

Input: Colorimetric Offset Reflective System ORS18

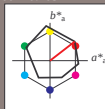
for hue  $h^* = lab^*h = 38/360 = 0.105$

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

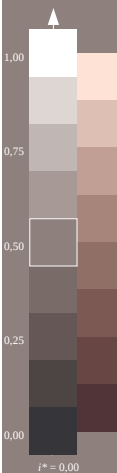
D65: hue O

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            |
| W <sub>Ma</sub>                | 95.41         | 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          |

Output: Colorimetric Offset Reflective System ORS18

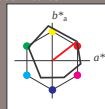
for hue  $h^* = lab^*h = 38/360 = 0.105$

$lab^*tch$  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 | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------------------------------|---------------|---------|---------|--------------|--------------|
| R                              | 48.0          | 68.58   | 31.54   | 75.48        | 25           |
| R25J                           | 50.11         | 61.52   | 52.63   | 80.96        | 41           |
| R50J                           | 62.87         | 38.77   | 65.02   | 75.71        | 59           |
| R75J                           | 74.87         | 17.37   | 76.69   | 78.63        | 77           |
| J                              | 86.19         | -2.8    | 87.69   | 87.73        | 92           |
| J25G                           | 84.01         | -18.73  | 82.6    | 84.7         | 103          |
| J50G                           | 71.17         | -35.83  | 64.13   | 73.46        | 119          |
| J75G                           | 56.99         | -54.71  | 43.72   | 70.05        | 141          |
| G                              | 52.8          | -54.82  | 15.26   | 56.92        | 164          |
| G25B                           | 54.69         | -46.87  | -4.31   | 47.08        | 185          |
| G50B                           | 57.25         | -36.1   | -30.82  | 47.48        | 220          |
| G75B                           | 49.61         | -13.51  | -44.85  | 46.85        | 253          |
| B                              | 41.78         | 1.1     | -44.7   | 44.72        | 271          |
| B25R                           | 29.34         | 24.33   | -44.47  | 50.7         | 299          |
| B50R                           | 40.78         | 60.78   | -20.18  | 64.05        | 342          |
| B75R                           | 48.06         | 71.56   | 13.77   | 72.87        | 411          |

ZE640-7N, 9 step scales for constant CIELAB hue 38/360 = 0.105 (left)

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ZE640-7N, 16 step scales for constant CIELAB hue 38/360 = 0.105 (right)

BAM-test chart ZE64; Colorimetric systems, Page 1/10  
D65: 9 and 16 step colour scales for 10 hues

input: `rgb / cmy0 set(rgb/cmyk)color`  
output: `->cmy0* setcmykcolor`

Input: Colorimetric Offset Reflective System ORS18

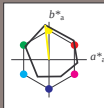
for hue  $h^* = lab^*h = 96/360 = 0.268$

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

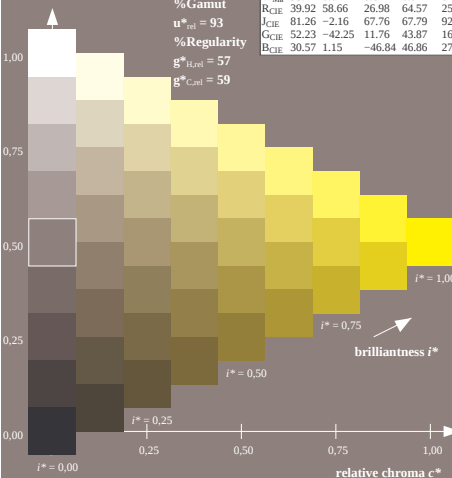
D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0



triangle lightness  $t^*$



ZE640-7N, 9 step scales for constant CIELAB hue 96/360 = 0.268 (left)

BAM-test chart ZE64; Colorimetric systems, Page 2/10  
D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Offset Reflective System ORS18

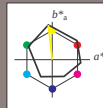
for hue  $h^* = lab^*h = 96/360 = 0.268$

