

### Input: Colorimetric Offset Reflective System ORS18

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

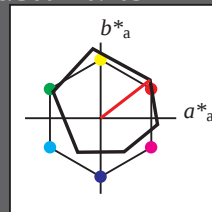
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 48 83 38

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

| 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 | -0.98 | 4.75 |
| 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  | 56.71 | -0.24 | 2.14 |
| LAB*LABa | 56.71 | 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  | 18.02 | 0.5  | -0.47 |
| LAB*LABa | 18.02 | 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 | 0.5 | 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  | 71.67 | 32.15 | 28.41 |
| LAB*LABa | 71.67 | 32.69 | 25.25 |
| LAB*TCHa | 75.0  | 41.31 | 37.69 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.693 | 0.396 | 0.306 |
| lab*tch | 0.75  | 0.5   | 0.105 |
| lab*nch | 0.0   | 0.5   | 0.105 |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.693 | 0.477 | 0.15  |
| lab*tce | 0.75  | 0.5   | 0.048 |
| lab*nce | 0.0   | 0.5   | r19j  |

| relative Inform. Technology (IT) |     |     |     |       |
|----------------------------------|-----|-----|-----|-------|
| olvi3*                           | 0.5 | 0.0 | 0.0 | (1.0) |
| cmyn3*                           | 0.5 | 1.0 | 1.0 | (0.0) |
| olvi4*                           | 1.0 | 0.5 | 0.5 | 0.5   |
| cmyn4*                           | 0.0 | 0.5 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 32.98 | 32.9  | 25.8  |
| LAB*LABa | 32.98 | 32.69 | 25.25 |
| LAB*TCHa | 25.01 | 41.31 | 37.69 |

relative CIELAB lab\*

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lab | 0.193 | 0.396 | 0.306 |
| lab*tch | 0.25  | 0.5   | 0.105 |
| lab*nch | 0.5   | 0.5   | 0.105 |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.193 | 0.477 | 0.15  |
| lab*tce | 0.25  | 0.5   | 0.048 |
| lab*nce | 0.5   | 0.5   | r19j  |

| 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  | 18.03 | 0.0  | 0.0 |
| LAB*LABa | 18.03 | 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  $c^*$

### Output: Colorimetric Television Luminous System TLS18

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

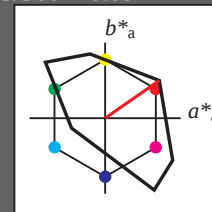
$lab^*tch$  and  $lab^*nch$

D65: hue O

LCH\*Ma: 53 87 35

olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

| TLS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>                | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>                | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>                | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>                | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>                | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub>               | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

| 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  | 56.72 | 0.0  | 0.0 |
| LAB*LABa | 56.72 | 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  | 18.03 | 0.0  | 0.0 |
| LAB*LABa | 18.03 | 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 | 0.0 | 0.0 | (1.0) |
| cmyn3*                           | 0.5 | 1.0 | 1.0 | (0.0) |
| olvi4*                           | 1.0 | 0.5 | 0.5 | 0.5   |
| cmyn4*                           | 0.0 | 0.5 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |       |       |
|----------|-------|-------|-------|
| LAB*LAB  | 35.39 | 35.81 | 24.94 |
| LAB*LABa | 35.39 | 35.81 | 24.94 |
| LAB*TCHa | 25.01 | 43.63 | 34.85 |

relative CIELAB lab\*

|         |       |      |       |
|---------|-------|------|-------|
| lab*lab | 0.225 | 0.41 | 0.286 |
| lab*tch | 0.25  | 0.5  | 0.097 |
| lab*nch | 0.5   | 0.5  | 0.097 |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.225 | 0.488 | 0.109 |
| lab*tce | 0.25  | 0.5   | 0.035 |
| lab*nce | 0.5   | 0.5   | r14j  |

| 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  | 18.03 | 0.0  | 0.0 |
| LAB*LABa | 18.03 | 0.0  | 0.0 |
| LAB*TCHa | 0.01  | 0.01 | -   |

relative CIELAB lab\*

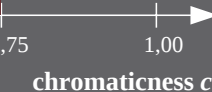
|         |     |     |     |
|---------|-----|-----|-----|
| lab*lab | 0.0 | 0.0 | 0.0 |
| lab*tch | 0.0 | 0.0 | -   |
| lab*nch | 1.0 | 0.0 | -   |

