

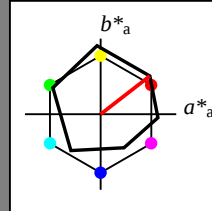
## Input: Colorimetric Offset Reflective System ORS18

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

D50: hue O

LCH\*Ma: 48 82 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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 95.46 -0.39 4.69

LAB\*LABa 95.46 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 -

standard and adapted CIELAB

LAB\*LAB 56.78 0.13 2.11

LAB\*LABa 56.78 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 -

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

## ORS18; adapted (a) CIELAB data

| $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|-------------|---------|---------|--------------|--------------|
| OMa 47.94   | 65.05   | 50.54   | 82.38        | 38           |
| YMa 91.0    | -4.72   | 90.58   | 90.7         | 93           |
| LMa 50.9    | -63.18  | 34.98   | 72.22        | 151          |
| CMa 56.99   | -39.34  | -48.1   | 62.16        | 231          |
| VMa 25.72   | 30.89   | -44.4   | 54.09        | 305          |
| MMa 49.99   | 75.76   | -4.64   | 75.9         | 356          |
| NMa 18.09   | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.46   | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88  | 61.66   | 30.69   | 68.88        | 26           |
| JCIE 81.97  | 2.02    | 67.79   | 67.82        | 88           |
| GCIE 51.62  | -41.32  | 9.74    | 42.46        | 167          |
| BCIE 29.2   | -5.79   | -49.61  | 49.96        | 263          |

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 71.7 32.45 28.38

LAB\*LABa 71.7 32.52 25.26

LAB\*TCHa 75.0 41.18 37.84

relative CIELAB lab\*

lab\*lab 0.693 0.395 0.307

lab\*tch 0.75 0.5 0.105

lab\*nch 0.0 0.5 0.105

relative Natural Colour (NC)

lab\*lrj 0.693 0.479 0.143

lab\*tce 0.75 0.5 0.046

lab\*nce 0.0 0.5 r18j

standard and adapted CIELAB

LAB\*LAB 33.02 32.98 25.8

LAB\*LABa 33.02 32.52 25.26

LAB\*TCHa 25.01 41.18 37.84

relative CIELAB lab\*

lab\*lab 0.193 0.395 0.307

lab\*tch 0.25 0.5 0.105

lab\*nch 0.5 0.5 0.105

relative Natural Colour (NC)

lab\*lrj 0.193 0.479 0.143

lab\*tce 0.25 0.5 0.046

lab\*nce 0.5 0.5 r18j

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 | 0.0 | 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 47.94 65.3 52.06

LAB\*LABa 47.94 65.04 50.53

LAB\*TCHa 50.0 82.36 37.84

relative CIELAB lab\*

lab\*lab 0.386 0.79 0.613

lab\*tch 0.5 1.0 0.105

lab\*nch 0.0 1.0 0.105

relative Natural Colour (NC)

lab\*lrj 0.386 0.958 0.285

lab\*tce 0.5 1.0 0.046

lab\*nce 0.0 1.0 r18j

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 -

 $n^* = 0.00$ blackness  $n^*$ chromaticness  $c^*$  $n^* = 0.50$  $n^* = 1.00$  $n^* = 1.0$ 

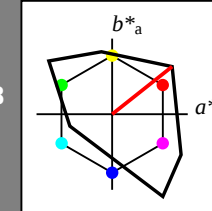
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 38/360 = 0.107$  $lab^*tch$  and  $lab^*nch$ 

D50: hue O

LCH\*Ma: 54 101 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 -

standard and adapted CIELAB

LAB\*LAB 74.79 39.67 31.49

LAB\*LABa 74.79 39.67 31.49

LAB\*TCHa 75.0 50.65 38.44

relative CIELAB lab\*

lab\*lab 0.784 0.392 0.311

lab\*tch 0.75 0.5 0.107

lab\*nch 0.0 0.5 0.107

relative Natural Colour (NC)

lab\*lrj 0.784 0.479 0.142

lab\*tce 0.75 0.5 0.046

lab\*nce 0.0 0.5 r18j

standard and adapted CIELAB

LAB\*LAB 27.1 39.67 31.49

LAB\*LABa 27.1 39.67 31.49

LAB\*TCHa 25.01 50.65 38.44

relative CIELAB lab\*

lab\*lab 0.284 0.392 0.311

lab\*tch 0.25 0.5 0.107

lab\*nch 0.5 0.5 0.107

relative Natural Colour (NC)

lab\*lrj 0.284 0.479 0.142

lab\*tce 0.25 0.5 0.046

lab\*nce 0.5 0.5 r18j

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 74.79 39.67 31.49

LAB\*LABa 74.79 39.67 31.49

LAB\*TCHa 75.0 50.65 38.44

relative CIELAB lab\*

lab\*lab 0.784 0.392 0.311

lab\*tch 0.75 0.5 0.107

lab\*nch 0.0 0.5 0.107

relative Natural Colour (NC)

lab\*lrj 0.784 0.479 0.142

lab\*tce 0.75 0.5 0.046

lab\*nce 0.0 0.5 r18j

standard and adapted CIELAB

LAB\*LAB 27.1 39.67 31.49

LAB\*LABa 27.1 39.67 31.49

LAB\*TCHa 25.01 50.65 38.44

relative CIELAB lab\*

lab\*lab 0.284 0.392 0.311

lab\*tch 0.25 0.5 0.107

lab\*nch 0.5 0.5 0.107

relative Natural Colour (NC)

lab\*lrj 0.284 0.479 0.142

lab\*tce 0.25 0.5 0.046

lab\*nce 0.5 0.5 r18j

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

 $n^* = 0.00$ blackness  $n^*$ chromaticness  $c^*$  $n^* = 0.50$  $n^* = 1.00$  $n^* = 1.0$ 

BAM-test chart PE10; Colorimetric systems ORS18 &amp; ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 38/360 = 0.107 (right)

input: olv\* setrgbcolor

output: Startup (S) data dependend

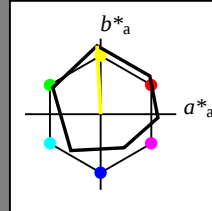
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 93/360 = 0.258$  $lab^*tch$  and  $lab^*nch$ 

D50: hue Y

LCH\*Ma: 91 91 93

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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 95.46 -0.39 4.69

LAB\*LABa 95.46 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 56.78 0.13 2.11

LAB\*LABa 56.78 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 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

## ORS18; adapted (a) CIELAB data

| $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---------------|---------|---------|--------------|--------------|
| OMa 47.94     | 65.05   | 50.54   | 82.38        | 38           |
| YMa 91.0      | -4.72   | 90.58   | 90.7         | 93           |
| LMa 50.9      | -63.18  | 34.98   | 72.22        | 151          |
| CMa 56.99     | -39.34  | -48.1   | 62.16        | 231          |
| VMa 25.72     | 30.89   | -44.4   | 54.09        | 305          |
| MMa 49.99     | 75.76   | -4.64   | 75.9         | 356          |
| NMa 18.09     | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.46     | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88    | 61.66   | 30.69   | 68.88        | 26           |
| JCIE 81.97    | 2.02    | 67.79   | 67.82        | 88           |
| GCIE 51.62    | -41.32  | 9.74    | 42.46        | 167          |
| BCIE 29.2     | -5.79   | -49.61  | 49.96        | 263          |

