

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

CIELAB lightness  $L^*$ 

%Gamut

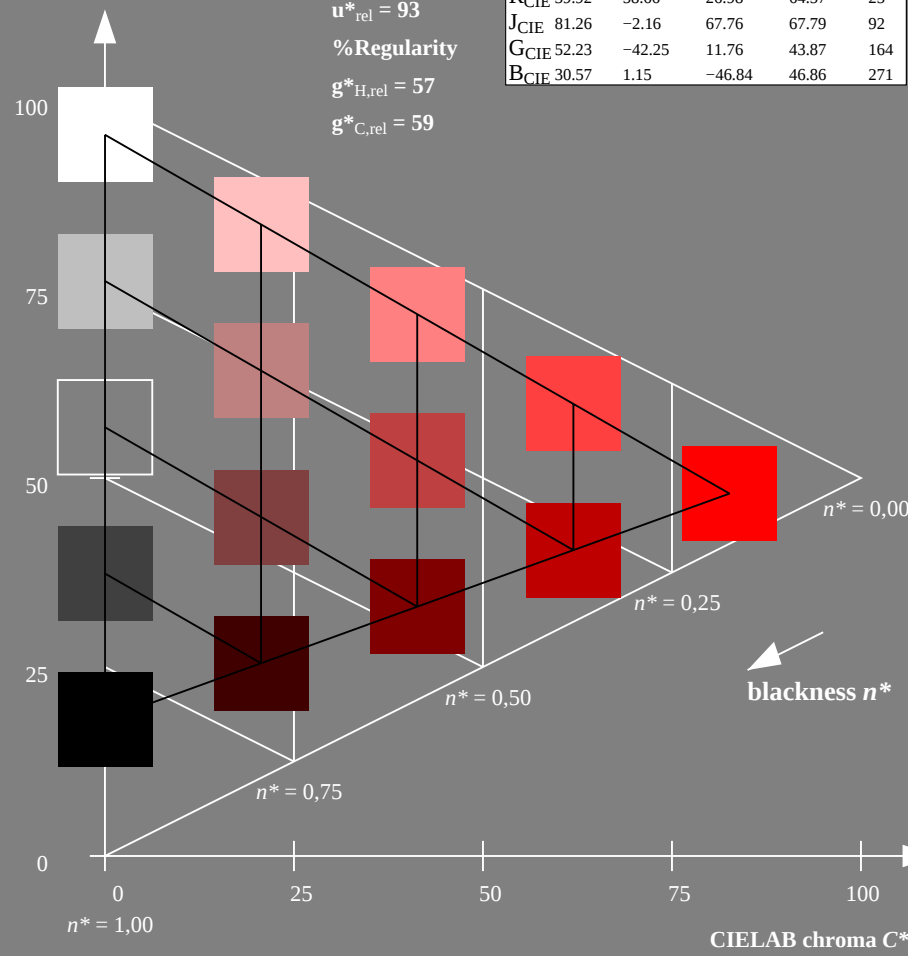
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



NE320-7, 5 step scales for constant CIELAB hue 38/360 = 0.105 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 30/360 = 0.083$ 

LAB\*LCH, LAB\*NCH

D65: hue O

LCH\*Ma: 57 77 30

olv\*Ma: 1.0 0.0 0.0

CIELAB lightness  $L^*$ 

%Gamut

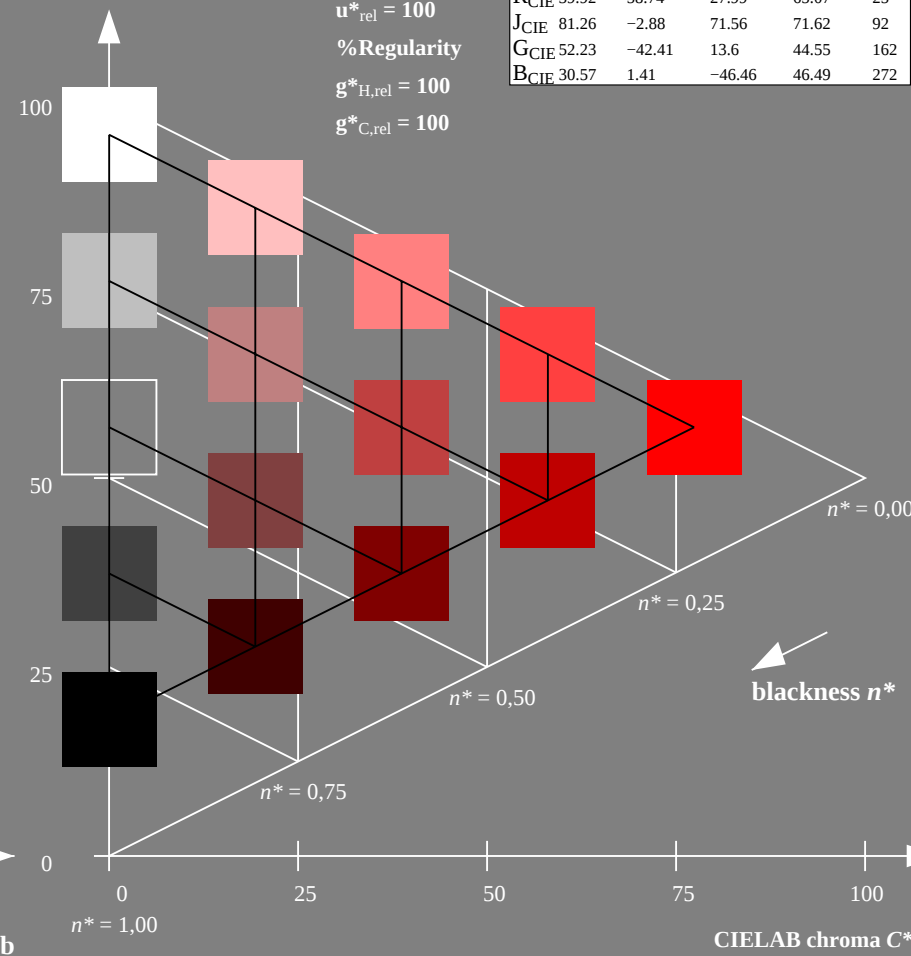
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



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

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

CIE LAB lightness  $L^*$ 

%Gamut

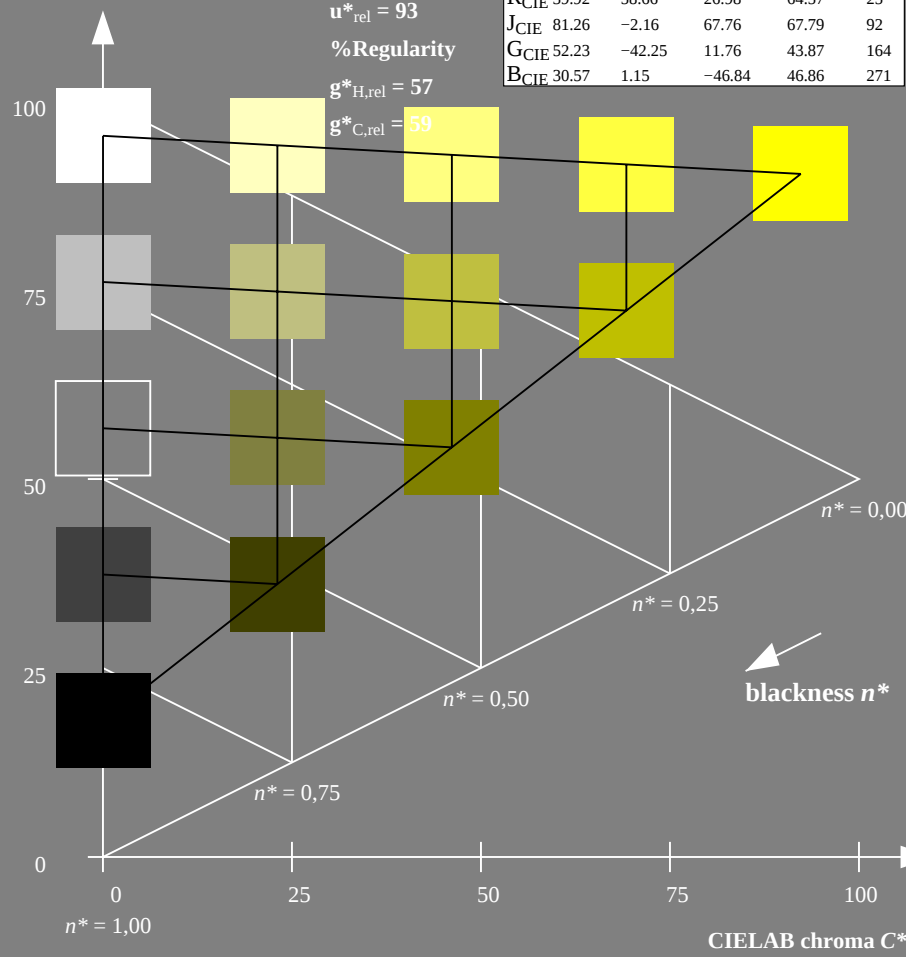
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 96/360 = 0.268 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 90/360 = 0.25$ 