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  $c^*$

OE110-7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

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

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

input:  $cmY0^* \text{ setcmYkcolor}$

output:  $cmY0^* / 000n^* \text{ setcmYkcolor}$

### Input: Colorimetric Offset Reflective System ORS18

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

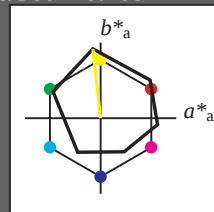
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

| 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 | -0.98 | 4.75 |
| 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  | 56.71 | -0.24 | 2.14 |
| LAB*LABa | 56.71 | 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  | 18.02 | 0.5  | -0.47 |
| LAB*LABa | 18.02 | 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 | 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  | 92.88 | -6.06 | 50.46 |
| LAB*LABa | 92.88 | -5.12 | 45.87 |
| LAB*TCHa | 75.0  | 46.15 | 96.38 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.967 | -0.055 | 0.497 |
| lab*tch | 0.75  | 0.5    | 0.268 |
| lab*nch | 0.0   | 0.5    | 0.268 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.967 | -0.048 | 0.497 |
| lab*tce | 0.75  | 0.5    | 0.266 |
| lab*nce | 0.0   | 0.5    | j06g  |

| 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  | 54.19 | -5.32 | 47.84 |
| LAB*LABa | 54.19 | -5.12 | 45.87 |
| LAB*TCHa | 25.01 | 46.15 | 96.38 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.467 | -0.055 | 0.497 |
| lab*tch | 0.25  | 0.5    | 0.268 |
| lab*nch | 0.5   | 0.5    | 0.268 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.467 | -0.048 | 0.497 |
| lab*tce | 0.25  | 0.5    | 0.266 |
| lab*nce | 0.5   | 0.5    | j06g  |

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

### Output: Colorimetric Television Luminous System TLS18

for hue  $h^* = lab^*h = 103/360 = 0.287$

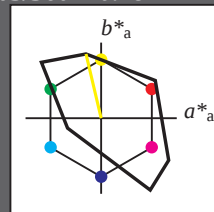
$lab^*tch$  and  $lab^*nch$

D65: hue Y

LCH\*Ma: 93 87 103

olv\*Ma: 1.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

| TLS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>                | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>                | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>                | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>                | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>                | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub>               | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

| 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  | 56.72 | 0.0  | 0.0 |
| LAB*LABa | 56.72 | 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  | 18.03 | 0.0  | 0.0 |
| LAB*LABa | 18.03 | 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 | 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  | 94.07 | -10.0 | 42.48  |
| LAB*LABa | 94.07 | -10.0 | 42.48  |
| LAB*TCHa | 75.0  | 43.64 | 103.26 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.983 | -0.114 | 0.487 |
| lab*tch | 0.75  | 0.5    | 0.287 |
| lab*nch | 0.0   | 0.5    | 0.287 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.983 | -0.121 | 0.485 |
| lab*tce | 0.75  | 0.5    | 0.289 |
| lab*nce | 0.0   | 0.5    | j15g  |

| 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  | 55.38 | -10.0 | 42.48  |
| LAB*LABa | 55.38 | -10.0 | 42.48  |
| LAB*TCHa | 25.01 | 43.64 | 103.26 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.483 | -0.114 | 0.487 |
| lab*tch | 0.25  | 0.5    | 0.287 |
| lab*nch | 0.5   | 0.5    | 0.287 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.483 | -0.121 | 0.485 |
| lab*tce | 0.25  | 0.5    | 0.289 |
| lab*nce | 0.5   | 0.5    | j15g  |

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

blackness  $n^*$

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

input:  $cmv0^* setcmykcolor$

output:  $cmv0^* / 000n^* setcmykcolor$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 0.50$

$n^* = 0.00$

$n^* = 1.0$

blackness  $n^*$

### Input: Colorimetric Offset Reflective System ORS18

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

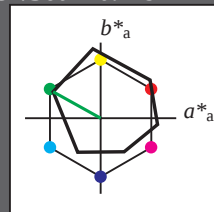
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 51 72 151

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| 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 | -0.98 | 4.75 |
| 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  | 56.71 | -0.24 | 2.14 |
| LAB*LABa | 56.71 | 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  | 18.02 | 0.5  | -0.47 |
| LAB*LABa | 18.02 | 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 | 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  | 73.15 | -31.96 | 20.73  |
| LAB*LABa | 73.15 | -31.4  | 17.48  |
| LAB*TCHa | 75.0  | 35.95  | 150.91 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.712 | -0.436 | 0.243 |
| lab*tch | 0.75  | 0.5    | 0.419 |
| lab*nch | 0.0   | 0.5    | 0.419 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.712 | -0.478 | 0.144 |
| lab*tce | 0.75  | 0.5    | 0.453 |
| lab*nce | 0.0   | 0.5    | 0.419 |

| relative Inform. Technology (IT) |     |     |     |       |
|----------------------------------|-----|-----|-----|-------|
| olvi3*                           | 0.0 | 0.5 | 0.0 | (1.0) |
| cmyn3*                           | 1.0 | 0.5 | 1.0 | (0.0) |
| olvi4*                           | 0.5 | 1.0 | 0.5 | 0.5   |
| cmyn4*                           | 0.5 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 34.46 | -31.22 | 18.12  |
| LAB*LABa | 34.46 | -31.4  | 17.48  |
| LAB*TCHa | 25.01 | 35.95  | 150.91 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.213 | -0.436 | 0.243 |
| lab*tch | 0.25  | 0.5    | 0.419 |
| lab*nch | 0.5   | 0.5    | 0.419 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.213 | -0.478 | 0.144 |
| lab*tce | 0.25  | 0.5    | 0.453 |
| lab*nce | 0.5   | 0.5    | 0.419 |

