

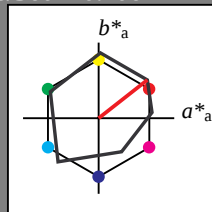
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 38/360 = 0.106$  $lab^*tch$  and  $lab^*nch$ 

A: hue O

LCH\*Ma: 48 82 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

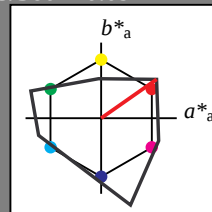
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 35/360 = 0.097$  $lab^*tch$  and  $lab^*nch$ 

A: hue O

LCH\*Ma: 66 90 35

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCa  | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCa  | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCa  | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.5 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 80.48 | 36.66 | 25.69 |
| LAB*LABa | 80.48 | 36.66 | 25.69 |
| LAB*TCa  | 75.0  | 44.77 | 35.02 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.843 | 0.409 | 0.287 |
| lab*tch | 0.75  | 0.5   | 0.097 |
| lab*nch | 0.0   | 0.5   | 0.097 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.843 | 0.5 | 0.007 |
| lab*tce | 0.75  | 0.5 | 0.002 |
| lab*nce | 0.0   | 0.5 | r00j  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.5 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 32.79 | 36.66 | 25.69 |
| LAB*LABa | 32.79 | 36.66 | 25.69 |
| LAB*TCa  | 25.01 | 44.77 | 35.02 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.344 | 0.409 | 0.287 |
| lab*tch | 0.25  | 0.5   | 0.097 |
| lab*nch | 0.5   | 0.5   | 0.097 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.344 | 0.5 | 0.007 |
| lab*tce | 0.25  | 0.5 | 0.002 |
| lab*nce | 0.5   | 0.5 | r00j  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.0 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 1.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 65.56 | 73.33 | 51.38 |
| LAB*LABa | 65.56 | 73.33 | 51.38 |
| LAB*TCa  | 50.0  | 89.53 | 35.02 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.687 | 0.819 | 0.574 |
| lab*tch | 0.5   | 1.0   | 0.097 |
| lab*nch | 0.0   | 1.0   | 0.097 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.687 | 1.0 | 0.014 |
| lab*tce | 0.5   | 1.0 | 0.002 |
| lab*nce | 0.0   | 1.0 | r00j  |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

SE00-7, 3 step scales for constant CIELAB hue 38/360 = 0.106 (left)

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^*$  setcmykcolor

output: Startup (S) data depend

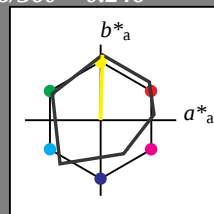
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 88/360 = 0.246$  $lab^*tch$  and  $lab^*nch$ 

A: hue Y

LCH\*Ma: 93 86 88

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

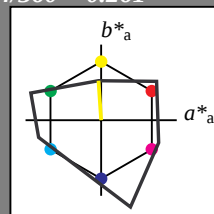
## Output: Colorimetric Television Luminous System TLS00

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

A: hue Y

LCH\*Ma: 95 52 94

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCHa | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCHa | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCHa | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 95.09 | -1.74 | 26.11 |
| LAB*LABa | 95.09 | -1.74 | 26.11 |
| LAB*TCHa | 75.0  | 26.17 | 93.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.997 | -0.032 | 0.499 |
| lab*tch | 0.75  | 0.5    | 0.261 |
| lab*nch | 0.0   | 0.5    | 0.261 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.997 | -0.083 | 0.493 |
| lab*tce | 0.75  | 0.5    | 0.277 |
| lab*nce | 0.0   | 0.5    | j10g  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 47.4  | -1.74 | 26.11 |
| LAB*LABa | 47.4  | -1.74 | 26.11 |
| LAB*TCHa | 25.01 | 26.17 | 93.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.497 | -0.032 | 0.499 |
| lab*tch | 0.25  | 0.5    | 0.261 |
| lab*nch | 0.5   | 0.5    | 0.261 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.497 | -0.083 | 0.493 |
| lab*tce | 0.25  | 0.5    | 0.277 |
| lab*nce | 0.5   | 0.5    | j10g  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 94.77 | -3.49 | 52.23 |
| LAB*LABa | 94.77 | -3.49 | 52.23 |
| LAB*TCHa | 50.0  | 52.35 | 93.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.993 | -0.066 | 0.998 |
| lab*tch | 0.5   | 1.0    | 0.261 |
| lab*nch | 0.0   | 1.0    | 0.261 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.993 | -0.167 | 0.986 |
| lab*tce | 0.5   | 1.0    | 0.277 |
| lab*nce | 0.0   | 1.0    | j10g  |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

SE00-7, 3 step scales for constant CIELAB hue 88/360 = 0.246 (left)

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

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^*$  setcmykcolor

output: Startup (S) data dependend

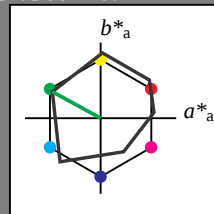
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 151/360 = 0.42$  $lab^*tch$  and  $lab^*nch$ 

A: hue L

LCH\*Ma: 51 73 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

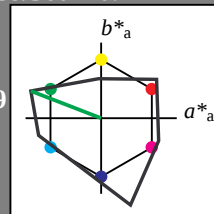
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 159/360 = 0.441$  $lab^*tch$  and  $lab^*nch$ 

A: hue L

LCH\*Ma: 77 100 159

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TBa  | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TBa  | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TBa  | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 1.0 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.0 | 0.5 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.5 | 1.0   |
| cmyn4* | 0.5 | 0.0 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 86.44 | -46.47 | 18.0   |
| LAB*LABa | 86.44 | -46.47 | 18.0   |
| LAB*TBa  | 75.0  | 49.84  | 158.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.906 | -0.465 | 0.18  |
| lab*tch | 0.75  | 0.5    | 0.441 |
| lab*nch | 0.0   | 0.5    | 0.441 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.906 | -0.483 | 0.125 |
| lab*tce | 0.75  | 0.5    | 0.46  |
| lab*nce | 0.0   | 0.5    | 0.83g |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.5 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 0.5 | 1.0 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.5 | 0.5   |
| cmyn4* | 0.5 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 38.75 | -46.47 | 18.0   |
| LAB*LABa | 38.75 | -46.47 | 18.0   |
| LAB*TBa  | 25.01 | 49.84  | 158.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.406 | -0.465 | 0.18  |
| lab*tch | 0.25  | 0.5    | 0.441 |
| lab*nch | 0.5   | 0.5    | 0.441 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.406 | -0.483 | 0.125 |
| lab*tce | 0.25  | 0.5    | 0.46  |
| lab*nce | 0.5   | 0.5    | 0.83g |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 1.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 0.0 | 1.0 | (0.0) |
| olvi4* | 0.0 | 1.0 | 0.0 | 1.0   |
| cmyn4* | 1.0 | 0.0 | 1.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 77.47 | -92.95 | 35.99  |
| LAB*LABa | 77.47 | -92.95 | 35.99  |
| LAB*TBa  | 50.0  | 99.69  | 158.83 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.812 | -0.931 | 0.361 |
| lab*tch | 0.5   | 1.0    | 0.441 |
| lab*nch | 0.0   | 1.0    | 0.441 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.812 | -0.967 | 0.25  |
| lab*tce | 0.5   | 1.0    | 0.46  |
| lab*nce | 0.0   | 1.0    | 0.83g |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