LAB\*LCH, LAB\*NCH

D65: hue Y

LCH\*Ma: 57 77 90

olv\*Ma: 1.0 1.0 0.0

CIE LAB lightness  $L^*$ 

%Gamut

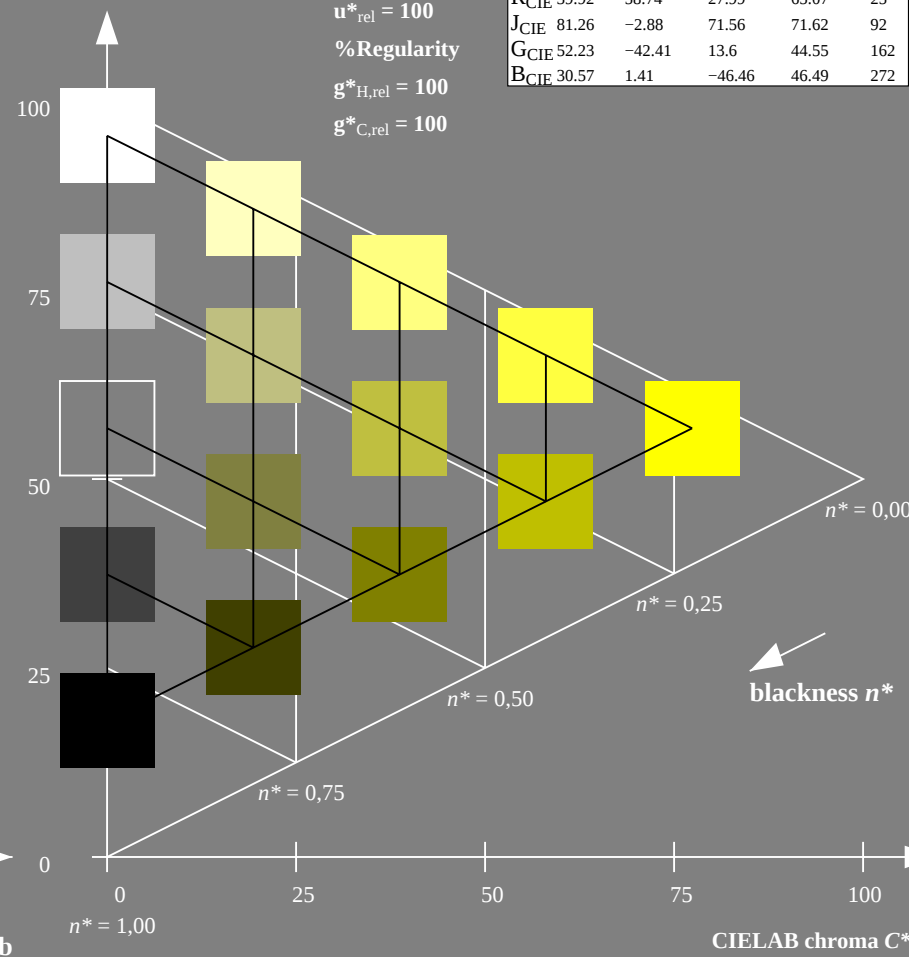
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



5 step scales for constant CIE LAB hue 90/360 = 0.25 (right)

input: olv\* setrgbcolor

output: Startup (S) data dependend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

CIE LAB lightness  $L^*$ 

%Gamut

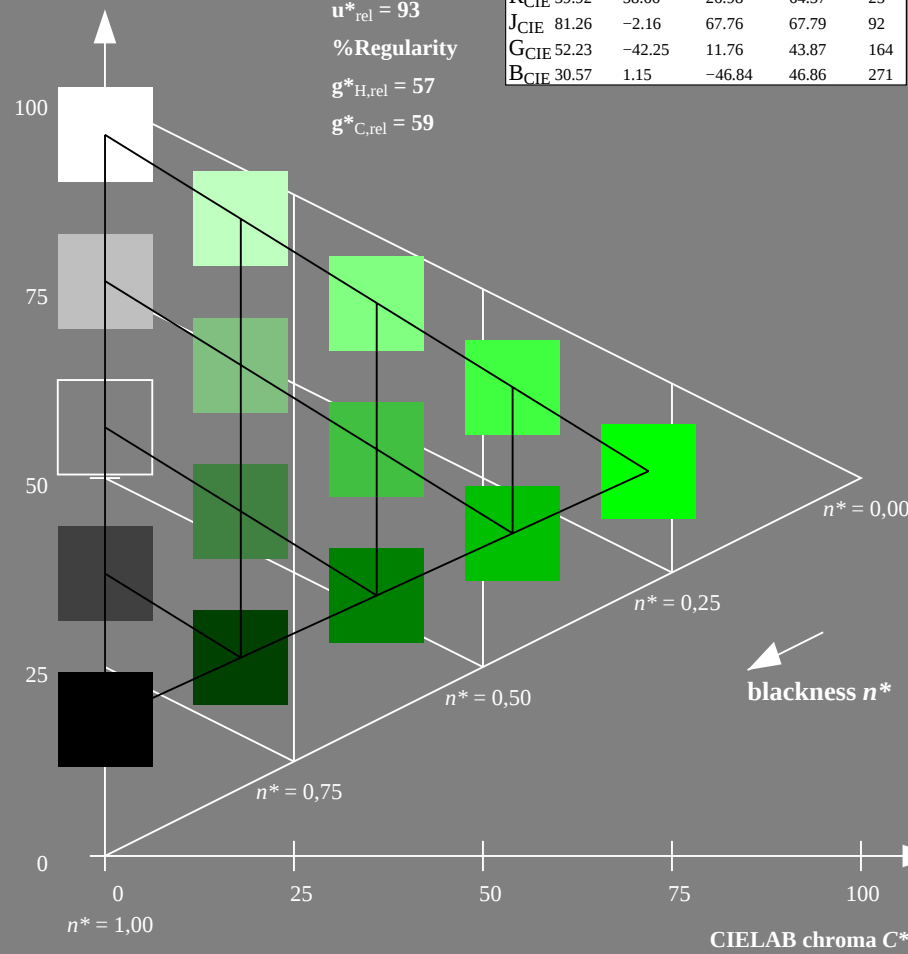
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 151/360 = 0.419 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 150/360 = 0.417$ 