$n^* = 0.50$

$n^* = 0.00$

| 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 | -62.81 | 34.95  |
| LAB*TCHa | 50.0 | 71.89  | 150.91 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.425 | -0.873 | 0.486 |
| lab*tch | 0.5   | 1.0    | 0.419 |
| lab*nch | 0.0   | 1.0    | 0.419 |

relative Natural Colour (NC)

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lrj | 0.425 | -0.956 | 0.289 |
| lab*tce | 0.5   | 1.0    | 0.453 |
| lab*nce | 0.0   | 1.0    | 0.419 |

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

### Output: Colorimetric Television Luminous System TLS18

for hue  $h^* = lab^*h = 137/360 = 0.38$

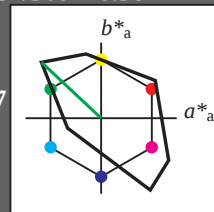
$lab^*tch$  and  $lab^*nch$

D65: hue L

LCH\*Ma: 84 108 137

olv\*Ma: 0.0 1.0 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

| 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  | 56.72 | 0.0  | 0.0 |
| LAB*LABa | 56.72 | 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  | 18.03 | 0.0  | 0.0 |
| LAB*LABa | 18.03 | 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 | 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  | 89.7 | -39.48 | 36.96  |
| LAB*LABa | 89.7 | -39.48 | 36.96  |
| LAB*TCHa | 75.0 | 54.09  | 136.89 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.926 | -0.364 | 0.342 |
| lab*tch | 0.75  | 0.5    | 0.38  |
| lab*nch | 0.0   | 0.5    | 0.38  |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.926 | -0.42 | 0.269 |
| lab*tce | 0.75  | 0.5   | 0.409 |
| lab*nce | 0.0   | 0.5   | 0.38  |

| relative Inform. Technology (IT) |     |     |     |       |
|----------------------------------|-----|-----|-----|-------|
| olvi3*                           | 0.0 | 0.5 | 0.0 | (1.0) |
| cmyn3*                           | 1.0 | 0.5 | 1.0 | (0.0) |
| olvi4*                           | 0.5 | 1.0 | 0.5 | 0.5   |
| cmyn4*                           | 0.5 | 0.0 | 0.5 | 0.5   |

standard and adapted CIELAB

|          |       |        |        |
|----------|-------|--------|--------|
| LAB*LAB  | 51.01 | -39.48 | 36.96  |
| LAB*LABa | 51.01 | -39.48 | 36.96  |
| LAB*TCHa | 25.01 | 54.09  | 136.89 |

relative CIELAB lab\*

|         |       |        |       |
|---------|-------|--------|-------|
| lab*lab | 0.426 | -0.364 | 0.342 |
| lab*tch | 0.25  | 0.5    | 0.38  |
| lab*nch | 0.5   | 0.5    | 0.38  |

relative Natural Colour (NC)

|         |       |       |       |
|---------|-------|-------|-------|
| lab*lrj | 0.426 | -0.42 | 0.269 |
| lab*tce | 0.25  | 0.5   | 0.409 |
| lab*nce | 0.5   | 0.5   | 0.38  |

$n^* = 0.50$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1.0$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18  
D65: 2 coordinate data of 3 step colour scales for 10 hues

input:  $cmv0^* setcmykcolor$   
output:  $cmv0^* / 000n^* setcmykcolor$

### Input: Colorimetric Offset Reflective System ORS18

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

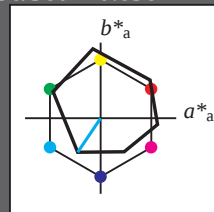
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 59 54 236

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

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 77.01 -15.8 -18.98  
LAB\*LABa 77.01 -15.16 -22.5  
LAB\*TCHa 75.0 27.14 236.02

relative CIELAB lab\*  
lab\*lab 0.762 -0.278 -0.414  
lab\*tch 0.75 0.5 0.656  
lab\*nch 0.0 0.5 0.656

relative Natural Colour (NC)  
lab\*lrj 0.762 -0.247 -0.433  
lab\*tce 0.75 0.5 0.667  
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 38.32 -15.05 -21.6  
LAB\*LABa 38.32 -15.16 -22.5  
LAB\*TCHa 25.01 27.14 236.02

relative CIELAB lab\*  
lab\*lab 0.262 -0.278 -0.414  
lab\*tch 0.25 0.5 0.656  
lab\*nch 0.5 0.5 0.656

relative Natural Colour (NC)  
lab\*lrj 0.262 -0.247 -0.433  
lab\*tce 0.25 0.5 0.667  
lab\*nce 0.5 0.5 g66b