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 93.22 -2.72 49.83

LAB\*LABa 93.22 -2.36 45.28

LAB\*TCHa 75.0 45.34 92.99

relative CIELAB lab\*

lab\*lab 0.971 -0.025 0.499

lab\*tch 0.75 0.5 0.258

lab\*nch 0.0 0.5 0.258

relative Natural Colour (NC)

lab\*lrj 0.971 -0.046 0.498

lab\*tce 0.75 0.5 0.265

lab\*nce 0.0 0.5 0.265

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 54.55 -2.19 47.25

LAB\*LABa 54.55 -2.36 45.28

LAB\*TCHa 25.01 45.34 92.99

relative CIELAB lab\*

lab\*lab 0.471 -0.025 0.499

lab\*tch 0.25 0.5 0.258

lab\*nch 0.5 0.5 0.258

relative Natural Colour (NC)

lab\*lrj 0.471 -0.046 0.498

lab\*tce 0.25 0.5 0.265

lab\*nce 0.5 0.5 0.265

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 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

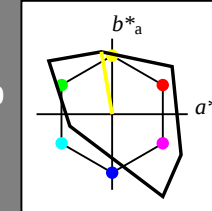
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 100/360 = 0.277$  $lab^*tch$  and  $lab^*nch$ 

D50: hue Y

LCH\*Ma: 93 84 100

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 -

## TLS00; adapted (a) CIELAB data

| $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---------------|---------|---------|--------------|--------------|
| OMa 54.19     | 79.36   | 63.0    | 101.33       | 38           |
| YMa 93.44     | -14.18  | 82.59   | 83.8         | 100          |
| LMa 82.82     | -83.73  | 70.41   | 109.41       | 140          |
| CMa 85.22     | -55.9   | -15.78  | 58.1         | 196          |
| VMa 25.61     | 67.05   | -108.87 | 127.87       | 302          |
| MMa 58.76     | 91.18   | -53.69  | 105.82       | 330          |
| NMa 0.01      | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.41     | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88    | 62.0    | 31.82   | 69.69        | 27           |
| JCIE 81.97    | 1.81    | 71.59   | 71.61        | 89           |
| GCIE 51.62    | -41.11  | 11.52   | 42.7         | 164          |
| BCIE 29.2     | -5.27   | -49.33  | 49.62        | 264          |

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 94.42 -7.08 41.29

LAB\*LABa 94.42 -7.08 41.29

LAB\*TCHa 75.0 41.89 99.75

relative CIELAB lab\*

lab\*lab 0.99 -0.084 0.493

lab\*tch 0.75 0.5 0.277

lab\*nch 0.0 0.5 0.277

relative Natural Colour (NC)

lab\*lrj 0.99 -0.114 0.487

lab\*tce 0.75 0.5 0.287

lab\*nce 0.0 0.5 0.287

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 46.73 -7.08 41.29

LAB\*LABa 46.73 -7.08 41.29

LAB\*TCHa 25.01 41.89 99.75

relative CIELAB lab\*

lab\*lab 0.49 -0.084 0.493

lab\*tch 0.25 0.5 0.277

lab\*nch 0.5 0.5 0.277

relative Natural Colour (NC)

lab\*lrj 0.49 -0.114 0.487

lab\*tce 0.25 0.5 0.287

lab\*nce 0.5 0.5 0.287

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 Inform. Technology (IT)

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

standard and adapted CIELAB

LAB\*LAB 93.43 -14.18 82.57

LAB\*LABa 93.43 -14.18 82.57

LAB\*TCHa 50.0 83.78 99.75

relative CIELAB lab\*

lab\*lab 0.979 -0.168 0.985

lab\*tch 0.5 1.0 0.277

lab\*nch 0.0 1.0 0.277

relative Natural Colour (NC)

lab\*lrj 0.979 -0.229 0.973

lab\*tce 0.5 1.0 0.287

lab\*nce 0.0 1.0 0.287

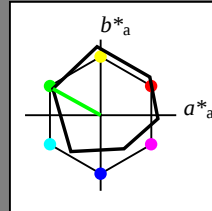
## Input: Colorimetric Offset Reflective System ORS18

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

D50: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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 95.46 -0.39 4.69

LAB\*LABa 95.46 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 -

standard and adapted CIELAB

LAB\*LAB 56.78 0.13 2.11

LAB\*LABa 56.78 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 -

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

## ORS18; adapted (a) CIELAB data

| $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|-------------|---------|---------|--------------|--------------|
| OMa         | 47.94   | 65.05   | 50.54        | 82.38        |
| YMa         | 91.0    | -4.72   | 90.58        | 90.7         |
| LMa         | 50.9    | -63.18  | 34.98        | 72.22        |
| CMa         | 56.99   | -39.34  | -48.1        | 62.16        |
| VMa         | 25.72   | 30.89   | -44.4        | 54.09        |
| MMa         | 49.99   | 75.76   | -4.64        | 75.9         |
| NMa         | 18.09   | 0.0     | 0.0          | 0            |
| WMa         | 95.46   | 0.0     | 0.0          | 0            |
| RCIE        | 41.88   | 61.66   | 30.69        | 68.88        |
| JCIE        | 81.97   | 2.02    | 67.79        | 67.82        |
| GCIE        | 51.62   | -41.32  | 9.74         | 42.46        |
| BCIE        | 29.2    | -5.79   | -49.61       | 49.96        |

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 73.18 -31.67 20.7

LAB\*LABa 73.18 -31.58 17.49

LAB\*TCHa 75.0 36.1 151.03

relative CIELAB lab\*

lab\*lab 0.712 -0.436 0.242

lab\*tch 0.75 0.5 0.42

lab\*nch 0.0 0.5 0.42

relative Natural Colour (NC)

lab\*lrj 0.712 -0.474 0.155

lab\*tce 0.75 0.5 0.45

lab\*nce 0.0 0.5 0.45

standard and adapted CIELAB

LAB\*LAB 34.5 -31.13 18.12

LAB\*LABa 34.5 -31.58 17.49

LAB\*TCHa 25.01 36.1 151.03

relative CIELAB lab\*

lab\*lab 0.212 -0.436 0.242

lab\*tch 0.25 0.5 0.42

lab\*nch 0.5 0.5 0.42

relative Natural Colour (NC)

lab\*lrj 0.212 -0.474 0.155

lab\*tce 0.25 0.5 0.45

lab\*nce 0.5 0.5 0.45

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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* | 0.0 | 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 50.9 -62.95 36.7

LAB\*LABa 50.9 -63.16 34.97

LAB\*TCHa 50.0 72.21 151.03

relative CIELAB lab\*

lab\*lab 0.424 -0.874 0.484

lab\*tch 0.5 1.0 0.42

lab\*nch 0.0 1.0 0.42

relative Natural Colour (NC)

lab\*lrj 0.424 -0.95 0.309

lab\*tce 0.5 1.0 0.45

lab\*nce 0.0 1.0 0.45

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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 -