SE00-7, 3 step scales for constant CIELAB hue 151/360 = 0.42 (left)

3 step scales for constant CIELAB hue 159/360 = 0.441 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmv0^* setcmykcolor$ 

output: Startup (S) data dependend

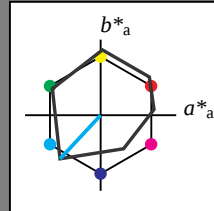
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 227/360 = 0.631$  $lab^*tch$  and  $lab^*nch$ 

A: hue C

LCH\*Ma: 51 79 227

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

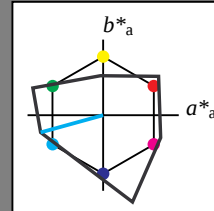
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 195/360 = 0.543$  $lab^*tch$  and  $lab^*nch$ 

A: hue C

LCH\*Ma: 78 86 195

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCHa | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCHa | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCHa | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.5 | 0.0 | 0.0 | (0.0) |
| olvi4* | 0.5 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.5 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 86.88 | -41.33 | -11.36 |
| LAB*LABa | 86.88 | -41.33 | -11.36 |
| LAB*TCHa | 75.0  | 42.88  | 195.38 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.911 | -0.481 | -0.132 |
| lab*tch | 0.75  | 0.5    | 0.543  |
| lab*nch | 0.0   | 0.5    | 0.543  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.911 | -0.452 | -0.211 |
| lab*tce | 0.75  | 0.5    | 0.57   |
| lab*nce | 0.0   | 0.5    | g27b   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 1.0 | 0.5 | 0.5 | (0.0) |
| olvi4* | 0.5 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.5 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 39.19 | -41.33 | -11.36 |
| LAB*LABa | 39.19 | -41.33 | -11.36 |
| LAB*TCHa | 25.01 | 42.88  | 195.38 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.411 | -0.481 | -0.132 |
| lab*tch | 0.25  | 0.5    | 0.543  |
| lab*nch | 0.5   | 0.5    | 0.543  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.411 | -0.452 | -0.211 |
| lab*tce | 0.25  | 0.5    | 0.57   |
| lab*nce | 0.5   | 0.5    | g27b   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 1.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 0.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 1.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 78.35 | -82.67 | -22.74 |
| LAB*LABa | 78.35 | -82.67 | -22.74 |
| LAB*TCHa | 50.0  | 85.75  | 195.38 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.821 | -0.963 | -0.264 |
| lab*tch | 0.5   | 1.0    | 0.543  |
| lab*nch | 0.0   | 1.0    | 0.543  |

relative Natural Colour (NC)

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lrj | 0.821 | -0.904 | -0.423 |
| lab*tce | 0.5   | 1.0    | 0.57   |
| lab*nce | 0.0   | 1.0    | g27b   |

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

blackness  $n^*$  $n^* = 0,00$  $n^* = 1,0$ 

SE00-7, 3 step scales for constant CIELAB hue 227/360 = 0.631 (left)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 195/360 = 0.543 (right)

input:  $cmv0^* setcmykcolor$ 

output: Startup (S) data depend

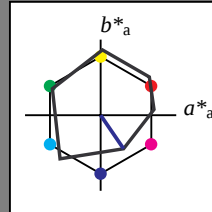
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 304/360 = 0.845$  $lab^*tch$  and  $lab^*nch$ 

A: hue V

LCH\*Ma: 26 54 304

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

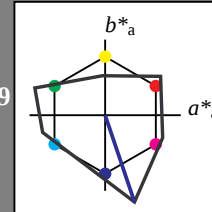
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 289/360 = 0.802$  $lab^*tch$  and  $lab^*nch$ 