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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 TLS18

for hue  $h^* = lab^*h = 196/360 = 0.546$

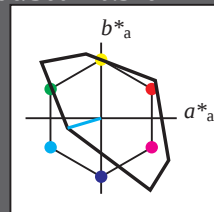
$lab^*tch$  and  $lab^*nch$

D65: hue C

LCH\*Ma: 87 46 196

olv\*Ma: 0.0 1.0 1.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 18.03 0.0 0.0  
LAB\*LABa 18.03 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 -

$n^* = 1,0$

### TLS18; adapted (a) CIELAB data

|                  | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------------------|-------------|---------|---------|--------------|--------------|
| O <sub>Ma</sub>  | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>  | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>  | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>  | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>  | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>  | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub> | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

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 91.27 -22.2 -6.55  
LAB\*LABa 91.27 -22.2 -6.55  
LAB\*TCHa 75.0 23.15 196.46

relative CIELAB lab\*  
lab\*lab 0.946 -0.478 -0.141  
lab\*tch 0.75 0.5 0.546  
lab\*nch 0.0 0.5 0.546

relative Natural Colour (NC)  
lab\*lrj 0.946 -0.44 -0.235  
lab\*tce 0.75 0.5 0.578  
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 52.58 -22.2 -6.55  
LAB\*LABa 52.58 -22.2 -6.55  
LAB\*TCHa 25.01 23.15 196.46

relative CIELAB lab\*  
lab\*lab 0.447 -0.478 -0.141  
lab\*tch 0.25 0.5 0.546  
lab\*nch 0.5 0.5 0.546

relative Natural Colour (NC)  
lab\*lrj 0.447 -0.44 -0.235  
lab\*tce 0.25 0.5 0.578  
lab\*nce 0.5 0.5 g31b

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 18.03 0.0 0.0  
LAB\*LABa 18.03 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  $c^*$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

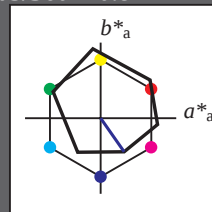
input:  $cmv0^* setcmykcolor$

output:  $cmv0^* / 000n^* setcmykcolor$

### Input: Colorimetric Offset Reflective System ORS18

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

D65: hue V  
LCH\*Ma: 26 54 305  
olv\*Ma: 0.0 0.0 1.0  
triangle lightness  $t^*$



| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 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 60.56 15.23 -19.79  
LAB\*LABa 60.56 15.55 -22.19  
LAB\*TCHa 75.0 27.1 305.0

relative CIELAB lab\*  
lab\*lab 0.55 0.287 -0.408  
lab\*tch 0.75 0.5 0.847  
lab\*nch 0.0 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.55 0.225 -0.446  
lab\*tce 0.75 0.5 0.824  
lab\*nce 0.0 0.5 0.829r

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 21.87 15.97 -22.4  
LAB\*LABa 21.87 15.55 -22.19  
LAB\*TCHa 25.01 27.1 305.0

relative CIELAB lab\*  
lab\*lab 0.05 0.287 -0.408  
lab\*tch 0.25 0.5 0.847  
lab\*nch 0.5 0.5 0.847

relative Natural Colour (NC)  
lab\*lrj 0.05 0.225 -0.446  
lab\*tce 0.25 0.5 0.824  
lab\*nce 0.5 0.5 0.829r

$n^* = 0,50$

$n^* = 0,00$

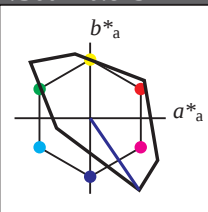
blackness  $n^*$

chromaticness  $c^*$

### Output: Colorimetric Television Luminous System TLS18

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

D65: hue V  
LCH\*Ma: 35 115 304  
olv\*Ma: 0.0 0.0 1.0  
triangle lightness  $t^*$



| TLS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>                | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>                | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>                | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>                | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>                | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub>               | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 0.0 (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 18.03 0.0 0.0  
LAB\*LABa 18.03 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 -

$n^* = 1,0$

$n^* = 0,50$

blackness  $n^*$

chromaticness  $c^*$

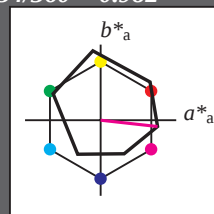
input:  $cmY0^* \text{ setcmYkcolor}$   
output:  $cmY0^* / 000n^* \text{ setcmYkcolor}$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18  
D65: 2 coordinate data of 3 step colour scales for 10 hues