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

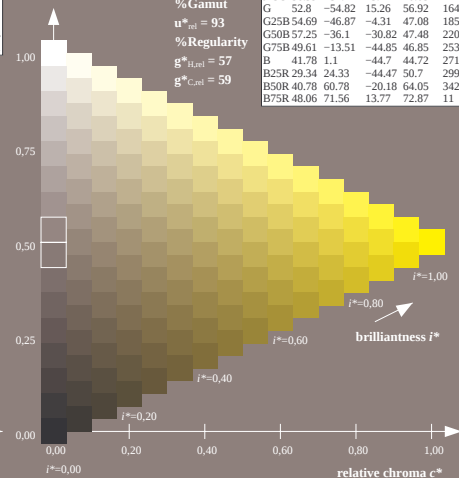
D65: hue Y

LCH\*Ma: 90 92 96

olv\*Ma: 1.0 1.0 0.0



triangle lightness  $t^*$



ZE640-7N, 16 step scales for constant CIELAB hue 96/360 = 0.268 (right)

input:  $rgb / cmy0$  set( $rgb/cmyk$ )color  
output:  $\rightarrow cmy0^* setcmykcolor$

# Input: Colorimetric Offset Reflective System ORS18

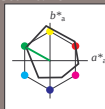
for hue  $h^* = lab^*h = 151/360 = 0.419$

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

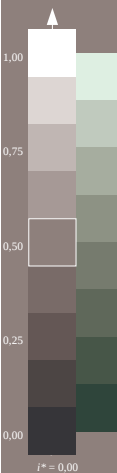
D65: hue L

LCH\*Ma: 51 72 151

ol\*Ma: 0.0 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          |

# Output: Colorimetric Offset Reflective System ORS18

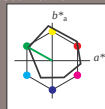
for hue  $h^* = lab^*h = 151/360 = 0.419$

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

D65: hue L

LCH\*Ma: 51 72 151

ol\*Ma: 0.0 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

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| R    | 48.0        | 68.58   | 31.54   | 75.48        | 25           |
| R25J | 50.11       | 61.52   | 52.63   | 80.96        | 41           |
| R50J | 62.87       | 38.77   | 65.02   | 75.71        | 59           |
| R75J | 74.87       | 17.37   | 76.69   | 78.63        | 77           |
| J    | 86.19       | -2.8    | 87.69   | 87.73        | 92           |
| J25G | 84.01       | -18.73  | 82.6    | 84.7         | 103          |
| J50G | 71.17       | -35.83  | 64.13   | 73.46        | 119          |
| J75G | 56.99       | -54.71  | 43.72   | 70.05        | 141          |
| G    | 52.8        | -54.82  | 15.26   | 56.92        | 164          |
| G25B | 54.69       | -46.87  | -4.31   | 47.08        | 185          |
| G50B | 57.25       | -36.1   | -30.82  | 47.48        | 220          |
| G75B | 49.61       | -13.51  | -44.85  | 46.85        | 253          |
| B    | 41.78       | 1.1     | -44.7   | 44.72        | 271          |
| B25R | 29.34       | 24.33   | -44.47  | 50.7         | 299          |
| B50R | 40.78       | 60.78   | -20.18  | 64.05        | 342          |
| B75R | 48.06       | 71.56   | 13.77   | 72.87        | 411          |

ZE640-7N, 9 step scales for constant CIELAB hue 151/360 = 0.419 (left)

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ZE640-7N, 16 step scales for constant CIELAB hue 151/360 = 0.419 (right)

BAM-test chart ZE64; Colorimetric systems, Page 3/10  
D65: 9 and 16 step colour scales for 10 hues

input:  $rgb / cmy0$  set( $rgb/cmyk$ )color  
output:  $\rightarrow cmy0^* setcmykcolor$

Input: Colorimetric Offset Reflective System ORS18

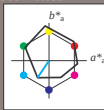
for hue  $h^* = \text{lab}^*h = 236/360 = 0.656$

$\text{lab}^*tch$  and  $\text{lab}^*nch$

D65: hue C

LCH\*Ma: 59 54 236

ol\*Ma: 0.0 1.0 1.0



triangle lightness  $t^*$

%Gamut

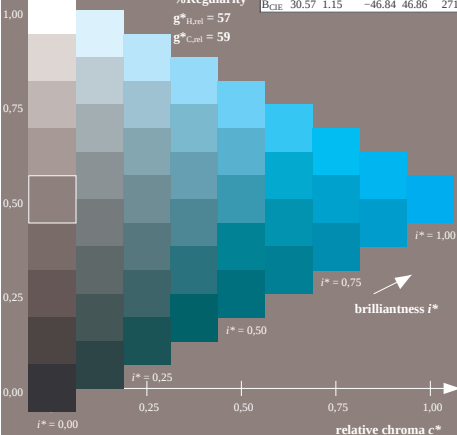
$u^*_{\text{rel}} = 93$

%Regularity

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

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

|                  | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{\text{ab},a}$ | $h^*_{\text{ab},a}$ |
|------------------|---------------|---------|---------|---------------------|---------------------|
| 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                   |
| W <sub>Ma</sub>  | 95.41         | 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                 |