A: hue V

LCH\*Ma: 13 121 289

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

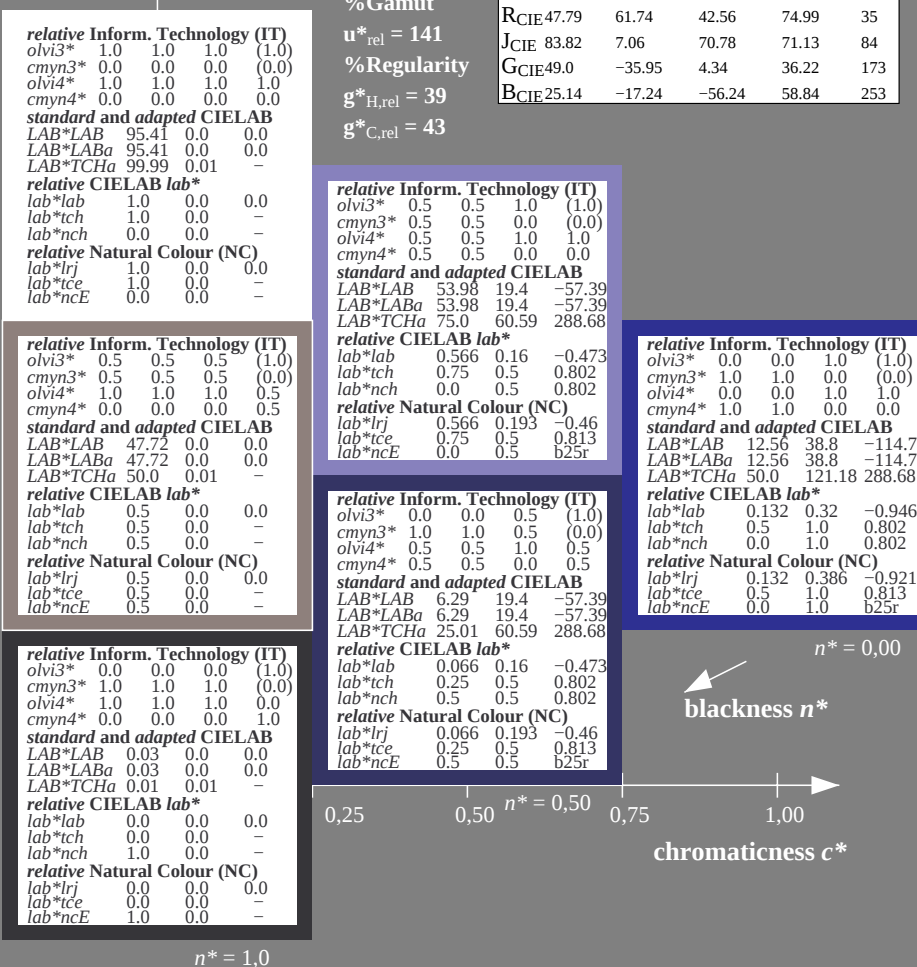
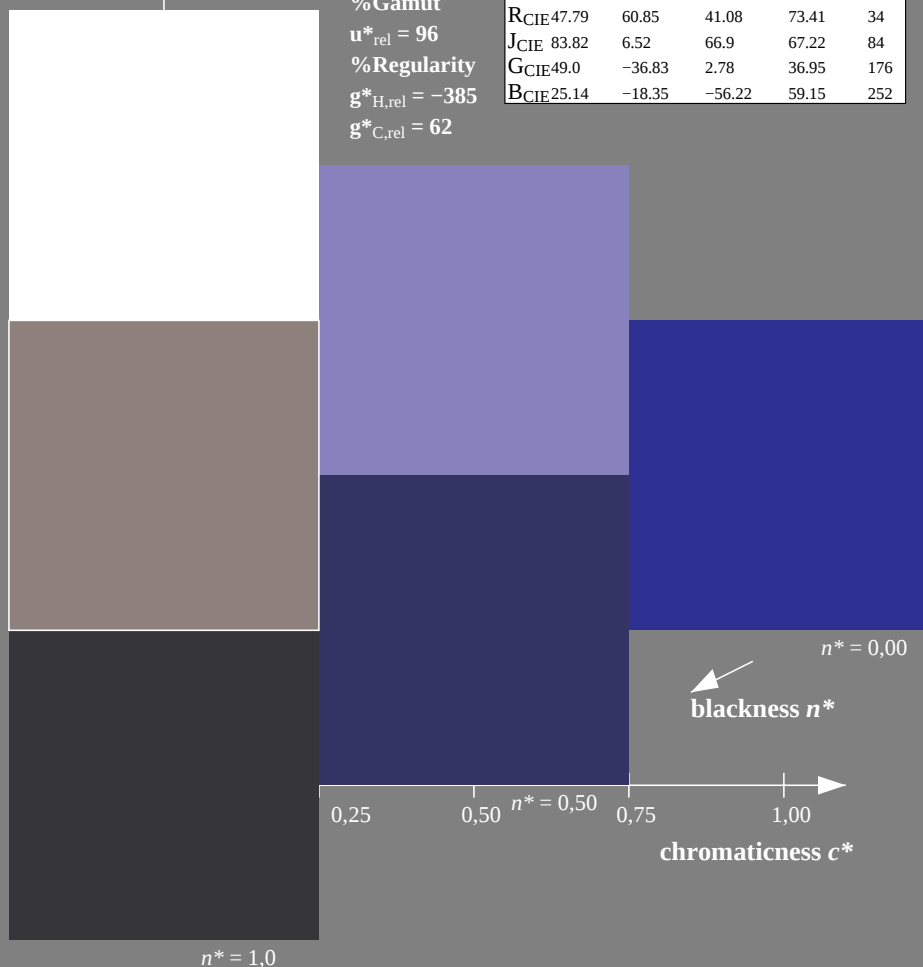
|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

| relative Inform. Technology (IT) |       |      |     |       |
|----------------------------------|-------|------|-----|-------|
| olvi3*                           | 1.0   | 1.0  | 1.0 | (1.0) |
| cmyn3*                           | 0.0   | 0.0  | 0.0 | (0.0) |
| olvi4*                           | 1.0   | 1.0  | 1.0 | 1.0   |
| cmyn4*                           | 0.0   | 0.0  | 0.0 | 0.0   |
| standard and adapted CIELAB      |       |      |     |       |
| LAB*LAB                          | 95.41 | 0.0  | 0.0 |       |
| LAB*LABa                         | 95.41 | 0.0  | 0.0 |       |
| LAB*TCa                          | 99.99 | 0.01 | -   |       |
| relative CIELAB lab*             |       |      |     |       |
| lab*lab                          | 1.0   | 0.0  | 0.0 |       |
| lab*tch                          | 1.0   | 0.0  | -   |       |
| lab*nch                          | 0.0   | 0.0  | -   |       |
| relative Natural Colour (NC)     |       |      |     |       |
| lab*lrj                          | 1.0   | 0.0  | 0.0 |       |
| lab*tce                          | 1.0   | 0.0  | -   |       |
| lab*nce                          | 0.0   | 0.0  | -   |       |

| relative Inform. Technology (IT) |       |       |        |       |
|----------------------------------|-------|-------|--------|-------|
| olvi3*                           | 0.5   | 0.5   | 1.0    | (1.0) |
| cmyn3*                           | 0.5   | 0.5   | 0.0    | (0.0) |
| olvi4*                           | 0.5   | 0.5   | 1.0    | 1.0   |
| cmyn4*                           | 0.5   | 0.5   | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |       |        |       |
| LAB*LAB                          | 53.98 | 19.4  | -57.39 |       |
| LAB*LABa                         | 53.98 | 19.4  | -57.39 |       |
| LAB*TCa                          | 75.0  | 60.59 | 288.68 |       |
| relative CIELAB lab*             |       |       |        |       |
| lab*lab                          | 0.566 | 0.16  | -0.473 |       |
| lab*tch                          | 0.75  | 0.5   | 0.802  |       |
| lab*nch                          | 0.0   | 0.5   | 0.802  |       |
| relative Natural Colour (NC)     |       |       |        |       |
| lab*lrj                          | 0.566 | 0.193 | -0.46  |       |
| lab*tce                          | 0.75  | 0.5   | 0.813  |       |
| lab*nce                          | 0.0   | 0.5   | 0.825r |       |