### Input: Colorimetric Offset Reflective System ORS18

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

D65: hue M  
LCH\*Ma: 48 76 354  
olv\*Ma: 1.0 0.0 1.0  
triangle lightness  $t^*$



| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 0.5 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 71.77 37.1 -1.01  
LAB\*LABa 71.77 37.63 -4.17  
LAB\*TCHa 75.0 37.86 353.66

relative CIELAB lab\*  
lab\*lab 0.695 0.497 -0.054  
lab\*tch 0.75 0.5 0.982  
lab\*nch 0.0 0.5 0.982

relative Natural Colour (NC)  
lab\*lrj 0.695 0.454 -0.208  
lab\*tce 0.75 0.5 0.932  
lab\*nce 0.0 0.5 0.72r

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

standard and adapted CIELAB  
LAB\*LAB 33.07 37.84 -3.62  
LAB\*LABa 33.07 37.63 -4.17  
LAB\*TCHa 25.01 37.86 353.66

relative CIELAB lab\*  
lab\*lab 0.195 0.497 -0.054  
lab\*tch 0.25 0.5 0.982  
lab\*nch 0.5 0.5 0.982

relative Natural Colour (NC)  
lab\*lrj 0.195 0.454 -0.208  
lab\*tce 0.25 0.5 0.932  
lab\*nce 0.5 0.5 0.72r

$n^* = 0.50$

$n^* = 0.00$

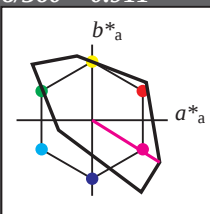
chromaticness  $c^*$

blackness  $n^*$

### Output: Colorimetric Television Luminous System TLS18

for hue  $h^* = lab^*h = 328/360 = 0.911$   
 $lab^*tch$  and  $lab^*nch$

D65: hue M  
LCH\*Ma: 59 105 328  
olv\*Ma: 1.0 0.0 1.0  
triangle lightness  $t^*$



| TLS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>                | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>                | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>                | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>                | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>                | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub>               | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 18.03 0.0 0.0  
LAB\*LABa 18.03 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 0.5 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 77.21 44.66 -27.82  
LAB\*LABa 77.21 44.66 -27.82  
LAB\*TCHa 75.0 52.62 328.06

relative CIELAB lab\*  
lab\*lab 0.765 0.424 -0.263  
lab\*tch 0.75 0.5 0.911  
lab\*nch 0.0 0.5 0.911

relative Natural Colour (NC)  
lab\*lrj 0.765 0.351 -0.355  
lab\*tce 0.75 0.5 0.874  
lab\*nce 0.0 0.5 0.49r

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 38.51 44.66 -27.82  
LAB\*LABa 38.51 44.66 -27.82  
LAB\*TCHa 25.01 52.62 328.06

relative CIELAB lab\*  
lab\*lab 0.265 0.424 -0.263  
lab\*tch 0.25 0.5 0.911  
lab\*nch 0.5 0.5 0.911

relative Natural Colour (NC)  
lab\*lrj 0.265 0.351 -0.355  
lab\*tce 0.25 0.5 0.874  
lab\*nce 0.5 0.5 0.49r

$n^* = 0.50$

$n^* = 0.00$

chromaticness  $c^*$

blackness  $n^*$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18  
D65: 2 coordinate data of 3 step colour scales for 10 hues

input:  $cmY0^* \text{ setcmYkcolor}$   
output:  $cmY0^* / 000n^* \text{ setcmYkcolor}$

### Input: Colorimetric Offset Reflective System ORS18

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

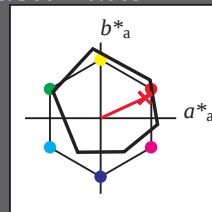
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>  | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>  | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>  | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>  | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>  | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>  | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>  | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub> | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub> | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub> | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub> | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

relative Inform. Technology (IT)  
olvi3\* 1.0 0.5 0.661 (1.0)  
cmyn3\* 0.0 0.5 0.339 (0.0)  
olvi4\* 1.0 0.5 0.661 1.0  
cmyn4\* 0.0 0.5 0.339 0.0

standard and adapted CIELAB  
LAB\*LAB 71.7 33.75 18.92  
LAB\*LABa 71.7 34.28 15.76  
LAB\*TCHa 75.0 37.73 24.7

relative CIELAB lab\*  
lab\*lab 0.694 0.454 0.209  
lab\*tch 0.75 0.5 0.069  
lab\*nch 0.0 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.694 0.5 0.0  
lab\*tce 0.75 0.5 1.0  
lab\*nce 0.0 0.5 0.999

relative Inform. Technology (IT)  
olvi3\* 0.5 0.0 0.161 (1.0)  
cmyn3\* 0.5 1.0 0.839 (0.0)  
olvi4\* 1.0 0.5 0.661 0.5  
cmyn4\* 0.0 0.5 0.339 0.5

standard and adapted CIELAB  
LAB\*LAB 33.01 34.49 16.31  
LAB\*LABa 33.01 34.28 15.77  
LAB\*TCHa 25.01 37.73 24.7

relative CIELAB lab\*  
lab\*lab 0.194 0.454 0.209  
lab\*tch 0.25 0.5 0.069  
lab\*nch 0.5 0.5 0.069

relative Natural Colour (NC)  
lab\*lrj 0.194 0.5 0.0  
lab\*tce 0.25 0.5 0.0  
lab\*nce 0.5 0.5 0.00j

