

# 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

$g^*_{rel} = 57$

$g^*_{Crel} = 59$

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 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\*LABo 95.41 0.0 0.0  
LAB\*TCHo 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.5 0.5 (1.0)  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*nce 1.0 0.0 0.0

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 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\*LABo 56.71 0.0 0.0  
LAB\*TCHo 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 0.0  
lab\*nch 0.5 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*nce 0.5 0.0 0.0

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 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\*LABo 18.02 0.0 0.0  
LAB\*TCHo 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*nce 0.0 0.0 0.0

$n^* = 1.0$

relative Inform. Technology (IT)  
olv3\* 1.0 0.5 0.5 (1.0)  
cmyn3\* 0.0 0.5 0.5 (0.0)  
olv4\* 1.0 0.5 0.5 (0.0)  
cmyn4\* 0.0 0.5 0.5 (0.0)  
standard and adapted CIELAB  
LAB\*LAB 71.67 32.15 28.41  
LAB\*LABo 71.67 32.69 25.25  
LAB\*TCHo 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\*nce 0.75 0.5 0.048  
lab\*nce 0.0 0.5 r19

relative Inform. Technology (IT)  
olv3\* 0.5 0.0 0.0 (1.0)  
cmyn3\* 0.5 1.0 0.0 (0.0)  
olv4\* 0.5 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\*LABo 32.98 32.69 25.25  
LAB\*TCHo 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 1.0 0.105  
relative Natural Colour (NC)  
lab\*lrj 0.193 0.477 0.15  
lab\*nce 0.25 0.5 0.048  
lab\*nce 0.5 0.5 r19

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 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\*LABo 18.02 0.0 0.0  
LAB\*TCHo 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*nce 0.0 0.0 0.0

## ORS18; adapted (a) CIELAB data

| $L^*a^*b^*$ | $a^*$  | $b^*$  | $C^*_{ab}$ | $h^*_{ab}$ |
|-------------|--------|--------|------------|------------|
| QMa 47.94   | 65.39  | 50.52  | 82.63      | 38         |
| YMa 90.37   | -10.26 | 91.75  | 92.32      | 96         |
| LMa 50.39   | -62.83 | 34.96  | 71.91      | 151        |
| CMa 58.62   | -30.34 | -45.01 | 54.3       | 236        |
| VMa 25.72   | 31.1   | -44.4  | 54.22      | 305        |
| MMa 48.13   | 75.28  | -8.36  | 75.74      | 354        |
| NMa 18.01   | 0.0    | 0.0    | 0.0        | 0          |
| WMa 95.41   | 0.0    | 0.0    | 0.0        | 0          |
| RCIE 39.92  | 58.66  | 26.98  | 64.57      | 25         |
| JCIE 81.26  | -2.16  | 67.76  | 67.79      | 92         |
| GCIE 82.23  | -42.25 | 11.76  | 43.87      | 164        |
| BCIE 30.57  | 1.15   | -46.84 | 46.86      | 271        |

relative Inform. Technology (IT)  
olv3\* 1.0 0.0 0.0 (1.0)  
cmyn3\* 0.0 1.0 0.0 (0.0)  
olv4\* 1.0 0.0 1.0 (0.0)  
cmyn4\* 0.0 0.0 1.0 (0.0)  
standard and adapted CIELAB  
LAB\*LAB 47.94 65.3 50.52  
LAB\*LABo 47.94 65.37 50.51  
LAB\*TCHo 50.0 82.63 37.69

relative CIELAB lab\*  
lab\*lab 0.387 0.791 0.611  
lab\*tch 0.387 0.54 0.299  
lab\*nce 0.5 1.0 0.48  
lab\*nce 0.0 1.0 r19

relative Inform. Technology (IT)  
olv3\* 0.5 0.0 0.0 (1.0)  
cmyn3\* 0.5 1.0 0.0 (0.0)  
olv4\* 0.5 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\*LABo 32.98 32.69 25.25  
LAB\*TCHo 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 1.0 0.105  
relative Natural Colour (NC)  
lab\*lrj 0.193 0.477 0.15  
lab\*nce 0.25 0.5 0.048  
lab\*nce 0.5 0.5 r19

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 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\*LABo 18.02 0.0 0.0  
LAB\*TCHo 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*nce 0.0 0.0 0.0