LAB\*LCH, LAB\*NCH

D65: hue L

LCH\*Ma: 57 77 150

olv\*Ma: 0.0 1.0 0.0

CIE LAB lightness  $L^*$ 

%Gamut

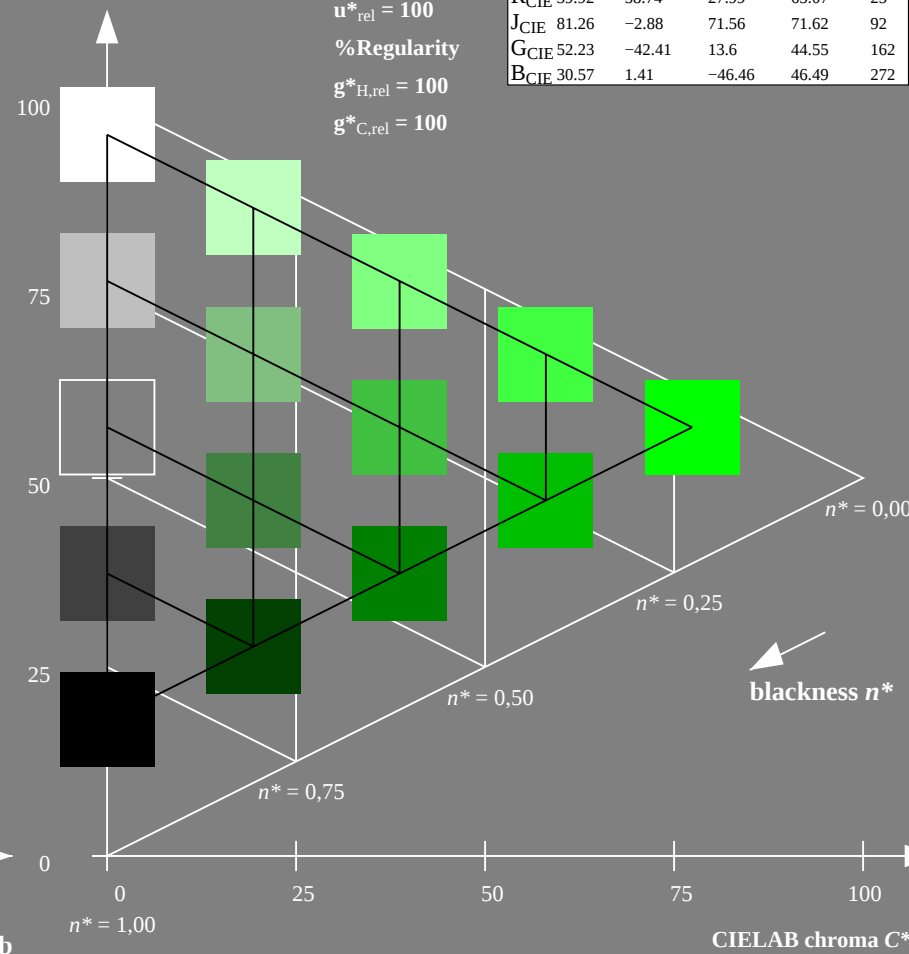
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



5 step scales for constant CIE LAB hue 150/360 = 0.417 (right)

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

CIELAB lightness  $L^*$ 

%Gamut

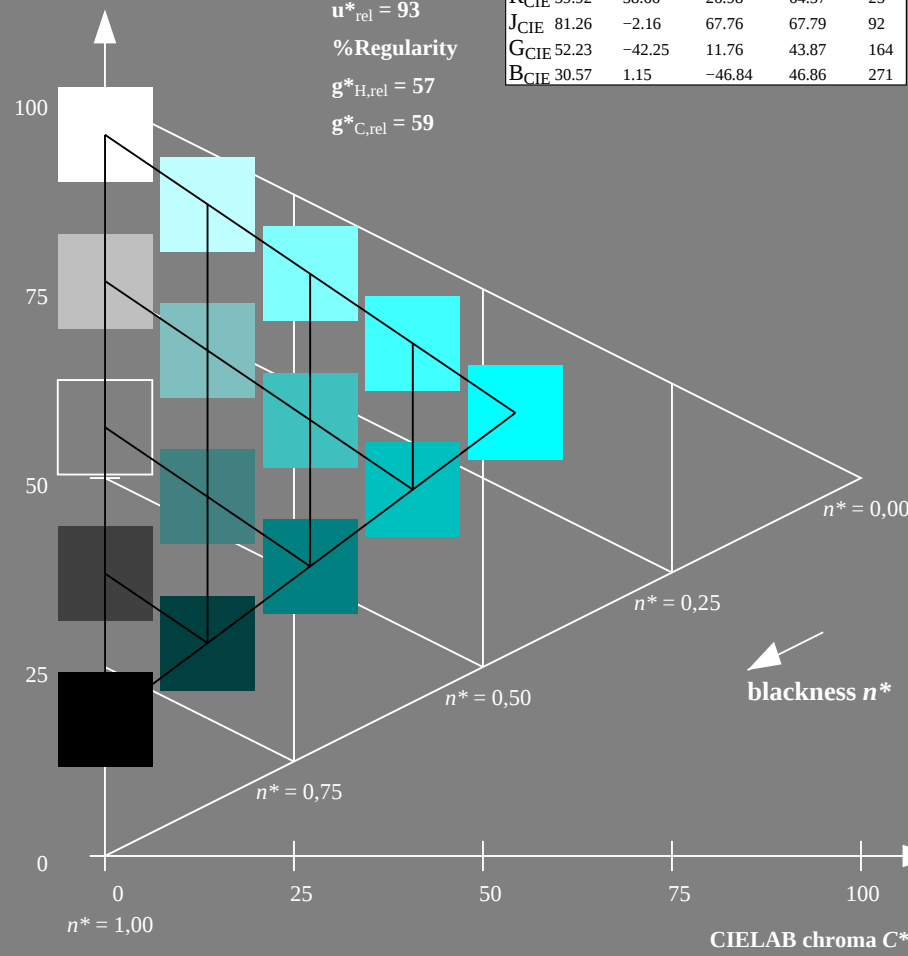
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



NE320-7, 5 step scales for constant CIELAB hue 236/360 = 0.656 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 210/360 = 0.583$ 

LAB\*LCH, LAB\*NCH

D65: hue C

LCH\*Ma: 57 77 210

olv\*Ma: 0.0 1.0 1.0

CIELAB lightness  $L^*$ 

%Gamut

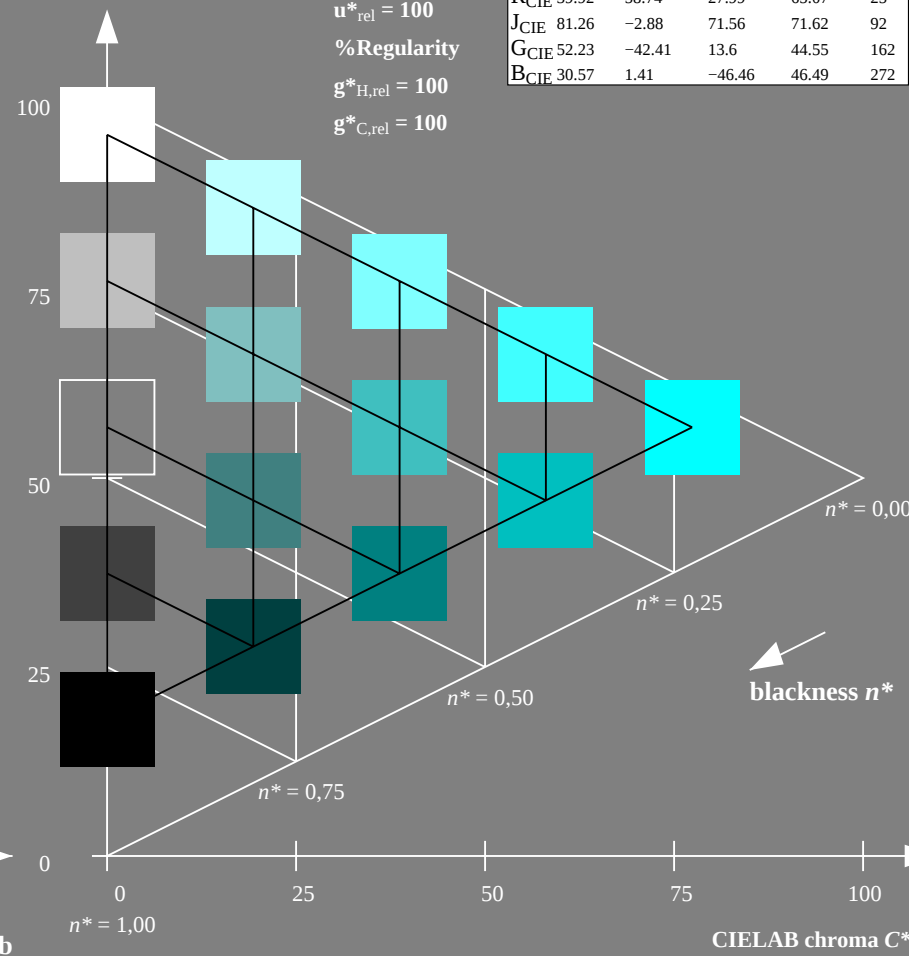
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