ZE640-7N, 9 step scales for constant CIELAB hue 236/360 = 0.656 (left)

BAM-test chart ZE64; Colorimetric systems, Page 4/10  
D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Offset Reflective System ORS18

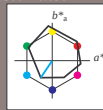
for hue  $h^* = \text{lab}^*h = 236/360 = 0.656$

$\text{lab}^*tch$  and  $\text{lab}^*nch$

D65: hue C

LCH\*Ma: 59 54 236

ol\*Ma: 0.0 1.0 1.0



triangle lightness  $t^*$

%Gamut

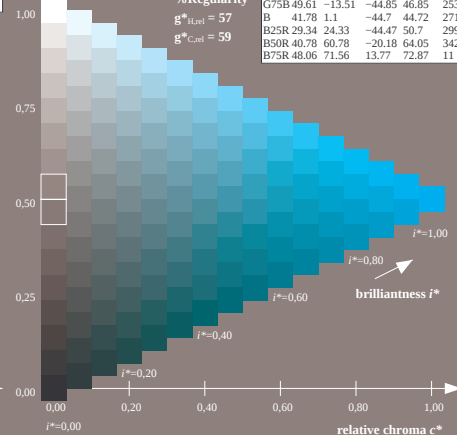
$u^*_{\text{rel}} = 93$

%Regularity

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

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

|      | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{\text{ab},a}$ | $h^*_{\text{ab},a}$ |
|------|---------------|---------|---------|---------------------|---------------------|
| R    | 48.0          | 68.58   | 31.54   | 75.48               | 25                  |
| R25J | 50.11         | 61.52   | 52.63   | 80.96               | 41                  |
| R50J | 62.87         | 38.77   | 65.02   | 75.71               | 59                  |
| R75J | 74.87         | 17.37   | 76.69   | 78.63               | 77                  |
| J    | 86.19         | -2.8    | 87.69   | 87.73               | 92                  |
| J25G | 84.01         | -18.73  | 82.6    | 84.7                | 103                 |
| J50G | 71.17         | -35.83  | 64.13   | 73.46               | 119                 |
| J75G | 56.99         | -54.71  | 43.72   | 70.05               | 141                 |
| G    | 52.8          | -54.82  | 15.26   | 56.92               | 164                 |
| G25B | 54.69         | -46.87  | -4.31   | 47.08               | 185                 |
| G50B | 57.25         | -36.1   | -30.82  | 47.48               | 220                 |
| G75B | 49.61         | -13.51  | -44.85  | 46.85               | 253                 |
| B    | 41.78         | 1.1     | -44.7   | 44.72               | 271                 |
| B25R | 29.34         | 24.33   | -44.47  | 50.7                | 299                 |
| B50R | 40.78         | 60.78   | -20.18  | 64.05               | 342                 |
| B75R | 48.06         | 71.56   | 13.77   | 72.87               | 411                 |



ZE640-7N, 16 step scales for constant CIELAB hue 236/360 = 0.656 (right)

input: `rgb / cmy0 set(rgb/cmyk)color`  
output: `->cmy0* setcmykcolor`

Input: Colorimetric Offset Reflective System ORS18

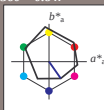
for hue  $h^* = lab^*h = 305/360 = 0.847$

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

D65: hue V

LCH\*Ma: 26 54 305

ol\*Ma: 0.0 0.0 1.0



triangle lightness  $t^*$

%Gamut

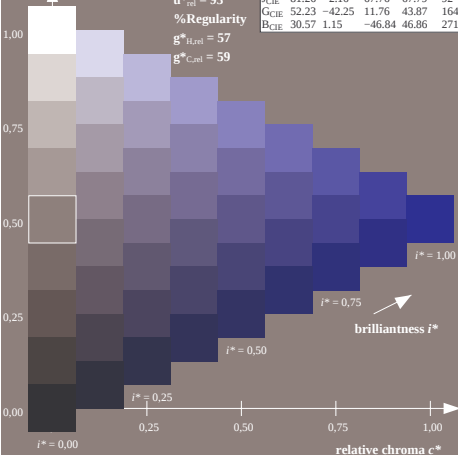
$u^*_{rel} = 93$

%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   |
| W <sub>Ma</sub>                | 95.41   | 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 |



ZE640-7N, 9 step scales for constant CIELAB hue 305/360 = 0.847 (left)