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

### Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 231/360 = 0.641$

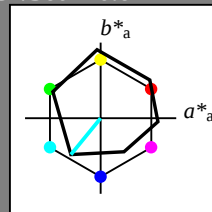
$lab^*tch$  and  $lab^*nch$

D50: hue C

LCH\*Ma: 57 62 231

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 94$

%Regularity

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

$g^*_{C,rel} = 60$

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 95.46 -0.39 4.69  
LAB\*LABa 95.46 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 56.78 0.13 2.11  
LAB\*LABa 56.78 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 18.1 0.67 -0.46  
LAB\*LABa 18.1 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 -

$n^* = 1.0$

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.05   | 50.54   | 82.38        | 38           |
| Y <sub>Ma</sub>                | 91.0        | -4.72   | 90.58   | 90.7         | 93           |
| L <sub>Ma</sub>                | 50.9        | -63.18  | 34.98   | 72.22        | 151          |
| C <sub>Ma</sub>                | 56.99       | -39.34  | -48.1   | 62.16        | 231          |
| V <sub>Ma</sub>                | 25.72       | 30.89   | -44.4   | 54.09        | 305          |
| M <sub>Ma</sub>                | 49.99       | 75.76   | -4.64   | 75.9         | 356          |
| N <sub>Ma</sub>                | 18.09       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.46       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 41.88       | 61.66   | 30.69   | 68.88        | 26           |
| J <sub>CIE</sub>               | 81.97       | 2.02    | 67.79   | 67.82        | 88           |
| G <sub>CIE</sub>               | 51.62       | -41.32  | 9.74    | 42.46        | 167          |
| B <sub>CIE</sub>               | 29.2        | -5.79   | -49.61  | 49.96        | 263          |

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 76.22 -19.8 -20.63  
LAB\*LABa 76.22 -19.66 -24.04  
LAB\*TCHa 75.0 31.07 230.72

relative CIELAB lab\*  
lab\*lab 0.751 -0.315 -0.386  
lab\*tch 0.75 0.5 0.641  
lab\*nch 0.0 0.5 0.641

relative Natural Colour (NC)  
lab\*lrj 0.751 -0.252 -0.43  
lab\*tce 0.75 0.5 0.666  
lab\*nce 0.0 0.5 g66b

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 37.54 -19.26 -23.2  
LAB\*LABa 37.54 -19.66 -24.04  
LAB\*TCHa 25.01 31.07 230.72

relative CIELAB lab\*  
lab\*lab 0.251 -0.315 -0.386  
lab\*tch 0.25 0.5 0.641  
lab\*nch 0.5 0.5 0.641

relative Natural Colour (NC)  
lab\*lrj 0.251 -0.252 -0.43  
lab\*tce 0.25 0.5 0.666  
lab\*nce 0.5 0.5 g66b

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 196/360 = 0.544$

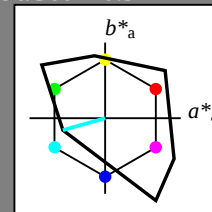
$lab^*tch$  and  $lab^*nch$

D50: hue C

LCH\*Ma: 85 58 196

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 156$

%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$

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 -

$n^* = 1.0$

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 90.31 -27.94 -7.88  
LAB\*LABa 90.31 -27.94 -7.88  
LAB\*TCHa 75.0 29.04 195.77

relative CIELAB lab\*  
lab\*lab 0.947 -0.48 -0.135  
lab\*tch 0.75 0.5 0.544  
lab\*nch 0.0 0.5 0.544

relative Natural Colour (NC)  
lab\*lrj 0.947 -0.439 -0.237  
lab\*tce 0.75 0.5 0.579  
lab\*nce 0.0 0.5 g31b

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 42.62 -27.94 -7.88  
LAB\*LABa 42.62 -27.94 -7.88  
LAB\*TCHa 25.01 29.04 195.77

relative CIELAB lab\*  
lab\*lab 0.447 -0.48 -0.135  
lab\*tch 0.25 0.5 0.544  
lab\*nch 0.5 0.5 0.544

relative Natural Colour (NC)  
lab\*lrj 0.447 -0.439 -0.237  
lab\*tce 0.25 0.5 0.579  
lab\*nce 0.5 0.5 g31b

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

PE100-7, 3 step scales for constant CIELAB hue 231/360 = 0.641 (left)

3 step scales for constant CIELAB hue 196/360 = 0.544 (right)

BAM-test chart PE10; Colorimetric systems ORS18 & ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

### Input: Colorimetric Offset Reflective System ORS18

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

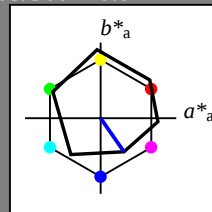
$lab^*tch$  and  $lab^*nch$

D50: hue V

LCH\*Ma: 26 54 305

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 94$

%Regularity

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

$g^*_{C,rel} = 60$

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 95.46 -0.39 4.69  
LAB\*LABa 95.46 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 56.78 0.13 2.11  
LAB\*LABa 56.78 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 18.1 0.67 -0.46  
LAB\*LABa 18.1 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 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 47.94       | 65.05   | 50.54   | 82.38        | 38           |
| Y <sub>Ma</sub>  | 91.0        | -4.72   | 90.58   | 90.7         | 93           |
| L <sub>Ma</sub>  | 50.9        | -63.18  | 34.98   | 72.22        | 151          |
| C <sub>Ma</sub>  | 56.99       | -39.34  | -48.1   | 62.16        | 231          |
| V <sub>Ma</sub>  | 25.72       | 30.89   | -44.4   | 54.09        | 305          |
| M <sub>Ma</sub>  | 49.99       | 75.76   | -4.64   | 75.9         | 356          |
| N <sub>Ma</sub>  | 18.09       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.46       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 41.88       | 61.66   | 30.69   | 68.88        | 26           |
| J <sub>CIE</sub> | 81.97       | 2.02    | 67.79   | 67.82        | 88           |
| G <sub>CIE</sub> | 51.62       | -41.32  | 9.74    | 42.46        | 167          |
| B <sub>CIE</sub> | 29.2        | -5.79   | -49.61  | 49.96        | 263          |

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 60.59 15.52 -19.82  
LAB\*LABa 60.59 15.44 -22.19  
LAB\*TCHa 75.0 27.04 304.82

relative CIELAB lab\*  
lab\*lab 0.549 0.285 -0.409  
lab\*tch 0.75 0.5 0.847  
lab\*nch 0.0 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.549 0.252 -0.431  
lab\*tce 0.75 0.5 0.834  
lab\*nce 0.0 0.5 b33r

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 21.91 16.06 -22.4  
LAB\*LABa 21.91 15.44 -22.19  
LAB\*TCHa 25.01 27.04 304.82

relative CIELAB lab\*  
lab\*lab 0.049 0.285 -0.409  
lab\*tch 0.25 0.5 0.847  
lab\*nch 0.5 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.049 0.252 -0.431  
lab\*tce 0.25 0.5 0.834  
lab\*nce 0.5 0.5 b33r

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 18.1 0.67 -0.46  
LAB\*LABa 18.1 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 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 302/360 = 0.838$