5 step scales for constant CIELAB hue 210/360 = 0.583 (right)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

CIE LAB lightness  $L^*$ 

%Gamut

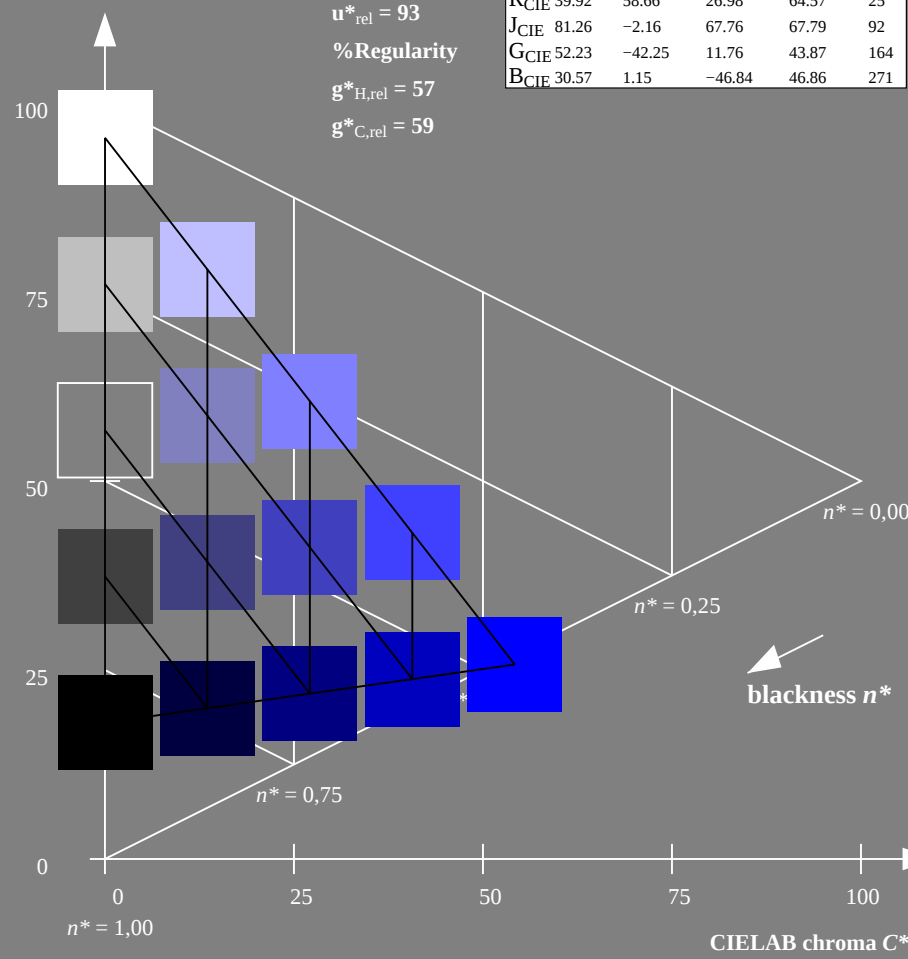
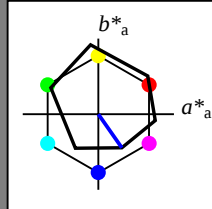
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 305/360 = 0.847 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 270/360 = 0.75$ 

LAB\*LCH, LAB\*NCH

D65: hue V

LCH\*Ma: 57 77 270

olv\*Ma: 0.0 0.0 1.0

CIE LAB lightness  $L^*$ 

%Gamut

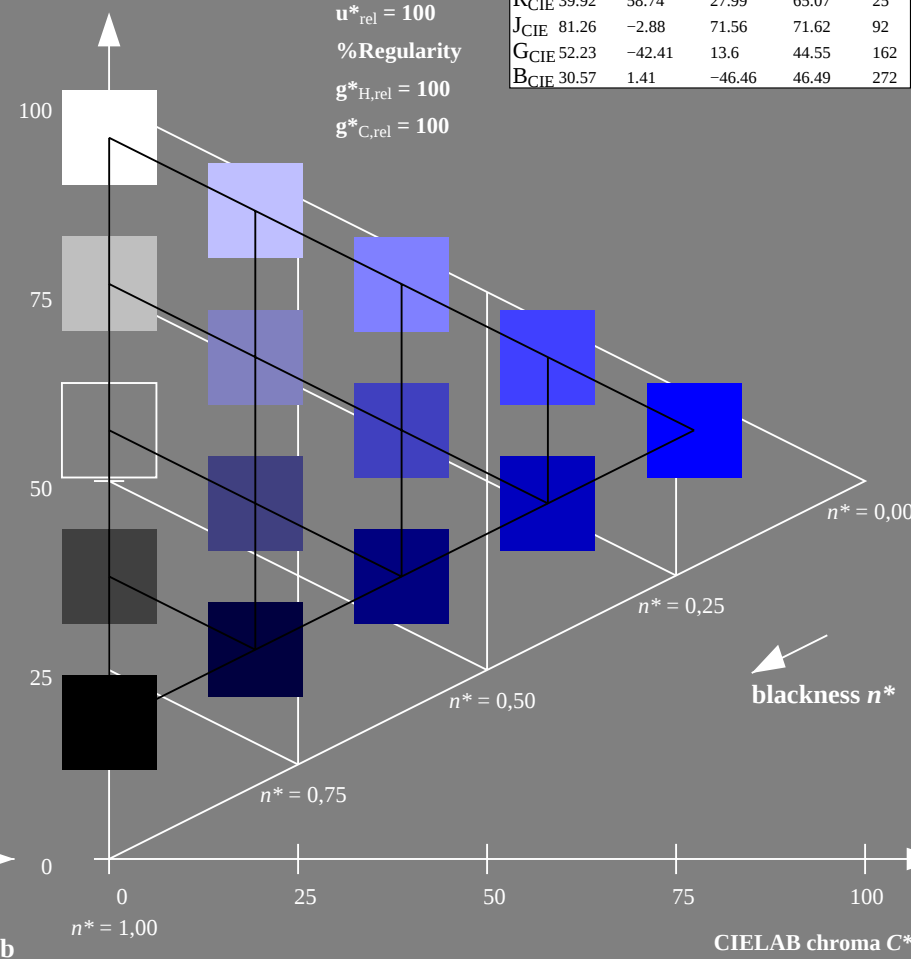
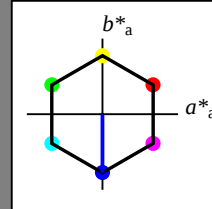
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



5 step scales for constant CIE LAB hue 270/360 = 0.75 (right)

