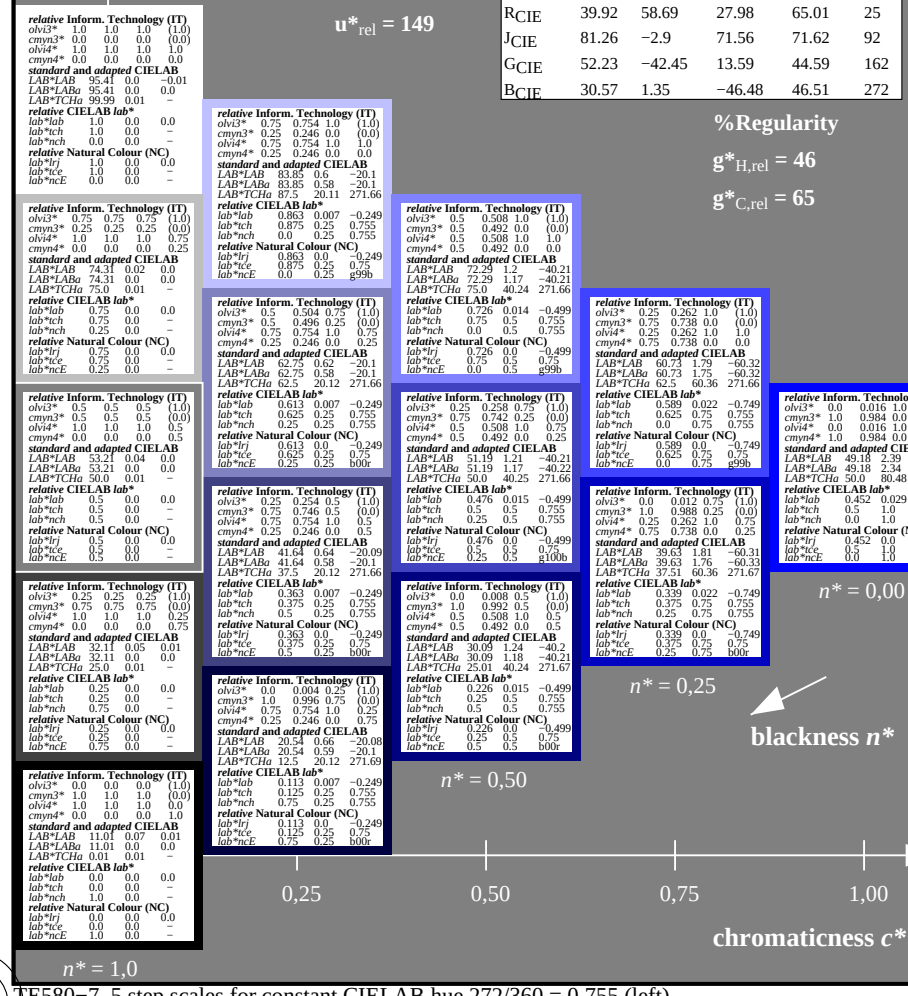



%Gamut
u*rel = 149

%Regularity
g*H,rel = 46
g*C,rel = 65

**NCS11; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 47.15 | 84.64 | 37.25 | 92.48 | 24 |
| JMa | 91.37 | −1.27 | 125.03 | 125.03 | 91 |
| GMa | 63.07 | −114.28 | 25.35 | 117.06 | 167 |
| G50BMa | 59.47 | −80.6 | −33.45 | 87.28 | 203 |
| BMa | 49.01 | 3.65 | −81.19 | 81.28 | 273 |
| B50RMa | 44.06 | 106.09 | −73.93 | 129.32 | 325 |
| NMa | 10.99 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.69 | 27.98 | 65.01 | 25 |
| JCIE | 81.26 | −2.9 | 71.56 | 71.62 | 92 |
| GCIE | 52.23 | −42.45 | 13.59 | 44.59 | 162 |
| BCIE | 30.57 | 1.35 | −46.48 | 46.51 | 272 |