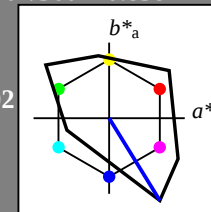
$lab^*tch$  and  $lab^*nch$

D50: hue V

LCH\*Ma: 26 128 302

olv\*Ma: 0.0 0.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 156$

%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$

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 -

$n^* = 1,0$

### TLS00; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 54.19       | 79.36   | 63.0    | 101.33       | 38           |
| Y <sub>Ma</sub>  | 93.44       | -14.18  | 82.59   | 83.8         | 100          |
| L <sub>Ma</sub>  | 82.82       | -83.73  | 70.41   | 109.41       | 140          |
| C <sub>Ma</sub>  | 85.22       | -55.9   | -15.78  | 58.1         | 196          |
| V <sub>Ma</sub>  | 25.61       | 67.05   | -108.87 | 127.87       | 302          |
| M <sub>Ma</sub>  | 58.76       | 91.18   | -53.69  | 105.82       | 330          |
| 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> | 41.88       | 62.0    | 31.82   | 69.69        | 27           |
| J <sub>CIE</sub> | 81.97       | 1.81    | 71.59   | 71.61        | 89           |
| G <sub>CIE</sub> | 51.62       | -41.11  | 11.52   | 42.7         | 164          |
| B <sub>CIE</sub> | 29.2        | -5.27   | -49.33  | 49.62        | 264          |

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 60.51 33.52 -54.42  
LAB\*LABa 60.51 33.52 -54.42  
LAB\*TCHa 75.0 63.92 301.63

relative CIELAB lab\*  
lab\*lab 0.634 0.262 -0.425  
lab\*tch 0.75 0.5 0.838  
lab\*nch 0.0 0.5 0.838

relative Natural Colour (NC)  
lab\*lrj 0.634 0.231 -0.442  
lab\*tce 0.75 0.5 0.827  
lab\*nce 0.0 0.5 b30r

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 12.82 33.52 -54.42  
LAB\*LABa 12.82 33.52 -54.42  
LAB\*TCHa 25.01 63.92 301.63

relative CIELAB lab\*  
lab\*lab 0.134 0.262 -0.425  
lab\*tch 0.25 0.5 0.838  
lab\*nch 0.5 0.5 0.838

relative Natural Colour (NC)  
lab\*lrj 0.134 0.231 -0.442  
lab\*tce 0.25 0.5 0.827  
lab\*nce 0.5 0.5 b30r

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 -

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

PE100-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 302/360 = 0.838 (right)

BAM-test chart PE10; Colorimetric systems ORS18 & ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

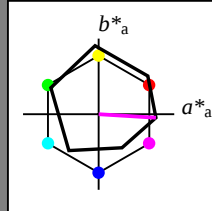
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 356/360 = 0.99$  $lab^*tch$  and  $lab^*nch$ 

D50: hue M

LCH\*Ma: 50 76 356

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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  | 95.46 | -0.39 | 4.69 |
| LAB*LABa | 95.46 | 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  | 56.78 | 0.13 | 2.11 |
| LAB*LABa | 56.78 | 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  | 18.1 | 0.67 | -0.46 |
| LAB*LABa | 18.1 | 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 | -   |

 $n^* = 1.0$ 

## ORS18; adapted (a) CIELAB data

| $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|-------------|---------|---------|--------------|--------------|
| OMa 47.94   | 65.05   | 50.54   | 82.38        | 38           |
| YMa 91.0    | -4.72   | 90.58   | 90.7         | 93           |
| LMa 50.9    | -63.18  | 34.98   | 72.22        | 151          |
| CMa 56.99   | -39.34  | -48.1   | 62.16        | 231          |
| VMa 25.72   | 30.89   | -44.4   | 54.09        | 305          |
| MMa 49.99   | 75.76   | -4.64   | 75.9         | 356          |
| NMa 18.09   | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.46   | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88  | 61.66   | 30.69   | 68.88        | 26           |
| JCIE 81.97  | 2.02    | 67.79   | 67.82        | 88           |
| GCIE 51.62  | -41.32  | 9.74    | 42.46        | 167          |
| BCIE 29.2   | -5.79   | -49.61  | 49.96        | 263          |

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  | 72.72 | 37.79 | 0.86   |
| LAB*LABa | 72.72 | 37.87 | -2.31  |
| LAB*TCHa | 75.0  | 37.94 | 356.49 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.706 | 0.499 | -0.03 |
| lab*tch | 0.75  | 0.5   | 0.99  |
| lab*nch | 0.0   | 0.5   | 0.99  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.706 | 0.464 | -0.186 |
| lab*tce | 0.75  | 0.5   | 0.939  |
| lab*nce | 0.0   | 0.5   | 0.75r  |

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  | 34.04 | 38.32 | -1.71  |
| LAB*LABa | 34.04 | 37.87 | -2.31  |
| LAB*TCHa | 25.01 | 37.94 | 356.49 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.206 | 0.499 | -0.03 |
| lab*tch | 0.25  | 0.5   | 0.99  |
| lab*nch | 0.5   | 0.5   | 0.99  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.206 | 0.464 | -0.186 |
| lab*tce | 0.25  | 0.5   | 0.939  |
| lab*nce | 0.5   | 0.5   | 0.75r  |

 $n^* = 0.50$ blackness  $n^*$ chromaticness  $c^*$ 

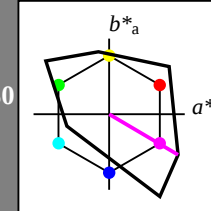
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 330/360 = 0.915$  $lab^*tch$  and  $lab^*nch$ 

D50: hue M

LCH\*Ma: 59 106 330

olv\*Ma: 1.0 0.0 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 | -   |

 $n^* = 1.0$ 

## TLS00; adapted (a) CIELAB data

| $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|-------------|---------|---------|--------------|--------------|
| OMa 54.19   | 79.36   | 63.0    | 101.33       | 38           |
| YMa 93.44   | -14.18  | 82.59   | 83.8         | 100          |
| LMa 82.82   | -83.73  | 70.41   | 109.41       | 140          |
| CMa 85.22   | -55.9   | -15.78  | 58.1         | 196          |
| VMa 25.61   | 67.05   | -108.87 | 127.87       | 302          |
| MMa 58.76   | 91.18   | -53.69  | 105.82       | 330          |
| NMa 0.01    | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.41   | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88  | 62.0    | 31.82   | 69.69        | 27           |
| JCIE 81.97  | 1.81    | 71.59   | 71.61        | 89           |
| GCIE 51.62  | -41.11  | 11.52   | 42.7         | 164          |
| BCIE 29.2   | -5.27   | -49.33  | 49.62        | 264          |

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  | 77.08 | 45.58 | -26.83 |
| LAB*LABa | 77.08 | 45.58 | -26.83 |
| LAB*TCHa | 75.0  | 52.9  | 329.5  |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.808 | 0.431 | -0.253 |
| lab*tch | 0.75  | 0.5   | 0.915  |
| lab*nch | 0.0   | 0.5   | 0.915  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.808 | 0.371 | -0.334 |
| lab*tce | 0.75  | 0.5   | 0.883  |
| lab*nce | 0.0   | 0.5   | 0.53r  |