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue M

LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0

CIE LAB lightness  $L^*$ 

%Gamut

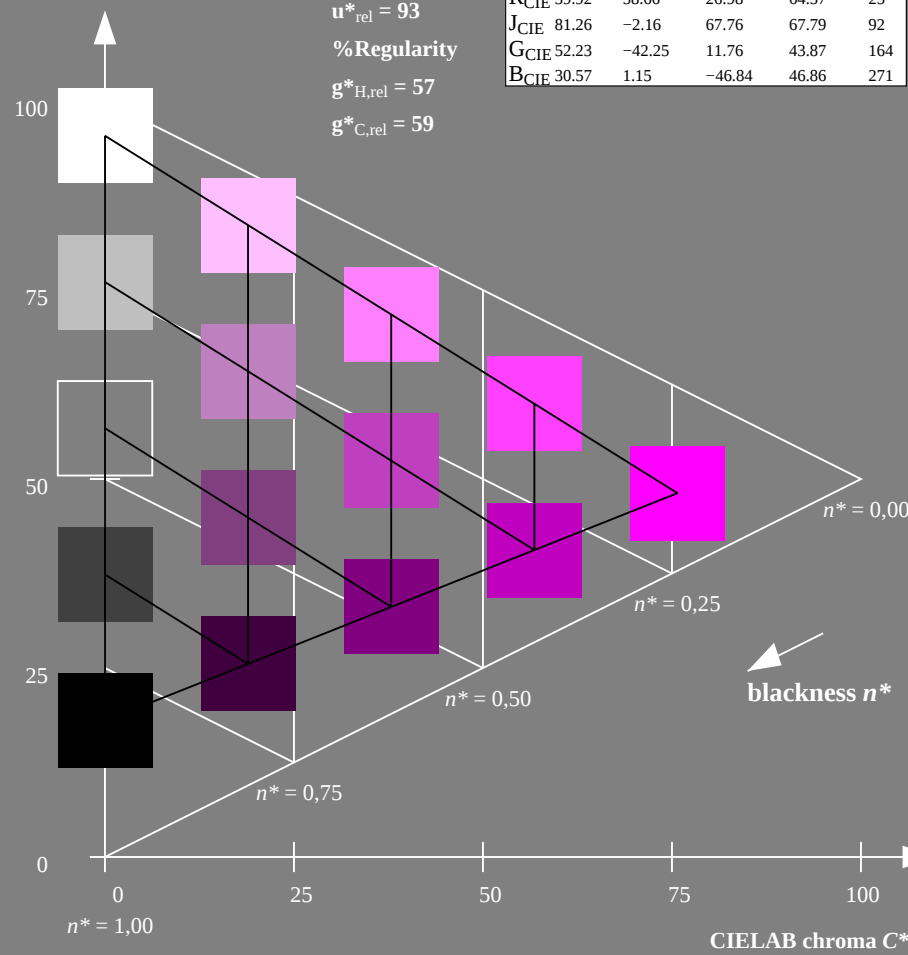
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 354/360 = 0.982 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

for hue  $h^* = lab \cdot h = 330/360 = 0.917$ 

LAB\*LCH, LAB\*NCH

D65: hue M

LCH\*Ma: 57 77 330

olv\*Ma: 1.0 0.0 1.0

CIE LAB lightness  $L^*$ 

%Gamut

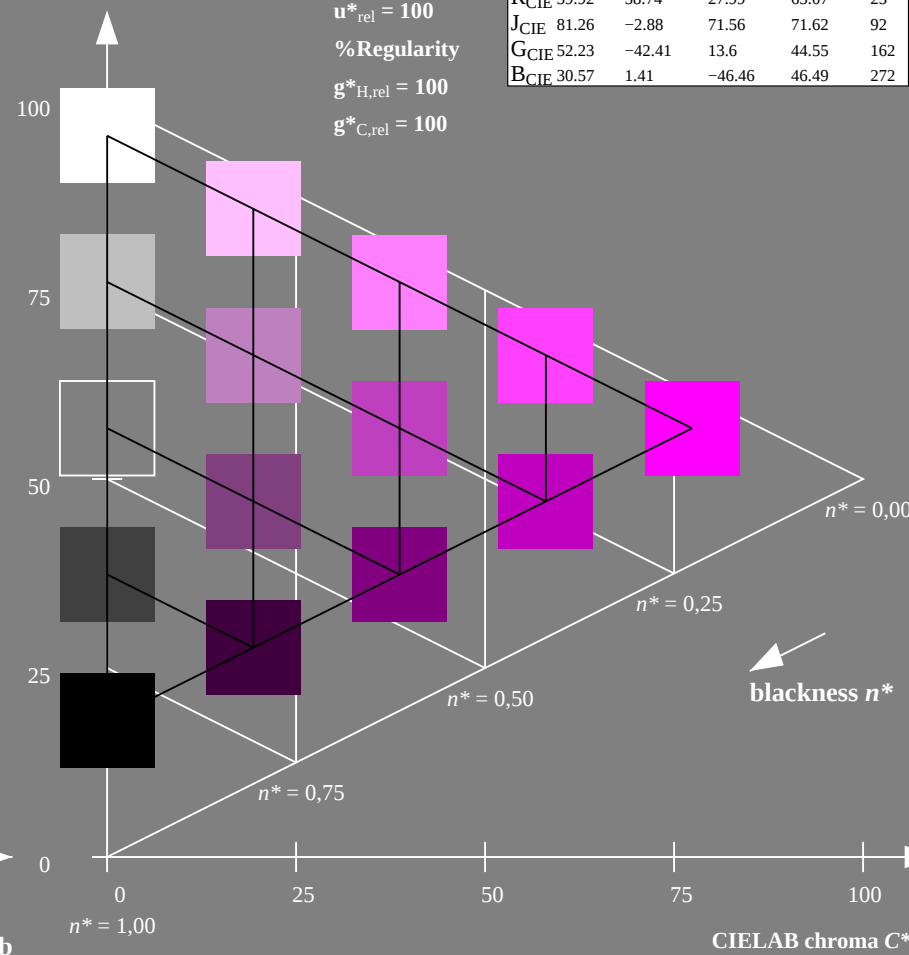
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



5 step scales for constant CIE LAB hue 330/360 = 0.917 (right)

input: olv\* setrgbcolor

output: Startup (S) data dependend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue R

LCH\*Ma: 48 75 25

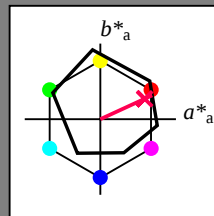
olv\*Ma: 1.0 0.0 0.32

CIE LAB lightness  $L^*$ 

% Gamut

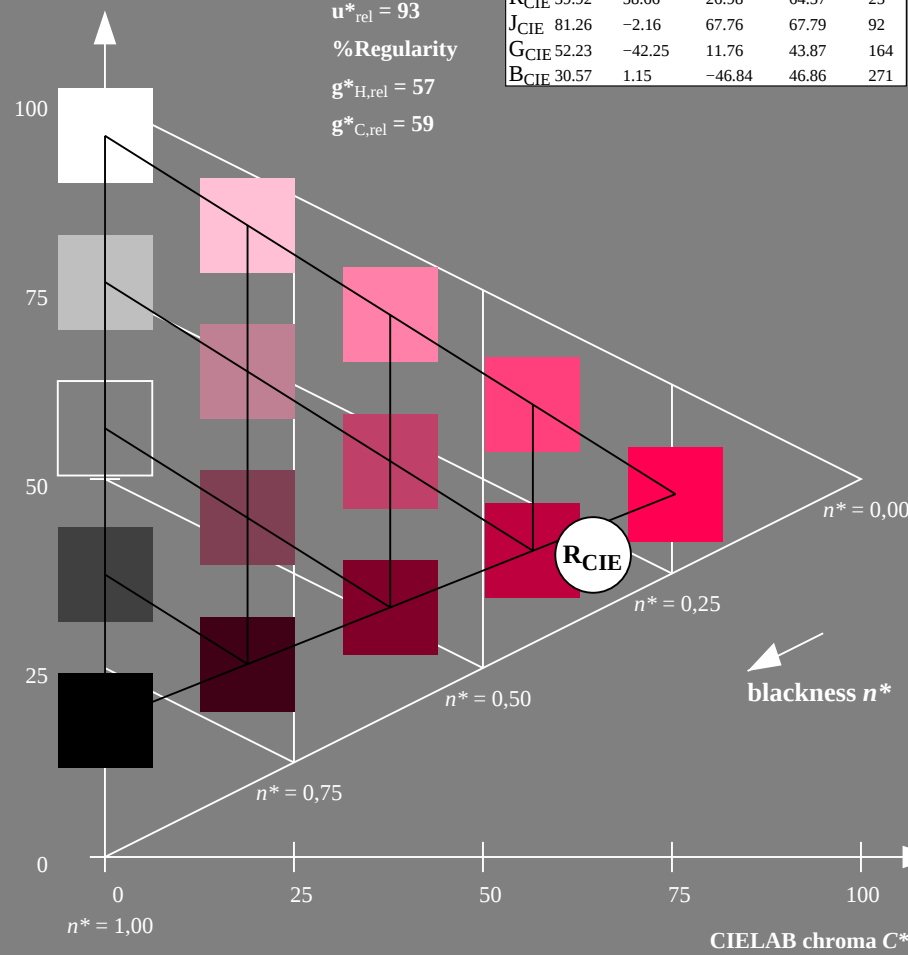
 $u^*_{rel} = 93$ 

% Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 25/360 = 0.069 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