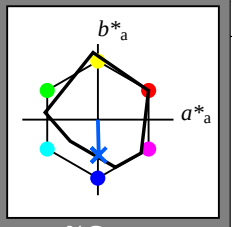



## Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 271/360 = 0.754*
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
rgb*Ma: 0.0 0.37 1.0

triangle lightness *t**

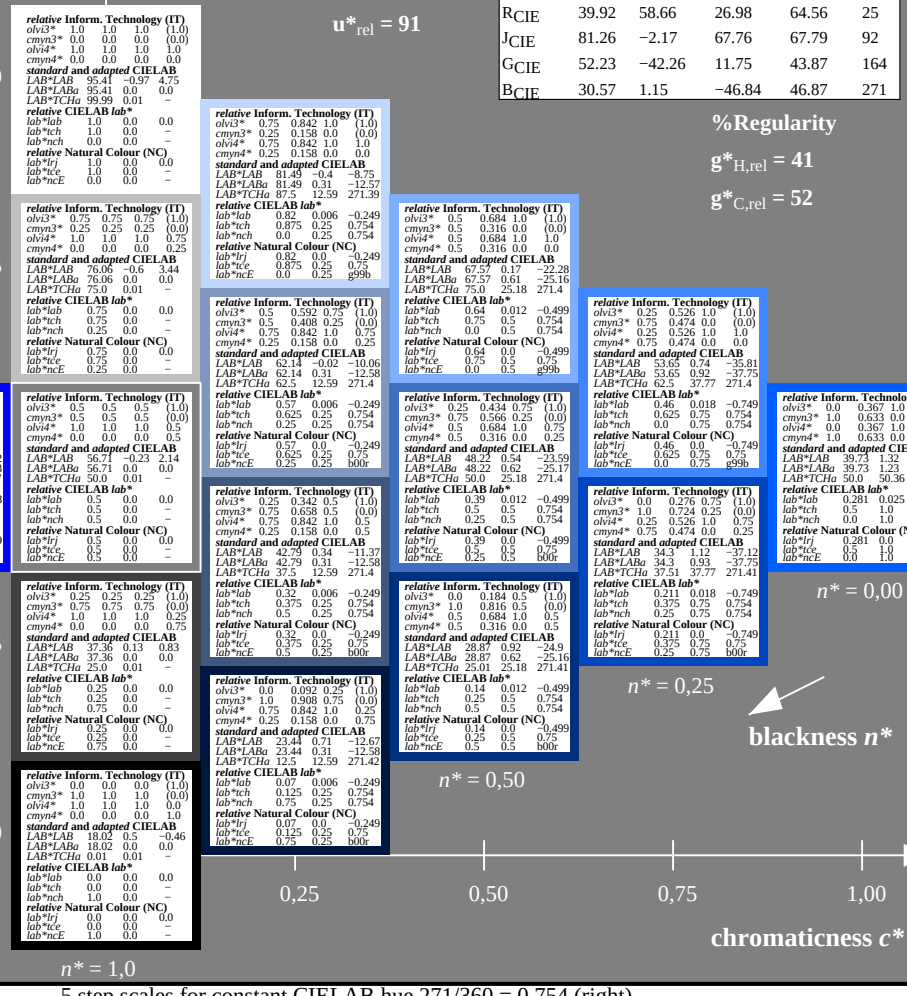



%Gamut
u*rel = 91

%Regularity
g*H,rel = 41
g*C,rel = 52

**MRS18; adapted (a) CIELAB data**

| | L*=L*a | a*a | b*a | C*ab,a | h*ab,a |
|---|---|---|---|---|---|
| RMa | 49.63 | 66.96 | 38.37 | 77.18 | 30 |
| JMa | 90.7 | −6.36 | 88.75 | 88.98 | 94 |
| GMa | 52.11 | −69.73 | 9.44 | 70.37 | 172 |
| G50BMa | 45.03 | −36.57 | −28.47 | 46.36 | 218 |
| BMa | 36.65 | 23.19 | −63.05 | 67.18 | 290 |
| B50RMa | 34.94 | 57.17 | −44.26 | 72.31 | 322 |
| NMa | 18.01 | 0.0 | 0.0 | 0.0 | 0 |
| WMa | 95.41 | 0.0 | 0.0 | 0.0 | 0 |
| RCIE | 39.92 | 58.66 | 26.98 | 64.56 | 25 |
| JCIE | 81.26 | −2.17 | 67.76 | 67.79 | 92 |
| GCIE | 52.23 | −42.26 | 11.75 | 43.87 | 164 |
| BCIE | 30.57 | 1.15 | −46.84 | 46.87 | 271 |




TE580−7, 5 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 TE58; Colorimetric systems NCS11a & MRS18 input: *olv* setrgbcolor*
D65: 2 coordinate data of 5 step colour scales for 10 hues output: *no change compared to input*