BAM-test chart ZE64; Colorimetric systems, Page 5/10  
D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Offset Reflective System ORS18

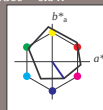
for hue  $h^* = lab^*h = 305/360 = 0.847$

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

D65: hue V

LCH\*Ma: 26 54 305

ol\*Ma: 0.0 0.0 1.0



triangle lightness  $t^*$

%Gamut

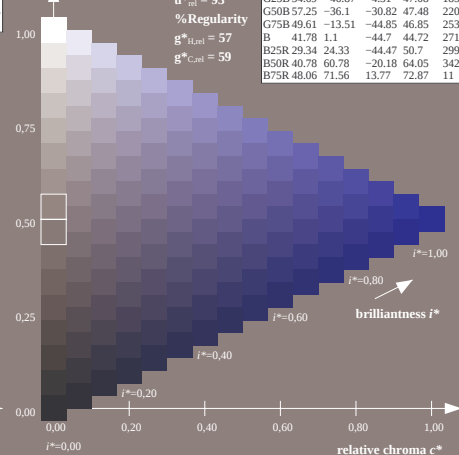
$u^*_{rel} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |         |         |              |              |     |
|--------------------------------|---------|---------|--------------|--------------|-----|
| $L^* = L^*_a$                  | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |     |
| R                              | 48.0    | 68.58   | 31.54        | 75.48        | 25  |
| R25J                           | 50.11   | 61.52   | 52.63        | 80.96        | 41  |
| R50J                           | 62.87   | 38.77   | 65.02        | 75.71        | 59  |
| R75J                           | 74.87   | 17.37   | 76.69        | 78.63        | 77  |
| J                              | 86.19   | -2.8    | 87.69        | 87.73        | 92  |
| J25G                           | 84.01   | -18.73  | 82.6         | 84.7         | 103 |
| J50G                           | 71.17   | -35.83  | 64.13        | 73.46        | 119 |
| J75G                           | 56.99   | -54.71  | 43.72        | 70.05        | 141 |
| G                              | 52.8    | -54.82  | 15.26        | 56.92        | 164 |
| G25B                           | 54.69   | -46.87  | -4.31        | 47.08        | 185 |
| G50B                           | 57.25   | -36.1   | -30.82       | 47.48        | 220 |
| G75B                           | 49.61   | -13.51  | -44.85       | 46.85        | 253 |
| B                              | 41.78   | 1.1     | -44.7        | 44.72        | 271 |
| B25R                           | 29.34   | 24.33   | -44.47       | 50.7         | 299 |
| B50R                           | 40.78   | 60.78   | -20.18       | 64.05        | 342 |
| B75R                           | 48.06   | 71.56   | 13.77        | 72.87        | 411 |



ZE640-7N, 16 step scales for constant CIELAB hue 305/360 = 0.847 (right)

input:  $rgb / cmy0$  set( $rgb/cmyk$ )color  
output:  $\rightarrow cmy0^* setcmykcolor$

Input: Colorimetric Offset Reflective System ORS18

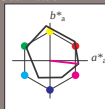
for hue  $h^* = lab^*h = 354/360 = 0.982$

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

D65: hue M

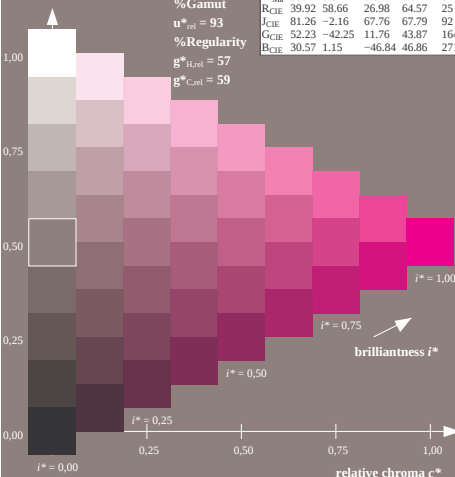
LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0



| ORS18; adapted (a) CIE LAB data |                 |           |           |              |              |
|---------------------------------|-----------------|-----------|-----------|--------------|--------------|
|                                 | $L^* = L^*_{a}$ | $a^*_{a}$ | $b^*_{a}$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| O <sub>Ma</sub>                 | 47.94           | 65.39     | 50.52     | 82.63        | 38           |
| Y <sub>Ma</sub>                 | 90.37           | -10.26    | 91.75     | 92.32        | 96           |
| L <sub>Ma</sub>                 | 50.9            | -62.83    | 34.96     | 71.91        | 151          |
| C <sub>Ma</sub>                 | 58.62           | -30.34    | -45.01    | 54.3         | 236          |
| V <sub>Ma</sub>                 | 25.72           | 31.1      | -44.4     | 54.22        | 305          |
| M <sub>Ma</sub>                 | 48.13           | 75.28     | -8.36     | 75.74        | 354          |
| N <sub>Ma</sub>                 | 18.01           | 0.0       | 0.0       | 0            | 0            |
| W <sub>Ma</sub>                 | 95.41           | 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          |

triangle lightness  $t^*$



ZE640-7N, 9 step scales for constant CIELAB hue 354/360 = 0.982 (left)