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$

# Output: Colorimetric Standard Reflective System SRS18

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

D65: hue O  
LCH\*Ma: 57 77 30  
olv\*Ma: 1.0 0.0 0.0

triangle lightness  $t^*$



% Gamut

$u^*_{rel} = 100$

% Regularity

$g^*_{rel} = 100$

$g^*_{Crel} = 100$

relative Inform. Technology (IT)  
olv3\* 1.0 1.0 1.0 (1.0)  
cmyn3\* 0.0 0.0 0.0 (0.0)  
olv4\* 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\*LABo 95.41 0.0 0.0  
LAB\*TCHo 99.99 0.01 -

relative CIELAB lab\*  
lab\*lab 1.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 1.0 0.0 0.0  
lab\*nce 1.0 0.0 0.0

relative Inform. Technology (IT)  
olv3\* 0.5 0.5 0.5 (1.0)  
cmyn3\* 0.5 0.5 0.5 (0.0)  
olv4\* 1.0 1.0 1.0 (0.5)  
cmyn4\* 0.0 0.5 0.5 (0.5)  
standard and adapted CIELAB  
LAB\*LAB 56.72 0.0 0.0  
LAB\*LABo 56.72 0.0 0.0  
LAB\*TCHo 50.0 0.01 -

relative CIELAB lab\*  
lab\*lab 0.5 0.0 0.0  
lab\*tch 0.5 0.0 0.0  
lab\*nch 0.5 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.5 0.0 0.0  
lab\*nce 0.5 0.0 0.0

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 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\*LABo 18.03 0.0 0.0  
LAB\*TCHo 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*nce 0.0 0.0 0.0

$n^* = 1.0$

## SRS18; adapted (a) CIELAB data

| $L^*a^*b^*$ | $a^*$  | $b^*$  | $C^*_{ab}$ | $h^*_{ab}$ |
|-------------|--------|--------|------------|------------|
| QMa 56.71   | 67.03  | 38.7   | 77.4       | 30         |
| YMa 56.71   | 0.0    | 77.4   | 77.4       | 90         |
| LMa 56.71   | -67.02 | 38.7   | 77.4       | 150        |
| CMa 56.71   | -67.02 | -38.69 | 77.4       | 210        |
| VMa 56.71   | 0.0    | -77.39 | 77.4       | 270        |
| MMa 56.71   | 67.03  | -38.69 | 77.4       | 330        |
| NMa 18.01   | 0.0    | 0.0    | 0.0        | 0          |
| WMa 95.41   | 0.0    | 0.0    | 0.0        | 0          |
| RCIE 39.92  | 58.74  | 27.99  | 65.07      | 25         |
| JCIE 81.26  | -2.88  | 71.56  | 71.62      | 92         |
| GCIE 82.23  | -42.41 | 13.6   | 44.55      | 162        |
| BCIE 30.57  | 1.41   | -46.46 | 46.49      | 272        |

relative Inform. Technology (IT)  
olv3\* 1.0 0.5 0.5 (1.0)  
cmyn3\* 0.0 0.5 0.5 (0.0)  
olv4\* 1.0 0.5 0.5 (0.0)  
cmyn4\* 0.0 0.5 0.5 (0.0)  
standard and adapted CIELAB  
LAB\*LAB 76.06 33.51 19.35  
LAB\*LABo 76.06 33.51 19.35  
LAB\*TCHo 75.0 38.69 30.0

relative CIELAB lab\*  
lab\*lab 0.75 0.433 0.25  
lab\*tch 0.75 0.5 0.083  
lab\*nch 0.0 0.5 0.083  
relative Natural Colour (NC)  
lab\*lrj 0.75 0.497 0.053  
lab\*nce 0.75 0.5 0.017  
lab\*nce 0.0 0.5 r06

relative Inform. Technology (IT)  
olv3\* 0.5 0.0 0.0 (1.0)  
cmyn3\* 0.5 1.0 0.0 (0.0)  
olv4\* 1.0 0.5 0.5 (0.5)  
cmyn4\* 0.0 0.5 0.5 (0.5)  
standard and adapted CIELAB  
LAB\*LAB 37.36 33.51 19.35  
LAB\*LABo 37.36 33.51 19.35  
LAB\*TCHo 25.01 38.69 30.0

relative CIELAB lab\*  
lab\*lab 0.25 0.433 0.25  
lab\*tch 0.25 0.5 0.083  
lab\*nch 0.5 1.0 0.083  
relative Natural Colour (NC)  
lab\*lrj 0.25 0.497 0.053  
lab\*nce 0.25 0.5 0.017  
lab\*nce 0.5 0.5 r06

relative Inform. Technology (IT)  
olv3\* 0.0 0.0 0.0 (1.0)  
cmyn3\* 1.0 1.0 1.0 (0.0)  
olv4\* 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\*LABo 18.03 0.0 0.0  
LAB\*TCHo 0.01 0.01 -

relative CIELAB lab\*  
lab\*lab 0.0 0.0 0.0  
lab\*tch 1.0 0.0 -  
lab\*nch 1.0 0.0 -  
relative Natural Colour (NC)  
lab\*lrj 0.0 0.0 0.0  
lab\*nce 0.0 0.0 0.0

$n^* = 0.00$

blackness  $n^*$

chromaticness  $c^*$