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

LAB\*LCH, LAB\*NCH

D65: hue R

LCH\*Ma: 57 74 25

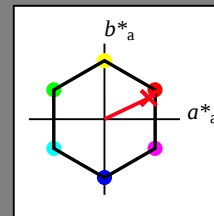
olv\*Ma: 1.0 0.0 0.09

CIE LAB lightness  $L^*$ 

% Gamut

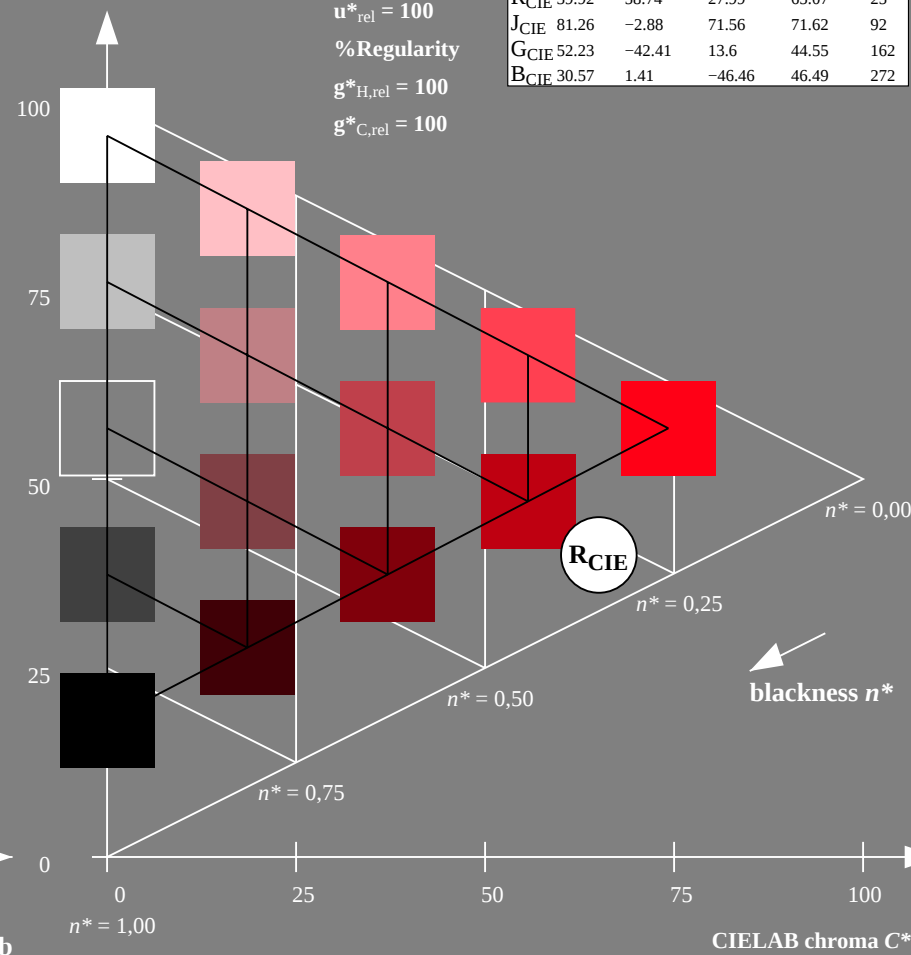
 $u^*_{rel} = 100$ 

% Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



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

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

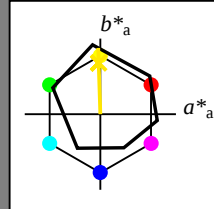
D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

ORS18; adapted (a) CIELAB data

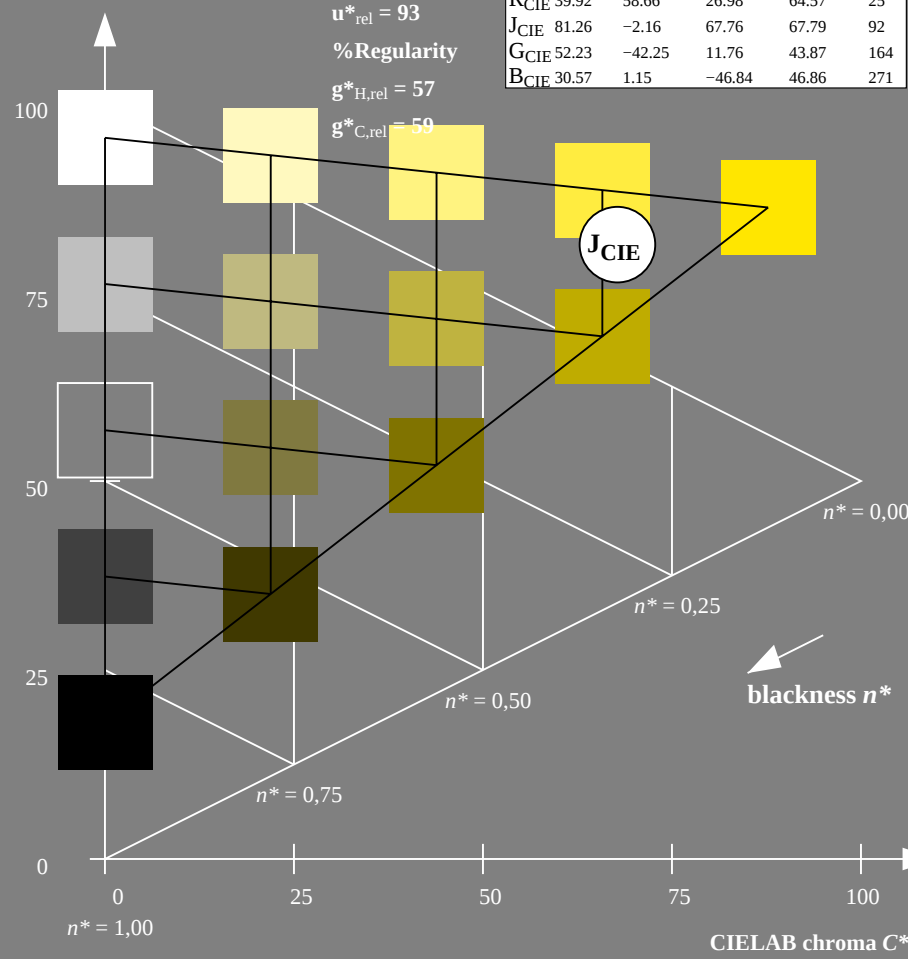
|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

CIELAB lightness  $L^*$ 

%Gamut

 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

NE320-7, 5 step scales for constant CIELAB hue 92/360 = 0.255 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