0.25 0.50  $n^* = 0.50$  0.75 1.00  
chromaticness  $c^*$

$n^* = 0.00$

blackness  $n^*$

### Output: Colorimetric Television Luminous System TLS18

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

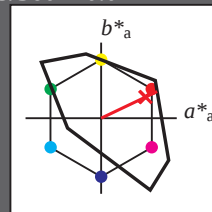
$lab^*tch$  and  $lab^*nch$

D65: hue R

LCH\*Ma: 54 82 25

olv\*Ma: 1.0 0.0 0.14

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 18.03 0.0 0.0  
LAB\*LABa 18.03 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 -

$n^* = 1.0$

0.25 0.50  $n^* = 0.50$  0.75 1.00  
chromaticness  $c^*$

$n^* = 0.00$

blackness  $n^*$

input:  $cmY0^* setcmykcolor$   
output:  $cmY0^* / 000n^* setcmykcolor$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18  
D65: 2 coordinate data of 3 step colour scales for 10 hues

### Input: Colorimetric Offset Reflective System ORS18

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

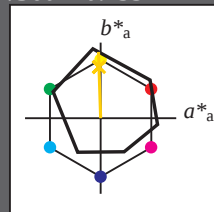
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 86 88 92

olv\*Ma: 1.0 0.9 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 47.94       | 65.39   | 50.52   | 82.63        | 38           |
| Y <sub>Ma</sub>                | 90.37       | -10.26  | 91.75   | 92.32        | 96           |
| L <sub>Ma</sub>                | 50.9        | -62.83  | 34.96   | 71.91        | 151          |
| C <sub>Ma</sub>                | 58.62       | -30.34  | -45.01  | 54.3         | 236          |
| V <sub>Ma</sub>                | 25.72       | 31.1    | -44.4   | 54.22        | 305          |
| M <sub>Ma</sub>                | 48.13       | 75.28   | -8.36   | 75.74        | 354          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.66   | 26.98   | 64.57        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.16   | 67.76   | 67.79        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.25  | 11.76   | 43.87        | 164          |
| B <sub>CIE</sub>               | 30.57       | 1.15    | -46.84  | 46.86        | 271          |

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 0.951 0.5 (1.0)  
cmyn3\* 0.0 0.049 0.5 (0.0)  
olvi4\* 1.0 0.951 0.5 1.0  
cmyn4\* 0.0 0.049 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 90.8 -2.3 48.29  
LAB\*LABa 90.8 -1.4 43.84  
LAB\*TCHa 75.0 43.86 91.85

relative CIELAB lab\*  
lab\*lab 0.94 -0.015 0.5  
lab\*tch 0.75 0.5 0.255  
lab\*nch 0.0 0.5 0.255

relative Natural Colour (NC)  
lab\*lrj 0.94 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 0.451 0.0 (1.0)  
cmyn3\* 0.5 0.549 1.0 (0.0)  
olvi4\* 1.0 0.951 0.5 0.5  
cmyn4\* 0.0 0.049 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 52.1 -1.55 45.67  
LAB\*LABa 52.1 -1.39 43.83  
LAB\*TCHa 25.01 43.86 91.84

relative CIELAB lab\*  
lab\*lab 0.44 -0.015 0.5  
lab\*tch 0.25 0.5 0.255  
lab\*nch 0.5 0.5 0.255

relative Natural Colour (NC)  
lab\*lrj 0.44 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 r99j

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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 TLS18

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

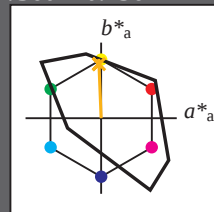
$lab^*tch$  and  $lab^*nch$

D65: hue J

LCH\*Ma: 85 79 92

olv\*Ma: 1.0 0.82 0.0

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

| TLS18; adapted (a) CIELAB data |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                | 52.76       | 71.63   | 49.88   | 87.29        | 35           |
| Y <sub>Ma</sub>                | 92.74       | -20.02  | 84.97   | 87.3         | 103          |
| L <sub>Ma</sub>                | 84.0        | -78.98  | 73.94   | 108.2        | 137          |
| C <sub>Ma</sub>                | 87.14       | -44.41  | -13.11  | 46.32        | 196          |
| V <sub>Ma</sub>                | 35.47       | 64.92   | -95.06  | 115.12       | 304          |
| M <sub>Ma</sub>                | 59.01       | 89.33   | -55.67  | 105.26       | 328          |
| N <sub>Ma</sub>                | 18.01       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92       | 58.74   | 27.99   | 65.07        | 25           |
| J <sub>CIE</sub>               | 81.26       | -2.88   | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23       | -42.41  | 13.6    | 44.55        | 162          |
| B <sub>CIE</sub>               | 30.57       | 1.41    | -46.46  | 46.49        | 272          |