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  | 29.39 | 45.58 | -26.83 |
| LAB*LABa | 29.39 | 45.58 | -26.83 |
| LAB*TCHa | 25.01 | 52.9  | 329.5  |

relative CIELAB lab\*

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lab | 0.308 | 0.431 | -0.253 |
| lab*tch | 0.25  | 0.5   | 0.915  |
| lab*nch | 0.5   | 0.5   | 0.915  |

relative Natural Colour (NC)

|         |       |       |        |
|---------|-------|-------|--------|
| lab*lrj | 0.308 | 0.371 | -0.334 |
| lab*tce | 0.25  | 0.5   | 0.883  |
| lab*nce | 0.5   | 0.5   | 0.53r  |

 $n^* = 0.50$ blackness  $n^*$ chromaticness  $c^*$ 

PE100-7, 3 step scales for constant CIELAB hue 356/360 = 0.99 (left)

3 step scales for constant CIELAB hue 330/360 = 0.915 (right)

BAM-test chart PE10; Colorimetric systems ORS18 &amp; ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend

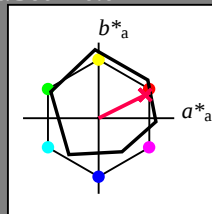
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 26/360 = 0.074$  $lab^*tch$  and  $lab^*nch$ 

D50: hue R

LCH\*Ma: 49 76 26

olv\*Ma: 1.0 0.0 0.3

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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 95.46 -0.39 4.69

LAB\*LABa 95.46 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 -

standard and adapted CIELAB

LAB\*LAB 56.78 0.13 2.11

LAB\*LABa 56.78 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 -

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

## ORS18; adapted (a) CIELAB data

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

|      |       |        |        |       |     |
|------|-------|--------|--------|-------|-----|
| OMa  | 47.94 | 65.05  | 50.54  | 82.38 | 38  |
| YMa  | 91.0  | -4.72  | 90.58  | 90.7  | 93  |
| LMa  | 50.9  | -63.18 | 34.98  | 72.22 | 151 |
| CMa  | 56.99 | -39.34 | -48.1  | 62.16 | 231 |
| VMa  | 25.72 | 30.89  | -44.4  | 54.09 | 305 |
| MMa  | 49.99 | 75.76  | -4.64  | 75.9  | 356 |
| NMa  | 18.09 | 0.0    | 0.0    | 0.0   | 0   |
| WMa  | 95.46 | 0.0    | 0.0    | 0.0   | 0   |
| RCIE | 41.88 | 61.66  | 30.69  | 68.88 | 26  |
| JCIE | 81.97 | 2.02   | 67.79  | 67.82 | 88  |
| GCIE | 51.62 | -41.32 | 9.74   | 42.46 | 167 |
| BCIE | 29.2  | -5.79  | -49.61 | 49.96 | 263 |

relative Inform. Technology (IT)

olvi3\* 1.0 0.5 0.65 (1.0)

cmyn3\* 0.0 0.5 0.35 (0.0)

olvi4\* 1.0 0.5 0.65 1.0

cmyn4\* 0.0 0.5 0.35 0.0

standard and adapted CIELAB

LAB\*LAB 72.0 34.05 20.12

LAB\*LABa 72.0 34.13 16.99

LAB\*TCHa 75.0 38.12 26.46

relative CIELAB lab\*

lab\*lab 0.697 0.448 0.223

lab\*tch 0.75 0.5 0.074

lab\*nch 0.0 0.5 0.074

relative Natural Colour (NC)

lab\*lrj 0.697 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*nce 0.0 0.5 0.999

standard and adapted CIELAB

LAB\*LAB 33.33 34.58 17.55

LAB\*LABa 33.33 34.13 16.99

LAB\*TCHa 25.01 38.12 26.47

relative CIELAB lab\*

lab\*lab 0.197 0.447 0.223

lab\*tch 0.25 0.5 0.074

lab\*nch 0.5 0.5 0.074

relative Natural Colour (NC)

lab\*lrj 0.197 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*nce 0.5 0.5 0.0

standard and adapted CIELAB

LAB\*LAB 18.1 0.67 -0.46

LAB\*LABa 18.1 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 -

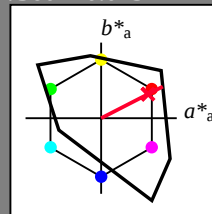
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 27/360 = 0.075$  $lab^*tch$  and  $lab^*nch$ 

D50: hue R

LCH\*Ma: 55 92 27

olv\*Ma: 1.0 0.0 0.18

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 -

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 0.5 0.5

lab\*tch 0.5 0.5 0.5

lab\*nch 0.0 0.0 0.5

relative Natural Colour (NC)

lab\*lrj 0.5 0.0 0.0

lab\*tce 0.5 0.0 -

lab\*nce 0.5 0.0 -

standard and adapted CIELAB

LAB\*LAB 27.52 40.74 20.92

LAB\*LABa 27.52 40.74 20.92

LAB\*TCHa 25.01 45.8 27.18

relative CIELAB lab\*

lab\*lab 0.288 0.445 0.228

lab\*tch 0.25 0.5 0.075

lab\*nch 0.5 0.5 0.075

relative Natural Colour (NC)

lab\*lrj 0.288 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*nce 0.5 0.5 0.0

## TLS00; adapted (a) CIELAB data

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

|      |       |        |         |        |     |
|------|-------|--------|---------|--------|-----|
| OMa  | 54.19 | 79.36  | 63.0    | 101.33 | 38  |
| YMa  | 93.44 | -14.18 | 82.59   | 83.8   | 100 |
| LMa  | 82.82 | -83.73 | 70.41   | 109.41 | 140 |
| CMa  | 85.22 | -55.9  | -15.78  | 58.1   | 196 |
| VMa  | 25.61 | 67.05  | -108.87 | 127.87 | 302 |
| MMa  | 58.76 | 91.18  | -53.69  | 105.82 | 330 |
| NMa  | 0.01  | 0.0    | 0.0     | 0.0    | 0   |
| WMa  | 95.41 | 0.0    | 0.0     | 0.0    | 0   |
| RCIE | 41.88 | 62.0   | 31.82   | 69.69  | 27  |
| JCIE | 81.97 | 1.81   | 71.59   | 71.61  | 89  |
| GCIE | 51.62 | -41.11 | 11.52   | 42.7   | 164 |
| BCIE | 29.2  | -5.27  | -49.33  | 49.62  | 264 |

relative Inform. Technology (IT)

olvi3\* 1.0 0.5 0.591 (1.0)

cmyn3\* 0.0 0.5 0.409 (0.0)

olvi4\* 1.0 0.5 0.591 1.0

cmyn4\* 0.0 0.5 0.409 0.0

standard and adapted CIELAB

LAB\*LAB 75.21 40.74 20.91

LAB\*LABa 75.21 40.74 20.91

LAB\*TCHa 75.0 45.8 27.17

relative CIELAB lab\*

lab\*lab 0.788 0.445 0.228

lab\*tch 0.75 0.5 0.075

lab\*nch 0.0 0.5 0.075

relative Natural Colour (NC)

lab\*lrj 0.788 0.5 0.0

lab\*tce 0.75 0.5 1.0

lab\*nce 0.0 0.5 0.999

standard and adapted CIELAB

LAB\*LAB 55.02 81.49 41.83

LAB\*LABa 55.02 81.49 41.83

LAB\*TCHa 50.0 91.6 27.17

relative CIELAB lab\*

lab\*lab 0.577 0.889 0.457

lab\*tch 0.5 1.0 0.075

lab\*nch 0.0 1.0 0.075

relative Natural Colour (NC)