| relative Inform. Technology (IT) |       |       |        |       |
|----------------------------------|-------|-------|--------|-------|
| olvi3*                           | 0.0   | 0.0   | 0.5    | (1.0) |
| cmyn3*                           | 1.0   | 1.0   | 0.5    | (0.0) |
| olvi4*                           | 0.5   | 0.5   | 1.0    | 0.5   |
| cmyn4*                           | 0.5   | 0.5   | 0.0    | 0.5   |
| standard and adapted CIELAB      |       |       |        |       |
| LAB*LAB                          | 6.29  | 19.4  | -57.39 |       |
| LAB*LABa                         | 6.29  | 19.4  | -57.39 |       |
| LAB*TCa                          | 25.01 | 60.59 | 288.68 |       |
| relative CIELAB lab*             |       |       |        |       |
| lab*lab                          | 0.066 | 0.16  | -0.473 |       |
| lab*tch                          | 0.25  | 0.5   | 0.802  |       |
| lab*nch                          | 0.5   | 0.5   | 0.802  |       |
| relative Natural Colour (NC)     |       |       |        |       |
| lab*lrj                          | 0.066 | 0.193 | -0.46  |       |
| lab*tce                          | 0.25  | 0.5   | 0.813  |       |
| lab*nce                          | 0.5   | 0.5   | 0.825r |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.0    | 1.0    | (1.0) |
| cmyn3*                           | 1.0   | 1.0    | 0.0    | (0.0) |
| olvi4*                           | 0.0   | 0.0    | 1.0    | 1.0   |
| cmyn4*                           | 1.0   | 1.0    | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 12.56 | 38.8   | -114.7 |       |
| LAB*LABa                         | 12.56 | 38.8   | -114.7 |       |
| LAB*TCa                          | 50.0  | 121.18 | 288.68 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.132 | 0.32   | -0.946 |       |
| lab*tch                          | 0.5   | 1.0    | 0.802  |       |
| lab*nch                          | 0.0   | 1.0    | 0.802  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.132 | 0.386  | -0.921 |       |
| lab*tce                          | 0.5   | 1.0    | 0.813  |       |
| lab*nce                          | 0.0   | 1.0    | 0.825r |       |



SE00-7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 289/360 = 0.802 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^* setcmykcolor$ 

output: Startup (S) data depend

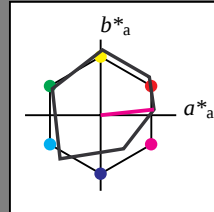
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 6/360 = 0.017$  $lab^*tch$  and  $lab^*nch$ 

A: hue M

LCH\*Ma: 56 71 6

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

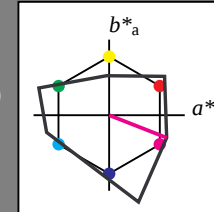
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 339/360 = 0.941$  $lab^*tch$  and  $lab^*nch$ 

A: hue M

LCH\*Ma: 67 82 339

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCHa | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCHa | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCHa | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.5 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.5 | 0.0 | (0.0) |
| olvi4* | 1.0 | 0.5 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.5 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 81.05 | 38.03 | -14.89 |
| LAB*LABa | 81.05 | 38.03 | -14.89 |
| LAB*TCHa | 75.0  | 40.85 | 338.6  |

relative CIELAB lab\*

|         |      |       |        |
|---------|------|-------|--------|
| lab*lab | 0.85 | 0.465 | -0.181 |
| lab*tch | 0.75 | 0.5   | 0.941  |
| lab*nch | 0.0  | 0.5   | 0.941  |

relative Natural Colour (NC)

|         |      |       |       |
|---------|------|-------|-------|
| lab*lrj | 0.85 | 0.407 | -0.29 |
| lab*tce | 0.75 | 0.5   | 0.901 |
| lab*nce | 0.0  | 0.5   | b60r  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.0 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 1.0 | 0.5 | (0.0) |
| olvi4* | 1.0 | 0.5 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.5 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 33.36 | 38.03 | -14.89 |
| LAB*LABa | 33.36 | 38.03 | -14.89 |
| LAB*TCHa | 25.01 | 40.85 | 338.6  |

relative CIELAB lab\*

|         |      |       |        |
|---------|------|-------|--------|
| lab*lab | 0.35 | 0.465 | -0.181 |
| lab*tch | 0.25 | 0.5   | 0.941  |
| lab*nch | 0.5  | 0.5   | 0.941  |

relative Natural Colour (NC)

|         |      |       |       |
|---------|------|-------|-------|
| lab*lrj | 0.35 | 0.407 | -0.29 |
| lab*tce | 0.25 | 0.5   | 0.901 |
| lab*nce | 0.5  | 0.5   | b60r  |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 0.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 1.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 0.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 1.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 66.71 | 76.06 | -29.79 |
| LAB*LABa | 66.71 | 76.06 | -29.79 |
| LAB*TCHa | 50.0  | 81.7  | 338.6  |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.699 | 0.931 | -0.364 |
| lab*tch | 0.5   | 1.0   | 0.941  |
| lab*nch | 0.0   | 1.0   | 0.941  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.699 | 0.813 | -0.581 |
| lab*tce | 0.5   | 1.0   | 0.901  |
| lab*nce | 0.0   | 1.0   | b60r   |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

SE00-7, 3 step scales for constant CIELAB hue 6/360 = 0.017 (left)

3 step scales for constant CIELAB hue 339/360 = 0.941 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmv0^* setcmykcolor$ 

output: Startup (S) data dependend

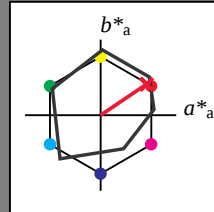
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 34/360 = 0.095$  $lab^*tch$  and  $lab^*nch$ 

A: hue R

LCH\*Ma: 49 79 34

olv\*Ma: 1.0 0.0 0.15

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

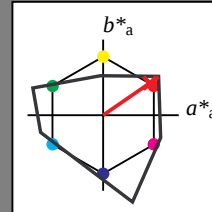
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 35/360 = 0.096$  $lab^*tch$  and  $lab^*nch$ 

A: hue R

LCH\*Ma: 66 89 35

olv\*Ma: 1.0 0.0 0.01

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCa  | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCa  | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCa  | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |       |       |
|--------|-----|-----|-------|-------|
| olvi3* | 1.0 | 0.5 | 0.505 | (1.0) |
| cmyn3* | 0.0 | 0.5 | 0.495 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.505 | 1.0   |
| cmyn4* | 0.0 | 0.5 | 0.495 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 80.48 | 36.68 | 25.28 |
| LAB*LABa | 80.48 | 36.68 | 25.28 |
| LAB*TCa  | 75.0  | 44.55 | 34.58 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.844 | 0.412 | 0.284 |
| lab*tch | 0.75  | 0.5   | 0.096 |
| lab*nch | 0.0   | 0.5   | 0.096 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.844 | 0.5 | 0.0   |
| lab*tce | 0.75  | 0.5 | 1.0   |
| lab*nce | 0.0   | 0.5 | 0.99r |

relative Inform. Technology (IT)

|        |     |     |       |       |
|--------|-----|-----|-------|-------|
| olvi3* | 0.5 | 0.0 | 0.005 | (1.0) |
| cmyn3* | 0.5 | 1.0 | 0.995 | (0.0) |
| olvi4* | 1.0 | 0.5 | 0.505 | 0.5   |
| cmyn4* | 0.0 | 0.5 | 0.495 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 32.79 | 36.68 | 25.29 |
| LAB*LABa | 32.79 | 36.68 | 25.29 |
| LAB*TCa  | 25.01 | 44.55 | 34.59 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.344 | 0.412 | 0.284 |
| lab*tch | 0.25  | 0.5   | 0.096 |
| lab*nch | 0.5   | 0.5   | 0.096 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.344 | 0.5 | 0.0   |
| lab*tce | 0.25  | 0.5 | 0.0   |
| lab*nce | 0.5   | 0.5 | 0.00j |