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 18.03 0.0 0.0  
LAB\*LABa 18.03 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 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 18.03 0.0 0.0  
LAB\*LABa 18.03 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 1.0 0.908 0.5 (1.0)  
cmyn3\* 0.0 0.092 0.5 (0.0)  
olvi4\* 1.0 0.908 0.5 1.0  
cmyn4\* 0.0 0.092 0.5 0.0

standard and adapted CIELAB  
LAB\*LAB 90.39 -1.58 39.25  
LAB\*LABa 90.39 -1.58 39.25  
LAB\*TCHa 75.0 39.29 92.32

relative CIELAB lab\*  
lab\*lab 0.935 -0.019 0.499  
lab\*tch 0.75 0.5 0.256  
lab\*nch 0.0 0.5 0.256

relative Natural Colour (NC)  
lab\*lrj 0.935 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 0.408 0.0 (1.0)  
cmyn3\* 0.5 0.592 1.0 (0.0)  
olvi4\* 1.0 0.908 0.5 0.5  
cmyn4\* 0.0 0.092 0.5 0.5

standard and adapted CIELAB  
LAB\*LAB 51.7 -1.57 39.25  
LAB\*LABa 51.7 -1.57 39.25  
LAB\*TCHa 25.01 39.28 92.31

relative CIELAB lab\*  
lab\*lab 0.435 -0.019 0.499  
lab\*tch 0.25 0.5 0.256  
lab\*nch 0.5 0.5 0.256

relative Natural Colour (NC)  
lab\*lrj 0.435 0.0 0.5  
lab\*tce 0.25 0.5 0.25  
lab\*nce 0.5 0.5 r99j

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 18.03 0.0 0.0  
LAB\*LABa 18.03 0.0 0.0  
LAB\*TCHa 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 0.0 0.0 -  
lab\*nch 1.0 0.0 -

relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*tce 0.0 0.0 -  
lab\*nce 1.0 0.0 -

relative Inform. Technology (IT)  
olvi3\* 0.0 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 18.03 0.0 0.0  
LAB\*LABa 18.03 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  $c^*$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

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

input:  $cmY0^* \text{ setcmYkcolor}$

output:  $cmY0^* / 000n^* \text{ setcmYkcolor}$

### Input: Colorimetric Offset Reflective System ORS18

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

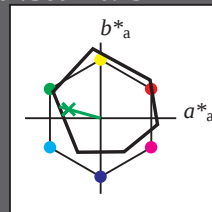
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 53 57 164

olv\*Ma: 0.0 1.0 0.25

triangle lightness  $t^*$



#### ORS18; adapted (a) CIELAB data

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

%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

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 -0.98 4.75  
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 56.71 -0.24 2.14  
LAB\*LABa 56.71 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 18.02 0.5 -0.47  
LAB\*LABa 18.02 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 0.623 (1.0)  
cmyn3\* 0.5 0.0 0.377 (0.0)  
olvi4\* 0.5 1.0 0.623 1.0  
cmyn4\* 0.5 0.0 0.377 0.0

standard and adapted CIELAB  
LAB\*LAB 74.1 -27.98 10.94  
LAB\*LABa 74.1 -27.4 7.62  
LAB\*TCHa 75.0 28.45 164.46

relative CIELAB lab\*  
lab\*lab 0.725 -0.481 0.134  
lab\*tch 0.75 0.5 0.457  
lab\*nch 0.0 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.725 -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 0.123 (1.0)  
cmyn3\* 1.0 0.5 0.877 (0.0)  
olvi4\* 0.5 1.0 0.623 0.5  
cmyn4\* 0.5 0.0 0.377 0.5

standard and adapted CIELAB  
LAB\*LAB 35.41 -27.24 8.34  
LAB\*LABa 35.41 -27.4 7.63  
LAB\*TCHa 25.01 28.46 164.44

relative CIELAB lab\*  
lab\*lab 0.225 -0.481 0.134  
lab\*tch 0.25 0.5 0.457  
lab\*nch 0.5 0.5 0.457

relative Natural Colour (NC)  
lab\*lrj 0.225 -0.499 0.0  
lab\*tce 0.25 0.5 0.5  
lab\*nce 0.5 0.5 199g