lab\*lrj 0.577 1.0 0.0

lab\*tce 0.5 1.0 0.0

lab\*nce 0.0 1.0 0.0

standard and adapted CIELAB

LAB\*LAB 27.52 40.74 20.92

LAB\*LABa 27.52 40.74 20.92

LAB\*TCHa 25.01 45.8 27.18

relative CIELAB lab\*

lab\*lab 0.288 0.445 0.228

lab\*tch 0.25 0.5 0.075

lab\*nch 0.5 0.5 0.075

relative Natural Colour (NC)

lab\*lrj 0.288 0.5 0.0

lab\*tce 0.25 0.5 0.0

lab\*nce 0.5 0.5 0.0

BAM-test chart PE10; Colorimetric systems ORS18 &amp; ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 27/360 = 0.075 (right)

input: olv\* setrgbcolor

output: Startup (S) data dependend

### Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 88/360 = 0.245$

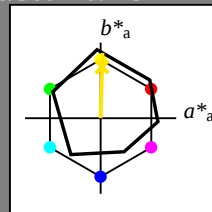
$lab^*tch$  and  $lab^*nch$

D50: hue J

LCH\*Ma: 86 86 88

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 94$

%Regularity

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

$g^*_{C,rel} = 60$

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 95.46 -0.39 4.69  
LAB\*LABa 95.46 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 56.78 0.13 2.11  
LAB\*LABa 56.78 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 18.1 0.67 -0.46  
LAB\*LABa 18.1 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 -

$n^* = 1,0$

### ORS18; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 47.94       | 65.05   | 50.54   | 82.38        | 38           |
| YMa  | 91.0        | -4.72   | 90.58   | 90.7         | 93           |
| LMa  | 50.9        | -63.18  | 34.98   | 72.22        | 151          |
| CMa  | 56.99       | -39.34  | -48.1   | 62.16        | 231          |
| VMa  | 25.72       | 30.89   | -44.4   | 54.09        | 305          |
| MMa  | 49.99       | 75.76   | -4.64   | 75.9         | 356          |
| NMa  | 18.09       | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.46       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 41.88       | 61.66   | 30.69   | 68.88        | 26           |
| JCIE | 81.97       | 2.02    | 67.79   | 67.82        | 88           |
| GCIE | 51.62       | -41.32  | 9.74    | 42.46        | 167          |
| BCIE | 29.2        | -5.79   | -49.61  | 49.96        | 263          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.948 0.5 (1.0)  
cmyn3\* 0.0 0.052 0.5 (0.0)  
olvi4\* 1.0 0.948 0.5 1.0  
cmyn4\* 0.0 0.052 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 90.97 0.94 47.59  
LAB\*LABa 90.97 1.28 43.19  
LAB\*TCHa 75.0 43.21 88.3

relative CIELAB lab\*  
lab\*lab 0.942 0.015 0.5  
lab\*tch 0.75 0.5 0.245  
lab\*nch 0.0 0.5 0.245

relative Natural Colour (NC)  
lab\*lrj 0.942 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 0.448 0.0 (1.0)  
cmyn3\* 0.5 0.552 1.0 (0.0)  
olvi4\* 1.0 0.948 0.5 0.5  
cmyn4\* 0.0 0.052 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 52.29 1.49 45.0  
LAB\*LABa 52.29 1.29 43.18  
LAB\*TCHa 25.01 43.2 88.29

relative CIELAB lab\*  
lab\*lab 0.442 0.015 0.5  
lab\*tch 0.25 0.5 0.245  
lab\*nch 0.5 0.5 0.245

relative Natural Colour (NC)  
lab\*lrj 0.442 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 j99j

$n^* = 0,50$

relative Inform. Technology (IT)  
olvi3\* 1.0 0.895 0.0 (1.0)  
cmyn3\* 0.0 0.105 1.0 (0.0)  
olvi4\* 1.0 0.895 0.0 1.0  
cmyn4\* 0.0 0.105 1.0 0.0

standard and adapted CIELAB  
LAB\*LAB 86.49 2.3 90.47  
LAB\*LABa 86.49 2.57 86.37  
LAB\*TCHa 50.0 86.41 88.29

relative CIELAB lab\*  
lab\*lab 0.884 0.03 0.999  
lab\*tch 0.5 1.0 0.245  
lab\*nch 0.0 1.0 0.245

relative Natural Colour (NC)  
lab\*lrj 0.884 0.0 1.0  
lab\*tce 0.5 1.0 0.25  
lab\*nce 0.0 1.0 j00g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

### Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 89/360 = 0.246$

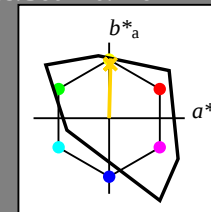
$lab^*tch$  and  $lab^*nch$

D50: hue J

LCH\*Ma: 87 79 89

olv\*Ma: 1.0 0.83 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 156$

%Regularity

$g^*_{H,rel} = 26$

$g^*_{C,rel} = 45$

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 -

$n^* = 1,0$

relative Inform. Technology (IT)  
olvi3\* 1.0 0.913 0.5 (1.0)  
cmyn3\* 0.0 0.087 0.5 (0.0)  
olvi4\* 1.0 0.914 0.5 1.0  
cmyn4\* 0.0 0.086 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 91.02 0.99 39.59  
LAB\*LABa 91.02 0.99 39.59  
LAB\*TCHa 75.0 39.61 88.56

relative CIELAB lab\*  
lab\*lab 0.954 0.013 0.5  
lab\*tch 0.75 0.5 0.246  
lab\*nch 0.0 0.5 0.246

relative Natural Colour (NC)  
lab\*lrj 0.954 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 0.413 0.0 (1.0)  
cmyn3\* 0.5 0.587 1.0 (0.0)  
olvi4\* 1.0 0.913 0.5 0.5  
cmyn4\* 0.0 0.087 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 43.33 1.0 39.59  
LAB\*LABa 43.33 1.0 39.59  
LAB\*TCHa 25.01 39.6 88.55

relative CIELAB lab\*  
lab\*lab 0.454 0.013 0.5  
lab\*tch 0.25 0.5 0.246  
lab\*nch 0.5 0.5 0.246

relative Natural Colour (NC)  
lab\*lrj 0.454 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 j99j