relative Inform. Technology (IT)

|        |     |     |      |       |
|--------|-----|-----|------|-------|
| olvi3* | 1.0 | 0.0 | 0.01 | (1.0) |
| cmyn3* | 0.0 | 1.0 | 0.99 | (0.0) |
| olvi4* | 1.0 | 0.0 | 0.01 | 1.0   |
| cmyn4* | 0.0 | 1.0 | 0.99 | 0.0   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 65.57 | 73.35 | 50.57 |
| LAB*LABa | 65.57 | 73.35 | 50.57 |
| LAB*TCa  | 50.0  | 89.1  | 34.58 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.687 | 0.823 | 0.568 |
| lab*tch | 0.5   | 1.0   | 0.096 |
| lab*nch | 0.0   | 1.0   | 0.096 |

relative Natural Colour (NC)

|         |       |     |       |
|---------|-------|-----|-------|
| lab*lrj | 0.687 | 1.0 | 0.0   |
| lab*tce | 0.5   | 1.0 | 0.0   |
| lab*nce | 0.0   | 1.0 | 0.00j |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0,00$

$n^* = 0,50$

$n^* = 1,0$

SE00-7, 3 step scales for constant CIELAB hue 34/360 = 0.095 (left)

3 step scales for constant CIELAB hue 35/360 = 0.096 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^*$  setcmykcolor

output: Startup (S) data dependend

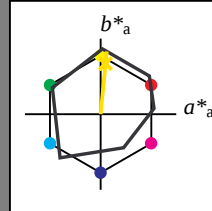
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 84/360 = 0.235$  $lab^*tch$  and  $lab^*nch$ 

A: hue J

LCH\*Ma: 89 83 84

olv\*Ma: 1.0 0.91 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| YMa  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| LMa  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| CMa  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| VMa  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| MMa  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| NMa  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| JCIE | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| GCIE | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| BCIE | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

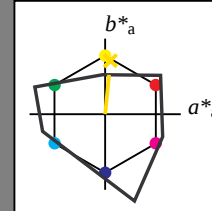
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 84/360 = 0.234$  $lab^*tch$  and  $lab^*nch$ 

A: hue J

LCH\*Ma: 91 52 84

olv\*Ma: 1.0 0.89 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| YMa  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| LMa  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| CMa  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| VMa  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| MMa  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| NMa  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| JCIE | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| GCIE | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| BCIE | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 1.0 | 1.0 | 1.0 | (1.0) |
| cmyn3* | 0.0 | 0.0 | 0.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 1.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 95.41 | 0.0  | 0.0 |
| LAB*LABa | 95.41 | 0.0  | 0.0 |
| LAB*TCHa | 99.99 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 1.0 | 0.0 | 0.0 |
| lab*tch | 1.0 | 0.0 | -   |
| lab*nch | 0.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 1.0 | 0.0 | 0.0 |
| lab*tce | 1.0 | 0.0 | -   |
| lab*nce | 0.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.5 | 0.5 | 0.5 | (1.0) |
| cmyn3* | 0.5 | 0.5 | 0.5 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.5   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |      |     |
|----------|-------|------|-----|
| LAB*LAB  | 47.72 | 0.0  | 0.0 |
| LAB*LABa | 47.72 | 0.0  | 0.0 |
| LAB*TCHa | 50.0  | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.5 | 0.0 | 0.0 |
| lab*tch | 0.5 | 0.0 | -   |
| lab*nch | 0.5 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.5 | 0.0 | 0.0 |
| lab*tce | 0.5 | 0.0 | -   |
| lab*nce | 0.5 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |     |     |       |
|--------|-----|-----|-----|-------|
| olvi3* | 0.0 | 0.0 | 0.0 | (1.0) |
| cmyn3* | 1.0 | 1.0 | 1.0 | (0.0) |
| olvi4* | 1.0 | 1.0 | 1.0 | 0.0   |
| cmyn4* | 0.0 | 0.0 | 0.0 | 1.0   |

standard and adapted CIELAB

|          |      |      |     |
|----------|------|------|-----|
| LAB*LAB  | 0.03 | 0.0  | 0.0 |
| LAB*LABa | 0.03 | 0.0  | 0.0 |
| LAB*TCHa | 0.01 | 0.01 | -   |

relative CIELAB lab\*

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

relative Natural Colour (NC)

|         |     |     |     |
|---------|-----|-----|-----|
| lab*lrj | 0.0 | 0.0 | 0.0 |
| lab*tce | 0.0 | 0.0 | -   |
| lab*nce | 1.0 | 0.0 | -   |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 1.0 | 0.943 | 0.5 | (1.0) |
| cmyn3* | 0.0 | 0.057 | 0.5 | (0.0) |
| olvi4* | 1.0 | 0.943 | 0.5 | 1.0   |
| cmyn4* | 0.0 | 0.057 | 0.5 | 0.0   |

standard and adapted CIELAB

|          |       |      |       |
|----------|-------|------|-------|
| LAB*LAB  | 93.43 | 2.59 | 26.07 |
| LAB*LABa | 93.43 | 2.59 | 26.07 |
| LAB*TCHa | 75.0  | 26.2 | 84.32 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.979 | 0.049 | 0.497 |
| lab*tch | 0.75  | 0.5   | 0.234 |
| lab*nch | 0.0   | 0.5   | 0.234 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.979 | 0.0 | 0.5  |
| lab*tce | 0.75  | 0.5 | 0.25 |
| lab*nce | 0.0   | 0.5 | j00g |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 0.5 | 0.443 | 0.0 | (1.0) |
| cmyn3* | 0.5 | 0.557 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.943 | 0.5 | 0.5   |
| cmyn4* | 0.0 | 0.057 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |      |       |
|----------|-------|------|-------|
| LAB*LAB  | 45.74 | 2.6  | 26.07 |
| LAB*LABa | 45.74 | 2.6  | 26.07 |
| LAB*TCHa | 25.01 | 26.2 | 84.3  |

relative CIELAB lab\*

|         |       |      |       |
|---------|-------|------|-------|
| lab*lab | 0.479 | 0.05 | 0.497 |
| lab*tch | 0.25  | 0.5  | 0.234 |
| lab*nch | 0.5   | 0.5  | 0.234 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.479 | 0.0 | 0.5  |
| lab*tce | 0.25  | 0.5 | 0.25 |
| lab*nce | 0.5   | 0.5 | r99j |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 1.0 | 0.887 | 0.0 | (1.0) |
| cmyn3* | 0.0 | 0.113 | 1.0 | (0.0) |
| olvi4* | 1.0 | 0.887 | 0.0 | 1.0   |
| cmyn4* | 0.0 | 0.113 | 1.0 | 0.0   |