BAM-test chart ZE64; Colorimetric systems, Page 6/10  
D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Offset Reflective System ORS18

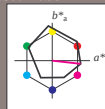
for hue  $h^* = lab^*h = 354/360 = 0.982$

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

D65: hue M

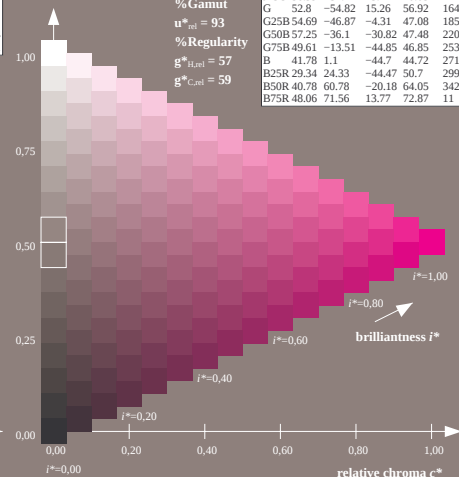
LCH\*Ma: 48 76 354

olv\*Ma: 1.0 0.0 1.0



| ORS18; adapted (a) CIELAB data |                  |            |            |            |            |
|--------------------------------|------------------|------------|------------|------------|------------|
|                                | $L^* = L^*_{ab}$ | $a^*_{ab}$ | $b^*_{ab}$ | $C^*_{ab}$ | $h^*_{ab}$ |
| R                              | 48.0             | 68.58      | 31.54      | 75.48      | 25         |
| R25J                           | 50.11            | 61.52      | 52.63      | 80.96      | 41         |
| R50J                           | 62.87            | 38.77      | 65.02      | 75.71      | 59         |
| R75J                           | 74.87            | 17.37      | 76.69      | 78.63      | 77         |
| J                              | 86.19            | -2.8       | 87.69      | 87.73      | 92         |
| J25G                           | 84.01            | -18.73     | 82.6       | 84.7       | 103        |
| J50G                           | 71.17            | -35.83     | 64.13      | 73.46      | 119        |
| J75G                           | 56.99            | -54.71     | 43.72      | 70.05      | 141        |
| G                              | 52.8             | -54.82     | 15.26      | 56.92      | 164        |
| G25B                           | 54.69            | -46.87     | -4.31      | 47.08      | 185        |
| G50B                           | 57.25            | -36.1      | -30.82     | 47.48      | 220        |
| G75B                           | 49.61            | -13.51     | -44.85     | 46.85      | 253        |
| B                              | 41.78            | 1.1        | -44.7      | 44.72      | 271        |
| B25R                           | 29.34            | 24.33      | -44.47     | 50.7       | 299        |
| B50R                           | 40.78            | 60.78      | -20.18     | 64.05      | 342        |
| B75R                           | 48.06            | 71.56      | 13.77      | 72.87      | 411        |

triangle lightness  $t^*$



ZE640-7N, 16 step scales for constant CIELAB hue 354/360 = 0.982 (right)

input: `rgb / cmy0 set(rgb/cmyk)color`  
output: `->cmy0* setcmykcolor`

# Input: Colorimetric Offset Reflective System ORS18

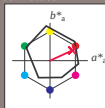
for hue  $h^* = lab^*h = 25/360 = 0.069$

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

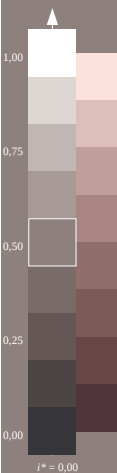
D65: hue R

LCH\*Ma: 48 75 25

olv\*Ma: 1.0 0.0 0.32



triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| 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   |
| W <sub>Ma</sub>                | 95.41   | 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 |

# Output: Colorimetric Offset Reflective System ORS18

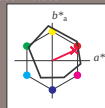
for hue  $h^* = lab^*h = 25/360 = 0.069$