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

### TLS00; adapted (a) CIELAB data

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| OMa  | 54.19       | 79.36   | 63.0    | 101.33       | 38           |
| YMa  | 93.44       | -14.18  | 82.59   | 83.8         | 100          |
| LMa  | 82.82       | -83.73  | 70.41   | 109.41       | 140          |
| CMa  | 85.22       | -55.9   | -15.78  | 58.1         | 196          |
| VMa  | 25.61       | 67.05   | -108.87 | 127.87       | 302          |
| MMa  | 58.76       | 91.18   | -53.69  | 105.82       | 330          |
| NMa  | 0.01        | 0.0     | 0.0     | 0.0          | 0            |
| WMa  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE | 41.88       | 62.0    | 31.82   | 69.69        | 27           |
| JCIE | 81.97       | 1.81    | 71.59   | 71.61        | 89           |
| GCIE | 51.62       | -41.11  | 11.52   | 42.7         | 164          |
| BCIE | 29.2        | -5.27   | -49.33  | 49.62        | 264          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.827 0.0 (1.0)  
cmyn3\* 0.0 0.173 1.0 (0.0)  
olvi4\* 1.0 0.827 0.0 1.0  
cmyn4\* 0.0 0.173 1.0 0.0

standard and adapted CIELAB  
LAB\*LAB 86.64 2.0 79.18  
LAB\*LABa 86.64 2.0 79.18  
LAB\*TCHa 50.0 79.21 88.56

relative CIELAB lab\*  
lab\*lab 0.908 0.025 0.999  
lab\*tch 0.5 1.0 0.246  
lab\*nch 0.0 1.0 0.246

relative Natural Colour (NC)  
lab\*lrj 0.908 0.0 1.0  
lab\*tce 0.5 1.0 0.25  
lab\*nce 0.0 1.0 j00g

relative Inform. Technology (IT)  
olvi3\* 0.5 0.413 0.0 (1.0)  
cmyn3\* 0.5 0.587 1.0 (0.0)  
olvi4\* 1.0 0.913 0.5 0.5  
cmyn4\* 0.0 0.087 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 43.33 1.0 39.59  
LAB\*LABa 43.33 1.0 39.59  
LAB\*TCHa 25.01 39.6 88.55

relative CIELAB lab\*  
lab\*lab 0.454 0.013 0.5  
lab\*tch 0.25 0.5 0.246  
lab\*nch 0.5 0.5 0.246

relative Natural Colour (NC)  
lab\*lrj 0.454 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 j99j

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

BAM-test chart PE10; Colorimetric systems ORS18 & ORS18  
D50: 2 coordinate data of 3 step colour scales for 10 hues

input: olv\* setrgbcolor  
output: Startup (S) data dependend

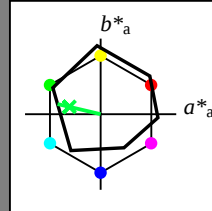
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 167/360 = 0.463$  $lab^*tch$  and  $lab^*nch$ 

D50: hue G

LCH\*Ma: 52 59 167

olv\*Ma: 0.0 1.0 0.26

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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  | 95.46 | -0.39 | 4.69 |
| LAB*LABa | 95.46 | 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  | 56.78 | 0.13 | 2.11 |
| LAB*LABa | 56.78 | 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  | 18.1 | 0.67 | -0.46 |
| LAB*LABa | 18.1 | 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 | -   |

 $n^* = 1.0$ 

## ORS18; adapted (a) CIELAB data

|                 | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|-----------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub> | 47.94       | 65.05   | 50.54   | 82.38        | 38           |
| Y <sub>Ma</sub> | 91.0        | -4.72   | 90.58   | 90.7         | 93           |
| L <sub>Ma</sub> | 50.9        | -63.18  | 34.98   | 72.22        | 151          |
| C <sub>Ma</sub> | 56.99       | -39.34  | -48.1   | 62.16        | 231          |
| V <sub>Ma</sub> | 25.72       | 30.89   | -44.4   | 54.09        | 305          |
| M <sub>Ma</sub> | 49.99       | 75.76   | -4.64   | 75.9         | 356          |
| N <sub>Ma</sub> | 18.09       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub> | 95.46       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE            | 41.88       | 61.66   | 30.69   | 68.88        | 26           |
| JCIE            | 81.97       | 2.02    | 67.79   | 67.82        | 88           |
| GCIE            | 51.62       | -41.32  | 9.74    | 42.46        | 167          |
| BCIE            | 29.2        | -5.79   | -49.61  | 49.96        | 263          |

relative Inform. Technology (IT)

|        |     |     |      |       |
|--------|-----|-----|------|-------|
| olvi3* | 0.5 | 1.0 | 0.63 | (1.0) |
| cmyn3* | 0.5 | 0.0 | 0.37 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.63 | 1.0   |
| cmyn4* | 0.5 | 0.0 | 0.37 | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 73.97 | -28.59 | 9.98   |
| LAB*LABa | 73.97 | -28.49 | 6.72   |
| LAB*TCHa | 75.0  | 29.28  | 166.74 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.722 | -0.486 | 0.115 |
| lab*tch | 0.75  | 0.5    | 0.463 |
| lab*nch | 0.0   | 0.5    | 0.463 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.722 | -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 | 0.13 | (1.0) |
| cmyn3* | 1.0 | 0.5 | 0.87 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.63 | 0.5   |
| cmyn4* | 0.5 | 0.0 | 0.37 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 35.29 | -28.06 | 7.41   |
| LAB*LABa | 35.29 | -28.49 | 6.73   |
| LAB*TCHa | 25.01 | 29.28  | 166.72 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.222 | -0.486 | 0.115 |
| lab*tch | 0.25  | 0.5    | 0.463 |
| lab*nch | 0.5   | 0.5    | 0.463 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.222 | -0.499 | 0.0  |
| lab*tce | 0.25  | 0.5    | 0.5  |
| lab*nce | 0.5   | 0.5    | g99g |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

 $n^* = 1.0$ 

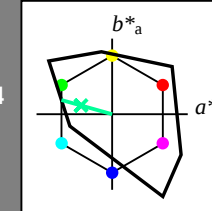
## Output: Colorimetric Television Luminous System TLS00

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

D50: hue G

LCH\*Ma: 84 70 164

olv\*Ma: 0.0 1.0 0.6

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 | -   |

 $n^* = 1.0$ 

## TLS00; adapted (a) CIELAB data

|                | $L^*=L^*_{\text{a}}$  | $a^*_{\text{a}}$ | $b^*_{\text{a}}$ | $C^*_{\text{ab,a}}$ | $h^*_{\text{ab,a}}$ |
|----------------|-----------------------|------------------|------------------|---------------------|---------------------|
| * <sub>a</sub> | O <sub>Ma</sub> 54.19 | 79.36            | 63.0             | 101.33              | 38                  |
|                | Y <sub>Ma</sub> 93.44 | -14.18           | 82.59            | 83.8                | 100                 |
|                | L <sub>Ma</sub> 82.82 | -83.73           | 70.41            | 109.41              | 140                 |
|                | C <sub>Ma</sub> 85.22 | -55.9            | -15.78           | 58.1                | 196                 |
|                | V <sub>Ma</sub> 25.61 | 67.05            | -108.87          | 127.87              | 302                 |
|                | M <sub>Ma</sub> 58.76 | 91.18            | -53.69           | 105.82              | 330                 |
|                | N <sub>Ma</sub> 0.01  | 0.0              | 0.0              | 0.0                 | 0                   |
|                | W <sub>Ma</sub> 95.41 | 0.0              | 0.0              | 0.0                 | 0                   |
|                | RCIE 41.88            | 62.0             | 31.82            | 69.69               | 27                  |
|                | JCIE 81.97            | 1.81             | 71.59            | 71.61               | 89                  |
| GCIE 51.62     | -41.11                | 11.52            | 42.7             | 164                 |                     |
| BCIE 29.2      | -5.27                 | -49.33           | 49.62            | 264                 |                     |