standard and adapted CIELAB

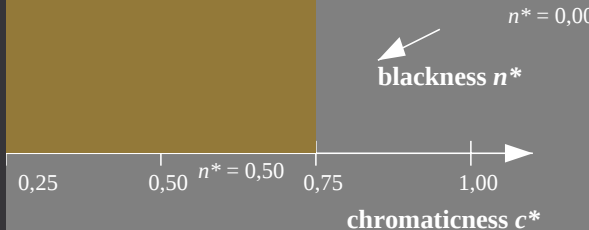
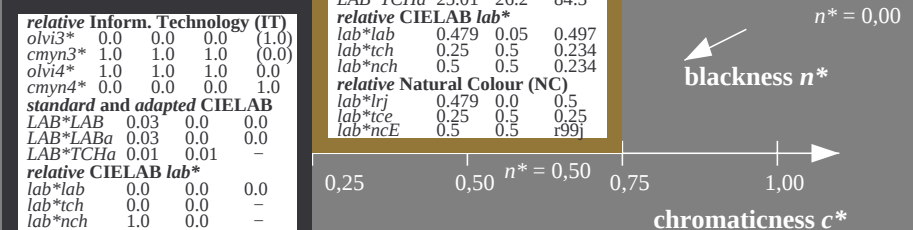
|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 91.46 | 5.19  | 52.13 |
| LAB*LABa | 91.46 | 5.19  | 52.13 |
| LAB*TCHa | 50.0  | 52.39 | 84.31 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.959 | 0.099 | 0.995 |
| lab*tch | 0.5   | 1.0   | 0.234 |
| lab*nch | 0.0   | 1.0   | 0.234 |

relative Natural Colour (NC)

|         |       |     |      |
|---------|-------|-----|------|
| lab*lrj | 0.959 | 0.0 | 1.0  |
| lab*tce | 0.5   | 1.0 | 0.25 |
| lab*nce | 0.0   | 1.0 | j00g |

blackness  $n^*$ chromaticness  $c^*$  $n^* = 1.0$ blackness  $n^*$ chromaticness  $c^*$  $n^* = 1.0$ 

SE00-7, 3 step scales for constant CIELAB hue 84/360 = 0.235 (left)

3 step scales for constant CIELAB hue 84/360 = 0.234 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^* setcmykcolor$ 

output: Startup (S) data depend

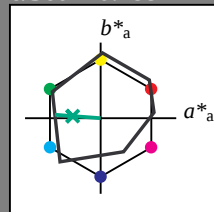
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 176/360 = 0.488$  $lab^*tch$  and  $lab^*nch$ 

A: hue G

LCH\*Ma: 51 61 176

olv\*Ma: 0.0 1.0 0.33

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

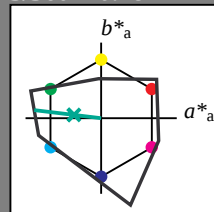
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 173/360 = 0.481$  $lab^*tch$  and  $lab^*nch$ 

A: hue G

LCH\*Ma: 78 89 173

olv\*Ma: 0.0 1.0 0.43

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

relative Inform. Technology (IT)

olvi3\* 1.0 1.0 1.0 (1.0)

cmyn3\* 0.0 0.0 0.0 (0.0)

olvi4\* 1.0 1.0 1.0 1.0

cmyn4\* 0.0 0.0 0.0 0.0

standard and adapted CIELAB

LAB\*LAB 95.41 0.0 0.0

LAB\*LABa 95.41 0.0 0.0

LAB\*TCa 99.99 0.01 -

## relative CIELAB lab\*

lab\*lab 1.0 0.0 0.0

lab\*tch 1.0 0.0 -

lab\*nch 0.0 0.0 -

## relative Natural Colour (NC)

lab\*lrj 1.0 0.0 0.0

lab\*tce 1.0 0.0 -

lab\*nce 0.0 0.0 -

relative Inform. Technology (IT)

olvi3\* 0.5 1.0 0.715 (1.0)

cmyn3\* 0.5 0.0 0.285 (0.0)

olvi4\* 0.5 1.0 0.716 1.0

cmyn4\* 0.5 0.0 0.284 0.0

standard and adapted CIELAB

LAB\*LAB 86.63 -44.26 5.34

LAB\*LABa 86.63 -44.26 5.34

LAB\*TCa 75.0 44.59 173.12

## relative CIELAB lab\*

lab\*lab 0.908 -0.495 0.06

lab\*tch 0.75 0.5 0.481

lab\*nch 0.0 0.5 0.481

## relative Natural Colour (NC)

lab\*lrj 0.908 -0.499 0.0

lab\*tce 0.75 0.5 0.5

lab\*nce 0.0 0.5 g00b

relative Inform. Technology (IT)

olvi3\* 0.0 0.5 0.215 (1.0)

cmyn3\* 1.0 0.5 0.785 (0.0)

olvi4\* 0.5 1.0 0.715 0.5

cmyn4\* 0.5 0.0 0.285 0.5

standard and adapted CIELAB

LAB\*LAB 38.94 -44.26 5.35

LAB\*LABa 38.94 -44.26 5.35

LAB\*TCa 25.01 44.59 173.11

## relative CIELAB lab\*

lab\*lab 0.408 -0.495 0.06

lab\*tch 0.25 0.5 0.481

lab\*nch 0.5 0.5 0.481

## relative Natural Colour (NC)

lab\*lrj 0.408 -0.499 0.0

lab\*tce 0.25 0.5 0.5

lab\*nce 0.5 0.5 g99g

relative Inform. Technology (IT)

olvi3\* 0.0 1.0 0.431 (1.0)

cmyn3\* 1.0 0.0 0.569 (0.0)

olvi4\* 0.0 1.0 0.431 1.0

cmyn4\* 1.0 0.0 0.569 0.0

standard and adapted CIELAB

LAB\*LAB 77.85 -88.52 10.69

LAB\*LABa 77.85 -88.52 10.69

LAB\*TCa 50.0 89.18 173.12

## relative CIELAB lab\*

lab\*lab 0.816 -0.992 0.12

lab\*tch 0.5 1.0 0.481

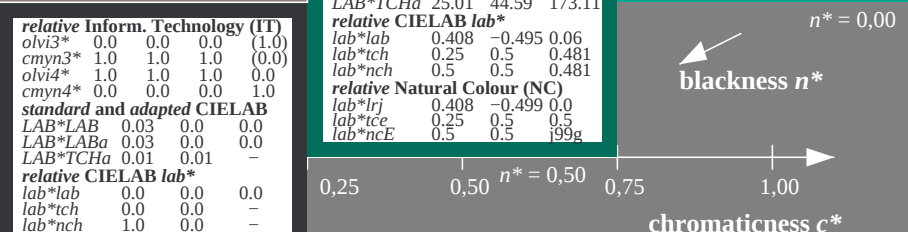
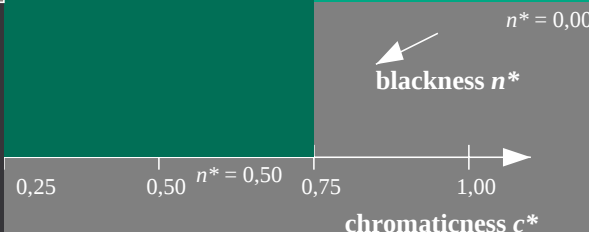
lab\*nch 0.0 1.0 0.481