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

LAB\*LCH, LAB\*NCH

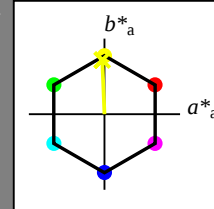
D65: hue J

LCH\*Ma: 57 76 92

olv\*Ma: 0.95 1.0 0.0

SRS18; adapted (a) CIELAB data

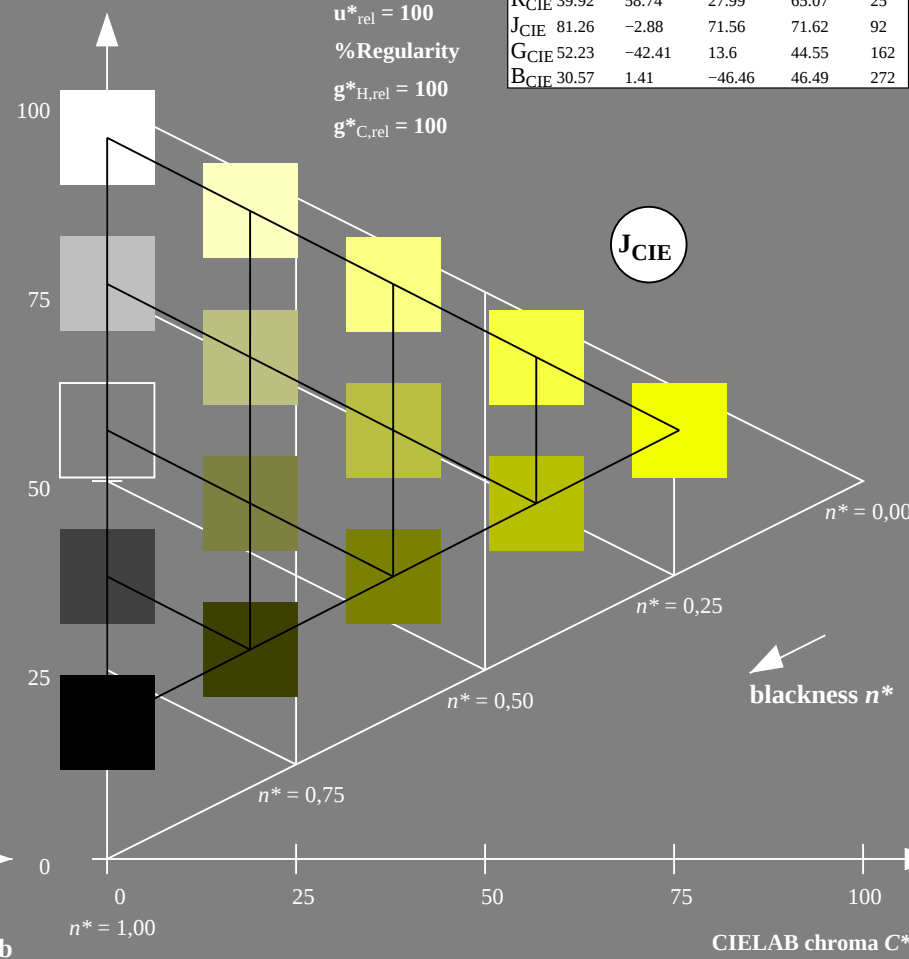
|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |

CIELAB lightness  $L^*$ 

%Gamut

 $u^*_{rel} = 100$ 

%Regularity

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

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

input: olv\* setrgbcolor

output: Startup (S) data dependend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue G

LCH\*Ma: 53 57 164

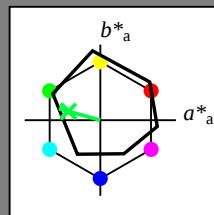
olv\*Ma: 0.0 1.0 0.25

CIE LAB lightness  $L^*$ 

%Gamut

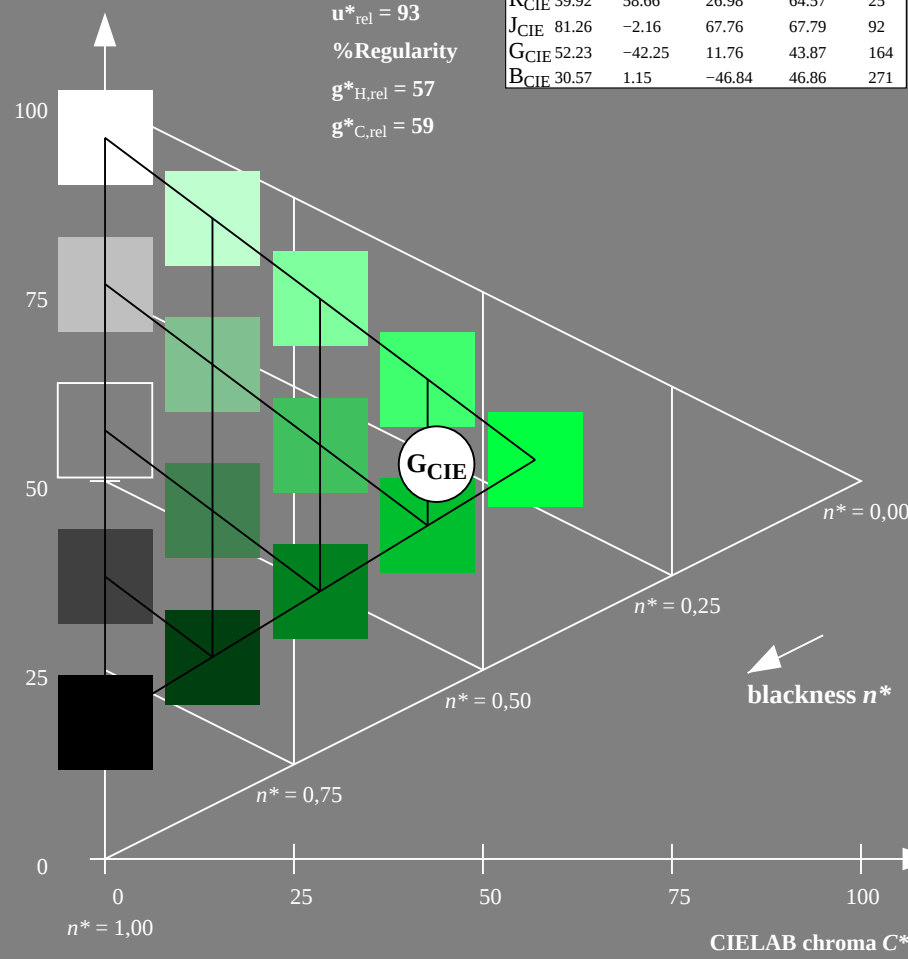
 $u^*_{rel} = 93$ 

%Regularity

 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIE LAB 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          |



NE320-7, 5 step scales for constant CIE LAB hue 164/360 = 0.457 (left)

BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

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

LAB\*LCH, LAB\*NCH

D65: hue G

LCH\*Ma: 57 70 162

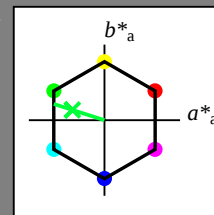
olv\*Ma: 0.0 1.0 0.22

CIE LAB lightness  $L^*$ 

%Gamut

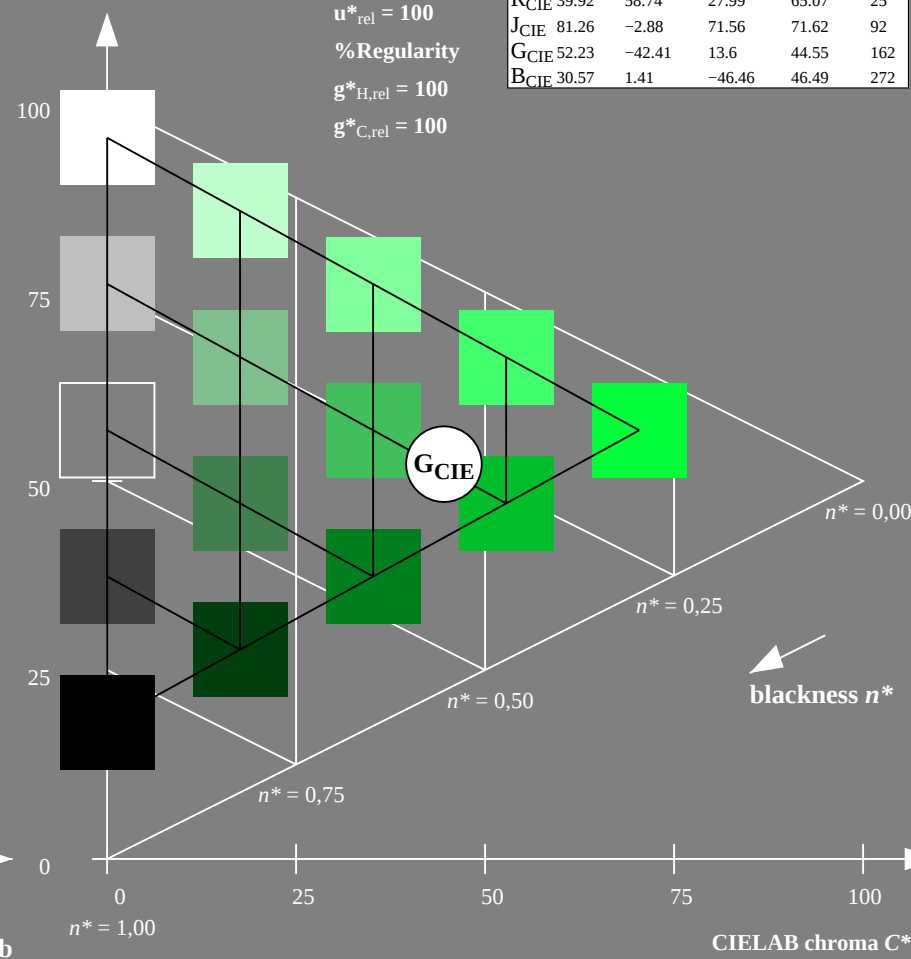
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIE LAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