$n^* = 0,50$

relative Inform. Technology (IT)  
olvi3\* 0.0 1.0 0.246 (1.0)  
cmyn3\* 1.0 0.0 0.754 (0.0)  
olvi4\* 0.0 1.0 0.246 1.0  
cmyn4\* 1.0 0.0 0.754 0.0

standard and adapted CIELAB  
LAB\*LAB 52.8 -54.98 17.14  
LAB\*LABa 52.8 -54.81 15.26  
LAB\*TCHa 50.0 56.91 164.45

relative CIELAB lab\*  
lab\*lab 0.45 -0.962 0.268  
lab\*tch 0.5 1.0 0.457  
lab\*nch 0.0 1.0 0.457

relative Natural Colour (NC)  
lab\*lrj 0.45 -0.999 0.0  
lab\*tce 0.5 1.0 0.5  
lab\*nce 0.0 1.0 199g

$n^* = 0,00$

blackness  $n^*$

chromaticness  $c^*$

$n^* = 1,0$

### Output: Colorimetric Television Luminous System TLS18

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

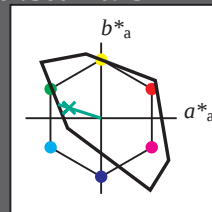
$lab^*tch$  and  $lab^*nch$

D65: hue G

LCH\*Ma: 86 60 162

olv\*Ma: 0.0 1.0 0.64

triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 118$

%Regularity

$g^*_{H,rel} = 22$

$g^*_{C,rel} = 40$

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 56.72 0.0 0.0  
LAB\*LABa 56.72 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 18.03 0.0 0.0  
LAB\*LABa 18.03 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 0.82 (1.0)  
cmyn3\* 0.5 0.0 0.18 (0.0)  
olvi4\* 0.5 1.0 0.82 1.0  
cmyn4\* 0.5 0.0 0.18 0.0

standard and adapted CIELAB  
LAB\*LAB 90.7 -28.42 9.11  
LAB\*LABa 90.7 -28.42 9.11  
LAB\*TCHa 75.0 29.85 162.23

relative CIELAB lab\*  
lab\*lab 0.939 -0.475 0.153  
lab\*tch 0.75 0.5 0.451  
lab\*nch 0.0 0.5 0.451

relative Natural Colour (NC)  
lab\*lrj 0.939 -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 0.32 (1.0)  
cmyn3\* 1.0 0.5 0.68 (0.0)  
olvi4\* 0.5 1.0 0.82 0.5  
cmyn4\* 0.5 0.0 0.18 0.5

standard and adapted CIELAB  
LAB\*LAB 52.01 -28.42 9.12  
LAB\*LABa 52.01 -28.42 9.12  
LAB\*TCHa 25.01 29.86 162.22

relative CIELAB lab\*  
lab\*lab 0.439 -0.475 0.153  
lab\*tch 0.25 0.5 0.451  
lab\*nch 0.5 0.5 0.451

relative Natural Colour (NC)  
lab\*lrj 0.439 -0.499 0.0  
lab\*tce 0.25 0.5 0.5  
lab\*nce 0.5 0.5 199g

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

relative Inform. Technology (IT)  
olvi3\* 0.0 1.0 0.64 (1.0)  
cmyn3\* 1.0 0.0 0.36 (0.0)  
olvi4\* 0.0 1.0 0.64 1.0  
cmyn4\* 1.0 0.0 0.36 0.0

standard and adapted CIELAB  
LAB\*LAB 86.0 -56.85 18.23  
LAB\*LABa 86.0 -56.85 18.23  
LAB\*TCHa 50.0 59.71 162.23

relative CIELAB lab\*  
lab\*lab 0.878 -0.951 0.305  
lab\*tch 0.5 1.0 0.451  
lab\*nch 0.0 1.0 0.451

relative Natural Colour (NC)  
lab\*lrj 0.878 -0.999 0.0  
lab\*tce 0.5 1.0 0.5  
lab\*nce 0.0 1.0 g00b

relative Inform. Technology (IT)  
olvi3\* 0.0 0.5 0.32 (1.0)  
cmyn3\* 1.0 0.5 0.68 (0.0)  
olvi4\* 0.5 1.0 0.82 0.5  
cmyn4\* 0.5 0.0 0.18 0.5

standard and adapted CIELAB  
LAB\*LAB 52.01 -28.42 9.12  
LAB\*LABa 52.01 -28.42 9.12  
LAB\*TCHa 25.01 29.86 162.22

relative CIELAB lab\*  
lab\*lab 0.439 -0.475 0.153  
lab\*tch 0.25 0.5 0.451  
lab\*nch 0.5 0.5 0.451

relative Natural Colour (NC)  
lab\*lrj 0.439 -0.499 0.0  
lab\*tce 0.25 0.5 0.5  
lab\*nce 0.5 0.5 199g

$n^* = 0,50$

chromaticness  $c^*$

$n^* = 1,0$

BAM-test chart OE11; Colorimetric systems ORS18 & TLS18

D65: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

input:  $cmv0^* \text{ setcmvcolor}$

output:  $cmv0^* / 000n^* \text{ setcmvcolor}$