## relative Natural Colour (NC)

lab\*lrj 0.816 -0.999 0.0

lab\*tce 0.5 1.0 0.5

lab\*nce 0.0 1.0 g99g



SE00-7, 3 step scales for constant CIELAB hue 176/360 = 0.488 (left)

3 step scales for constant CIELAB hue 173/360 = 0.481 (right)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmY0^*$  setcmykcolor

output: Startup (S) data depend

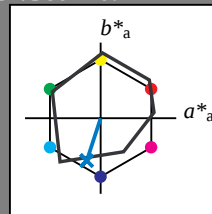
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 252/360 = 0.7$  $lab^*tch$  and  $lab^*nch$ 

A: hue B

LCH\*Ma: 40 55 252

olv\*Ma: 0.0 0.56 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 96$ 

%Regularity

 $g^*_{H,rel} = -385$  $g^*_{C,rel} = 62$ 

## ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 64.42   | 50.58   | 81.9         | 38           |
| Y <sub>Ma</sub>  | 92.62       | 2.41    | 86.36   | 86.39        | 88           |
| L <sub>Ma</sub>  | 50.9        | -63.82  | 35.02   | 72.81        | 151          |
| C <sub>Ma</sub>  | 51.25       | -53.68  | -57.69  | 78.82        | 227          |
| V <sub>Ma</sub>  | 25.72       | 30.34   | -44.37  | 53.76        | 304          |
| M <sub>Ma</sub>  | 56.25       | 70.59   | 7.57    | 70.99        | 6            |
| N <sub>Ma</sub>  | 18.11       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.6        | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 47.79       | 60.85   | 41.08   | 73.41        | 34           |
| J <sub>CIE</sub> | 83.82       | 6.52    | 66.9    | 67.22        | 84           |
| G <sub>CIE</sub> | 49.0        | -36.83  | 2.78    | 36.95        | 176          |
| B <sub>CIE</sub> | 25.14       | -18.35  | -56.22  | 59.15        | 252          |

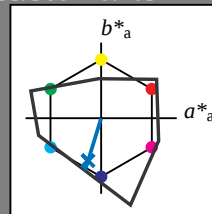
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 253/360 = 0.703$  $lab^*tch$  and  $lab^*nch$ 

A: hue B

LCH\*Ma: 45 72 253

olv\*Ma: 0.0 0.49 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 141$ 

%Regularity

 $g^*_{H,rel} = 39$  $g^*_{C,rel} = 43$ 

## TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 65.56       | 73.34   | 51.39   | 89.55        | 35           |
| Y <sub>Ma</sub>  | 94.78       | -3.49   | 52.24   | 52.36        | 94           |
| L <sub>Ma</sub>  | 77.48       | -92.97  | 36.0    | 99.71        | 159          |
| C <sub>Ma</sub>  | 78.36       | -82.69  | -22.74  | 85.77        | 195          |
| V <sub>Ma</sub>  | 12.55       | 38.81   | -114.81 | 121.2        | 289          |
| M <sub>Ma</sub>  | 66.71       | 76.08   | -29.8   | 81.71        | 339          |
| 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> | 47.79       | 61.74   | 42.56   | 74.99        | 35           |
| J <sub>CIE</sub> | 83.82       | 7.06    | 70.78   | 71.13        | 84           |
| G <sub>CIE</sub> | 49.0        | -35.95  | 4.34    | 36.22        | 173          |
| B <sub>CIE</sub> | 25.14       | -17.24  | -56.24  | 58.84        | 253          |

| relative Inform. Technology (IT) |       |      |     |       |
|----------------------------------|-------|------|-----|-------|
| olvi3*                           | 1.0   | 1.0  | 1.0 | (1.0) |
| cmyn3*                           | 0.0   | 0.0  | 0.0 | (0.0) |
| olvi4*                           | 1.0   | 1.0  | 1.0 | 1.0   |
| cmyn4*                           | 0.0   | 0.0  | 0.0 | 0.0   |
| standard and adapted CIELAB      |       |      |     |       |
| LAB*LAB                          | 95.41 | 0.0  | 0.0 |       |
| LAB*LABa                         | 95.41 | 0.0  | 0.0 |       |
| LAB*TCa                          | 99.99 | 0.01 | -   |       |
| relative CIELAB lab*             |       |      |     |       |
| lab*lab                          | 1.0   | 0.0  | 0.0 |       |
| lab*tch                          | 1.0   | 0.0  | -   |       |
| lab*nch                          | 0.0   | 0.0  | -   |       |
| relative Natural Colour (NC)     |       |      |     |       |
| lab*lrj                          | 1.0   | 0.0  | 0.0 |       |
| lab*tce                          | 1.0   | 0.0  | -   |       |
| lab*nce                          | 0.0   | 0.0  | -   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.5   | 0.747  | 1.0    | (1.0) |
| cmyn3*                           | 0.5   | 0.253  | 0.0    | (0.0) |
| olvi4*                           | 0.5   | 0.747  | 1.0    | 1.0   |
| cmyn4*                           | 0.5   | 0.253  | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 70.24 | -10.62 | -34.63 |       |
| LAB*LABa                         | 70.24 | -10.62 | -34.63 |       |
| LAB*TCa                          | 75.0  | 36.24  | 252.94 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.736 | -0.146 | -0.477 |       |
| lab*tch                          | 0.75  | 0.5    | 0.703  |       |
| lab*nch                          | 0.0   | 0.5    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.736 | 0.0    | -0.499 |       |
| lab*tce                          | 0.75  | 0.5    | 0.75   |       |
| lab*nce                          | 0.0   | 0.5    | g99b   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.247  | 0.5    | (1.0) |
| cmyn3*                           | 1.0   | 0.753  | 0.5    | (0.0) |
| olvi4*                           | 0.5   | 0.747  | 1.0    | 0.5   |
| cmyn4*                           | 0.5   | 0.253  | 0.0    | 0.5   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 22.55 | -10.61 | -34.64 |       |
| LAB*LABa                         | 22.55 | -10.61 | -34.64 |       |
| LAB*TCa                          | 25.01 | 36.24  | 252.96 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.236 | -0.145 | -0.477 |       |
| lab*tch                          | 0.25  | 0.5    | 0.703  |       |
| lab*nch                          | 0.5   | 0.5    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.236 | 0.0    | -0.499 |       |
| lab*tce                          | 0.25  | 0.5    | 0.75   |       |
| lab*nce                          | 0.5   | 0.5    | b00r   |       |