relative Inform. Technology (IT)

|        |     |     |       |       |
|--------|-----|-----|-------|-------|
| olvi3* | 0.5 | 1.0 | 0.799 | (1.0) |
| cmyn3* | 0.5 | 0.0 | 0.201 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.8   | 1.0   |
| cmyn4* | 0.5 | 0.0 | 0.2   | 0.0   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 89.83 | -33.52 | 9.39   |
| LAB*LABa | 89.83 | -33.52 | 9.39   |
| LAB*TCHa | 75.0  | 34.82  | 164.36 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.941 | -0.48 | 0.135 |
| lab*tch | 0.75  | 0.5   | 0.457 |
| lab*nch | 0.0   | 0.5   | 0.457 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.941 | -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 | 0.299 | (1.0) |
| cmyn3* | 1.0 | 0.5 | 0.701 | (0.0) |
| olvi4* | 0.5 | 1.0 | 0.799 | 0.5   |
| cmyn4* | 0.5 | 0.0 | 0.201 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 42.13 | -33.52 | 9.4    |
| LAB*LABa | 42.13 | -33.52 | 9.4    |
| LAB*TCHa | 25.01 | 34.82  | 164.34 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.442 | -0.48 | 0.135 |
| lab*tch | 0.25  | 0.5   | 0.457 |
| lab*nch | 0.5   | 0.5   | 0.457 |

relative Natural Colour (NC)

|         |       |        |      |
|---------|-------|--------|------|
| lab*lrj | 0.442 | -0.499 | 0.0  |
| lab*tce | 0.25  | 0.5    | 0.5  |
| lab*nce | 0.5   | 0.5    | g99g |

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

 $n^* = 1.0$ 

BAM-test chart PE10; Colorimetric systems ORS18 &amp; ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

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

input: olv\* setrgbcolor

output: Startup (S) data dependend

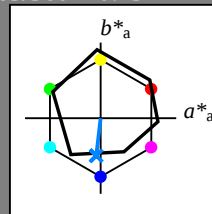
## Input: Colorimetric Offset Reflective System ORS18

for hue  $h^* = lab^*h = 263/360 = 0.731$  $lab^*tch$  and  $lab^*nch$ 

D50: hue B

LCH\*Ma: 42 47 263

olv\*Ma: 0.0 0.52 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 94$ 

%Regularity

 $g^*_{H,rel} = 65$  $g^*_{C,rel} = 60$ 

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  | 95.46 | -0.39 | 4.69 |
| LAB*LABa | 95.46 | 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  | 56.78 | 0.13 | 2.11 |
| LAB*LABa | 56.78 | 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  | 18.1 | 0.67 | -0.46 |
| LAB*LABa | 18.1 | 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 | -   |

 $n^* = 1.0$ 

## ORS18; adapted (a) CIELAB data

| $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---------------|---------|---------|--------------|--------------|
| OMa 47.94     | 65.05   | 50.54   | 82.38        | 38           |
| YMa 91.0      | -4.72   | 90.58   | 90.7         | 93           |
| LMa 50.9      | -63.18  | 34.98   | 72.22        | 151          |
| CMa 56.99     | -39.34  | -48.1   | 62.16        | 231          |
| VMa 25.72     | 30.89   | -44.4   | 54.09        | 305          |
| MMa 49.99     | 75.76   | -4.64   | 75.9         | 356          |
| NMa 18.09     | 0.0     | 0.0     | 0.0          | 0            |
| WMa 95.46     | 0.0     | 0.0     | 0.0          | 0            |
| RCIE 41.88    | 61.66   | 30.69   | 68.88        | 26           |
| JCIE 81.97    | 2.02    | 67.79   | 67.82        | 88           |
| GCIE 51.62    | -41.32  | 9.74    | 42.46        | 167          |
| BCIE 29.2     | -5.79   | -49.61  | 49.96        | 263          |

relative Inform. Technology (IT)

|        |     |       |     |       |
|--------|-----|-------|-----|-------|
| olvi3* | 0.5 | 0.758 | 1.0 | (1.0) |
| cmyn3* | 0.5 | 0.242 | 0.0 | (0.0) |
| olvi4* | 0.5 | 0.758 | 1.0 | 1.0   |
| cmyn4* | 0.5 | 0.242 | 0.0 | 0.0   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 68.67 | -2.73 | -20.23 |
| LAB*LABa | 68.67 | -2.7  | -23.15 |
| LAB*TCHa | 75.0  | 23.32 | 263.33 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.654 | -0.057 | -0.496 |
| lab*tch | 0.75  | 0.5    | 0.731  |
| lab*nch | 0.0   | 0.5    | 0.731  |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.654 | 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 | 0.258 | 0.5 | (1.0) |
| cmyn3* | 1.0 | 0.742 | 0.5 | (0.0) |
| olvi4* | 0.5 | 0.758 | 1.0 | 0.5   |
| cmyn4* | 0.5 | 0.242 | 0.0 | 0.5   |

standard and adapted CIELAB

|          |       |       |        |
|----------|-------|-------|--------|
| LAB*LAB  | 29.99 | -2.19 | -22.81 |
| LAB*LABa | 29.99 | -2.69 | -23.15 |
| LAB*TCHa | 25.01 | 23.31 | 263.35 |

relative CIELAB lab\*

|         |       |        |        |
|---------|-------|--------|--------|
| lab*lab | 0.154 | -0.057 | -0.496 |
| lab*tch | 0.25  | 0.5    | 0.732  |
| lab*nch | 0.5   | 0.5    | 0.732  |

relative Natural Colour (NC)

|         |       |     |        |
|---------|-------|-----|--------|
| lab*lrj | 0.154 | 0.0 | -0.499 |
| lab*tce | 0.25  | 0.5 | 0.75   |
| lab*nce | 0.5   | 0.5 | g99r   |

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  | 18.1 | 0.67 | -0.46 |
| LAB*LABa | 18.1 | 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 | -   |

 $n^* = 0.00$ blackness  $n^*$ chromaticness  $c^*$ 

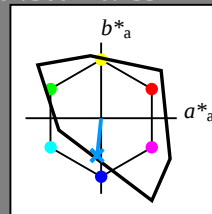
## Output: Colorimetric Television Luminous System TLS00

for hue  $h^* = lab^*h = 264/360 = 0.733$  $lab^*tch$  and  $lab^*nch$ 

D50: hue B

LCH\*Ma: 61 54 264

olv\*Ma: 0.0 0.59 1.0

triangle lightness  $t^*$ 

%Gamut

 $u^*_{rel} = 156$ 

%Regularity

 $g^*_{H,rel} = 26$  $g^*_{C,rel} = 45$ 

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 | -   |

 $n^* = 1.0$  $n^* = 0.00$ blackness  $n^*$ chromaticness  $c^*$ 

PE100-7, 3 step scales for constant CIELAB hue 263/360 = 0.731 (left)

3 step scales for constant CIELAB hue 264/360 = 0.733 (right)

BAM-test chart PE10; Colorimetric systems ORS18 &amp; ORS18

D50: 2 coordinate data of 3 step colour scales for 10 hues

input: olv\* setrgbcolor

output: Startup (S) data dependend