$lab^*tch$  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

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

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

| ORS18; adapted (a) CIELAB data |         |         |              |              |     |
|--------------------------------|---------|---------|--------------|--------------|-----|
| $L^* = L^*_a$                  | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |     |
| R                              | 48.0    | 68.58   | 31.54        | 75.48        | 25  |
| R25J                           | 50.11   | 61.52   | 52.63        | 80.96        | 41  |
| R50J                           | 62.87   | 38.77   | 65.02        | 75.71        | 59  |
| R75J                           | 74.87   | 17.37   | 76.69        | 78.63        | 77  |
| J                              | 86.19   | -2.8    | 87.69        | 87.73        | 92  |
| J25G                           | 84.01   | -18.73  | 82.6         | 84.7         | 103 |
| J50G                           | 71.17   | -35.83  | 64.13        | 73.46        | 119 |
| J75G                           | 56.99   | -54.71  | 43.72        | 70.05        | 141 |
| G                              | 52.8    | -54.82  | 15.26        | 56.92        | 164 |
| G25B                           | 54.69   | -46.87  | -4.31        | 47.08        | 185 |
| G50B                           | 57.25   | -36.1   | -30.82       | 47.48        | 220 |
| G75B                           | 49.61   | -13.51  | -44.85       | 46.85        | 253 |
| B                              | 41.78   | 1.1     | -44.7        | 44.72        | 271 |
| B25R                           | 29.34   | 24.33   | -44.47       | 50.7         | 299 |
| B50R                           | 40.78   | 60.78   | -20.18       | 64.05        | 342 |
| B75R                           | 48.06   | 71.56   | 13.77        | 72.87        | 411 |

ZE640-7N, 9 step scales for constant CIELAB hue 25/360 = 0.069 (left)

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ZE640-7N, 16 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart ZE64; Colorimetric systems, Page 7/10  
D65: 9 and 16 step colour scales for 10 hues

input: `rgb / cmy0 set(rgb/cmyk)color`  
output: `->cmy0* setcmykcolor`

# Input: Colorimetric Offset Reflective System ORS18

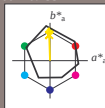
for hue  $h^* = lab^*h = 92/360 = 0.255$

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

D65: hue J

LCH\*Ma: 86 88 92

ol\*Ma: 1.0 0.9 0.0



triangle lightness  $t^*$

%Gamut

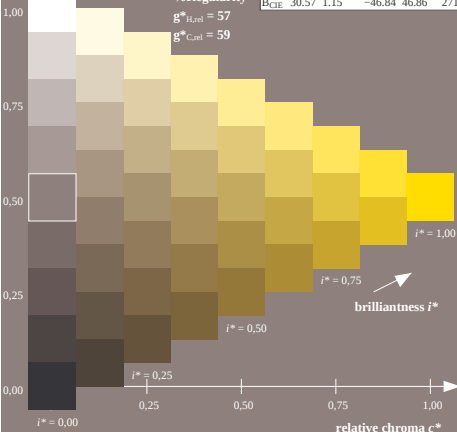
$u^*_{rel} = 93$

%Regularity

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

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

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



ZE640-7N, 9 step scales for constant CIELAB hue 92/360 = 0.255 (left)

BAM-test chart ZE64; Colorimetric systems, Page 8/10  
D65: 9 and 16 step colour scales for 10 hues

# Output: Colorimetric Offset Reflective System ORS18

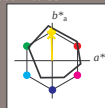
for hue  $h^* = lab^*h = 92/360 = 0.255$