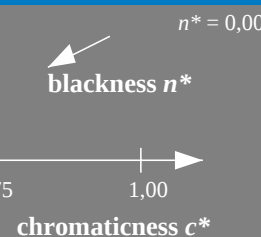
| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.494  | 1.0    | (1.0) |
| cmyn3*                           | 1.0   | 0.506  | 0.0    | (0.0) |
| olvi4*                           | 0.0   | 0.494  | 1.0    | 1.0   |
| cmyn4*                           | 1.0   | 0.506  | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 45.08 | -21.24 | -69.28 |       |
| LAB*LABa                         | 45.08 | -21.24 | -69.28 |       |
| LAB*TCa                          | 50.0  | 72.48  | 252.95 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.472 | -0.292 | -0.955 |       |
| lab*tch                          | 0.5   | 1.0    | 0.703  |       |
| lab*nch                          | 0.0   | 1.0    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.472 | 0.0    | -0.999 |       |
| lab*tce                          | 0.5   | 1.0    | 0.75   |       |
| lab*nce                          | 0.0   | 1.0    | b00r   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.247  | 0.5    | (1.0) |
| cmyn3*                           | 1.0   | 0.753  | 0.5    | (0.0) |
| olvi4*                           | 0.5   | 0.747  | 1.0    | 0.5   |
| cmyn4*                           | 0.5   | 0.253  | 0.0    | 0.5   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 22.55 | -10.61 | -34.64 |       |
| LAB*LABa                         | 22.55 | -10.61 | -34.64 |       |
| LAB*TCa                          | 25.01 | 36.24  | 252.96 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.236 | -0.145 | -0.477 |       |
| lab*tch                          | 0.25  | 0.5    | 0.703  |       |
| lab*nch                          | 0.5   | 0.5    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.236 | 0.0    | -0.499 |       |
| lab*tce                          | 0.25  | 0.5    | 0.75   |       |
| lab*nce                          | 0.5   | 0.5    | b00r   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.494  | 1.0    | (1.0) |
| cmyn3*                           | 1.0   | 0.506  | 0.0    | (0.0) |
| olvi4*                           | 0.0   | 0.494  | 1.0    | 1.0   |
| cmyn4*                           | 1.0   | 0.506  | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 45.08 | -21.24 | -69.28 |       |
| LAB*LABa                         | 45.08 | -21.24 | -69.28 |       |
| LAB*TCa                          | 50.0  | 72.48  | 252.95 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.472 | -0.292 | -0.955 |       |
| lab*tch                          | 0.5   | 1.0    | 0.703  |       |
| lab*nch                          | 0.0   | 1.0    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.472 | 0.0    | -0.999 |       |
| lab*tce                          | 0.5   | 1.0    | 0.75   |       |
| lab*nce                          | 0.0   | 1.0    | b00r   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.247  | 0.5    | (1.0) |
| cmyn3*                           | 1.0   | 0.753  | 0.5    | (0.0) |
| olvi4*                           | 0.5   | 0.747  | 1.0    | 0.5   |
| cmyn4*                           | 0.5   | 0.253  | 0.0    | 0.5   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 22.55 | -10.61 | -34.64 |       |
| LAB*LABa                         | 22.55 | -10.61 | -34.64 |       |
| LAB*TCa                          | 25.01 | 36.24  | 252.96 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.236 | -0.145 | -0.477 |       |
| lab*tch                          | 0.25  | 0.5    | 0.703  |       |
| lab*nch                          | 0.5   | 0.5    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.236 | 0.0    | -0.499 |       |
| lab*tce                          | 0.25  | 0.5    | 0.75   |       |
| lab*nce                          | 0.5   | 0.5    | b00r   |       |

| relative Inform. Technology (IT) |       |        |        |       |
|----------------------------------|-------|--------|--------|-------|
| olvi3*                           | 0.0   | 0.494  | 1.0    | (1.0) |
| cmyn3*                           | 1.0   | 0.506  | 0.0    | (0.0) |
| olvi4*                           | 0.0   | 0.494  | 1.0    | 1.0   |
| cmyn4*                           | 1.0   | 0.506  | 0.0    | 0.0   |
| standard and adapted CIELAB      |       |        |        |       |
| LAB*LAB                          | 45.08 | -21.24 | -69.28 |       |
| LAB*LABa                         | 45.08 | -21.24 | -69.28 |       |
| LAB*TCa                          | 50.0  | 72.48  | 252.95 |       |
| relative CIELAB lab*             |       |        |        |       |
| lab*lab                          | 0.472 | -0.292 | -0.955 |       |
| lab*tch                          | 0.5   | 1.0    | 0.703  |       |
| lab*nch                          | 0.0   | 1.0    | 0.703  |       |
| relative Natural Colour (NC)     |       |        |        |       |
| lab*lrj                          | 0.472 | 0.0    | -0.999 |       |
| lab*tce                          | 0.5   | 1.0    | 0.75   |       |
| lab*nce                          | 0.0   | 1.0    | b00r   |       |

chromaticness  $c^*$  $n^* = 1.0$ 

| relative Inform. Technology (IT) |      |      |     |       |
|----------------------------------|------|------|-----|-------|
| olvi3*                           | 0.0  | 0.0  | 0.0 | (1.0) |
| cmyn3*                           | 1.0  | 1.0  | 1.0 | (0.0) |
| olvi4*                           | 1.0  | 1.0  | 1.0 | 0.0   |
| cmyn4*                           | 0.0  | 0.0  | 0.0 | 1.0   |
| standard and adapted CIELAB      |      |      |     |       |
| LAB*LAB                          | 0.03 | 0.0  | 0.0 |       |
| LAB*LABa                         | 0.03 | 0.0  | 0.0 |       |
| LAB*TCa                          | 0.01 | 0.01 | -   |       |
| relative CIELAB lab*             |      |      |     |       |
| lab*lab                          | 0.0  | 0.0  | 0.0 |       |
| lab*tch                          | 0.0  | 0.0  | -   |       |
| lab*nch                          | 1.0  | 0.0  | -   |       |
| relative Natural Colour (NC)     |      |      |     |       |
| lab*lrj                          | 0.0  | 0.0  | 0.0 |       |
| lab*tce                          | 0.0  | 0.0  | -   |       |
| lab*nce                          | 1.0  | 0.0  | -   |       |

 $n^* = 1.0$ 

3 step scales for constant CIELAB hue 253/360 = 0.703 (right)

SE00-7, 3 step scales for constant CIELAB hue 252/360 = 0.7 (left)

BAM-test chart SE00; Colorimetric systems ORS18 &amp; ORS18

A: 3 step colour scales and coordinate data for 10 hues

input:  $cmv0^* setcmykcolor$ 

output: Startup (S) data depend