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

input: olv\* setrgbcolor

output: Startup (S) data depend

Input: Colorimetric Offset Reflective System ORS18

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

LAB\*LCH, LAB\*NCH

D65: hue B

LCH\*Ma: 42 45 271

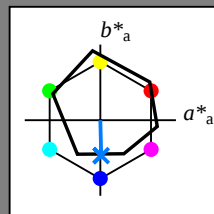
olv\*Ma: 0.0 0.49 1.0

CIELAB lightness  $L^*$ 

%Gamut

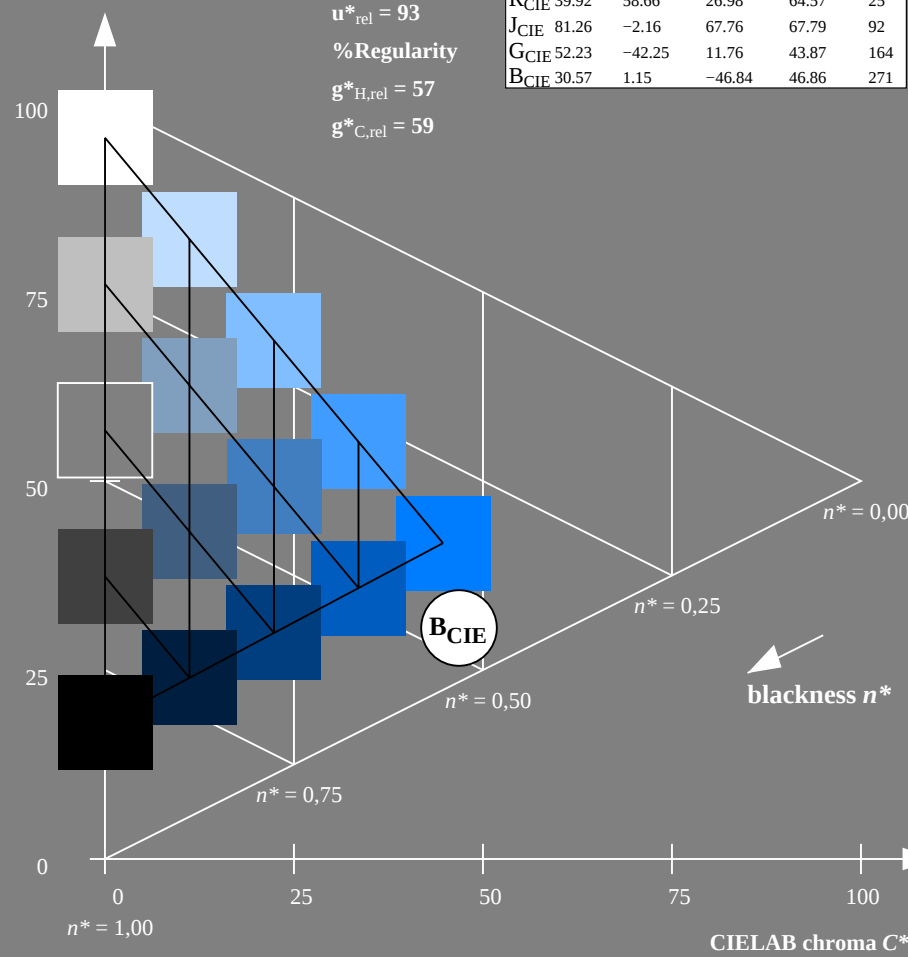
 $u^*_{rel} = 93$ 

%Regularity

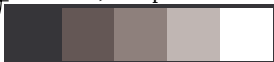
 $g^*_{H,rel} = 57$  $g^*_{C,rel} = 59$ 

ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |



NE320-7, 5 step scales for constant CIELAB hue 271/360 = 0.754 (left)



BAM-test chart NE32; Colorimetric systems ORS18 &amp; ORS18

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

Output: Colorimetric Standard Reflective System SRS18

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

LAB\*LCH, LAB\*NCH

D65: hue B

LCH\*Ma: 57 76 272

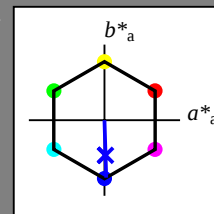
olv\*Ma: 0.03 0.0 1.0

CIELAB lightness  $L^*$ 

%Gamut

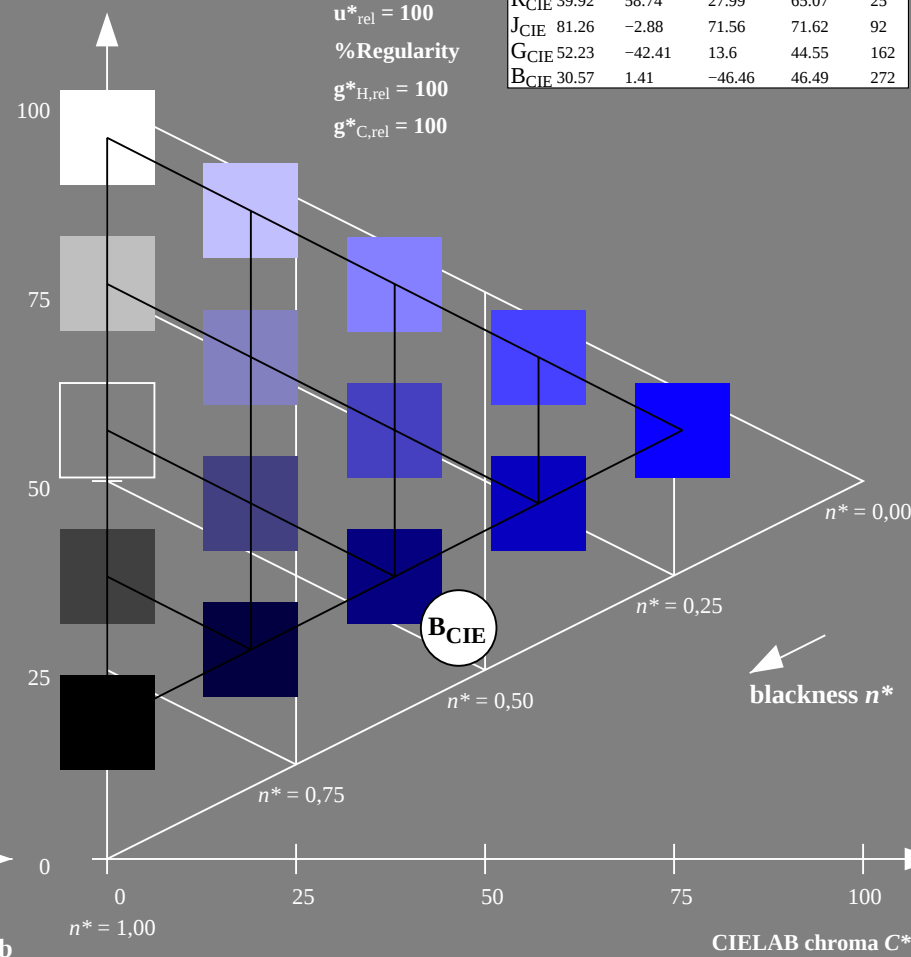
 $u^*_{rel} = 100$ 

%Regularity

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

SRS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 56.71       | 67.03   | 38.7    | 77.4         | 30           |
| Y <sub>Ma</sub>  | 56.71       | 0.0     | 77.4    | 77.4         | 90           |
| L <sub>Ma</sub>  | 56.71       | -67.02  | 38.7    | 77.4         | 150          |
| C <sub>Ma</sub>  | 56.71       | -67.02  | -38.69  | 77.4         | 210          |
| V <sub>Ma</sub>  | 56.71       | 0.0     | -77.39  | 77.4         | 270          |
| M <sub>Ma</sub>  | 56.71       | 67.03   | -38.69  | 77.4         | 330          |
| 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          |



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

input: olv\* setrgbcolor

output: Startup (S) data dependend