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

D65: hue J

LCH\*Ma: 86 88 92

ol\*Ma: 1.0 0.9 0.0



triangle lightness  $t^*$

%Gamut

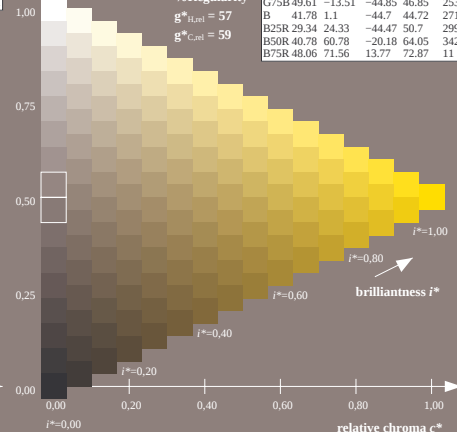
$u^*_{rel} = 93$

%Regularity

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

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

|      | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|------|-------------|---------|---------|--------------|--------------|
| R    | 48.0        | 68.58   | 31.54   | 75.48        | 25           |
| R25J | 50.11       | 61.52   | 52.63   | 80.96        | 41           |
| R50J | 62.87       | 38.77   | 65.02   | 75.71        | 59           |
| R75J | 74.87       | 17.37   | 76.69   | 78.63        | 77           |
| J    | 86.19       | -2.8    | 87.69   | 87.73        | 92           |
| J25G | 84.01       | -18.73  | 82.6    | 84.7         | 103          |
| J50G | 71.17       | -35.83  | 64.13   | 73.46        | 119          |
| J75G | 56.99       | -54.71  | 43.72   | 70.05        | 141          |
| G    | 52.8        | -54.82  | 15.26   | 56.92        | 164          |
| G25B | 54.69       | -46.87  | -4.31   | 47.08        | 185          |
| G50B | 57.25       | -36.1   | -30.82  | 47.48        | 220          |
| G75B | 49.61       | -13.51  | -44.85  | 46.85        | 253          |
| B    | 41.78       | 1.1     | -44.7   | 44.72        | 271          |
| B25R | 29.34       | 24.33   | -44.47  | 50.7         | 299          |
| B50R | 40.78       | 60.78   | -20.18  | 64.05        | 342          |
| B75R | 48.06       | 71.56   | 13.77   | 72.87        | 411          |



ZE640-7N, 16 step scales for constant CIELAB hue 92/360 = 0.255 (right)

input: `rgb / cmy0 set(rgb/cmyk)color`  
output: `->cmy0* setcmykcolor`

Input: Colorimetric Offset Reflective System ORS18

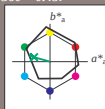
for hue  $h^* = lab^*h = 164/360 = 0.457$

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

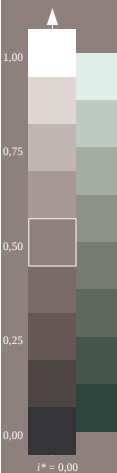
D65: hue G

LCH\*Ma: 53 57 164

ol\*Ma: 0.0 1.0 0.25



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 |

Output: Colorimetric Offset Reflective System ORS18

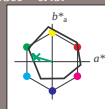
for hue  $h^* = lab^*h = 164/360 = 0.457$

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

D65: hue G

LCH\*Ma: 53 57 164

ol\*Ma: 0.0 1.0 0.25



triangle lightness  $t^*$



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |         |         |              |              |     |
|--------------------------------|---------|---------|--------------|--------------|-----|
| $L^* = L^*_a$                  | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |     |
| R                              | 48.0    | 68.58   | 31.54        | 75.48        | 25  |
| R25J                           | 50.11   | 61.52   | 52.63        | 80.96        | 41  |
| R50J                           | 62.87   | 38.77   | 65.02        | 75.71        | 59  |
| R75J                           | 74.87   | 17.37   | 76.69        | 78.63        | 77  |
| J                              | 86.19   | -2.8    | 87.69        | 87.73        | 92  |
| J25G                           | 84.01   | -18.73  | 82.6         | 84.7         | 103 |
| J50G                           | 71.17   | -35.83  | 64.13        | 73.46        | 119 |
| J75G                           | 56.99   | -54.71  | 43.72        | 70.05        | 141 |
| G                              | 52.8    | -54.82  | 15.26        | 56.92        | 164 |
| G25B                           | 54.69   | -46.87  | -4.31        | 47.08        | 185 |
| G50B                           | 57.25   | -36.1   | -30.82       | 47.48        | 220 |
| G75B                           | 49.61   | -13.51  | -44.85       | 46.85        | 253 |
| B                              | 41.78   | 1.1     | -44.7        | 44.72        | 271 |
| B25R                           | 29.34   | 24.33   | -44.47       | 50.7         | 299 |
| B50R                           | 40.78   | 60.78   | -20.18       | 64.05        | 342 |
| B75R                           | 48.06   | 71.56   | 13.77        | 72.87        | 411 |

ZE640-7N, 9 step scales for constant CIELAB hue 164/360 = 0.457 (left)

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ZE640-7N, 16 step scales for constant CIELAB hue 164/360 = 0.457 (right)

BAM-test chart ZE64; Colorimetric systems, Page 9/10  
D65: 9 and 16 step colour scales for 10 hues

input:  $rgb / cmy0$  set( $rgb/cmyk$ )color  
output:  $\rightarrow cmy0^* setcmykcolor$

Input: Colorimetric Offset Reflective System ORS18

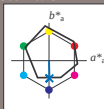
for hue  $h^* = \text{lab}^*h = 271/360 = 0.754$

$\text{lab}^*tch$  and  $\text{lab}^*nch$

D65: hue B

LCH\*Ma: 42 45 271

ol\*Ma: 0.0 0.49 1.0



triangle lightness  $t^*$

%Gamut

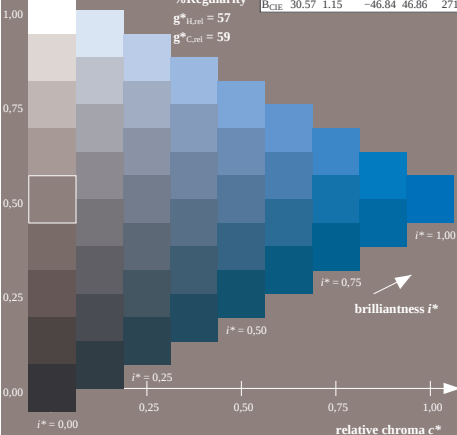
$u^*_{\text{rel}} = 93$

%Regularity

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

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

| 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 |



ZE640-7N, 9 step scales for constant CIELAB hue 271/360 = 0.754 (left)

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ZE640-7N, 16 step scales for constant CIELAB hue 271/360 = 0.754 (right)

BAM-test chart ZE64; Colorimetric systems, Page 10/10

D65: 9 and 16 step colour scales for 10 hues

Output: Colorimetric Offset Reflective System ORS18

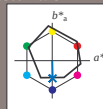
for hue  $h^* = \text{lab}^*h = 271/360 = 0.754$

$\text{lab}^*tch$  and  $\text{lab}^*nch$

D65: hue B

LCH\*Ma: 42 45 271

ol\*Ma: 0.0 0.49 1.0



triangle lightness  $t^*$

%Gamut

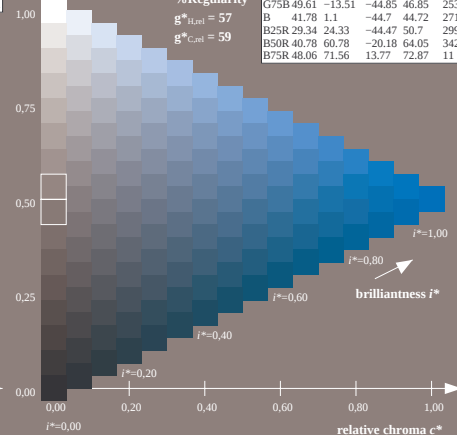
$u^*_{\text{rel}} = 93$

%Regularity

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

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

| ORS18; adapted (a) CIELAB data |         |         |              |              |     |
|--------------------------------|---------|---------|--------------|--------------|-----|
| $L^* = L^*_a$                  | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |     |
| R                              | 48.0    | 68.58   | 31.54        | 75.48        | 25  |
| R25J                           | 50.11   | 61.52   | 52.63        | 80.96        | 41  |
| R50J                           | 62.87   | 38.77   | 65.02        | 75.71        | 59  |
| R75J                           | 74.87   | 17.37   | 76.69        | 78.63        | 77  |
| J                              | 86.19   | -2.8    | 87.69        | 87.73        | 92  |
| J25G                           | 84.01   | -18.73  | 82.6         | 84.7         | 103 |
| J50G                           | 71.17   | -35.83  | 64.13        | 73.46        | 119 |
| J75G                           | 56.99   | -54.71  | 43.72        | 70.05        | 141 |
| G                              | 52.8    | -54.82  | 15.26        | 56.92        | 164 |
| G25B                           | 54.69   | -46.87  | -4.31        | 47.08        | 185 |
| G50B                           | 57.25   | -36.1   | -30.82       | 47.48        | 220 |
| G75B                           | 49.61   | -13.51  | -44.85       | 46.85        | 253 |
| B                              | 41.78   | 1.1     | -44.7        | 44.72        | 271 |
| B25R                           | 29.34   | 24.33   | -44.47       | 50.7         | 299 |
| B50R                           | 40.78   | 60.78   | -20.18       | 64.05        | 342 |
| B75R                           | 48.06   | 71.56   | 13.77        | 72.87        | 411 |



input:  $\text{rgb} / \text{cmy}0 \text{ set}(\text{rgb}/\text{cmyk})\text{color}$

output:  $\rightarrow \text{cmy}0 \text{ set}(\text{cmyk})\text{color}$